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development

Coping mechanisms in South Sudan in relation to different types of shock

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Question

What do we know about the negative and positive coping mechanisms of different groups (based on wealth (below the poverty line/elites), gender, age, (dis)abilities, geographies (rural/urban), ethnicities) of people in South Sudan in relation to different types of shock?

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1. Summary

This rapid evidence review provides an assessment of negative and positive coping mechanisms of different groups (based on wealth (below the poverty line/elites), gender, age, (dis)abilities, geographies (rural/urban), and ethnicity of people in South Sudan in relation to different types of shock. It draws predominantly on a range of grey literature from multinational and bilateral institutions as well as non-government organisations (NGOs) and think tanks.

The report highlights that coping strategies are varied and multifaceted, they are a product of the vulnerability of particular individuals, households and communities and are the product of responses to shocks and stressors. These shocks(?) may be acute or chronic. **It is also important to note that coping strategies in the South Sudanese context have often been developed in response to food insecurity, climatic change and conflict and that new shocks may undermine these existing strategies, necessitate evolution of these or the adoption of new strategies.** It is also important to note that these may have both negative and positive impacts that may differ over short, medium and long term time horizons. Given the complexity and broad nature of the query the report is broad in its scope and structured as follows:

- **Context:** Section 2 provides an overview of the South Sudanese context, the health sector situation and the potential impact of COVID-19. This provides the context in which subsequent sections should be reviewed.
- **Vulnerability:** Section 3 provides an overview of vulnerability. This includes a broader discussion of how vulnerability can be contextualised alongside a rapid review of broader risks, shocks and stressors endemic to the country. A rapid review of groups considered vulnerable (the young, foreign workers, women and girls etc.) is provided and an overview of determinants of vulnerability. Here, the notion of intersecting vulnerability is important, influencing coping strategies and options available.
- **Coping strategies:** Section 4 provides an overview of coping strategies identified by key reports, these include those based on absorptive, adaptive or transformative capacities. When reviewing this section it is important to note that some coping studies identified may be undermined by the current crisis i.e. those linked to mobility and salaried employment. Conversely, some of those historically viewed as examples of limited resilience i.e. foraging, may emerge (in the short term) as a helpful coping strategy. This section also flags the challenges faced by government and the potential role that could be played by non-government actors (here it may be important to explore who may be excluded due to ethnicity or status).

In 2011 the Republic of South Sudan became the world's newest country. The South's independence came after circa four decades of war. The consequences of conflict on people's lives, livelihoods and access to basic services have been devastating. Despite the peace deal, violence and rights violations continue and have become a persistent reality for many. While the number of organised violent events have declined, reports indicate that subnational conflict persists across many states and the decrease in battle deaths has been matched by an increase in deaths from communal violence. Significant numbers remain internally displaced and 2.3 million South Sudanese refugees were residing in neighbouring countries.

Whilst economic volatility has undermined access to basic resources concomitantly, long gaps and inconsistency in salary payments to public sector employees have impacted provision of

health-care and other services. Hunger and malnutrition are endemic, about 1.1 million children under age five are estimated to be acutely malnourished and in need of lifesaving services out of a population of circa 12 million. According to the latest Integrated Food Security Phase Classification (IPC) analysis (January 2020), a total of 6.5 million people were expected to experience acute food insecurity in the May-July 2020 period. Poverty levels are expected to remain high. Based on the US\$1.90 2011 purchasing power parity poverty line, 82% of the population was considered poor in 2017. The urban poverty rate stood at over 70%, an increase from 49% in 2015.

More broadly, the WHO comment that the South Sudanese population is highly susceptible to disease and conflict-related injuries. Disease outbreaks are lasting longer and reaching previously unaffected areas, weakening already vulnerable people's ability to cope with multiple shocks. The WHO continues that destruction of health-care facilities (only 22% of health facilities are fully operational), attacks on health workers, and shortages of drugs and skilled professionals mean access to health care is limited across the country, particularly in certain areas. The health facilities which are operational face challenges of delivering health-care services.

The World Food Programme (WFP) comment that the impact of the coronavirus epidemic in East Africa could have significant socio-economic repercussions, with potential impacts on livelihoods, food security, national economies and global financial and food markets. They continue that economic shocks are likely to exacerbate the severity of acute food insecurity in South Sudan. As of March 30th, there were no confirmed COVID-19 cases in South Sudan¹. The government has, however, banned mass gatherings, closed borders, and implemented port of entry restrictions, though imports of food, fuel, and medicine – including humanitarian aid – are still permitted. Restrictions on gatherings have compelled the closure of tea shops, restaurants, and non-food shops such as salons/barbers and boda operators, affecting casual labour income in these sectors. FEWS NET anticipates port of entry and gathering restrictions could affect humanitarian operational capacity and distribution points, thereby slowing or reducing food assistance imports and delivery.

An extensive spread of the disease in South Sudan could take a heavy toll in terms of mortality rates. Countries with high levels of food insecurity are generally more vulnerable and less prepared for an epidemic outbreak. However, there are also factors that could mitigate the damage of a COVID-19 outbreak in South Sudan e.g. the age structure of its population. Moreover, a sparse and predominantly rural based population and more limited travel networks could reduce the pace at which COVID-19 spreads.

In a context of protracted historic conflict, weak governance and economic stresses, it is critical to understand the underlying causes of vulnerability, and the impact these have on available coping strategies of households and communities. South Sudan is highly shock-prone. Studies have shown the shocks are a constant feature of life, and highlighted the importance of considering both the persistence or duration of shocks and the heightened impacts of combinations of shocks. Studying an array of shocks may provide a means of anticipating specific points where multiple constraints might converge and intensify or where limiting conditions are most apparent, and where consequences of responses might become more

¹ <https://fews.net/east-africa/south-sudan>

heightened and critical (FAO & Tufts, 2019). This is particularly relevant to understanding the factors limiting livelihoods or indeed the seasonal drivers of malnutrition.

Coping strategies include are often based on the capacities available to a given individual, household or community. They are complex and subject to disruption dependent on circumstance.

Absorptive capacities reflect the ability to cope, typically over the short term, with a shock and its effects. They are determined by: Livestock ownership, Expenditure, Psychosocial strength, Savings and informal safety nets, Conflict management and justice systems.

Adaptive capacities support a household or community to not only withstand shocks but to positively adapt in the face of social, economic and environmental change. They are determined by: livelihood risk diversification, Improved access to productive and fertile land, Income Source Reliability and Sustainability, Skilled household labour, Seasonal migration and remittances, Educated household head, Early warning and disaster mitigation systems

Transformative capacities tend to be part of longer-term responses that fundamentally address vulnerabilities at community, environment or systems level. They are determined by: Access to markets and infrastructure, Access to quality education, Support for land and livelihoods, Access to water and sanitation, Access to health services, Access to credit and formal safety nets or social protection, Youth employment and empowerment, Women's empowerment, attitudes and aspirations, Community networks

2. Context

In 2011 the Republic of South Sudan became the world's newest country. The South's independence came after circa four decades of war. The consequences of conflict on people's lives, livelihoods and access to basic services have been devastating (FAO, 2019; World Bank, 2020). South Sudan is now one of the world's poorest countries with more than 4 out of 5 people living under the international poverty line in 2016 (World Bank, 2020). Violence has undermined the development of the country's social fabric and left it vulnerable to falling back into cycles of conflict. Despite oil wealth and the influx of foreign aid, civil war broke out in December 2013 and continued until the signing of the Revitalised Agreement on the Resolution of the Conflict in the Republic of South Sudan (R-ARCSS) in September 2018 (FAO, 2019). The protracted impact of this conflict and extended macroeconomic crisis have led to unprecedented poverty.

The number of people in need of humanitarian assistance in South Sudan is estimated to stand at 7 million (over half the population) (WHO, 2018: np) and it is reported that sporadic fighting and surges of violence in new areas have forced people to flee their homes. The number of people uprooted during waves of conflict in 2013 reached over 4 million, including 1.9 million internally displaced people (IDPs), with up to 85% estimated to be children and women. According to the World Bank (2020), the implementation of the 2018 peace deal has resulted in a lower intensity of the conflict in and enabled some returns of displaced populations. An estimated 500,000 displaced people have recently returned to their places of origin, out of which about 40% were refugees hosted in neighbouring countries (World Bank, 2020: 1).

Despite the peace deal, violence and rights violations continue and have become a persistent reality for many. While the number of organised violent events have declined, reports indicate that subnational conflict persists across many states and the decrease in battle deaths has been

matched by an increase in deaths from communal violence (World Bank, 2020: 2). Significant numbers remain internally displaced and 2.3 million South Sudanese refugees were residing in neighbouring countries (Uganda, the Sudan, the Democratic Republic of the Congo, Ethiopia and Kenya) (WHO, 2018: np). The WHO identify vulnerable groups such as children, people with disabilities and older people, as suffering the most intense consequences of sustained displacement, violence and lack of access to services. Whilst economic volatility has undermined access to basic resources, concomitantly, long gaps and inconsistency in salary payments to public sector employees have impacted provision of health-care and other services.

According to WHO (2018) hunger and malnutrition are endemic, about 1.1 million children under age five estimated to be acutely malnourished and in need of lifesaving services (WHO, 2018: np). Although localised famine stopped in 2017, food insecurity continued to increase for the fifth consecutive year. Severe food insecurity was expected to continue in 2018, with the worst-case scenario of a return to famine in multiple locations across the country (WHO, 2018: np). Delayed seasonal rains and ongoing political instability has resulted in a record number of people facing acute food shortages. According to the latest Integrated Food Security Phase Classification (IPC) analysis (January 2020), a total of 6.5 million people were expected to experience acute food insecurity in the May-July 2020 period (WFP, 2020: 3).

Food insecurity is expected to persist in many parts of South Sudan, exacerbating an already alarming humanitarian crisis in the country. The World Bank (2020: 27) estimates a contraction of 1.5% is projected for the agricultural sector during FY2019/20. With these challenges, coupled with the persistence of conflict at the subnational level, food insecurity is expected to persist. A weak domestic economy, reduced crop production and dependence on imports are considered to undermine people's ability to secure sufficient nutritious food. With approximately 860,000 children under five estimated to be acutely malnourished in 2019, the Global Acute Malnutrition prevalence stands at 11.6% and stunting at 17.9% (World Bank, 2020: 2).

Poverty levels are also expected to remain high. Based on the US\$1.90 2011 purchasing power parity poverty line, 82% of the population was considered poor in 2017. The urban poverty rate stood at over 70%, an increase from 49% in 2015.

Health sector context

More broadly, the WHO (2018) comment that the population is highly susceptible to disease and conflict-related injuries. Disease outbreaks are lasting longer and reaching previously unaffected areas, weakening already vulnerable people's ability to cope with multiple shocks. In 2017, South Sudan has seen the longest-running cholera outbreak in its history, which began in June 2016 and was expected to continue.

The WHO (2018) continues that destruction of health-care facilities (only 22% of health facilities are fully operational), attacks on health workers, and shortages of drugs and skilled professionals mean access to health care is limited. The health facilities which are operational face challenges of delivering health-care services. The absence of services means that cases needing emergency obstetric care, as well as tuberculosis, HIV/AIDS and mental health issues go largely untreated, causing increased morbidity and mortality. Inadequate infection control and health-care waste management, combined with lack of water quality monitoring in health-care facilities, pose a significant public health threat. Preventable diseases like measles spread unchecked, and cases of kala-azar and meningitis are on the rise. The mental health and psychosocial burden also increases due to conflict (WHO, 2018: np).

Impacts of COVID19 in South Sudan

The WFP (2020) comment that the impact of the coronavirus epidemic in East Africa could have significant socio-economic repercussions, with potential impacts on livelihoods, food security, national economies and global financial and food markets. They continue that economic shocks are likely to exacerbate the severity of acute food insecurity in South Sudan.

As of March 30th, there were no confirmed COVID-19 cases in South Sudan². However, the government has banned mass gatherings, closed borders, and implemented port of entry restrictions, though imports of food, fuel, and medicine, including humanitarian aid, are still permitted. Restrictions on gatherings have compelled the closure of tea shops, restaurants, and non-food shops such as salons/barbers and boda boda operators, affecting casual labour income. FEWS NET anticipates port of entry and gathering restrictions could affect humanitarian operational capacity and distribution points, slowing or reducing food assistance imports and delivery. Given planned food assistance was likely to reach 20-26% of the country population per month with nearly 40% of their daily kilocalorie needs from March to July, delayed or reduced food assistance could lead to a deterioration in food security outcomes.

Movement restrictions affecting trade activity within Uganda and Sudan and closure of Nimule, Kaya, Warawar, Gok Machar, and Renk border ports of entry are leading to reduced food commodity imports, price hikes, and panic buying. According to FEWS NET market and trade monitoring data, maize imports from Uganda to South Sudan declined circa 30% from the week of March 9th to week of March 16th. In the Konyokonyo market (Juba), the price of a kg of maize doubled, while the price of a kg of sorghum rose 15% from the week of March 2nd to the week of March 23rd. Speculative price hikes are reported in **Yei** and **Maridi** in Greater Equatoria. Given South Sudan's reliance on food commodity imports, FEWS NET anticipates a decline in trade volumes, putting pressure on high food prices and reducing households' purchasing power³.

Oil: South Sudan heavily depends on the export of oil. The oil revenue will be impacted by collapse of oil prices. Plummeting commodity prices translate to losses in export earnings and the trade deficit of over 2 billion South Sudanese Pounds (SSP) will widen. The decrease in oil prices will also trigger currency depreciation and an adjustment in the balance of payments (WFP, 2020: 1).

Loss of oil revenue will impact on Government revenue affecting import obligations and payment of public service salaries. This will affect commercial imports needed for traders to preposition before the rainfall season (April 2020). The oil revenue and its impact on the wider economy will have other effects e.g. depreciated exchange rate and decreased commercial food in markets and decreased purchasing power of civil servants, pastoralists and those dependent on markets during the lean season (WFP, 2020: 3). Possible rise in nominal price of fuel amidst scarcity and erratic supply will cause further upward pressure on the prices through inflated transport costs. Increased prices of fuel are likely to be shouldered by urban poor households who are dependent on markets but also market-dependent rural poor (WFP, 2020: 4).

² <https://fews.net/east-africa/south-sudan>

³ <https://fews.net/east-africa/south-sudan>

Impact on commodity flows and prices: Uganda and Sudan are sources of commodities for and will allow commercial and food aid cargo to continue moving across borders, the screening process has slowed down movement (WFP, 2020: 4). The prices of commodities have started to react to the border closures in South Sudan and Uganda. Prices of imported and processed commodities such as sugar, maize flour, water, soft drinks etc. are likely to continue with a steeper upward seasonal trend.

Cereal: Border closures will limit movement of commodities and negatively impact traded volumes and put pressure on prices for both cereals and industrial (processed) commodities across all markets in South Sudan (WFP, 2020: 2).

