

South Sudan's Changing Tastes

Conflict, displacement and food imports

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Cover image: A boy holds a maize flour bag, Magwi County, Eastern Equatoria © Edward Thomas

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Summary

- Sorghums and millets are staple foods, grown in South Sudan’s diverse ecologies for millennia. South Sudan has hundreds of indigenous sorghum varieties, which play a critical role in the country’s biodiversity and defence against climate change. These varieties are also important to the culture and ritual of local communities, including groups often perceived as focused on cattle.
- Many South Sudanese people have a strong moral attachment to local sorghum varieties, taking their seeds with them when they migrate across internal and external borders. This has helped people, women in particular, maintain culture and ritual during periods of conflict and displacement within and beyond South Sudan’s borders.
- Before the 1980s, when South Sudan was part of southern Sudan, nearly all the country was self-sufficient in sorghum and other grains. Surplus grains from northern Sudan supplied small, localized deficits. But during Sudan’s 1983–2005 civil war, the Khartoum government supplied northern grain to garrison towns in the south. These supplies were configured around war aims, and were sometimes used to force hungry populations across front-lines, and towards government-controlled areas. Following the 2005 Comprehensive Peace Agreement (CPA) and into independence in 2011, the country witnessed over a decade of peacetime agricultural expansion.
- Despite a doubling of cereal area, production has not kept up with the rapid pace of population growth, returns and urbanization. South Sudanese farmers have therefore not been able to meet the shortfall in staple foods. This has made the country reliant on commercial and humanitarian grain imports. Since the civil war began in 2013, domestic cereal production has fallen further, deepening dependence on commercial imports from South Sudan’s immediate neighbours.
- Though Uganda was not a significant grain exporter prior to 2000, after 2006—when, under the CPA, oil revenues transformed the finances of Juba’s semi-autonomous government—Ugandan maize imports swept South Sudanese markets. Following independence in 2011, and the brief armed conflict in 2012 which largely cut off cross-border trade between Sudan and South Sudan, Ugandan grain (including sorghum) became even more important to South Sudan’s food security.
- Despite the strong attachments shown to local and indigenous grains, they are often not available in markets, as producers in distant areas of South Sudan are not able to bring them to urban markets like Juba. As a result, urban consumers often substitute cheaper grains, most of them imported from East African neighbours. Commercial cultivation of cassava and maize is changing how societies organize

production, as well as deepening the penetration of money into formerly money-less domains, such as bride-wealth.

- Ugandan maize has changed tastes in the capital Juba. Although maize is considered blander and less nutritious than sorghum, imported maize is often cheaper. Until 2016, prices remained about 20 per cent below locally produced sorghum prices (more recently sorghum prices in Juba have declined, perhaps as a result of supplies from Uganda). Ugandan sorghum is considered indigestible and harsh, prompting many people to mix it with other flours. Indigestible sorghum is redefining sorghum–cassava–maize hierarchies of taste and preference.
- South Sudan’s demand for imported grains is reshaping East Africa’s grain market. In addition to changing local production and consumption patterns, imported staple foods are also changing South Sudan’s international relations and its position in the regional state-system. It is partly the result of this structural import dependence that the 2018 Revitalized Agreement on the Resolution of the Conflict in South Sudan was mediated by Sudan and Uganda, the country’s two most important grain suppliers.

1. Introduction

Over the past four decades, most South Sudanese people have begun buying staple foods rather than eating self-grown grains and tubers. This is part of a wider move towards markets, closely connected to South Sudan’s first encounters with modernity in the nineteenth century, as well as the conflicts and mass displacements of the past fifty years.

This move has deeply affected food systems, diminishing the availability of indigenous grains and impoverishing many people’s diets. South Sudanese farmers are growing cereals and tubers commercially, while traders are importing grain across its borders from neighbouring countries, deepening South Sudan’s integration into a regional grain economy. These imported staples are diversifying South Sudanese diets, as well as changing consumption habits and food preparation methods.

This report examines how South Sudanese tastes and imports are changing from the perspective of consumers and traders living in the capital, Juba. Going beyond issues of food security and crises, it scrutinizes the religious and cultural significance of food, as well as how shifting tastes and imports can provide clear, unspectacular explanations for everyday suffering and violence.

The study of food in South Sudan generally falls within a humanitarian discourse that focuses on famine, hunger and malnutrition. Historically, it has long been recognized that food has been an important factor in how wars—both local and national—have been fought in South Sudan, with the control of food serving as a significant military strategy. Since the 1970s, this has predominantly been discussed in reference to the distribution of relief aid and issues of humanitarian access.