Food security: An extensive spread of the disease in South Sudan could take a heavy toll in terms of mortality rates. Countries with high levels of food insecurity are generally more vulnerable and less prepared for an epidemic outbreak. The joint WHO-JRC Epidemic Risk Index, which measures risk based on hazard, exposure, vulnerability and coping capacity is higher for countries with a higher score for the Proteus index of food insecurity (WFP, 2020: 5). However, there are also factors that could mitigate the damage of a COVID-19 outbreak in South Sudan e.g. the age structure of its population. Moreover, a sparse and predominantly rural based population and more limited travel networks could reduce the pace at which COVID-19 spreads.

Agriculture production: In South Sudan, the impact on the workforce would negatively affect the agricultural sector, characterised by labour intensive production. As the main agricultural season is about to start, reduced labour force and in turn, reduced production is likely to have lasting effects on 2020-2021 production levels. COVID 19 will be further aggravated by the desert locusts' outbreak if this is not controlled (WFP, 2020: 6).

Borrowing: poor countries may lose their ability to borrow and spend as lenders avoid perceived risk (WFP, 2020: 2-3).

Currency depreciation and market-dependent populations: The July-August (indicative of lean season) 2019 FSNMS reports that increasingly high proportions of the population are market dependent for their cereal consumption, with highest percent recorded in Northern Bhar el Gazal (73%), Central Equatoria (61%), Upper Nile (58%) and Eastern Equatoria (56%). This is likely to result in the depletion of assets, especially livestock for market-dependent households.

Real incomes of casual labourers: Purchasing power of vulnerable populations will be compromised going forward if the SSP continues losing value. Casual and fixed income workers paid in SSP will be trapped with lower wages, as purchasing power diminishes. Worst hit will be the urban poor and rural low-income market-dependent earners. Workers will be forced to engage in multiple incoming generating activities in order to cope with rising cost of living and reduced purchasing power, any form of isolation will be challenging.

3. Vulnerability

Understanding vulnerability to COVID19 and its impact presents unique challenges for researchers particularly in contexts where exposure to multiple hazards is common and range of factors influence susceptibility and adaptive capacity at household, community and national levels. The protracted crisis in South Sudan is exacerbated by climate extremes, with environmental impacts such as land degradation and deforestation entailing further

consequences for biodiversity. The implications in terms of human and economic costs are significant, with immediate as well as long-lasting effects on livelihoods and food security.

In such a context it may be more appropriate to speak of intersecting vulnerabilities. Vulnerability is commonly referred to as the level of exposure of human life, property and resources to the impact of hazards (Fussell, 2007). Factors, such as sex, age, education, and occupation may modify the relationship between hazards and morbidity and mortality. Three dimensions of vulnerability are commonly identified in the literature and must be explored to fully understand vulnerability (Howe et al., 2013):

- **Exposure** denotes the degree to which subjects or areas could be affected by a hazard. The level of exposure is defined by several components and measures, including: the frequency and intensity of exposure; the presence or absence of mechanisms that could amplify or lessen the severity of exposure and the location relative to sources of hazard.
- **Susceptibility** is more difficult to assess than exposure. One needs to consider components of susceptibility and measures of susceptibility. Demographic factors such as age, gender, and socio-economic status play an important role in susceptibility. These factors are highly context-specific and can also interact with one another.
- **Absorptive, transformative or adaptive capacity** refers to actions taken to reduce or avoid risk. While exposure and susceptibility increase vulnerability, adaptive capacity enables people to reduce vulnerability. The concept of adaptive capacity is important because while exposure and susceptibility, characterise vulnerability in a negative way, adaptive capacity recognises the ability to learn and change behaviour.

Although vulnerability is often considered in relation to a particular stressor or hazard, e.g. drought or in this context, COVID-19, it is clear that it is influenced by interacting biophysical and socio-economic factors. Communities, or individuals within a community may therefore experience varying levels of vulnerability.

Risks, shocks and stressors

In a context of protracted historic conflict, weak governance and economic stresses, it is critical to understand the underlying causes of vulnerability, and the impact these have on available coping strategies of households and communities (FAO, 2019).

South Sudan is highly shock-prone. The range of shocks indicate a country with unique socio-cultural, political, economic and ecological characteristics (Ministry of Agriculture, Forestry, Cooperatives and Rural Development (MoAFCRD) et al., 2015: 35). Studies have shown the shocks are a constant feature of life, and highlighted the importance of considering both the persistence or duration of shocks and the heightened impacts of combinations of shocks (FAO & Tufts, 2019).

Studying an array of shocks may provide a means of anticipating specific points where multiple constraints might converge and intensify or where limiting conditions are most apparent, and where consequences of responses might become more heightened and critical (FAO & Tufts, 2019). This is particularly relevant to understanding the factors limiting livelihoods or indeed the seasonal drivers of malnutrition.

Insecurity and conflict: Conflict has affected women, children and young people in particular. A lack of effective institutions, the proliferation of arms, politicisation of ethnicity, and weak property

rights have contributed to the continuation and deterioration of the situation. Families and communities have been disrupted, social relations and protection mechanisms severed, and access for humanitarian and development actors limited. The conflict has become more complex and unpredictable in recent years (FAO & Tufts, 2019). Although a peace agreement was signed in 2018, conflict persists. A relapse into widespread conflict would reverse gains made and would exacerbate the macroeconomic and humanitarian situation (FAO, 2019; World Bank, 2019).

Insecurity and violence including local conflicts or disputes over resources, or violence by armed youths is worsened by a lack of governance or accountability. Frequency and severity of such conflict has been higher in Greater Bahr el Ghazal and Greater Upper Nile states. Multiple aspects of wellbeing are compromised by outbreaks of insecurity and violence, and impacts are worse for households with existing vulnerabilities. Greater Upper Nile states were most affected by insecurity and violence. In Lakes, 50% of households reported experiencing insecurity and violence, most consistently during the dry season (MoAFCRD et al., 2015).

Economic fragility: The economy is characterised by low investment, declining revenues (oil production has dropped), a decrease in GDP, disrupted market functionality and limited employment opportunities. Purchasing power for the majority of population has been eroded, in 2014, the cost of the minimum expenditure basket was 930 SSP, by October 2017 had soared to 22,924 SSP (FAO & Tufts, 2019). Commodity prices also continue to rise. South Sudan relies on the oil sector which accounts for about 97% of total exports of goods and services, and 45% of nominal gross domestic product. Any downturn in oil prices would have negative consequences for South Sudan's economy, further increasing vulnerability (World Bank, 2020).

High food prices and economic shocks linked to insufficient production of staple food items and a fragile, oil-dominated economy. These are common shocks across the country and particularly in Greater Bahr el Ghazal and Greater Upper Nile states.

Climatic shocks: The country has experienced an increased frequency, intensity, unpredictability and magnitude of climate and weather extremes such as drought, heavy rainfall and flooding. Drought was more frequent in the Greater Bahr el Ghazal and Greater Equatoria states (particularly Eastern Equatoria), Greater Upper Nile states were more exposed to flooding. Besides their direct impact on agricultural production, these also affect the spread of crop pests and animal diseases. Above normal rains have been experienced in Northern Bahr el Ghazal, Upper Nile, Eastern Equatoria, Unity, and Central Equatoria resulting in floods that impact on communities, crops, and livestock production. FAO estimates that over 900,000 people were affected leading to 74,157 hectares of damaged cultivated land with an estimated loss of 72,611 tonnes of grain or 15.1% loss in production in affected areas. In addition, a threefold increase in livestock diseases and submerged pasturelands has resulted in an estimated 3 million livestock heads affected. The above normal rains have affected transportation routes, reducing market access and increasing post-harvest losses (FAO, 2019).

Animal and human diseases and crop pests: Pests and diseases in South Sudan have a greater impact due to limited vaccination coverage, knowledge or early warning systems on anticipated threats. This has significant implications for livelihoods. High numbers of livestock due to seasonal migration patterns also mean the country is susceptible to disease outbreaks e.g. the foot-and-mouth disease virus type SAT3. Outbreaks of Rift Valley fever and the presence of fall armyworm have been reported, causing livestock and crop losses. In the period after 2011, the greatest number of human and crop disease outbreaks was observed in Western

Equatoria, Western Bahr el Ghazal, Northern Bahr el Ghazal and Unity states; while Eastern Equatoria, Warrap, and Unity states registered the highest level of animal diseases (FAO, 2019).

Sudden or acute outbreaks of diseases are a shock experienced by many households, limiting capacity to exploit livelihood potential and increasing exposure to food insecurity and malnutrition. Epidemics are distinct from the endemic morbidity or ongoing disease burden that is a household stressor. As a shock, disease outbreaks are underpinned by environmental factors (i.e. flooding) and socioeconomic ones (i.e. congestion of population living in unsanitary conditions, water contamination, lack of hygiene, awareness and preventive measures, lack of access to health services) (WHO, 2018).

Sudden flare-ups of malaria, skin diseases and other infections are common. Outbreaks of measles are periodically reported in Unity (Rubkona), Jonglei (Duk), and Upper Nile (Maban). Cholera outbreaks (often viewed as a social under-development indicator) are a risk during the rainy season and in overpopulated semi-urban and urban areas (e.g. Protection of Civilians – POC - camps). Cholera remains a threat and poses a risk of death for those affected, particularly people with low immune systems due to malnutrition or HIV (MoAFCRD et al., 2015: 46).

According to (MoAFCRD et al., 2015: 46), around 60% of households reported human sickness as a main stressor. While there are seasonal patterns to specific diseases or ailments. Human disease is a chronic stressor that diminishes household's ability to withstand a shock. The absence of good health diverts financial and non-financial resources needed to cope. Negative impacts of ill health, beyond physical and psychological, are financial and livelihood related. They include costs of treatment, transport to facilities, and opportunity costs (i.e. of not working). They also include the consequences of reduced ability to maintain a livelihood and earn an income.

Compounding the impact of a chronic disease burden, rural health facilities are often hard to reach, few in number, and of low capacity in terms of resources and infrastructure such as supply chains, storage and information systems. Urban facilities are also stretched to meet high needs, as well as being expensive and over-crowded. Across the country, the relative shortage of human resources is particularly acute, with WHO estimating that there is only one physician per 65,574 population and one midwife per 39,088 population⁴. There is inequity geographically, with Central Equatoria having the highest number of health workers, and higher numbers also in urban areas despite the majority of the population living in rural areas.

Trans-border infections. South Sudan remains at risk given porous borders e.g. an indigenous outbreak of Ebola Virus Disease cannot be discounted. There are two main economic transmission mechanisms through which the disease could affect the economy.

- Direct and indirect effects of sickness and mortality, which consume health care resources and reduce the number of workers from the labour force.
- Behavioural effects resulting from fear of contagion, which leads to a fear of association with others and reduces labour force participation, closes places of employment, disrupts transportation, motivates land border closures, and restrict entry of citizens from afflicted countries, and motivates private decision-makers to disrupt trade, travel and commerce by cancelling scheduled commercial flights and reduction in shipping and cargo service.

⁴ <https://www.who.int/workforcealliance/countries/ssd/en/>

Table 1: Secondary impacts of major disease outbreaks in LICs and LMICs

Social impacts	Economic impacts
<p>Major infectious disease outbreaks can have a negative impact on social cohesion due to fear of contagion, breakdown of trust, and changes in behaviour that erode the social fabric of families and communities. Scapegoating of certain social groups such as ethnic minorities can also occur. The negative effects on social cohesion may be long lasting.</p> <p>Survivors, their families, healthcare workers, and others associated with the disease can experience stigmatisation, contributing to their social exclusion and economic marginalisation. This stigma can last long after the disease outbreak has ended.</p> <p>Education is negatively affected due to school closures or parents' reluctance to send children to school due to fear of contagion. Months of schooling may be lost, and some may find it hard to reenrol after the crisis has passed. Investment in the education system may be diverted to the response.</p> <p>Children can lose primary caregivers (due to death, abandonment, or lack of measures put in place if their caregivers need medical care) and reduced caregiver supervision leaves them vulnerable to violence, exploitation and abuse. Teenage girls may need to take on additional caring responsibilities and be vulnerable to engaging in transactional sex due to their family's financial situation. Children's births may not be registered.</p> <p>Women's social duties can make them vulnerable to contracting disease. Their livelihoods may suffer due to time spent caring or if sectors they are concentrated in are hit by the outbreak and its response. They may face increased sexual and gender-based violence.</p> <p>Response measures, such as quarantines, can have a disproportionate impact on the elderly, the poor, and people with chronic illness or disabilities.</p> <p>Existing aid programmes face new and sudden safety, security and access challenges. Trade-offs occur between the urgency of response and need to support long-term development. Existing funds and focus may be diverted to the response.</p>	<p>Economies and livelihoods are affected by major infectious disease outbreaks, in both short and longer term after the crisis ends.</p> <p>The immediate costs of the response can be high, and fiscal stresses caused by increased expenditures can be exacerbated by diminished tax revenues.</p> <p>Economic growth can decline due to infectious disease outbreaks and the response. Fear-induced behaviour changes, e.g. avoiding workplaces and markets, causes economic disruption. The labour force can be reduced by sickness and mortality, and fear of associating with others. Quarantines, travel restrictions, bans, and the closure of markets and borders can disrupt trade and livelihoods.</p> <p>Some sectors may be particularly hit. Tourism is vulnerable to downturns during infectious disease outbreaks, due to fears of contagion. Agriculture was badly hit during the West African Ebola crisis due to the loss of labour and markets.</p> <p>The aid response has an impact on local economy, raising prices and providing employment. This can cause resentment among those who miss out.</p> <p>Household incomes can decrease as a result the loss of wage earners to death, quarantine, or sickness, and the expense they may have in relation to healthcare. Their coping strategies can reduce future income opportunities and increase vulnerability to future shocks. Poorer households are especially affected as they have limited means to cope.</p>

<p>Other social impacts include population displacement, human rights violations, and cancellation of events.</p>	
<p>Secondary health impacts</p>	<p>Political and security impacts</p>
<p>Fragile health systems struggle to cope with regular health issues during infectious disease outbreaks due to diversion or depletion of funds, resources, and personnel from routine healthcare. Travel restrictions, infection control measures, fear, or a decrease in trust can stop people accessing health care facilities.</p> <p>This can lead to additional deaths from causes other than the disease, a decrease in childhood vaccinations, and a decline in maternal health services.</p> <p>The response can put the future of existing health systems under strain. It takes time for the system to recover and return to normal once outbreak ends.</p> <p>The availability of healthcare workers and ability to provide care decreases during outbreaks as a result of illness, deaths, and fear-driven absenteeism.</p> <p>The trauma of disease outbreaks and the response measures can result in mental health problems, which can persist after the epidemic has ended.</p> <p>Responses to disease outbreaks can disrupt livelihoods and food supplies, leading to malnutrition.</p> <p>Infectious diseases and the response can generate large amounts of waste.</p>	<p>Major infectious disease outbreaks can increase existing political stresses and tensions.</p> <p>Diseases that are sudden and acute, rather than chronic, that have a greater risk of death, and lack clear scientific or medical knowledge and effective treatment options, are more likely to result in instability. Coercive outbreak responses can lead to protests, violence, and tensions between state and citizens, especially when trust in the state was low.</p> <p>During the West African Ebola outbreak, civil violence was more likely in the early stages, although the crisis was not as destabilising as initially expected.</p> <p>The situation may be politicised and used for political gain.</p> <p>Major disease outbreaks can lead to decreased trust in state institutions.</p> <p>If security forces are affected, this may affect the country's ability to manage instability. The effect on armed groups also needs to be considered.</p>

Source: Rohwerder, 2020: 1, https://assets.publishing.service.gov.uk/media/5af96f2fe5274a25dbface4c/Disability_in_South_Sudan.pdf, licensed under [Open Government License](#)

Degradation of natural resources: Persistent crises have changed livestock migration patterns and led to competition over land, grazing and water sources, between pastoralists and among farmers and herders. Displacement and congregation in confined areas have stressed natural fuel sources with areas deforested to provide wood and charcoal for cooking and as income.

Weak governance: The governance system has deteriorated at both national and local level and been unable to ensure essential functions e.g. agricultural extension services or social services. Local governance actors face challenges from scarce human and financial resources, weak collaboration between the state and its citizens, and diminished social cohesion and trust between society and local governance. The budgeting processes remain opaque with limited oversight. Although this has often led to the accumulation of arrears, spending in the social sectors including in education, health, and rural development continue to be meagre. Consequently, South Sudan continues to underinvest in sectors that would reduce poverty, building resilience, and building a stock of physical and human capital (World Bank, 2020).

Stressors

Alongside shocks, a number of stressors are evident. Stressors are long-term trends that undermine a given system and increase vulnerability of actors, or slow-onset hazards that pass a 'tipping point' to become extreme events. By diminishing individual/household/community capacity to withstand shocks, and increasing the negative impacts of shocks, stressors undermine resilience. Stressors make households more vulnerable to shocks, by diverting assets and resources to cope with them and depleting livelihood, food and wellbeing.

Stressors listed by MoAFCRD et al. (2015) include chronic and acute ones that worsen the impact of shocks and deepen existing vulnerability (as expressed in poverty, malnutrition and other socioeconomic indicators). As with the shocks listed, most are worse in Greater Upper Nile and Greater Bahr el Ghazal states. Key stressors identified include:

- **Endemic disease and morbidity** linked to poor coverage of health and sanitation services and worsened due to congestion linked to urbanisation and displacement.
- Pressures felt by families and communities **hosting displaced persons** and therefore forced to stretch meagre resources.
- **Limited basic infrastructure** including roads and access to services.
- **Limited access to quality education**, reflected in poor literacy and other education outcomes (typically worse for girls).
- **Poor access to water and sanitation** exacerbating disease threats and low productivity.
- **Lack of social welfare or protection** (with the exception of food assistance) that allows poverty to become entrenched or for cycles of vulnerability to be perpetuated.
- **Sexual and Gender Based Violence (SGBV)**.
- **Risks to children** including SGBV, early marriage, child labour, and recruitment into armed groups, psychosocial and physical pressures linked to displacement, and non-access to basic services including education (made worse by insecurity).
- Social or cultural events such as **weddings** that require significant contributions of household assets including food, livestock, cash.
- **Low productive capacity and technology**, across livelihoods and sectors, that means producers cannot avoid or withstand shocks or maximise investments and opportunities.
- **Youth unemployment and alienation** stemming from lack of viable livelihood opportunities (over half of youth are unemployed due to lack of relevant skills, changes to traditional livelihoods, and the labour market's inability to absorb them) as well as exposure to insecurity, tensions with older generations and traditional authorities, and little engagement in civil society or constructive community peace mechanisms.
- **Limited employment opportunities** due to poor economic development and reflected in limited livelihood diversification and high unemployment rates. Exacerbating factors include limited access to credit for businesses, disempowerment of women in the economy, and poor regulatory or investment environments which undermines markets and entrepreneurship. This stressor is underpinned by low education levels of those seeking employment and competition from a better educated foreign labour force.

Vulnerable Groups and Communities

Vulnerability to risks, shocks and stressors varies across groups, communities and within these. Factors that infer vulnerability may imply different coping strategies. It is also important to understand how vulnerabilities may intersect.

Youth

South Sudan has a young population with few employment opportunities, potentially increasing risk of future conflict. Life expectancy in 2017 was estimated at 57 years. In 2016, 57% were below 18 years of age and 22% under 5 years of age (World Bank, 2020: 37). A large portion of the population is too young to be productively engaged in the labour market. In 2016, the average ratio of dependents to workers was circa 1.55. The burden of having to provide for a larger households is related to the depth of poverty (World Bank, 2020: 37).

There is a lack of educational or economic opportunities for youth in South Sudan combined with fragile markets and weak governance due to political uncertainty and conflict. This has contributed to a large number of youth being uneducated, unskilled and underutilised in terms of their capabilities. Given the existence of politically-motivated ethnic tensions, these factors combined threaten to prompt conflict and make it harder for youth to pursue productive activities.

Young males often to migrate to Juba to look for work, which partly explains the rise in the number of female-headed households in rural areas (Martin and Mosel, 2011). Many of those who migrated to urban and peri-urban areas during the conflict have stayed, largely because of difficulties in accessing land in rural areas and readapting their livelihoods after having lived in urban areas for so long (Maxwell and Burns, 2008).

Further to this, risks faced by children erode the resilience of communities. In South Sudan, children have faced a multitude of risks including abduction, early marriage, SGBV, recruitment into armed groups, violence, separation from families, and landmines or unexploded ordinance. Decades of insecurity and upheaval are believed to have damaged traditional social structures and weakened justice mechanisms, leaving children vulnerable to protection risks (MoAFCRD et al., 2015).

Rural Households

Those who rely on agriculture are often worst affected when a crisis strikes, as their food security and nutrition is threatened. At least 85% of the population depend on farming, fishing or herding to meet food and income needs (FAO, 2019). Consecutive IPC analyses show food insecurity increasing, and in January 2018, 5.3 million people – almost half the population – were estimated to be facing Crisis or worse (IPC Phases 3 and above) levels of acute food insecurity, of which 1 million were in Emergency (IPC Phase 4). This was a 40% increase on the same period in 2017. Acute malnutrition remains above the emergency threshold of 15% in many areas (FAO, 2019: 2).

Rural households rely almost exclusively agricultural production to sustain livelihoods. Agriculture accounts for two-thirds of employment and 83% of households' primary source of livelihood. Employment in manufacturing is low at about 2% of total employment. Salaried labour is associated with greater levels of consumption expenditure, especially in urban areas, where the stability associated with regular wages and salaries can stave off vulnerability to poverty.

Women are slightly more likely to be employed in own-account agricultural production than men and are significantly more likely to hold waged employment (World Bank, 2020: 37).

Approximately 74% of households own livestock, mostly cattle, and meat and dairy comprise about 30% of total basic food consumption. Pastoralist practices are most common in western parts of Greater Upper Nile, in Bahr el Ghazal, and in Eastern Equatoria. Livestock systems face multiple stressors in South Sudan, such as fragmentation of grazing areas, variable access to water, and weak social safety nets and markets (FAO, 2019).

Extreme events such as floods (2014, 2017) and droughts (2011, 2015) have led to deaths, displacement, and destroyed livelihoods for many working in the agriculture sector. Variable rainfall puts these communities further at risk. Potential increase in either intensity or frequency of extreme weather events and continuation of erratic rainfall threaten food security and sustainability of the rain fed agriculture sector. Despite the population's heavy dependence on agriculture, South Sudanese agricultural practices are critically underdeveloped (FAO, 2019).

Pastoralists

Traditionally, pastoralists, agro-pastoralists and farmers have developed adaptive strategies to cope with complex climatic conditions. **Agro-pastoralists and farmers** often plant crops that are resilient under dry conditions e.g. sorghum, millet and sesame, and send family members to dry season grazing areas to exploit available wild foods and fish (Livelihoods Analysis Forum, 2006).

Pastoralists have adopted strategies such as 'tracking strategies', in which 'variable variability of grass is matched with livestock numbers and feed supplies are tracked in time and space' (Pantuliano et al., 2009: 11). As mobility has decreased, pastoralists have transitioned towards increased sedentarisation. Women and children often remain in villages and towns and engage in agricultural activities (ibid.).

In the Western Flood Plains zone, wealthier households have begun to rely more heavily on crop production to offset the risks associated with having all one's 'food' derive from a source (cattle) that can be raided or slaughtered, and in part to reduce the number of cattle exchanged for grain. Migration to more favourable areas is another option for these groups, which tend to have stronger links with neighbouring areas. Poorer groups tend to expand wild food collection and sales, and fishing when possible. Local and long-distance labour opportunities are also expanded on, depending on seasonal availability. Other income options that may be expanded include the sale of local beer, grass, mats, wild foods and dried fish (SSCCSE, 2006).

In terms of coping with past conflict, in Bieh, in the Eastern Food Plain zone, households have managed to cope through long-distance trading with government controlled towns and Malakal especially, or through increased exchange with Bor and Phou. In Akobo, where insecurity is common, fish and cross-border trade with Ethiopia often help relieve pressure (SSCCSE, 2006).

Refugees and Internally Displaced Peoples

Nine in ten IDPs and 7 in 10 refugees live in poverty. Circa 91% of IDPs fall under the international poverty line of US\$1.90 PPP per capita per day compared with 86% of rural residents and 75% of urban residents. South Sudanese refugees living in Ethiopia fare slightly better, with 71% poverty incidence. Among refugees, poverty incidence of households headed by

women is slightly higher than of those headed by men; among IDPs, poverty rates vary across camps. Bentiu POC has the highest poverty rates (96%), while Bor POC has the lowest poverty (76%) (World Bank, 2020: 42).

Returnees face challenges restarting their lives, including few employment opportunities, especially for unskilled labour; intensive labour and time required to clear farmland; inadequate basic services; and lack of access to credit, land and agricultural inputs (Bailey and Harragin, 2009). Many returnees also settle in urban areas and appear to have lost rural livelihood skills. While large numbers of people have returned, the population remains largely at subsistence levels and is vulnerable to shocks (Pantuliano et al., 2008). It is often the case that returnees receiving reintegration assistance are no worse off (and in some instances are significantly better off) than 'receiving' community members for whom no assistance is provided (Maxwell and Burns, 2008).

Gender

A history of conflict and militarisation has affected gender, generational roles and identities. This has resulted in increased labour for women and decreased or underutilisation of men's contribution to agricultural work. Conflicts, displacement, fragile governance systems and deterioration of the country's infrastructure and basic services have widened inequalities between men and women. Severe depletion and/or loss of productive assets and displacement have been witnessed, resulting in an increased number of female-headed households, as well as a lack of social safety nets (FAO, 2019).

The gender gap in agriculture is found mainly in assets, inputs and services such as land, livestock, labour, education, information services, and technology, all of which affect capacity to protect communities from crises. During and after a crisis, women and children suffer relatively more from displacement, reduced access to services and assistance, and loss of livelihoods. Gender-based violence in South Sudan is widespread. Moreover, the burden of work for women and girls increases during and after disasters and crises. For instance, they are traditionally responsible for securing fuelwood, water and fodder (FAO, 2019).

Addressing gender and risk-differentiated issues and needs in agriculture and food production and ensuring the protection of vulnerable women is core to resilience. **Women and men play specific and complementary roles in agriculture, food security and nutrition, which must be taken into account in efforts to build the resilience of their livelihoods.** For example, existing extension services do not favour women, since they assume multiple roles, have restricted mobility and limited access to core productive assets (FAO, 2019).

Gender inequality, including limited access and control over land, water and other productive resources, lack of access to education and health services, food insecurity, conflict and displacement infer greater vulnerability of women and girls to shocks and may fuel a cycle of gender based violence (GBV). In South Sudan, women and girls are disproportionately affected by poverty in comparison to men and boys, which underlines women's lack of access to resources, participation in decision making and gender inequality more generally (GWI, 2017).

Intimate partner violence (IPV) is the most common form of VAWG. Times of shock and stress exacerbate IPV, as women report increased brutality and frequency of assaults due to the chaos and economic insecurity. Long-standing discriminatory practices such as bride price, child and forced marriage and polygamy, in addition to years of war, have created an environment where

violence against women and girls is common (GWI, 2017: 12). A number of factors contribute to pervasive VAWG (GWI, 2017: 12):

- Conflict has resulted in **breakdown of the rule of law** and an environment where use of violence is accepted, impunity widespread and opportunistic crime rampant. Cultural practices that promote gender inequality also reinforce use of violence in the home.
- **Normalisation of violence** in communities affected by insecurity may influence VAWG. Weapons are common, particularly in the hands of youth and desensitises those conducting acts of violence and facilitates the cycle of revenge killings and rapes.
- As a response to this increasing insecurity, men may prevent women and girls from leaving the house, working outside the home or attending school. While viewed as **protective acts by men**, women's lack of agency in making these decisions is striking.

Disability

Rohwerder (2018) provides a summary of evidence on the incidence of disability in South Sudan covering its prevalence, attitudes towards people with disabilities, the barriers and challenges they face, and their responses to these challenges. A summary is provided below.

Statistics or comprehensive information on the number and situation of people with disabilities in South Sudan is lacking. Most estimates suggest that it is likely to be at least as high as the global estimate of 15% and a few household surveys have found similar percentages of people with disabilities within households. Studies suggest that the prevalence of post-traumatic stress disorder (PTSD) is high (41-53%). Lack of data on disability in South Sudan has made lobbying for improved rights and access to services difficult.

South Sudanese authorities have limited capacity to respond to needs of people with disabilities and the support provided by national and international organisations is not enough to meet the immediate and long-term needs.

Disability is often stigmatised in South Sudan and as a result children and adults with disabilities are hidden and isolated. Such negative attitudes contribute to discrimination against people with disabilities. Community-based rehabilitation is reported to have helped to change attitudes towards disability in some communities. Adults and children with disabilities in South Sudan have been subject to various forms of verbal, physical and sexual abuse by their families and the wider community. People with disabilities struggle to access and afford healthcare, including assistive devices, and are among those most vulnerable to malnutrition.

Most people with disabilities are unemployed and there are almost no social safety nets and food security schemes for persons with disabilities. Barriers to employment include the accessibility of the working environment and the attitudes of employers and colleagues. People with disabilities have limited access to humanitarian assistance, especially if they are not in protection of civilian sites, although a lot of the mainstream support provided in these camps is also inaccessible.

The disability movement in South Sudan is mainly focused around Juba and engages in rights advocacy, awareness raising, and programmes aimed at socio-economic and political empowerment of people with disabilities. Representative organisations face challenges due to lack of government support and lack of income to keep programmes running.