Food, though, represents more than just whether communities and individuals can access sufficient calories. In South Sudan, the social meaning of food goes far deeper than whether staples keep the country’s people alive. Jon Holtzman defines food as ‘an intrinsically multilayered and multidimensional subject ... with culturally constructed meanings’.¹ This report also looks at how tastes connect to food systems, which in turn connect to social relations, to cultural formulations of locality, identity and conceptions of the self, and to recipes and memories.

The work of Krishnendu Ray and Tulasi Srinivas reveals how the study of food can ‘unearth subtle changes in the social and cultural worlds that connect the local to the global’.² One of the main outcomes of this report is its demonstration of how staple foods connect

1 Jon D. Holtzman, ‘Food and memory’, *Annual Review of Anthropology* 35 (2006): 362.

2 Krishnendu Ray and Tulasi Srinivas, *Curried Cultures Globalization, Food, and South Asia*, Oakland CA: University of California Press, 2012, 8.

people in South Sudanese towns with smallholders, farm labourers and commercial farmers across Uganda, Sudan and South Sudan—a network with both national and international dimensions. Working at the cross-section of economic and social studies, the research uses personal histories of migration and the grain trade as well as intimate stories of kitchens, flavours and memories—particularly from the perspective of women—to reveal how imports from South Sudan’s neighbours are changing tastes. Ultimately, it shows how imports fit into long histories of material and symbolic transactions, of the movement of people and circulation of goods across internal and external borders, and of political imaginations.

This study aims to shift the predominant focus of food in South Sudan away from food security and nutrition towards the religious, cultural and symbolic significance of staple foods. Such a focus can, this report argues, help bring clarity to the country’s unhappy experience of conflict and displacement. Susan Shepler, in studying post-war Sierra Leone, argues that a focus on food ‘allows us to foreground people’s quotidian suffering instead of the spectacular violence’.³ South Sudan’s status as a country in conflict means that spectacular violence is often at the centre of academic and popular discourse. Thus, through insights into people’s intimate, everyday experiences during and after wartime, this report aims to provide new understanding of how deeply war reshapes life, relationships, memory and culture. Wartime food deficits have pushed people to experiment with imported foods, and so the processes described in this report have also deeply shaped the construction of South Sudan’s international relations and its place in the regional state system.

The report is divided into three sections,⁴ the first of which examines the place of grain in the celebration of life transitions and relation-making. This includes a discussion on the intimate connections between grain and memory; how grains and tubers from past experiences are remembered in present-day lives and cuisines; and how this, and other factors, shape consumer choices.

The second section looks at how consumers use markets to find substitutes for favoured indigenous grains. It reveals how South Sudanese farmers are changing the way they work and how their societies are organized in order to meet market demand. Finally, it considers how grain markets are changing historically diverse local food-production systems and culinary cultures, in doing so prompting dietary change and creative food adaptations. Mobility—motivated by forced displacement (as a result of conflict) and urbanization—is changing local tastes, foodways and societal perceptions of indigenous varieties of grain and tubers.

3 Susan Shepler, ‘The Real and Symbolic Importance of Food in War: Hunger Pains and Big Men’s Bellies in Sierra Leone’, *Africa Today*, 58/2 (2011): 44.

4 Members of the South Sudanese research team focused on different themes for the overall study. Deng Nyol and Elizabeth Malou’s work addressed displacement, memory, ritual and the taste of indigenous sorghums in Abyei and Rumbek. Luga Aquila’s work looked at how demand for high-yielding, palatable cassavas is changing Pojulu society (a Bari-speaking group from the Yei area). Jovensia Uchalla has written about the life histories and risk appetites of market traders in Juba.

The third section provides a macro-economic perspective on South Sudan's cereal deficits, how imports—mostly from South Sudan's direct neighbours—address deficits, the social perceptions of imports, the lives of traders, and how grain links South Sudan up to regional markets and regional politics. The report's conclusion makes the case that studying changing tastes provides an appealing analytical lens to better understand South Sudan's economic transition from a subsistence to market-based system.

Finally, an epilogue written after the start of the global coronavirus pandemic in April 2020, considers what efforts to control, or limit, the spread of the virus, may have on South Sudan's food supply. In turn, this may help us understand that nature of South Sudan's regionalized, cross-border, food system, which has developed under the influence of economic transition and conflict.

2. Study Methods

In order to cast light on how tastes are changing, interviewees who had migrated to Juba—many of whom were women—were asked about the grains they ate in the past and what they eat today. Furthermore, grain millers and traders were interviewed to gain an understanding of how imports, as well as tastes, are changing. The report is further informed by a review of literature relating to varieties of grain, as well as to grain exports from South Sudan’s neighbours.

Open-ended interviews and observations were conducted with the study participants, all of whom are involved in staple food markets, either as consumers, traders or millers.⁵ All interviewees live in Juba, although most come from other parts of South Sudan, including border regions, and were able to provide rich accounts of how displacement and urbanization changes tastes.

Interviewees were also identified through the researchers’ intimate family networks. Grain and tuber millers and traders were selected by visiting those areas of Konyo Konyo Market and Alwino II where such staples are imported, distributed and purchased.⁶ In total, interviewees consisted of 23 consumers (of whom 4 were male) and 23 traders, transporters and millers (of whom 6 were female).

Literature relating to grain varieties is drawn from publications by agricultural ministries and university departments of plant science and agriculture in the region; agricultural and ethnographic studies addressing food; travel literature from the nineteenth century; and colonial literature on agricultural development from the twentieth century. Literature relating to grain imports is drawn from the websites of national statistics bureaus, national central banks, and international organizations collecting data on international grain flows in East Africa.⁷

5 Participants were selected using purposive, convenience sampling.

6 A formal technique known as a transect walk.

7 While the literature review gives an overview of available knowledge on grain varieties and production and import volumes, it did not provide clear taxonomies and quantifications.

3. South Sudan's Grains

Conflict, displacement and a changing economy have led many people in South Sudan to move away from their areas of origin—often including time spent in displacement in neighbouring countries. One overlooked consequence of this widespread migration within and outside of South Sudan is that people's diets and tastes in food have changed. South Sudan's biodiversity is reflected in hundreds of local, indigenous varieties of staple foods—mainly cereals and tubers. In cities and displacement camps, people are often disconnected from the foods they ate at home, instead becoming dependent on food obtained through the market. This section focuses on Juba's markets and kitchens, describing how imports, mostly from South Sudan's neighbours, are changing tastes through personal histories of migration and grain markets; intimate kitchen memories; and descriptions of the determination shown by migrants to preserve their childhood tastes.

Varieties of grain

South Sudan has a huge variety of sorghums and millets, maizes and cassavas, with interviewees using a diverse array of words in South Sudanese languages or South Sudanese Arabic to describe them. While their answers were sometimes confusing, they shed light on South Sudan's fabulous biodiversity, which may yet become a key element of its response to the global climate emergency.

Sorghum (*Sorghum bicolor* in Latin, or *dura* in Sudanese Arabic) originates from north-east Africa. Several hundred varieties exist in Sudan and South Sudan, some of which are only grown locally. Very few have been classified in English or Latin according to the principles of botany or agricultural science. Sudanese Arabic classifications exist, but can be confusing—sometimes one variety has different names and sometimes one name is applied to different varieties.⁸

When South Sudanese people talk about their favourite grains, they usually describe a variety of sorghum from their childhood, using words from South Sudanese languages. They have folk classifications based on appearance and colour, flavour, softness, palatability, and capacity to satisfy: preferred sorghums are often described as more satisfying—'you can eat them without a sauce'—perhaps indicating a higher nutritional

⁸ G. H. Bacon, 'Crops of the Sudan', In *Agriculture in the Sudan, Being a Handbook of Agriculture as Practised in the Anglo-Egyptian Sudan*, ed. J. D. Tothill, London: Oxford University Press, 1948, 306.

value or richer protein content. Folk classifications are also based on agricultural considerations: hardiness, yield, length of time to maturity, and resistance to flood or drought.⁹

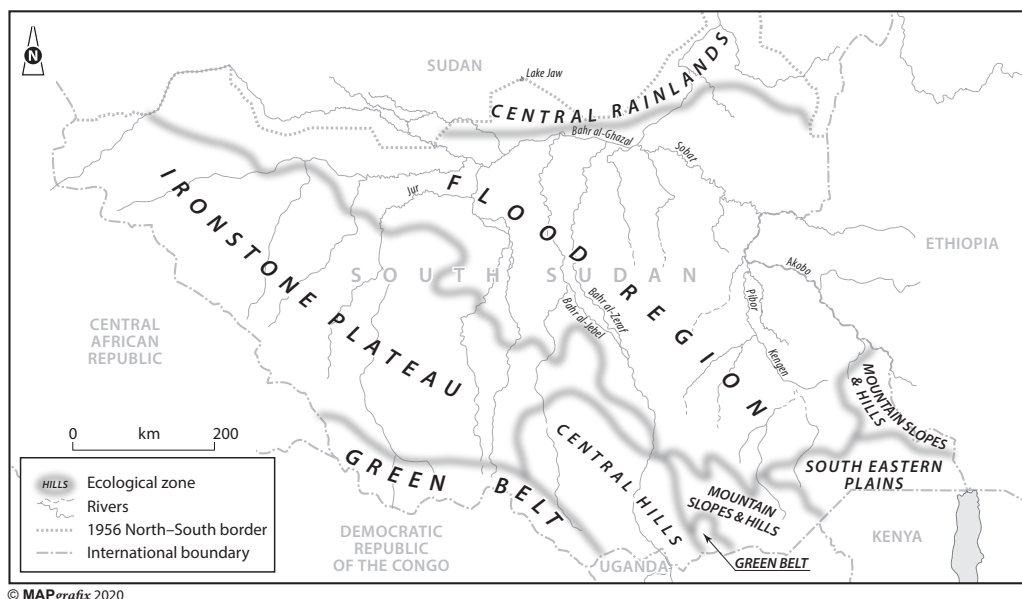
These different grains reflect South Sudan's diverse geography (see Map 1). South Sudan's greenbelt in Western Equatoria is mainly a maize and cassava area, with some finger millet. Eastern Equatoria, which has ecologies ranging from desert to greenbelt, grows sorghum, maize and cassava, while maize has been long been a dry season crop of the Sobat river banks in Upper Nile/Jonglei. In Western Bahr el-Ghazal and in the flood plains, meanwhile, sorghum is the most important cereal crop. Over the past few decades, imported grains have been changing food systems across all these ecological zones.