Foreign Workers

Since the signing of peace agreements, South Sudan (and Juba in particular) has experienced an influx of skilled and unskilled foreign workers, the majority from Kenya, Uganda, Ethiopia, Eritrea, Somalia and the DRC in search of new economic opportunities. While there are limited statistics on the size of the immigrant labour force, it is estimated that approximately 100,000 foreign workers (excluding international aid workers) are living and working in South Sudan, with up to 40,000 Ugandans and 15,000 Kenyans working in Juba (World Bank, 2009). Immigrant workers make up the large majority of Juba's skilled labour force; it is estimated that over 85% of skilled labour in Juba is provided by foreigners from neighbouring countries (ibid.).

Determinants of vulnerability

More broadly, a number of factors are considered to influence vulnerability and to determine the types of coping strategies available.

Family composition

The impact that shocks have on families is dependent on family composition, which is an important determinant of whether households are vulnerable or resilient (Harragin and Chol, 1999). Family composition helps maintain social capital. According to Harragin and Chol (1999) in their study of vulnerability in South Sudan, larger families tend to be more resilient and have greater adaptive capacity than smaller families. Larger families are more capable of pooling labour and resources, which enables them to carry out a wider range of livelihood activities and coping strategies (ibid.). Similarly, households with stronger kinship and clan networks are more capable of restarting livelihood activities (Bailey and Harrigan, 2009; Harragin and Chol, 1999).

According to Harragin and Chol (1999), examples of vulnerable families include those who have experienced the loss of several family members owing to death or displacement; families without daughters (and, conversely, families without sons); families where all children are too young to be economically productive; and families that experience sickness or death of the mother or father. Most of these examples result in an insufficient pool of labour to carry out livelihood activities effectively, which increases vulnerability and causes the entire family to suffer.

Education

South Sudan has one of the lowest literacy rates in Africa, explained by low availability, access and quality of education. In 2016, circa 4 in 10 people reported being able to read and write. Educational outcomes are positively correlated with consumption expenditure and poverty status, but the urban-rural divide is a stronger determinant of both adults' educational attainment and children's school attendance. Severe underfunding has resulted in a gap in schooling infrastructure, inadequate teaching and learning environments, and in significant shortages of qualified teachers (World Bank, 2020: 37).

Livelihood

The population of South Sudan is predominantly rural, and dependent on subsistence farming or animal husbandry as livelihoods. Two out of three households rely on agriculture and animal husbandry as their main livelihood. The risk of food insecurity varies markedly depending on

access to and quality of natural resources and on the level of livelihood diversification. (MoAFCD et al., 2015). Households typically rely on a combination of income sources that varies across states as well as throughout the year. In rural areas, households are typically involved in agriculture and pastoralism (often combined) as well as other livelihood activities including casual labour, sale of natural resources and skilled or salaried labour.

Cattle-based pastoralism is the customary livelihood of many groups in the country. With a national herd estimated at 11 million cattle are central to the country's economy and to the sociocultural life of many. Pastoralism, based on seasonal migration in pursuit of pasture and water, is usually combined with small-scale, rain-fed cultivation of staple crops.

Crop production is mostly on hand-cultivated small plots farmed by large family aggregations usually polygamous in nature. The area cultivated typically depends on the size of the household labour force and/or the ability of households to provide in-kind payment (typically food/beer) for traditional working groups (nafeer) and security of access to land, often compromised by competition between different groups and interests (see later section on stressors).

Table 2 Percentage of farming households and average harvested cereal area by households

State	Farming Households (percent)	Average cereal area (ha/household)
Central Equatoria	64	1.27
Eastern Equatoria	76.5	1.09
Jonglei	23.2	0.64
Lakes	72.5	0.89
Northern Bahr el Ghazal	67.1	0.77
Unity	29.2	0.42
Upper Nile	20.5	1.09
Western Bahr el Ghazal	78.2	0.98
Warrap	65.8	0.85
Western Equatoria	87.5	1.39
South Sudan	58.0	0.99

source: MoAFCD et al., 2015: 27,

<https://documents.wfp.org/stellent/groups/public/documents/ena/wfp284803.pdf?iframe>

There are significant differences in livelihoods patterns across the ten states - for instance, households in Warrap, Eastern Equatoria and Lakes are more involved in livestock production and sale, those in Western and Central Equatoria are more involved in agriculture and crop sales and those in Greater Upper Nile are more involved in the sale of natural resources.

Many livelihoods or income sources are not reliable and sustainable according to a measure used by the FSNMS called Income Source Reliability and Sustainability (ISRS). ISRS scores range from 1-9 and are divided into three categories: poor (scores 1-3); medium (scores 4-5); and good (scores 6-9). Poor/low ISRS includes begging, borrowing, sale of food aid, casual non-agricultural labour (e.g. in mines, construction), reliance on gifts, sale of natural resources such as firewood, charcoal and grass. By contrast, good/high ISRS includes crop, livestock and products and sales, salaried work and trade or business. Medium ISRS includes alcohol sale, casual agricultural labour and wild foods sale.

Livelihood systems in South Sudan are highly dependent on mobility and trade. Although households have traditionally been able to survive mobility and trade restrictions caused by regular occurrences such as seasonal flooding through coping strategies (such as fishing and gathering of wild foods), restrictions resulting from conflict have disrupted livelihoods and food security. Conflict and its attendant consequences have undermined access to markets and migration and denied households the opportunity to effectively address structural seasonal food deficits (Livelihoods Analysis Forum, 2006).

High food prices are a common shock. Food price hikes are sudden onset shocks of critical significance to households, in particular those with higher dependence on markets, less disposable income or assets, and the presence of existing vulnerabilities.

Those who depend more on external markets are more vulnerable to the negative impacts of food price rises. On average 50.5% of the food value consumed at home is supplied from the markets (MoAFCRD et al., 2015). Higher dependence on markets was observed in urban areas. High food prices affect households in all states due to low production, bad road access, and instability of markets. Exceptions to this are Western and Central Equatoria states which showed less dependence, presumably linked to better infrastructure and production (Ibid.).

Table 3: Livelihoods and challenges in different zones in South Sudan

Livelihood Zone	Description
Greenbelt Zone	Households rely mainly on agriculture. In dry years, they increase their dependence on root crops and exchange. This is the traditional surplus producing agricultural region.
Arid Zone	Households practice mainly pastoralism and migrate seasonally for water, pasture and trade opportunities.
Hills and Mountains Zone	Households practice agriculture and pastoralism.

Western and Eastern Flood Plain Zones	Households rely on livestock and agriculture, supplemented by fish and wild foods
Ironstone Plateau Zone	Households rely mainly on crop production.
Nile and Sobat Rivers Zone	Households rely on crops, livestock, wild foods, fish.

Source: SLRC, 2012: 8, <https://securelivelihoods.org/wp-content/uploads/Livelihoods-basic-services-and-social-protection-in-South-Sudan.pdf>, Licensed under a Creative Commons License [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)

Informality

South Sudan has a large informal economy that is a significant source of employment (World Bank, 2009). Since the signing of peace agreements the informal sector has undergone growth in urban areas. The informal sector often fills service delivery gaps in credit, wholesaling and marketing and distribution, particularly in locations which public or formal private sector mechanisms are unable to reach (World Bank, 2009). In peri-urban areas of South Sudan, the informal sector even fills gaps in the provision of essential basic services, such as the provision of household water supplies (World Bank, 2009).

Nutrition: Is both an input to and an outcome of strengthened resilience. Reducing malnutrition is crucial to strengthening resilience, as well-nourished individuals are healthier, can work harder and have greater physical reserves. Households that are nutrition-secure are better able to withstand external shocks. Conversely, households most affected by shocks and threats face greatest risk of malnutrition (FAO, 2019).

The economic and social costs of acute and chronic undernutrition are high in South Sudan. Nearly one-third of children under five years old are stunted, 23% suffer from wasting, and 28% are underweight. Global Acute Malnutrition levels vary seasonally, with peaks up to 30% in some locations, and substantially across states (IPC 2018).

Access to water and sanitation

Access to water and sanitation, is poor for many. Deficits in water supply and sanitation coverage reflect insecurity and underinvestment and challenges linked to rural areas and climatic conditions. This contributes to vulnerability by driving malnutrition and disease levels or by affecting crop and animal productivity. When households are affected by one major shock, such as high food prices, conflict, drought, flooding or disease outbreaks, an additional lack of access to safe water and sanitation worsens livelihoods, food and nutrition security. Data from 2010 indicated that only 55% of the population had access to improved drinking water sources and 80% had no access to a toilet facility. An estimated 38% of the population walks for over 30 minutes to reach drinking water (FAO, 2019).

Access to social welfare/protection

A limited or non-functioning social welfare system indicates that the vulnerabilities of groups are likely to be sustained and entrenched, and in times of shock may increase and reach overwhelming levels. State efforts to implement social protection programming in the

National Development Plan's Social Development Pillar and the National Social Protection Policy Framework of the Ministry of Gender and Child and Social Welfare have been de-railed by past conflict and budgetary cuts and worsened by historic and contemporary oil crises. Non-state actors have implemented small-scale cash transfer programming for vulnerable individuals and households, including IDPs and refugees (FAO, 2019).

Non-contributory Social Safety Nets (SSN) are the predominant kind of formal safety nets intended to reduce poverty levels and increase household food consumption. In recent years, food assistance accounted for up to 98% of total SSN expenditure (FAO, 2019). Seventy % of SSN beneficiaries were reached through emergency general food distributions, 14% through school feeding, and 15% through Cash for Work and Food for Work. Just 0.3% of SSN beneficiaries were reached by unconditional cash transfers. While figures have changed slightly since 2013, non-food safety nets (i.e. cash) remain the minority of SSN assistance intended to reduce poverty and support resilience in South Sudan (FAO, 2019).

Access to credit and microfinance

The biggest constraints to livelihood security in urban areas are a lack of access to financial capital, education and skills. Although most microfinance institutions in South Sudan focus on serving urban clients, lack of access to capital and finance is a significant constraint in rural areas, there is currently low penetration of microfinance institutions. The factors limiting expansion of microfinance institutions include lack of security and limited transport (Atil, 2009).

Peacebuilding and conflict mitigation: Conflict and insecurity have had a significant impact on the resilience of households and communities in South Sudan. Deep mistrust and tension, lack of rule of law, economic and environmental changes, and population and livestock movements have increased pressure on land as well as competition over access to resources. This has sparked conflicts and in the case of shared resources is further compounded by the presence of displaced people (FAO, 2019).

Remittances: Remittances coming from kin living abroad and in North Sudan are also cited as a livelihood recovery strategy (SSCCSE, 2006).

Sub regional and transboundary issues: The impacts of shocks are not limited to South Sudan. Political conflicts, violence, ecosystems, economic crises, climate disasters and trans-boundary pests and diseases have regional elements or impacts. South Sudan has traditionally been overlooked in regional fora and agreements, there is an opportunity for the country to better engage and integrate with its neighbours and regional bodies such as IGAD (FAO, 2019).

4. Coping Strategies

Repeated bouts of violence and economic shocks have aggravated a spiralling food security situation and impacted households' coping capacities and livelihoods. Those dependent on agriculture have seen their productive assets depleted, limiting their ability to recover and increasing their reliance on external aid. Reaching the most vulnerable is a challenge due to ongoing insecurity, poor and damaged infrastructure, and logistical constraints. Even in those areas in which peace has been achieved, it remains fragile (SLRC, 2012).

While many definitions of resilience exist, there is much commonality among those adopted. Resilience is often interpreted as the capacity to absorb, to adapt and to transform in the face of

shocks and stressors. A number of elements contribute to an understanding of resilience according to MoAFCRD et al. (2015). MoAFCRD et al. (2015) analysis identified those capacities which distinguish households that are resilient to (in the context of their research) the impact of shocks on food and nutrition security from those which are not. The capacities are divided into three categories: absorptive, adaptive and transformative.

Coping strategies (or mechanisms, or skills) are the efforts people and households use to cope in times of hardship and draw on these capacities. They differ from income sources mainly because of the temporary nature of their use, which is in response to a risk to wellbeing (FAO, 2019).

Absorptive capacities

Food-related coping strategies: Non-resilient households adopt a larger number of food-related ways of coping that were not effective in improving food security and nutrition status.

Livestock ownership: Resilient households had more livestock and livestock-related income sources, indicating that the pastoral economy provides means for households to withstand shocks. Livestock is a key asset in terms of productivity, nutrition and social status and it helps a household to absorb shocks and overcome stressors. Typically, those with livestock sell some to buy food when harvests were low and markets disrupted. Livestock ownership is notable in resilient compared to non-resilient households. For example, 78% of resilient households owned livestock in June 2013 compared to 67% of non-resilient households (MoAFRD et al., 2015).

Expenditure: Less resilient households tended to have lower expenditure and to spend a higher proportion on food, referencing market dependency that makes many vulnerable to economic, political or natural shocks. A household's total monthly expenditure is considered a proxy of income, as it indicates a household's access to cash and/or credit for non-basic needs that can be used in the event of a shock. Households with higher incomes can adjust expenditures to withstand shocks, thus limiting exposure to food insecurity and malnutrition. Less resilient households tend to have a lower total expenditure, and a higher proportion of their total expenditure is spent on food. Marked differences between resilient and non-resilient households were found when it comes to total monthly expenditure. Resilient households tend to spend less share on food expenditure as opposed to non-resilient households.

Psychosocial strength: Psychosocial wellbeing including aspirations and positive attitudes were understood to be important for resilience and were affected by the insecurity and displacement. Aspirations and attitudes can affect individuals' resilience by shaping their decisions and responses to a shock. These may be determined by a person's upbringing and life experiences, cultural background and expectations, and individual character. They can also be influenced by quality education, health and nutrition, and access to opportunities. Trauma or psychosocial distress, coupled with restricted access to services and opportunities, can affect resilience e.g. by inhibiting forming of relationships or positive risk-taking and entrepreneurial behaviour.

Savings and informal safety nets: Networks of reciprocal assistance between people and groups, in areas where there are higher levels of social cohesion determine a household's ability to absorb a shock (especially given the limits of government and external safety nets). Where savings (disposable cash) are available at household level, it indicates capacity to spend money to absorb a shock e.g. to repair damage, buy emergency assistance, access key services or relocate. Informal safety nets are known to be critical in South Sudan in distinguishing resilient from non-resilient households. These are usually networks of reciprocal assistance (e.g. timely

provision of food, cash, labour or other support) between relations, neighbours and/ or members of the same group, and they determine a household's ability to absorb a shock.

Conflict management and justice systems: Conflict resolution and justice are important in transforming chronic vulnerability and enabling development gains for those affected by insecurity and conflict. Dispute resolution systems provide capacity to manage pressures that lead to conflict and undermine development, economy and society. Whether at community level or government-led, access to inclusive and accountable conflict resolution and justice mechanisms can break the cycle of vulnerability. In South Sudan, inclusion of youth in conflict resolution mechanisms - and civil society in general - is presumed to be particularly relevant given significant role this demographic has played as both perpetrator and victim of violence.