Some areas have experienced an even longer transformation, and are more deeply integrated to cross-border food economies. Commercial sorghum farms were set up in the rain-fed agricultural areas around Renk, in northern Upper Nile—near the border with Sudan—in the early 1960s. These farms are integrated into Sudanese grain markets and Sudanese circuits of agricultural finance, and many lease-holders are Sudanese.¹⁰ The central rainlands lying along the border between Sudan and South Sudan form part of a huge plain of dark cracking clay soil, which runs north as far as Gedaref and Kassala. Commercial farms on this plain produce most of Sudan's food, and Renk, a town right on the border between north and south, and integrated into Sudan's transport infrastructure, was an obvious place to expand commercial sorghum agriculture southwards. Renk farmers use the commercially successful varieties of sorghum which feed Sudan's cities—but because commercial farming was pioneered at the border, and integrated in urban markets, sorghum produced in Renk affected southern grain supply and tastes only slowly.¹¹

9 Hasan Mutwakil, 'Types of Dura used by Shilluk and Dinka', *Sudan Notes and Records*, 28 (1947); Samuel D. Maguet, 'Free Seed Aid Distribution in South Sudan and its Effect on Local Varieties of Sorghum and Maize', *IOSR Journal of Agriculture and Veterinary Science* 7/4 ver. III (2014): 63.

10 Southern Development Investigation Team, 'Natural Resources and Development Potential in the Southern Provinces of the Sudan', London: Sudan Government, 1954, 180; FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 28 March 2018', Rome: FAO/WFP, 2018, 79.

11 Paul Wani Gore, 'Seasonal Labour Migration to the Renk Mechanised Scheme and its Effect on the Subsistence Economy', in *Perspectives on development in the Sudan : selected papers from a research workshop in The Hague, July 1984*, eds. Paul van der Wel and Abdel Ghaffar Mohamed Ahmed, The Hague: Institute of Social Studies, 1986, 401-436; W.A. Blokhuis, *Vertisols in the Central Clay Plain of the Sudan* Wageningen: Agricultural University, 1993, 5-7.



Map 1. Main ecological zones of South Sudan. Sorghum predominates in the central rainlands, flood region and ironstone plateau. Maize and cassava predominate across Equatoria’s diverse ecologies¹²

Sorghum, as an ancient grain, tells us a lot about South Sudanese history. It was probably first cultivated in Sudan thousands of years ago, and likely helped in the development of the agro-pastoralist system: the highly successful mix of cattle-keeping and cultivation that helped ancient peoples expand food production and population size.¹³ For many years, botanists have classified cultivated sorghum into five groups—sometimes termed races—based on the form and structure of their flowers. Two of Sudan’s most important sorghum races are the sweet-stalk bicolor (*Sorghum bicolor bicolor*) and the hardy caudatum (*Sorghum bicolor caudatum*).

Caudatum sorghum appears in the archaeological record around 400 BCE,¹⁴ and seems to have spread due to its adaptability. It survives drought by rolling up its leaves to lessen evaporation, while its roots resist rot in a flood.¹⁵ The caudatum group includes *feterita*, a group of protein-rich sorghums that flavour and sustain rural Sudan’s life. It also includes the tall, slow-maturing sorghums of South Sudan’s flood plains, which are central to the memories of many of this report’s interviewees.¹⁶

¹² Edward Thomas, *South Sudan: A Slow Liberation*, London: Zed, 2015, 35.

¹³ Christopher Ehret. *The Civilizations of Africa*, Oxford: James Currey, 2002, 66–67, 98.

¹⁴ Frank Winchell et al., ‘Evidence for Sorghum Domestication in Fourth Millennium BC Eastern Sudan: Spikelet Morphology from Ceramic Impressions of the Butana Group’, *Current Anthropology* 58/5 (2017); Dorian Q. Fuller, ‘Early Kushite Agriculture: Archaeobotanical Evidence’, *Sudan & Nubia* 8 (2004), 73.

¹⁵ Noel Stringham, ‘Marking Nuer Histories: Gender, Gerontocracy, and the Politics of Inclusion in the Upper Nile from 1400–1931’, PhD dissertation, University of Virginia, 2016, 52.

¹⁶ Bacon, ‘Crops of the Sudan’, 306; Hamid A. Dirar, *The Indigenous Fermented Foods of the Sudan: A Study in African Food and Nutrition*, Oxford: CABI, 1993, 64.

Caudatum sorghum also tells the story of ancient migrations, which like the huge clay plains, span the modern-day borders between Sudan and, the much younger state of South Sudan. As can be seen in Maps 2 and 3, caudatum distribution is closely correlated with Sudanic language families, including Nilotic languages such as Dinka and Nuer, as well as the languages of Darfur, Western Bahr el-Ghazal and Equatoria.¹⁷ Even the word ‘Nuer’ tells the story of this migration. Nuer people do not in fact use this term to describe themselves, instead employing the expression ‘*nei ti naath*’, which translates roughly as ‘the people,’ or ‘the real people’. The word Nuer probably comes from the word *nuäär*, a variety of sorghum with which they are closely associated.¹⁸ This kind of attachment to local sorghum varieties survives today. The Pari people of Eastern Equatoria, for example, grow a variety of sorghum called *nyithin*. Despite almost all Pari people being displaced during the 1983–2005 civil war, a post-war study shows the seeds they were using did not change between 1970 and 2013.¹⁹ Pari people migrated with their seeds.



Fig. 7. The distribution of Chari-Nile languages after J. H. Greenberg (1979). Solid shading indicates Eastern-Sudanic-speaking regions. Cross-hatched shading indicates regions of Central-Sudanic speech (west of Eastern-Sudanic regions) or enclaves of other Chari-Nile subgroups.



Fig. 7. The distribution of Chari-Nile languages after J. H. Greenberg (1979). Solid shading indicates Eastern-Sudanic-speaking regions. Cross-hatched shading indicates regions of Central-Sudanic speech (west of Eastern-Sudanic regions) or enclaves of other Chari-Nile subgroups.

Map 2 and Map 3. Distribution of caudatum sorghum and speakers of Eastern Sudanic languages in Africa²⁰

After sorghum, South Sudan’s most important staples are maize, cassava and millet. Maize and cassava come from the Americas. Maize (*Zea mays* in Latin or ‘*aysh al-rif* in Sudanese Arabic) arrived in East Africa in the sixteenth century. William Browne,

¹⁷ A. B. L. Stemler, J. R. Harlan and J. M. J. Dewet, ‘Caudatum Sorghums and Speakers of Chari-Nile Languages in Africa’, *Journal of African History*, 16/2 (1975); Stephanie Beswick, *Sudan’s Blood Memory: The Legacy of War, Ethnicity, and Slavery in early South Sudan*, Rochester NY: University of Rochester Press, 2004, 92–93.

¹⁸ Stringham, ‘Marking Nuer Histories’, 35.

¹⁹ Ola T. Westengen et al., ‘Ethnolinguistic structuring of sorghum genetic diversity in Africa and the role of local seed systems’, *Proceedings of the National Academy of Sciences*, 111/39 (2014): 14,100–14,105.

²⁰ Stemler, Harlan and Dewet, ‘Caudatum Sorghums’, 167–168.

an eighteenth-century traveller reported that Ngok Dinka people ate a kind of white maize called *mahreik* (according to Douglas Johnson, Mareig is still used by neighbouring groups as a name for Ngok Dinka).²¹ Maize probably spread to Ecuatoria over the course of the nineteenth century, as it followed empires and traders into the region. It probably reached eastern Upper Nile in the nineteenth century too.²² At the end of the twentieth century it began to displace millet and sorghum, transforming agriculture and tastes across the region—Kenya and Ethiopia are now both primarily maize countries. British colonialists did not encourage maize production, which lacks key amino acids and has a lower status as a protein source, making it less palatable and satisfying than sorghum.²³ Maize, however, offers farmers expediency, as it requires only one ploughing and little weeding, has many quick-maturing varieties, has relatively high yields, and the leaves around maize cobs protect them from bird damage. People adopt maize when they are under pressure to produce more, meaning it is often a sign that farmers are being pushed to commercialize production.²⁴