Material asset ownership: Households with a greater number and variety of material assets are more able to absorb a shock by selling them to fund a new livelihood strategy, a relocation, or another response to the shock.

Adaptive capacities

Adaptive capacities support a household or community to withstand shocks and positively adapt to social, economic and environmental change. They tend to be more pre-emptive than absorptive capacities and operate on a longer time scale. Adaptive capacities explored include livelihood diversification and adaptation, access to proactive and sustainably managed land and access to sources of income that are salaried. Other adaptive capacity indicators are related to productivity but also to access to services and social safety nets. These include seasonal migration and remittances, literacy and education of the head of the household, and early warning and disaster mitigation systems.

Livelihood risk diversification: Non-resilient households tend to be engaged in a less diverse set of livelihoods. Resilient households had a range of alternatives that included different crops and livestock types, enabling them to cope with shocks. This indicates the potential for a household to rely on an alternative livelihood activity or income source, if affected by a shock. Diversity of livelihoods is critical, to ensure they are not all affected by the same shocks (e.g. a particular crop or animal disease, a flooding incident, a specific market price drop, a cessation in a certain employment opportunity etc.). Non-resilient households are engaged in a less diverse set of livelihoods compared to resilient ones. Cultivating different types of crops can be an example of diversification that increases a household's chance of sustaining its livelihood in the face of a localised shock such as pests or diseases that affect particular crops. **Crop diversification is less effective in the face of a blanket shock such as a flood or severe drought. Data on diversification of livestock (among pastoralists or agro-pastoralists) showed diversification to be a significant feature of resilient households.** Risk diversification comes from having different kinds and species of stock (cattle, goats, sheep, donkeys), since this may provide resilience against shocks related to climate or disease. Livestock owners' resilience is dependent on many other factors. One of these is enabled mobility, when pastoralist families and herds can move along traditional or emergency access and grazing routes. With herds dependent on year-round pasture and water, distribution of which varies per season, being able to freely move in pursuit of pastoral resources is critical to livelihood success. Another component is access to livestock health care, ensured through the presence of livestock health services that are preventive as well as curative, and through resources such as drugs, immunisations, technical experts and outreach workers. Access to

adequate livestock health care provides a household and community with the means to understand, prevent, and treat animal diseases, as well as withstand shocks including outbreaks, epidemics, flooding, dry spells and drought. Services that enhance and protect productivity are also critical to the resilience of agriculturalist households, another factor commonly raised is access to improved seed or food storage. This includes granaries, storage sacks and containers, dedicated buildings and other solutions for storing seed or food used in times of shortage or shocks.

Improved access to productive and fertile land: Resilient rural households had more access to land to produce their own food, and management of natural resources appeared effective in promoting longer-term resilience to natural shocks and stressors, as well as mitigating local disputes over natural resources e.g. pasture and water. Secure access to productive land is a feature of resilient households. It underpins ability to produce sufficient food, and to diversify production to overcome stressors and withstand shocks. Peace and conflict play a role in land access. Conflict-impeded access to land reduced the ability of an estimated 73% of farmers to take advantage of a good season, the vast majority of whom in the Great Upper Nile region. In states not directly affected by the conflict, planting assessments noted an expansion in both numbers of farming households and crop-cultivated areas. Access to land that is productive and sustainably managed determines resilience at household and community level. Successful Natural Resource Management (NRM) strategies include campaigns and initiatives, committees and governance systems, and regulatory bans or policies, which affect the sustainable management of natural resources. NRM is important given evidence that non-resilient households are more engaged in income activities with poor reliability and sustainability. Improved access to productive land enables higher agricultural yields. **There exists a direct correlation between enhanced access and improved household resilience.**

Income Source Reliability and Sustainability (ISRS): Non-resilient households are more engaged in activities that compromise long-term resilience. Their activities tend to be unreliable, deplete natural resource bases, or compromise human and social capital. Activities include sale of firewood, charcoal and grass, begging, borrowing and sale of food aid. Women are often forced to depend on these. Certain income sources compromise long-term resilience because they are unreliable or have negative social or environmental impacts. They deplete natural resource bases, prompt competition over resources, or compromise human and social capital fundamental to adaptation and positive development. Such income sources include sale of firewood, charcoal and grass, begging, borrowing, sale of food aid, gift receiving etc. Non-resilient households are more engaged in activities with poor ISRS. Women in rural areas are known to suffer from harmful effects of climate change that is linked to chronic environmental damage caused by poor ISRS. This is due to their high dependence on natural resources as their main source of livelihood, possible lack of information on good ISRS strategies, and unequal access to coping mechanisms, alternative resources and decision-making processes.

Salaried or skilled labour: Resilient households were twice as likely to be involved in skilled and salaried labour than non-resilient. This includes urban jobs (public or informal sector) not subject to climatic or natural shocks. Salaried or skilled labour is the presence of household income unrelated to agriculture or pastoralism, thus not subject to climatic or natural shocks. In South Sudan, this form of wage labour is generally linked to urban contexts, the public sector (primarily government jobs), limited manufacturing/ extractive sector (oil factories in northern parts of the country) and the informal sector (since private sector development to date remains limited). Accessing non-traditional and non-climate-independent sources of income can be an

effective adaptive strategy given the recurrence of 'natural' or climatic shocks in South Sudan (although such jobs will be subject to other forms of shocks including conflict and economic crises). This form of labour is typically done more by men than by women, who (especially in rural areas) lack the same access to quality education, skills and capital, as well as being confined by social and cultural norms and domestic expectations. **There exists a considerable difference between resilient and non-resilient households when it comes to involvement in skilled and salaried labour. Livelihoods are rarely practised in isolation by communities, households or even individuals; combination and diversification of effective livelihood strategies are critical to resilience.** There are distinctions too when it comes to the success of livelihood strategies in rural and urban contexts, and the latter are becoming increasingly relevant for a population undergoing increased rural-urban migration as well as increased urban vulnerabilities.

Seasonal migration: This refers mainly to rural-urban migration March to May (especially by men) for work to supplement household income from shock-prone traditional sources. Remittances from relatives abroad were another strand of this, acting as a form of safety net. In South Sudan there is considerable migration from rural to urban areas of people seeking employment in water collection, construction, domestic labour etc. Other forms of migration are between towns, between rural areas, and in the direction of infrastructure projects or extractive/other enterprises. Women tend to migrate less (especially in rural areas) due to domestic and childcare demands. During the lean season, migration of pastoralists and their herds to secondary urban centres can be a crucial adaptive capacity. It enables better access to hay and water and is an opportunity to exchange animal products against goods and services. **Seasonal migration towards urban centres is one of the most relevant adaptive capacities for pastoralists to withstand droughts or dry season, sustain their food security and nutrition status.** Migration offers opportunities for accessing services and markets, cash and employment, and skills and networks. It can boost resilience by mitigating the impact of shocks or enhancing future livelihood and economic security. Remittances play an important role in reducing vulnerability. This income is not affected by local shocks and stressors and can therefore act as a safety net in times of need or a source of capital for enterprise and innovation over the longer term.

Educated household head: Quality and relevant education can decrease risks of unemployment and be a source of productivity, life skills and connections that may support a household to overcome stressors and withstand shocks. Education decreases the risk of unemployment and increases chances of being self-employed. A household head who has received quality, relevant education beyond primary level can enable their family to overcome stressors and adapt despite shocks, particularly in a context where customary livelihoods are shifting and diverse, while urban ones are proliferating. As well as increased economic productivity, educated household heads should have received life skills critical for the health, wellbeing and development of the whole family. **A caveat is that provision of education that is neither quality nor relevant can deplete resilience: evidence on the presence of schooled youth from pastoralist families who have been 'de-educated' in pastoralism, yet not provided with marketable skills or opportunities in exchange, suggests that they are left 'between two worlds' and that their non-productivity and disaffection poses a significant threat to economy and society.**

Early Warning Systems (EWS): Which provide information on shocks as well as services and assistance are a feature of improved resilience. Since many shocks affecting South Sudan are

non-cyclical or unpredictable, EWS are particularly important to household and community resilience. They provide information on shocks and the availability of services and assistance, supporting people's ability to make informed decisions for safeguarding livelihoods, assets and wellbeing. South Sudan's Ministry of Humanitarian Affairs and Disaster Management supports Disaster Risk Reduction action plans at community level.

Transformative capacities

Transformative capacities tend to be part of longer-term responses that address vulnerabilities at community, environment or systems level. As a result of these capacities, a cycle of vulnerability can be disrupted, the effects of shocks avoided, and resilience ensured. With a longer-term focus, transformative capacities relates more to a sustainable development perspective.

Access to markets and infrastructure: Access to markets and infrastructure correlates geographically with resilience. Households in Jonglei state have longest travel time to reach markets and showed low levels of resilience. Access to markets and infrastructure is critical to longer-term transformative resilience and part of the ability to transform productivity into livelihood security. It can be seen through distance to a local, feeder, or main market, for sale or agricultural, livestock-related, and other local products. Access to local markets is vital, given the infrastructure challenges faced by states and communities. Access to market information is important to resilience as it indicates that producers are better informed when buying or selling, especially during times of shocks and stressors and therefore less vulnerable to externally-influenced factors. Related, improved road access and transport infrastructure is not only imperative for market access, but it is also critical in connecting people, products, services and ideas, in ways that increase and sustain development gains despite shocks and stressors. There exists a relationship between distance to markets and distribution of resilient households. It should also be considered that accessibility to markets is only one of the underlying components to food insecurity and malnutrition. Highest travel time to markets is observed in Jonglei, eastern Upper Nile, Unity, Eastern Equatoria, Western Equatoria and Northern Bahr el Ghazal states. Physical access to food is a significant challenge for inhabitants from most counties of Jonglei. Access problems in Western Equatoria and Western Bahr el Ghazal states do not translate uniformly into high food insecurity and malnutrition given that physical access to food from own production (or shared within the community) in these cropping areas compensates for the significant infrastructural gaps, especially in Western Equatoria. Unity has poor accessibility to markets, mainly as a result of seasonal flooding and conflict in recent times. However, in recent years the average prevalence of resilient households has been high. In northern Lakes (Rumbek north), market integration has an impact on food security. This has further deteriorated as a result of the contraction of planted areas due to localised fears related to the insecurity in Lakes. The northern part of Upper Nile benefits from commodity flows from Sudan and in parts (Renk county) from mechanised farming and high yields. The eastern part of Upper Nile however registers high food insecurity in which low accessibility to markets resulting from seasonal flooding and poor infrastructure. The remote eastern pastoral areas of Eastern Equatoria state (Kapoeta East) show a relatively high prevalence of resilient households despite low accessibility to markets. Finally, the highest levels of both accessibility and resilience are observed in the southern counties of Greater Equatoria that benefitted in recent years from the commodity inflows from Uganda at relatively low prices. The eastern counties of Northern Bahr el Ghazal and northern Warrap also have relatively good infrastructure. This differs from other counties in these two states, where levels of malnutrition are among the highest in South Sudan, partly explained by more limited physical access to markets for both goods and the local population.

Access to quality and relevant education: Education allows people to better withstand shocks by equipping them with economic and social responses to them. Educated persons have better access to the salaried economy of Juba and other towns. They also tend to have stronger life skills and aspirations and often wider social networks and connections. Educated women are also less likely to marry early than uneducated ones. In various fragile contexts, quality and relevant education has been seen to support resilience during and following periods of conflict and insecurity, behaving as a ‘portable asset’ of great value. As a transformative capacity, it can improve the economic strength of individuals and communities and boost social development on many levels. Achievement of primary education is linked to acquisition of jobs in the salaried economy of Juba and other urban centres, and this is particularly important against the backdrop of increasing rural urban migration (and emerging urban vulnerabilities). Literacy is a valued life skill acquired from school alongside others important to productivity as well as health and wellbeing. A quality and relevant education supports skills required for problem solving and adaptability and promotes an individual’s confidence and aspirations as well as their social networks and connections. It can fundamentally change life pathways, particularly for women. It has the ability to reduce existing stressors and serve as a form of ‘immunity’ to shocks by facilitating the economic and social responses required to overcome them. The contribution of education to resilience is not only through formal schooling, but also in the power of education more broadly that supports knowledge and skills relevant to students and contexts. Flexible approaches to schooling that accommodate local realities and economies, including incorporating indigenous knowledge, provide an adaptive capacity important to resilience.

Land tenure security: Access and use of land is a key resilience capacity supported by robust land tenure policy and regulations. Although access to land is not a major constraint, land tenure security remains relevant as it reduces the likelihood of land disputes, particularly in areas with conflict-displaced returnees or IDPs and has a positive impact on the sustainability of livelihoods and food security. Land tenure security reflects the capacity to maintain land access and use – for dwelling, productivity, peace and security – despite shocks and stressors. Urban areas are increasingly suffering from land security issues, and discrimination against women’s ownership of land is a challenge. Establishing and implementing policies or systems for protecting security of land tenure, access, and use, would be a critical transformative capacity to support resilience. Support for pastoralism would also be important in this context and can be seen in policies and programming that assist existing livestock strategies around semi-nomadic herding, including animal health, value chains and marketing. **Given the fundamental importance of pastoralism to the rural communities for nutritional, economic and socio-cultural reasons, support for pastoralism is critical in accommodating locally held aspirations and priorities for productivity and development.**

Access to water and sanitation: Safe water for domestic and household use determines exposure to sickness and malnutrition. This is a vital component of resilience given the country’s chronic disease and malnutrition levels. Access to adequate safe water defines health, hygiene, nutrition, productivity and development. Being able to access safe water across seasons and despite shocks (e.g. flooding, conflict and displacement) is a key determinant of resilience. This is true for children and vulnerable persons. Related, sanitation is critical to resilience, particularly given the country’s limited and often damaged and under-resourced infrastructure and formal education levels, which were worsened during acute climate episodes or displacement, congestion and rapid urbanisation due to conflict. These are ideal conditions for disease and malnutrition linked to poor hygiene. Improved sanitation, for example safe disposal of human excreta and associated hygiene promotion and knowledge, includes a range of toilet systems

and infrastructure. It also includes simple sanitation and hygiene promotion measures e.g. increased hand-washing. Awareness of sanitation is a portable household or community asset capable not only of shielding children and families from disease and malnutrition, it breaks cycles of related chronic vulnerability linked to the persistence of these.