The five main groups of maize are sweet, pop, floury, flint and dent, with each term referring to the size and shape of the kernels. While flint maize adapted well to the East African ecological zones where sorghum thrived, most varieties grown in Sudan and South Sudan are local hybrids.²⁵ Prior to the 1983–2005 civil war, many South Sudanese relied on their own seed stocks, but markets (and to a lesser extent humanitarian organizations) have since become a more important source. A 2014 study of grain production in Jonglei state found the maize varieties there had formal names used by Kenyan commercial seed dealers, although each community had local names for each variety.²⁶ Regional or global names for maize varieties are an indication of the link between maize and commercial farming, as well as the relatively recent spread of this imported staple.²⁷

Cassava (*Manihot esculenta* in Latin, or *bafra* in Sudanese Arabic) is a drought-tolerant crop. Its roots are a good source of energy, while its leaves provide vitamins, minerals and some amino acids—the building-blocks of protein. Cassava probably arrived in Zande areas of Western Ecuatoria in the nineteenth century from Portuguese settlements on the west coast. Nineteenth-century observers noted that it had not spread far

21 W.G. Browne, *Travels in Africa, Egypt, and Syria, from the year 1792 to 1798*, London: T. Cadell and W. Davies, 1806, 571.

22 Conradin Perner, *The Anyuak – Living on Earth in the Sky, an analytical account of the history and culture of a Nilotic people. Vol VII, Spheres of Action*, Basel: Schwabe, 2016, 128.

23 N. L. Corkhill, 'Nutrition', in *Agriculture in the Sudan, Being a Handbook of Agriculture as Practised in the Anglo-Egyptian Sudan*, ed. J. D. Tothill, London: Oxford University Press, 1948, 261.

24 Edward Thomas, 'Moving towards markets: cash, commodification and conflict in South Sudan', London: Rift Valley Institute, 2019, 84–85.

25 James McCann, 'Maize and Grace: History, Corn and Africa's New Landscapes, 1500–1999', *Comparative Studies in Society and History*, 43/2 (2001): 253; J. R. Burnett, 'Crop production', in *Agriculture in the Sudan, Being a Handbook of Agriculture as Practised in the Anglo-Egyptian Sudan*, ed. J. D. Tothill. London: Oxford University Press, 1948, 319.

26 Maguet, 'Free Seed Aid Distribution'.

27 Thomas, 'Moving towards markets', 84–85.

from Zande areas.²⁸ Twentieth-century colonialists, however, both noted and promoted its spread to the north and east.²⁹ Across Africa, colonialists encouraged the spread of cassava as a famine reserve, as cassava tubers do not need to be harvested at a particular season, and can remain in the ground for up to four years.³⁰ From the 1940s, observers began to note that cassava was offered for sale in Equatoria—it had become a commodity.³¹

South Sudanese languages have a rich range of folk classifications for cassava. In the mid-twentieth century, Zande classifications often used the names of Congolese peoples from which these varieties were borrowed.³² Interviewees with Azande, Balandi, Madi and Pojulu language backgrounds all referred to cassava as *gbanda*, the name given to the Congolese social group that introduced cassava to Azande. Luga Aquila’s work on cassava classification in the Pojulu language shows how neighbouring language groups improvised names for cassava varieties, explaining something of the history of their adoption.³³

Finally, millets—an ancient and important South Sudanese food crop—are small-seeded, nutrient-rich grasses, which probably originated in Africa and can grow in harsh and arid environments. Finger millet (*Eleusine coracana* in Latin, or *telabun* in Sudanese Arabic) and pearl or bulrush millet (*Pennisetum glaucum* in Latin, or *dukhn* in Sudanese Arabic) belong to different groups and likely originate from different areas. Finger millet sometimes grows in areas too wet for sorghum—it used to be the staple cereal of Western Equatoria, and the majority of it is still grown there.³⁴ Most of South Sudan’s pearl millet is grown in Lakes and Warrap. Millet, though, appears to be in decline, with the UN’s Food and Agriculture Organization (FAO) estimating that sorghum accounts for 42.2 per cent of South Sudan’s crop area, and maize accounting for 11.7 per cent. In contrast, pearl millet accounts for just 2.6 per cent and finger millet 1.3 per cent of crop area.³⁵

28 Edward E. Evans-Pritchard, ‘A contribution to the study of Zande culture’, *Africa* 30/4 (1960): 315–316; Georg Schweinfurth et al., eds., *Emin Pasha in Central Africa*, translated by R. W. Felkin, London: George Philip and Son, 1888, 370–371.

29 H. Ferguson, ‘Equatoria Province’, in *Agriculture in the Sudan, Being a Handbook of Agriculture as Practised in the Anglo-Egyptian Sudan*, ed. J. D. Tothill, London: Oxford University Press, 1948, 892.

30 Rory J. Hillocks, ‘Cassava in Africa’, in *Cassava: Biology, Production and Utilization*, eds. R. J. Hillocks, J. M. Thresh and Anthony Bellotti, Wallingford: CABI, 2002, 41.

31 F. Crowther, ‘A Review of Experimental Work’, in *Agriculture in the Sudan, Being a Handbook of Agriculture as Practised in the Anglo-Egyptian Sudan*, ed. J. D. Tothill, London: Oxford University Press, 1948, 592.

32 Evans-Pritchard, ‘A contribution’, 315.

33 Luga Aquila, ‘You Can Now Get Engaged’: Meanings of cassava among the Pojulu of South Sudan’, London: Rift Valley Institute, April 2020. (<http://riftvalley.net/publication/you-can-now-get-engaged-meanings-cassava-among-pojulu-south-sudan>)

34 Burnett, ‘Crop production’, 320; Southern Development Investigation Team, ‘Natural Resources’, 13; FAO/WFP, ‘Crop and Food Security, 28 Mar 2018’, 79.

35 FAO/WFP, ‘Crop and Food Security, 28 Mar 2018’, 79.

Ancestral foods, memory and social connections

When asked about their preferred grains, most interviewees quickly moved the discussion towards memories of ancestral grains, the tastes and smells of home, and the many displacements they had undergone during South Sudan's conflicts. Across social groups, they commonly dislike imported grains and tubers relative to ancestral foods, remembering their early life as a time when they exclusively ate the 'food of our ancestors'. Ancestral grains and tubers are characterized as those local varieties of sorghum and millet—and sometimes cassava or maize—the historical origins of which can be traced to seeds passed down from generation to generation.

Abyei is a contested area on the South Sudan-Sudan border which was a key location for this research project.³⁶ A woman in her sixties who grew up in a small village close to Abyei, says of *ruath*—a favoured sorghum variety among the Dinka Ngok—that 'people still grow these grains because they are the most important old seeds that people will never part with. They are valued most because of their importance since our great ancestors'.³⁷ This is backed up by an older man from Abyei, who reports that '*Ruath* is the life of the Jieng [Dinka] community'.³⁸

Many interviewees characterize indigenous grains as synonymous with life, with personal memories of growing, cooking and eating them, which serve to intimately connect individuals with their wider social networks and longer social histories. Across interviews, this affiliation is generally remarked upon in an almost formulaic manner, with people claiming to eat these grains and tubers 'upon my birth' or 'from the time I opened my eyes'.

Deng Kuol's work on sorghum preferences shows how ordinary people kept up their commitment to ancestral grains even in wartime and periods of displacement.³⁹ During the 1983–2005 conflict, Deng Kuol's mother and family were displaced from Abyei to Twic, immediately to the south. There, many displaced people were surviving on new grains, imported by humanitarian organizations. The names given to these grains emphasized their foreignness: *rap UN* (UN grain) or *rap nyan America* (the grain of the American girl). Sometimes they tasted awful, with one indigestible variety called *arec goon* (the vulture refused). According to Douglas Johnson, one red sorghum that was delivered by WFP air drops in the early 1990s came in bags that were stamped 'Gift from the People of the United States of America. Not for human consumption'.⁴⁰

Deng Kuol's mother risked her life to sneak into her government-controlled home area of Abyei, in order to bring a preferred, ancestral kind of sorghum to Twic, under the

36 Abyei currently holds the status of 'special administrative area' in South Sudan.

37 Interview with woman in her sixties originally from Abyei, Juba, 13 January 2019.

38 Interview with an older man from Abyei, Juba, 20 March 2019.

39 Deng Kuol, 'Grains As Life: The value of sorghum and millet amongst the Abyei Dinka', London: Rift Valley Institute, 2020.

40 Personal correspondence with Douglas Johnson, via email, April 2020.

control of the then-rebel Sudan People’s Liberation Army. The sorghum is called *ruath* in the local Dinka dialect: a long-maturing brown variety of sorghum, prized because it is flavourful, nutritious and satisfying. Deng Kuol’s mother managed to harvest half a hectare of *ruath*.

Growing and eating grains such as *ruath* is an expression of social belonging. Deng Kuol’s account of a woman migrating with favoured seeds is one of many such stories told by interviewees. Elizabeth Malou’s study reveals just how carefully women—who play an important role in seed management in Dinka society—prepared before migrating with these grains.⁴¹ Seeds are traditionally stored in calabashes, but some seeds were also stored in drawstring bags made of black cloth, kept in the calabashes. Should they be forcibly displaced at short notice, people could take these grab-bags and hide them on their person. The black bags held short-maturing seeds, which could help people settle quickly after displacement, as well as long-maturing seeds to which people held a strong moral attachment.