Access to health services: Accessing health services is vital in combating sickness/disease outbreaks, and for preventive services and health education. States with better nutrition and food security levels often had more medical personnel and a higher number of facilities per capita (and vice versa: e.g. Warrap, with worst food insecurity and malnutrition, had least nurses, doctors and health facilities per capita.) Health services are a public good essential to community resilience. Not only is access to them valuable in times of sickness or disease outbreaks/epidemics, but their preventive services and education provision ensure that individuals (especially women and children) lead active, healthy and productive lives. Remote, hard-to-access facilities can take a further toll on sick persons' lives, and exact high opportunity costs (i.e. the costs of not working) for parents or others assisting sick persons. Health services that are physically, financially and socially accessible help maintain wellbeing and productivity. In rural areas, accessing health facilities which are few and often under-resourced, is a major challenge. Better access to health as well as other services is an important factor between households which transform their vulnerabilities and those which cannot. By comparing states according to food insecurity and malnutrition averages, it is clear that states which are better off in terms of these wellbeing outcomes tend to also have higher access to medical personnel, and a higher number of facilities. For example. Warrap, with the worst food insecurity and malnutrition, also has the fewest nurses and midwives per capita of all states and among the fewest doctors per capita plus number of health facilities. Conversely, states with better food insecurity and malnutrition rates have more health workers per capita and health facilities.

Access to credit and formal safety nets or social protection: Lack of access to credit is cited as an economic constraint. Investments in social safety nets are essential to alleviate or prevent deepening poverty, and to protect and enhance human capital and access to services. This enables households to plan, adapt and develop despite exposure to shocks and stressors. Access to credit is an important means for a household to transform economic or social vulnerability. Cash or credit can be used to access services or invest in enterprises and other productive opportunities. It has been noted that lack of access to credit is a primary constraint for business and market opportunities. SSN coverage is also critical to building longer-term resilience. This can be seen through households' enrolment in relevant programmes implemented by state or external social protection agencies. Longer-term and non-contributory social safety nets capable of transforming vulnerabilities might include: cash or in-kind transfers to alleviate and prevent deepening of poverty in the medium to long term through assets creation; social insurance programs such as pensions, unemployment benefits and health insurance; general subsidies to benefit households, often for food, energy, housing, or utilities; programmes that protect and enhance human capital and access to basic services, such as fee waivers for health and education; and livelihoods support such as relevant education and training, credit, and employment services. Where SSN are timely and predictable, they can enable a household to absorb a shock and to plan, adapt and transform despite stressors – without deepening their vulnerability.

Youth employment and empowerment: Youth make up 70% of the population and play a central role in economic activities, security and social cohesion. Less than half of those are employed (less in rural areas), making them potentially more likely to be involved in conflict,

crime and raiding. Youth alienation from traditional authorities is also cited as a stress. Productively empowering youths may keep households and communities together in times of shocks. The resilience of future contexts and generations cannot be built or supported without building and supporting today's youth. This is especially true in a fragile context like South Sudan where they are not only a significant proportion of the population (70% of people in South Sudan are under 30) but they also play a central role in productivity, security and social cohesion. Higher youth employment can mitigate 'negative coping' including participation in conflict, crime and cattle raiding. In South Sudan less than half of persons aged 15-24 are employed. This figure varies across contexts - youth employment is higher in rural rather than urban areas. Youth representation in political processes at national and community level is an indication of youth empowerment in a context where youth alienation and disaffection are a chronic stress on economy and society. Contexts where youth relations with traditional authorities as well as with formal state centred authorities are perceived to be better are assumed to have stronger togetherness or cohesion. 'Youth' is often interpreted as male, often because the risk to resilience posed by male youth is arguably more prominent than that of female youth (not least their role as perpetrator and victims of insecurity). **The empowerment of female youth in South Sudan is critical. Productive and empowered youths keep a household and a community together in times of shock, particularly when the shock is conflict-related but also in the case of natural hazards such as droughts, floods, or disease outbreaks.** In the face of so many other economic and social stressors, the role of youth as part of the solution rather than the problem is a very critical transformative capacity that distinguishes resilience.

Women's empowerment, attitudes and aspirations: Enabling women to play a pivotal role in households and society affects family and community responses to a shock. Granting them equitable economic and social opportunities improves efforts to transform livelihoods to better withstand those shocks. This is influenced by education levels and socio-cultural expectations (which are typically lower for women than men), as well as by trauma and psychosocial issues related to conflict or violence. Empowerment of women reflects their capacity to contribute to society, services, governance, peace and productivity, and to do so unhindered by negative cultural norms or low social expectations. There exists a clear difference between rural and urban contexts, where education and social norms can be different. SGBV and psychosocial distress affect the ability of women to withstand shocks and positively adapt.

Community networks: Local groups/associations that act as safety nets, e.g. sharing or lending of food, livestock and cash tend to be more pronounced in rural areas and in areas with less conflict-related displacement. Such networks emphasise the importance of social cohesion for community or society-based resilience. Their role is vital given fragility to shocks and given limits of government or externally provided social safety nets and conflict prevention and resolution mechanisms. Community networks (local groups, cooperatives or associations) are an informal safety net that assists households through sharing, lending or gifting food, livestock, cash and other necessary items. They often have structured governance and management systems for targeting, payment and repayment; and they tend to be more pronounced in rural areas, regions that experienced less displacement due to the recent conflict, and places of higher social cohesion. As well as networks within communities (supporting bonding), resilience is also thought to be determined by those between communities (supporting bridging), and those between communities and external agencies including NGOs and the state (supporting linking, important for accessing assistance in the event of shocks). While important to resilience in any context, these networks in South Sudan are particularly vital given the country's fragility in terms

of natural and man-made shocks, and the limits of government or externally provided social protection and safety nets, as well as conflict prevention and resolution mechanisms.

Capacity of Government

More broadly, coping strategies will also be influenced by the capacity of government and civil society to act in a timely and coordinated manner to support vulnerable individuals and households. GoSS institutions that support livelihoods have existed since 2005; however, their institutional capacity is weak. Institutions are poorly staffed and require significant capacity building (Shanmugaratnam, 2010).

The financing gap in the FY2019/20 budget increased to 8.2% of GDP from an estimated 2.4% of GDP in FY2018/19 (World Bank, 2020:18). The cash deficit is estimated at 5.6% of GDP and the budget book has accumulated arrears with respect to advance oil sales estimated at 2.6% of GDP. Extra budgetary expenditures, rising government spending on peace related expenditures, high allocations to infrastructure budget, and slow progress in generating non-oil revenues explain the financing gap. The government plans to meet the financing gap through increased external borrowing, with the Afreximbank having reportedly approved and disbursed a USD400 million financing facility.

Table 4: Sector share in budgets in real terms, %

Sector	Sector Share in Budget
Accountability	11.7%
Economic Functions	1.4%
Education	5.6%
Health	1.1%
Infrastructure	54.4%
Nat Res and Rural Dev	0.7%
Public Administration	9.7%
Rule of Law	2.6%
Security	10.5%
Social and Humanitarian	2.2%
Total Budget	100.0%

Source: World Bank, 2020: 18, <http://documents.worldbank.org/curated/en/893571583937198098/pdf/South-Sudan-Economic-Update-Poverty-and-Vulnerability-in-a-Fragile-Environment.pdf>, licensed under the Creative Commons Attribution NonCommercial NoDerivatives 3.0 IGO (CC BY-NC-ND 3.0 IGO).

South Sudan's fiscal policy is pro-cyclical with expenditures in the national budget almost entirely funded by oil revenue receipts. Therefore, budget expansions and contractions closely follow oil revenue receipts. The FY2019 budget indicated planned expenditures amounting to USD 526 million, excluding transfers to Sudan, repayments for oil advances, and Nilepet's share of oil revenues. However, the 9-month budget execution figures indicate that FY2019 expenditures exceeded USD 608 million, higher than budgeted, and financed by increased oil production which is estimated to have reached 133,295 bpd. Oil revenues are expected to provide 89% of total resources in the FY2019/20 budget (World Bank, 2020).

Based on external debt indicators, South Sudan is currently in debt distress. Total public debt during FY 2018/19 was estimated at 34.2% of GDP of which external debt is 30.2%. Accumulation of arrears, low capacity to service debt, and low foreign exchange reserves indicate unsustainable debt dynamics (World Bank, 2020).

Non-Government Actors

In protracted crises in which formal governance structures are weak to nonexistent, people depend heavily on local systems — both social and economic — to get by, often more than they depend on external aid. Households and economic actors may rely on their friends, neighbours and extended families for food, access to economic opportunities, and negotiation of safe passage when fleeing from conflict. In addition to social support networks, markets have been shown to play a critical role in enabling crisis-affected populations to cope with and recover from conflict, displacement and disasters (Mercy Corp, 2019).

Local community-based institutions, composed of traditional authorities (principally chiefs and elders) in charge of customary land governance, are seen to have recovered well from the conflict and carry out essential tasks in resettlement, livelihood recovery and reintegration (Shanmugaratnam, 2010). However, their roles and responsibilities have increased greatly since the conflict, and they now require assistance to address complex resettlement and land rights issues (ibid.) In certain instances, particularly in rural areas, the Native Administration and tribal chiefs no longer have the capacity to prevent and mediate land conflicts (Pantuliano, 2007). At the central level, records and data have been lost within survey departments, affecting the reliability of information for granting land allocations and securing tenure rights (ibid.). This is creating the opportunity for corrupt practices. The undermining of local chiefs could lead to growing resentment and possible division (Feinstein International Center, 2011).

Local traditional institutions have also played an important role in building adaptive capacity and household resilience. Alinovi et al. (2007) describe how Nuba organisations in Sudan tried to discourage short-term aid responses, such as general food aid distributions, which undermined local production systems. In addition, in response to ongoing conflict, the Nuba adapted their agricultural systems by cultivating land in more secure areas in the hillsides. However, these types of adaptive responses can have negative impacts on livelihoods given fragile agro-ecological conditions that are unable to support traditional cultivation systems (ibid.). Other traditional institutions, such as kinship and clan networks, are important sources of support for livelihood recovery in South Sudan. Returnees with already established social networks are more capable of restarting livelihood activities (Bailey and Harragin, 2009; Harragin and Chol, 1999).

Harragin and Chols (1999) largely anthropological study was carried out between May 1997 and June 1998. In this study, vulnerable individuals are defined in Dinka terms as those without an adequate kinship structure to protect them. Within the kinship system the unit that is most

significant is the 'mac thok' meaning the extended family or specifically those who share in the bride wealth contributions for the marriage of a daughter. In this unit there is sharing of resources but there are also obligations to the wider lineage group and to a much lesser extent to the unit (wut) that occupies a piece of territory and grazes cattle together.

The study found that in the past, targeting aid to the vulnerable reflected mainly the logistical and financial constraints of relief operations in the south. However, according to the study, in most cases, where locals accepted the conditions outsiders put on the relief, they subsequently redistributed it to all sections of the population who then redistributed it within their lineages to those who were most in need. The researcher found that at a higher level in the community, it was strongly felt that aid should be distributed to all lineages in the area fairly (according to their numbers rather than their absolute need), so that they can then each take part in the socially important practice of giving to their own weak members - a process that strengthens the whole welfare structure that people must rely upon when there is no relief.

The author concluded, "that local people should be allowed to target relief, rather than targeting being dictated by the international community", and that this conclusion is arrived at for pragmatic reasons.

- local people will redistribute relief whether we like it or not. One must therefore trust local people to care for their own vulnerable as well as understanding what behaviour the local culture expects vis-a-vis sharing.
- the kinds of people who are seen as vulnerable in Dinka society, for example those who do not have a large immediate family such as a childless widow or a man who has no sisters to bring in cows for his marriage, are very difficult for someone not from the community to identify. There are no easily defined social categories of vulnerable people in south Sudan, only certain counties and payams that are more in need than others.

The report concludes that prioritisation by area should be undertaken by 'neutral' outsiders on a needs basis, while internal targeting should be (and is in any case) carried out within the groups that define themselves as 'communities'. Understanding that there are groups among whom sharing is expected and groups between whom competition for resources is also expected, is fundamental when it comes to planning for equity in relief distributions.

Even throughout prolonged conflict, market activity is often persistent. Strong relationships and trust between individuals help crisis-affected households share knowledge, find income opportunities, borrow money and obtain other resources. It is thus critical that aid actors understand how social connections and markets interact and help conflict-affected populations in South Sudan cope and recover. Research shows that when humanitarian actors fail to understand these existing local coping strategies, they risk inadvertently undermining them (Mercy Corp, 2019).

5. Annotated Bibliography

Research that specifically explores coping strategies of the South Sudanese in relation to different types of shocks is, by its nature limited, disparate complex and multifaceted. Anthropological studies of health seeking behaviour and use of traditional healers sheds some light on how responses to shocks such as COVID-19 are likely to be influenced by a range of socio-cultural factors that are specific to certain ethnic or tribal groups, and will be experienced or

actioned in different ways by different individuals (whether women or men, traditional healers, IDPs etc.). It is also important to consider how responses to death (i.e. burial rituals and practise) may further expose vulnerable groups. Finally, one must also consider how people's behaviour may change during epidemics, something that is often left out of traditional disease models which may ignore social science and anthropological approaches.

The literature identified below acknowledges that within the health system infrastructure, traditional and informal health care co-exist in South Sudan. The literature highlights that to better address the social, political and economic dynamics of epidemics; and to ensure that interventions build on the social and cultural resources of the communities it is important to understand the links and differences between these systems and how they relate.

It is also important to consider who may be involved in both systems, including traditional healers, trained medical professionals and women. Indeed, women are often the ones that are consulted to help but more informally. Here, the male bias in the literature could be important in highlighting a potentially missing area of work looking at women and their role and understandings and reactions to disease and coping strategies through a focus on food and caring for their families and preserving important and useful items.

Tribal groupings

McKulka, T. (n.d.). A Sacred Struggle: the People and Cultures of South Sudan. UNMISS.
<https://southsudanmuseumnetwork.files.wordpress.com/2017/02/asharedstruggle.pdf>

This book is a result of a collaboration between the National Ministry of Culture, Youth and Sports and the United Nations Mission in South Sudan (UNMISS). The book provides an overview of the people of South Sudan, their histories, cultures, traditions, values and their unique ethnic identities. It provides an insight into cultural traditions and means of treating illness and disease, it is particularly important in contextualising how responses to COVID-19 may be mediated by ethnic identity and belief. Of particular salience are discussion of how illness is viewed, treated and burial traditions as well as who holds influence as sources of knowledge.

Bari: The Bari believe in the existence of two spiritual powers, *un lo ki* or Almighty, the God of Heaven, and *mu lo kä* or small gods that are spirits residing in big trees. These are malicious, and are thought to be the cause of sickness and bad omens. If you do bad things in life, these small gods will kill you, and the Almighty will not spring to your rescue. The Bari believe that when death occurs, it is because somebody has bewitched or poisoned them.

Moru: Death or sickness is a significant event that brings together the community. The Moru believe that non-participation in such occasions may result in one's boycott and, as such, are particular about attendance. The Moru compose songs against anti-social habits that act as a deterrent to abrasive moral conduct and crime. They avoid confrontation, instead expressing their disdain through ostracism. The Moru are expected to pay their respects to one another in times of sickness or death. Though influenced by Christianity, the Moru are pluralistic in their beliefs, with traditional systems of belief more widespread and enduring. Sorcery is practised and rainmakers respected: ignoring a rainmaker's advice would invite the sort of misfortune or bad luck only a rainmaker could undo. Witchdoctors can cleanse curses cast by wizards".

Pojulu: It is a male dominated society: the eldest man in a family is entrusted with caring for the rest. A Pojulu chief has judicial powers. Death, even if it is from natural causes, is also often attributed to the instigation of others.

Acholi: Acholi society is organised into chiefdoms, comprising clusters of homesteads and territory used for planting and hunting. It is thought very unlucky for a man to die and not be buried at home. A special ceremony is held by the *ajwaka*, or medium, to summon his spirit back to his homestead'.

Madi: Their political set-up is closely interwoven with their spirituality, which shapes their attitudes. The spirits of the dead are called *babu-garee*. However, Madi belief is that their relatives survive as spirits called *ori* who meddle in human life, leading the Madi to blame them for misfortune. When something goes wrong, they consult a witchdoctor to find out which of their ancestors is behind it. Sacrifices are offered to head off its malevolent intent. Rainmakers, land chiefs or *vudipi* and other chiefs are believed to retain the same powers after death as in life, their hierarchies of spirits corresponding exactly to the authority they held before. Powerful families are thought to have powerful ancestral spirits helping them.

Toposa: The Toposa believe in a supreme being and ancestral spirits to whom they pray and make sacrifices, communicating with them through mediums in times of communal stress like drought or livestock epidemics. Chiefs are held to be nearer to God by virtue of their wisdom.

Azande: The Azande are Bantu. In this ethnic group relatives gather before the death of a person, staying with them until they die.

Health Seeking Behaviour

Hewlett, B.S., & Hewlett, B.L. (2008). Ebola, Culture and Politics: The Anthropology of an Emerging Disease. Wadsworth Cengage

Referring to the Ebola outbreak in Central Africa the author's detail how indigenous people cope with the virus. Their account addresses political, structural, psychological, and cultural factors, along with conventional intervention protocols as problematic to achieving medical objectives. They find historical and cultural answers to questions about why village people flee, refuse to cooperate, and sometimes attack members of intervention teams. They also highlight how some cultural practices are helpful and should be incorporated into control procedures.

The authors stress that, it is important to consider how disease is viewed and understood. Disease is usually regarded as a punishment; a warning and sorcery is often used to explain rapid deaths in early stages of a specific disease outbreak. Disease follows from a social fault (even if an unintentional one) and sorcery/disease is often linked to accumulation of wealth, lack of sharing and cooperation, and explains a variety of misfortunes. The relationship between beliefs about disease and illness, their causes and the best treatments can be complex. People with traditional beliefs can often still use both traditional and formal health care services.

Hewlett and Hewlett (2008) found that patients and their relatives turned to traditional healers first, however this may not be true of all ethnic groups in all regions. It is important to fully understand the role of traditional and informal health systems as some research participants identified Ebola as attributing the deaths to bad spirits, others may disagree strongly on which explanation is valid.

Allen, T. (2007). Witchcraft, Sexuality and HIV/AIDS among the Azande of Sudan, *Journal of Eastern African Studies*, 1:3, 359-396. <https://doi.org/10.1080/17531050701625789>

This article provides an overview of how HIV/AIDS is viewed among the Azande and its perceived links with witchcraft. Azande fears about HIV/AIDS are commonly related to understandings of witchcraft despite advocacy efforts within the community. Some HIV positive individuals, are actively providing information and associate their activities with Christian churches. Their efforts, and those of local religious and political leaders, have contributed to awareness about modes of transmission associated with sexual intercourse and contamination with infected blood. However, accepting such messages does not necessarily contradict witchcraft causality. Advice about stopping sexual intercourse is viewed as untenable or worse, because sexuality and procreation are considered fundamental to life.

Allen (2007) shows that traditional healers often do not have knowledge of or do not practice infection control methods. This can be seen in some of the comments from his work e.g. 'Traditional healers increase the rate of sickness by pretending to cure what they cannot cure...Most HIV/AIDS infected people are taken to them.

Conversely, there is also evidence in Allen (2007) that traditional healers will pass on information they know to be helpful to patients, which could be an important infection control measure in an outbreak. His research in Sudan found that traditional healers provided patients with knowledge they know to be reliable from clinical sources, for example 'all the healers said that they always tell HIV/AIDS patients to stop having sex, and to go to the health centres for advice'. They have also adopted practices associated with clinical practice, such as having separate wards for patients and their families, and sometimes giving advice about diseases.

Discrimination and hard to reach groups

When assessing coping strategies, it is important to assess who may or may not be able to access support. Some groups may be left out of responses e.g. a particular social group may be stigmatised and will have difficulties in accessing health care, and discrimination may mean that they might not seek biomedical health care even when it is accessible. Remoteness combined with low incomes may mean, as occurred in the West African Ebola outbreak, that people seek care at home rather than specialised care further afield (Richards 2016). Ripoll et al (2018) also highlight that infection prevention control measures can also limit access to general health care. They use the example, of Liberia, where heightened measures in hospitals included one person per bed and minimum distance between beds. For this reason the total number of beds available decreased and sick people as well as pregnant women were turned away from 'full facilities' (Ripoll et al, 2018).

In other contexts (Democratic Republic of Congo), lack of political voice may mean that a particular social group is not able to participate in decision-making at a local level, and hence when strategizing is made by response workers with the 'community', these groups may not be heard and their needs ignored (Benjamin et al., 2015).

- Benjamin, L.M., Jacques, P., & Dieudonné, E.M. (2015). 'Assessment of importance of Environment and Activities in Batwa communities of Bikoro area, Democratic Republic of Congo.' *International Journal of Innovation and Applied Studies*, 11(3), 734-741. <http://www.ijias.issr-journals.org/abstract.php?article=IJIAS-15-065-01>
- Richards, P. (2016). 'Ebola: How A People's Science Helped End An Epidemic.'

- Rippoll, S, Bedford, J, Gercama, I, Jones, T and Wilkinson, A (forthcoming) Social Science in Epidemics: Ebola Virus Disease Lessons Learned, Social Science in Humanitarian Action Background Report.
<https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/14160>

Allen, T., & Storm, L. (2012). Quests for therapy in northern Uganda: healing at Laropi revisited. *Journal of Eastern African Studies*, 6:1, 22-46.
<https://doi.org/10.1080/17531055.2012.664702>

This article examines quests for therapy among the Madi people of northern Uganda (bordering Sudan). It is based on ethnographic fieldwork carried out in and around the small trading centre of Laropi; originally in the late 1980s and again in 2008. . Allen and Storm (2012) comment that the term used to translate the word “health” among the Madi is *cwe*, which basically suggests something which is “good”, so it is not confined to conventional notions of being healthy. It is also difficult to translate precisely the words “illness” or “disease”. In Madi both are translated as *laza*, but this can also refer to almost any kind of suffering, misfortune or pain. This does not mean that Madis who speak only their own language cannot understand what a disease is, or how it might be cured with a clinically formulated, manufactured medicine.

Laropi lies close to the border with Sudan and its inhabitants have experienced much upheaval and political isolation. The authors examined how this has influenced understandings and responses to ill-health and misfortune. Particularly important in recent years has been the increasing availability and accessibility of biomedicine, which the population have embraced and indigenised as a mark of progress and political recognition. On the face of it, this has rendered recourse to more “traditional” forms of healing obsolete. However, as we describe, the situation is more ambiguous. Notions of witchcraft, spirit possession and ancestor veneration are still pervasive influencing how illness is perceived and responses formulated.

Odjidja, E. (2018). Control of infectious disease during pregnancy among pastoralists in South Sudan: A case for investment into mobile clinics. *Pastoralism*. 8 (27).
<https://link.springer.com/article/10.1186/s13570-018-0132-6>

This article explores opportunities for treating infectious disease amongst mobile pastoralist communities. Given their high intermittent mobility, proximity to cattle as well as underlying cultural practices, pastoralists are among groups with high exposure to infectious diseases. Living under adverse environmental conditions while in search for pasture can result in malaria and other environmental pathogenic diseases. Furthermore, widespread practice of polygamous relations increases the risk of sexually transmitted infections. Compounded with this, especially in humanitarian crisis settings with weaker health systems, pregnant pastoralists are underserved resulting in an escalation of the impact of infectious diseases.

New health systems approaches and strategies must be adopted to ensure equity for less privileged populations like pastoralists, especially for those humanitarian settings where the ineffectiveness of the health system is apparent. Pregnant pastoralists/nomadic women remain less targeted, although their irregular movements, exposure and socio-cultural practices threaten their health and that of their unborn babies. Targeted research into their fabric of life including health-seeking behaviours would offer a thorough understanding of their health needs, thereby pursuing an efficient yet cost-effective mobile health system that would deliver integrated infectious disease control services to these women. Indeed, in the principles of universal health coverage, attention should be channelled towards women whose needs usually go unnoticed.

Ebola

Ripoll, S. et al. (2018). Social science lessons learned from Ebola epidemics: Evidence Summary. IDS.

https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/14160/Final_Ebola_lessons_learned_summary.pdf?sequence=2&isAllowed=y

In this 'Social Science in Epidemics' series, different aspects of past disease outbreaks are reviewed in order to identify social science 'entry points' for emergency interventions and preparedness activities.

- History and tradition matter, but people will learn and adapt if supported.
- Local categories of health and disease provide important clues to the circulation of disease, people and rumours.
- The empirical observations of communities about disease transmission must be taken seriously.
- Activities most likely to transmit Ebola are often those which are deeply social and psychologically meaningful.
- Vulnerability for Ebola infection is shaped by gender, age, social roles and contextual realities including access to treatment.
- Voluntary compliance and decentralisation of key activities to communities is more useful than coercion.
- Change in practices requires material resources and sustaining the significance of social practices.
- Promoting behavioural change has been successful with support of influential and trusted members of the community.
- People will seek healthcare from a whole variety of providers, and engaging these providers will increase the effectiveness of the response.
- Consider treatment facilities which are located closer to communities, or ensure there are communication links between patients and families.
- Burial protocols should incorporate the needs of the social group, community and family.
- Trust can be built through communication approaches that respect local perspectives and are in tune with local contexts.
- If Ebola breaks out in a conflict affected area it is important for the response to continue to be perceived as neutral, whilst addressing the politicisation of the outbreak.

In particular Ripoll et al comment that traditional healers and pastors can be particularly vulnerable to infection, as they may be the first place people visit when they become ill with Ebola. Health workers and healers are often stigmatised. Similarly, other professions that involve close contact with infected people or bodies will have higher risk of infection, e.g. working in transport, burial workers. In previous crises, these people have been identified as 'super-spreaders'. However, this notion of 'super-spreading' individuals was found to be highly stigmatising and misinterpreted the reality: rather than stereotyping individuals as 'high-risk'. It was more accurate to trace 'super-spreader events' (funerals, care practices, and so on) when tracking the disease.

An example given in Ripoll et al. (2018) is in the initial phase of the West African Ebola outbreak, a midwife, a doctor and the funeral of a traditional healer were linked to a high number of new cases. These people had visited a large number of family members and patients, and in the case of the healer, her high status made her funeral draw crowds.

Grant, C. (2014). Ebola-local beliefs and behaviour change. IDS. <http://www.heart-resources.org/wp-content/uploads/2014/11/Final-Ebola-Helpdesk-Report.pdf>

This report focuses on the local beliefs and practices around illnesses and death, the transmission of disease and spirituality, which affect decision-making around health-seeking behaviour, caring for relatives and the nature of burials. It also considers how this can inform effective behaviour change interventions for preventing Ebola in Sierra Leone. Four key transmission pathways are considered; unsafe burial, not presenting early, care at home and visiting traditional healers. Indigenous beliefs and responses to Ebola are rarely mentioned and when they are images of ignorance, exoticism and superstition are what prevail. However, social mobilisation is a key component because all stakeholders should be involved to enable pooling resources and optimising management of epidemics, this is especially important with Ebola due to the poor specificity of symptoms. There are many areas where behaviour change can have a positive effect but ethical aspects should not be overlooked and this is now being recognised in scientific papers as well as in anthropological circles.

People interpret and respond to disease in line with longstanding local frameworks. Public behaviours and attitudes that might at appear to reflect ignorance, can and should be seen as part of cultural logics that make sense given regional history, social institutions and experience. Viewing conflicts as stemming from opposing categories of traditional and modern does not capture the complex and emergent meanings which define life in this region and this epidemic.

Grant also highlights that families may refuse Ebola vaccination, or be reluctant for contacts to be traced, or to allow sick relatives to be taken to care facilities or to be buried according to “safe burial” rules, this demonstrates that conflict between communities and authorities is endemic to Ebola outbreaks. The problem is one of trust, and how it is built up, maintained or broken by the nature of interactions between governments and the governed. This is key when thinking about surveillance, communication and vaccination and working with communities and traditional healers rather than using a top down approach could improve success.

Richards, P. et al. (2015). Social Pathways for Ebola Virus Disease in Rural Sierra Leone, and Some Implications for Containment. PLOS Neglected Tropical Diseases. <https://doi.org/10.1371/journal.pntd.0003567>

This article analyses the outbreak of the Ebola Virus Disease in Upper West Africa. It highlights that social factors are important to understand the epidemic and ways in which it might be stopped, but these factors have so far been little analysed. The paper focuses on Sierra Leone, and provides highlights that social networking in rural communities and their relevance for understanding pathways of transmission are described. Particular attention is paid to the relationship between marriage, funerals and land tenure. Funerals are known to be a high-risk factor for infection. It is suggested that more than a shift in awareness of risks will be needed to change local patterns of behaviour, especially in regard to funerals, since these are central to the consolidation of community ties.

Richards et al. (2015) called Ebola a 'disease of social intimacy', in that it targets 'the social': those that meet their social responsibilities and emotional needs to care for their loved ones, it targets healers and doctors, who are highly respected people in their communities, and targets those who properly look after the dead. On the other hand, the recommendations to address it are antisocial: family members are encouraged not to touch their loved ones, or discouraged to mourn their departed and bury them according to custom. These characteristics of the disease make Ebola challenging in terms of reconciling the affected communities' public health needs with their emotional, spiritual and material needs.

EVD Preparedness Consortium (2019). A rapid qualitative study on preparedness and community perceptions: Yei River State, South Sudan. EVD Preparedness Consortium.

https://reliefweb.int/sites/reliefweb.int/files/resources/anthrologica_save_the_children_yei_river_state_south_sudan_final_report.pdf

This research was commissioned by the EVD Preparedness Consortium. It provides information on community perceptions about the Ebola outbreak and preparedness activities in Yei River State. The study was commissioned based on the recognition of the importance of integrating social sciences into Ebola outbreak and preparedness activities from the West Africa Ebola outbreak (2013-2016) and subsequent outbreaks in the Democratic Republic of Congo (DRC) in 2018 and 2019. It provides granular information about community's perceptions of activities, particularly disease surveillance, infection prevention and control (IPC), risk communication and community engagement. The formative qualitative study was conducted between August and September 2019 in Yei River State.

Context, community stakeholders and cross-border movement.

- *Early detection, disease surveillance and mobility.* Early detection of Ebola virus is critical for control and containment. Due to the high mobility of the population, gaps and opportunities were identified that could inform future response mechanisms in Yei River State. In the porous border areas of the state, movement patterns change frequently. Population groups who move across borders include armed groups, refugees, returnees, people seeking education and healthcare services, boda drivers and (legal and illegal) traders. These populations often move covertly and try to actively avoid official borders so as not to be subjected to customs checks and associated bureaucracy (high import and export costs). By using informal routes they often bypass formal screening points. Participants who crossed the border on a frequent or daily basis reported they were "tired of Ebola measures" and routinely avoided screening and handwashing. Many called for "more practical" disease surveillance mechanisms to encourage communities to self-monitor population movement and suggested engaging with markets, schools, churches and refugee camps on both sides of the border, rather than focusing on formal border crossing points. During the study, numerous community-based stakeholders were identified as having the potential to contribute to local surveillance efforts, particularly those who frequently navigate the borders.

Knowledge and perceptions, care-seeking behaviours and provision of services

- *Awareness and knowledge.* Participants across the study conveyed a high level of awareness about Ebola and many knew about the active outbreak in the DRC. Accuracy of knowledge was more variable across sites, however, with inaccurate explanations about the origins of Ebola frequently expressed particularly in rural areas. These included

some negative statements and questioned the role of the international community. When discussing signs and symptoms of Ebola, most participants repeated information disseminated by risk communication partners and could identify at least three signs of infection (e.g., fever, vomiting and diarrhoea), although worryingly, the most frequently reported sign was bleeding from the body. Levels of knowledge about transmission pathways varied, with those in Yei City appearing more likely than those in the rural sites to give accurate descriptions. A number of respondents understood basic self-protection measures and an understanding of some of the IPC measures that had been put in place, but many requested more knowledge and greater details about transmission routes, prevention mechanisms and treatment options, in particular availability of the Ebola vaccine. Throughout the study, participants expressed fear about Ebola, whilst at the same time often asserting that it was not always a priority concern for them.

- *Health facilities*, health worker perceptions and IPC. Across South Sudan, but particularly in rural areas, multiple barriers prevent equitable access to formal healthcare. These challenges were reflected in the study's findings and issues associated with direct and indirect costs were discussed, particularly the high price for consultations and drugs at private hospitals which are often the only source of care available. A number of health workers who had previously been involved in preparedness and screening efforts reported that they worked without salary and emphasised the lack of basic health infrastructure. All called for health facilities to be rebuilt and the health workforce to be trained to enable them to respond not only to Ebola but to other diseases. Health workers confirmed that it was difficult to adhere to IPC measures when they did not have access to basic protective equipment. Others requested more practical training and noted issues they had encountered in providing the most basic of services such as checking patients' temperatures or providing food. At the time of research, health workers asserted that they, like the communities they served, were fearful of Ebola, were aware of the risk of nosocomial infection and felt quite underprepared to deal with a case.
- *Care-seeking*. Participants described seeking services from various cadres of care providers, of which some were involved in Ebola preparedness measures. Participants in urban areas would often visit formal health facilities, but also relied on homecare and local medicine when resources were limited. Those in rural areas often suggested that homecare and local, medicine were the only options available to them. Caring for the sick is normally done by female family members and many women explained that because of lack of household resources it would normally take several days for the family to collect sufficient money to attend a health facility after the onset of illness. They would often try to treat symptoms at home and if this did not work, would seek care from local healers ('buna'), religious healers or pharmacists. Local practitioners engaged in the study reported limited knowledge about IPC measures even though they recognised a need for protective equipment to enable them to care for their patients safely. There were numerous requests to further include local providers in preparedness activities.
- *Customary burial practices*. Burial and funeral rites occupy an important role in South Sudanese society, with 'proper' burials being seen as essential for both the deceased and the living. Participants from different ethnic groups reported that some customary practices such as washing, dressing and transporting the deceased's body are high-risk activities in the context of Ebola. The study highlighted that it is imperative that the

introduction of safe and dignified burial practices are negotiated with community members and fully adapted to the local context.

Communication and community engagement

- *Information needs and misinformation.* There is a pressing need for more information about the Ebola outbreak and preparedness measures to be shared with community members. Information needs change over time and were noted to be different for urban and rural populations. Across the sites there were requests for more information about the origin of Ebola, signs and symptoms of infection, its transmission routes, prevention mechanisms and treatment options. There were requests for further details about the vaccine, therapeutic treatment in health facilities and quality of care, about specific risks and how individuals should adapt their behaviour to keep safe. Lack of information can be a problem, creating a vacuum in which misinformation readily circulates. Some examples of misinformation were documented, mainly related to perceptions that Ebola is airborne or spread by mosquitoes.
- *Trusted sources of information and preferred communication channels.* When discussing who are the most trusted sources of information about Ebola, the majority of participants suggested health professionals and/or Ebola survivors. Health professionals were not universally trusted, but in general doctors were trusted more than nurses, and formal providers more than pharmacists and local healers. Survivors were trusted because they had experienced Ebola first-hand and could give a personal account. At the time of the study, a wide range of platforms was being used to provide information, but it was evident that there were significant differences in how participants from rural and urban areas accessed information. Most participants in Yei confirmed that they received Ebola awareness messages from multiple channels including local and Juba-based radio, through NGOs and/or the EVD Task Force. In contrast, those in rural areas mainly accessed information via their church and religious leaders, through community or church radio, or from radio stations broadcasting from Uganda or DRC.
- *Modes of communication and language.* Verbal communication was strongly preferred over written materials (in particular due to low literacy levels) and issues were identified relating to the printed IEC material disseminated in Yei. Participants requested that the format or mode of communication and engagement activities be adapted from mass-mobilisation and awareness-raising to constructive two-way dialogue between Ebola preparedness actors and communities. Women suggested video as one of their preferred formats of communication, ideally in the relevant local language. Spoken language is not always comprehended in the same way as written language and it was emphasised that materials in English or Juba Arabic were often poorly understood by community members, even if they could speak those languages to some degree.

Conclusions and recommendations

The report concluded that, the population in cross-border communities in South Sudan is facing multiple, and mutually reinforcing public health emergencies, conflict and armed violence, and natural disasters including destructive floods and related food insecurity. Its health system is severely underfunded and lacks the skilled workforce and materials to respond to the threat of Ebola and other illnesses effectively. Ebola preparedness activities should be designed accordingly, tailored with sensitivity towards the needs, priorities and vulnerabilities of

communities, whilst contributing to strengthening the pillars of a functioning and resilient health system. Ideally, a holistic approach would be adopted, with commitment and investment for both short- and long-term priorities.

In the short-term, there are a number of priorities to respond to the immediate threat of an Ebola outbreak. Community-based actors will continue to have an important role, particularly in light of the ongoing insecurity and restricted movement of external response actors in areas most at risk of an outbreak. In order to have the knowledge and ability to respond to an Ebola alert, community actors will need sustained support. It will also be necessary to increase efforts that bridge gaps linking information provision, health promotion and knowledge. Again, this requires targeted efforts and investment that will build the skills of health workers engaged in the formal system as well as community actors so that they can respond together to the threat of disease.

In the long term, it is essential to look beyond the immediate threat of Ebola and there is an urgent need for greater investment to revitalise and rebuild the South Sudanese health system. This should be viewed as part of the broader transition strategy for the Consortium, as well as complementing current efforts to prevent an Ebola outbreak. In practice it means working in partnership with national institutions, linking Ebola preparedness measures to existing initiatives and platforms and contributing to building health system structures. The very challenging operational constraints in South Sudan will limit the scope of what can be achieved in a limited timeframe, however contributing to sustained health system strengthening should be integrated into the transition strategy of the Consortium.

Guinea Worm

Awofeso, N. (2013). Towards global Guinea worm eradication in 2015: the experience of South Sudan. *International Journal of Infectious Diseases*. Volume 17, Issue 8. <https://doi.org/10.1016/j.ijid.2013.03.003>

This article explores efforts to eradicate Guinea worm in South Sudan. The author comments that there is evidence from past outbreaks to show the importance of communicating with communities and traditional healers. Awofeso comments that Guinea worm eradication highlights the primacy of intensive community effort in South Sudan. Given the high patronage of South Sudanese citizens to traditional healers, a sound understanding of cultural and treatment-seeking aspects of Guinea worm disease is essential for developing effective community education campaigns. Long-held traditional beliefs in South Sudan's villages about Guinea worm transmission include a perception that Guinea worm is caused by witchcraft, or by eating spoiled meat. Some traditional healers regard Guinea worm as a protruding nerve and attempt to push the worm back into the body, with adverse consequences for patients. Strategically, it is necessary to understand local beliefs and work through them, rather than antagonising culturally-bound notions of the disease. In many Guinea worm-endemic villages, showing community members copepods in their drinking water or in nylon filters is a powerful education tool.

Discussing pertinent case studies related to South Sudan's Guinea worm-endemic communities may also be useful in influencing behaviour change. The quality health education about Guinea worm is variable due to the absence of a national Guinea worm health education framework and the fact that most volunteers with the responsibility of educating affected villagers are neither health literate nor motivated. An essential feature of effective Guinea worm health education programmes is that they should emphasise problem solving, focusing on what can be done

rather than on prohibitions, and provide tangible, achievable, and visible rewards for community efforts, both short and long term. Health education on the use of filters, for example, is unlikely to translate into Guinea worm risk reduction if individual filters are not provided to nomadic groups as they relocate with their livestock. In South Sudan, community education has been problematic due primarily to high attrition rates of trained village health workers as well as the frequent migration of villagers in Guinea worm-affected areas in search of water and food.

Cholera

Peprah, D. et al. (2016). Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan. *Vaccine*. 34 (33) 3823-3827. <https://doi.org/10.1016/j.vaccine.2016.05.038>

This article provides an overview of Oral cholera vaccination (OCV) campaigns that were conducted from February to April 2014 among internally displaced persons (IDPs) in the midst of a humanitarian crisis in Juba. IDPs were predominantly members of the Nuer ethnic group who had taken refuge in United Nations bases following the eruption of violence in December 2013.

Semi-structured interviews were completed with 49 IDPs in the months after the campaigns to better understand perceptions of cholera and reasons for full, partial or non-acceptance of the OCV. Heightened fears of disease and political danger contributed to camp residents' perception of cholera as a serious illness and increased trust in United Nations and NGOs providing the vaccine to IDPs. Reasons for partial and non-acceptance of the vaccination included lack of time and fear of side effects, similar to reasons found in OCV campaigns in non-crisis settings. In addition, distrust in national institutions in a context of fears of ethnic persecution was an important reason for hesitancy and refusal. Other reasons included fear of taking the vaccine alongside other medication or with alcohol. The findings highlight the importance of considering the target populations' perceptions of institutions in the delivery of OCV interventions in humanitarian contexts. They also suggest a need for better communication about the vaccine, its side effects and interactions with other substances.

Sleeping Sickness

Palmer, J. (2019). Sensing Sleeping Sickness: Local Symptom-Making in South Sudan. *Medical Anthropology: Cross-Cultural Studies in Health and Illness*. <https://doi.org/10.1080/01459740.2019.1689976>

Programs for neglected tropical diseases (NTDs) such as sleeping sickness increasingly involve patients and community workers in syndromic case detection with little exploration of patient understandings of symptoms. Drawing on concepts from sensorial anthropology, the author investigates peoples' experiences of sleeping sickness in South Sudan. People here sense the disease through discourses about four symptoms (pain, sleepiness, confusion and hunger) using biomedical and ethno-physiological concepts and sensations of risk in the post-conflict environment. When identified together, the symptoms interlock as a complete disease, prompting people to seek hospital-based care. Such local forms of sense-making enable diagnosis and help control programs function.

Mapping the local epistemic and moral spaces involved in NTD diagnosis is useful given the current trend in public health to rely on passive case detection to achieve disease elimination.

Amidst initiatives to roll out new diagnostic technologies and treatment options and engage populations to use them, there is a need for communities to collectively recognise potential disease among their members and for NTD programs to understand the local communal language and semiology of disease sensations. The author highlights that there is a need to avoid universalising subjective sensations, trivialising seemingly non-biomedical understandings of symptoms, and value the life-saving contributions of local syndromic knowledge, processes and actors which make universal diagnostic technologies work. In these domains, attention to the forms of sensing and sense-making that enable diagnosis can shed much light.

Joja, L. & Okoli, U. (2001). Trapping the Vector: Community Action to Curb Sleeping Sickness in Southern Sudan. *Am J Public Health*. 91 (10).

<https://dx.doi.org/10.2105%2Fajph.91.10.1583>

This article explores the success of initiatives to curb sleeping sickness. South Sudan experienced a resurgence of trypanosomiasis (sleeping sickness) in the 1990s. In 1997 in Tambura County, public health officials combined standard mass screening and treatment techniques for infected persons with an additional component - trapping the vectors of the disease. The intent of this integrated approach was to lower the number and concentration of the tsetse flies that spread the disease while reducing the level of infection in the human population to make the likelihood of transmission extremely low. Because the trapping project depends on village participation (making, setting, and maintaining the traps), village volunteers and their neighbours learned more about the causes and prevention of sleeping sickness and became much more willing to participate in serosurveys and to seek treatment.

The 1997 seroprevalence survey results were used to identify the foci of infection and villages with elevated levels of seroprevalence for inclusion into the vector control project. Medical Emergency Relief International, with support from the CARE–CDC Health Initiative, conducted an entomologic assessment to identify the particular tsetse fly vector, sites of intense human–vector contact, and most appropriate trap design for Tambura County before establishing the vector control program (Medical Emergency Relief International, unpublished reports, January–August 1998).

Intense community mobilisation was carried out prior to community selection of volunteers. County health officials trained these volunteers to be trap monitors and worked with volunteers to prepare maps of villages with key sites for trap placement. Supervisory trap monitors received bicycles to enable them to collect and submit caught flies to county health officials. These officials, in collaboration with CARE, monitored (and continue to monitor) fly density. Together with the communities, they have taken responsibility for the tsetse fly control project.

Important components of this vector control program include the simplicity of the trap design; the ease with which traps can be made, set up, and maintained; and the key role of village volunteers in conducting the trapping activities. More than 350 volunteers (mostly recruited among traditional birth attendants) have been trained in making, setting up, and monitoring the traps. Their participation has brought this group of volunteers the additional benefit of increased status in the villages. Where once there was difficulty in recruiting trainees, owing to ignorance, war, and a lack of volunteerism, there is no longer any such difficulty.

The project to control sleeping sickness in Tambura County demonstrates the importance of actively engaging local participation rather than imposing solutions on the population affected by a health problem. When people understand how a health problem occurs and have some means

to combat the problem, they are likely to raise their level of participation. The combination of treatment, prevention, and locally sustained effort can reduce the serious public health problem that sleeping sickness represents in South Sudan.

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