Kech, a late-maturing white sorghum grown in the home areas of Ciec, Agar, Apak and Gok Dinka, in Lakes state, is one of the most highly favoured grains in Dinka culture.⁴² Elizabeth Malou describes how one skilled farmer from Lakes named Mary Ajok Wetkwuot took *kech* seeds and *awou* (pearl millet) seeds with her from the flood plains of Bahr el-Ghazal to relatively arid Kassala state in eastern Sudan—where she was displaced—an area where average annual rainfall is half that of Rumbek. The Sudanese state of Kassala lies at the northeastern tip of the central clay plains which cross from South Sudan to Sudan. It is much more arid than Lakes State, but it sits at the foot of the Ethiopian highlands, and is partially watered by seasonal torrents, rich with mountain silt. Kassala and Gedaref, immediately to its south, are a granary for the whole of Sudan. Their commercial farms attract migrant labour from Ethiopia and the western Sahel, as well as from crisis zones of Sudan and South Sudan.

Elizabeth Malou presents a warm portrait of Mary Ajok Wetkwuot, who worked as a cook on a big farm in Kassala—one of the areas where the *feterita* consumed in South Sudan is commercially produced. She built a strong relationship with the ‘wealthy Arab farmer’ who employed her, through whom she successfully negotiated access to land in order to grow her ancestral seeds. Many Dinka residents in Kassala wanted some of her harvest, which she distributed through social networks rather than markets. Though she would give away small quantities for free, larger quantities were exchanged for sugar or yeast, which she then used to make *mhou*, a sorghum beer.

41 Elizabeth Nyibol, ‘Migrating with Seeds: Women, agricultural knowledge and displacement in South Sudan’, London: Rift Valley Institute, 2020. (<http://riftvalley.net/publication/migrating-seeds-women-agricultural-knowledge-and-displacement-south-sudan>)

42 Beswick, *Sudan’s Blood Memory*, 94.



Map 4: Most of Africa’s dark cracking clay soils, or vertisols, lie between Sudan and South Sudan. Vertisols are marked in red on this map⁴³

Rituals and agricultural production

Cultivating and contributing grain and tubers is a way for younger and older people to take part in the life cycle. Grains also play an important role in rituals performed during life transitions, such as birth, marriage and death. In addition, grains are used to communicate with divinities during extreme weather. Throughout the agricultural cycle, rituals using grains are performed among different agrarian groups in South Sudan: beforehand to mark the commencement of agricultural work and safeguard a productive agricultural season, and following harvest to ensure food is safely consumable. One of the most striking findings of this report, however, is the importance of ancestral sorghums such as *kech* and *ruath* in the ritual life of agro-pastoralist communities. Dinka people get most

⁴³ A. Jones et al, *Soil Atlas of Africa*, Luxembourg: European Commission, 2013, 57.

of their energy from staple foods, as does everyone else in South Sudan. But since colonial times, scholars have routinely depicted them as cattle people. Often these scholars are men, drawn to the drama and spiritual meanings of this very visible aspect of Dinka culture. The women interviewed for this report, in contrast, stressed the centrality of grain to Dinka ritual life.

Dinka people who migrated to Kassala in (northern) Sudan wanted small quantities of *kech* for its ritual functions. As Elizabeth Malou explains:

Aweir-piu is a ritual that is performed to officially introduce the bridegroom to the family of the bride and allow him to eat in her house. Raw *kech*, *awou* and other seeds are put in the milk and are put in the mouth of the bridegroom and *kech* flour is used to cook *cuin*, a thick porridge, and is eaten with milk or any other sauce. *Cheek meth* is a naming ceremony of a newborn child in which *cuin amok hoong*, or thick porridge cooked with ghee is preferred. *Cheek diet* is a special celebration which is organized after the birth of twins. Long-maturing white *kech*, named *laywaya* is put in the mouth of the gathered elders and family and people are asked to spit it out and distribute it around the compound for birds to eat. This is based on the belief that twins are the cousins of birds because birds unlike people usually lay two eggs. All the varieties of *kech* under grey (*lou*), or white (*mabor*) coloured grains are both used for *muoot ajoon*, or the first shaving of the hair of the baby after three months after birth. The family of the newborn baby invites all the family members, relatives, friends and neighbours to attend this ceremony and the older women take the lead in this ceremony. They come to the home where the newborn mother and father live to prepare the white beverages and younger women are asked to prepare *kech* flour. The older women will do the shaving because they are believed to be pure, lucky and expert in shaving off the hair from the newborn baby and blessing him or her to start a new life and be a successful child in future. *Laywaya* grains are used to ask God or smaller divinities for forgiveness in a storm. When there is a heavy rain, old women would throw white grains into the storm to calm it down.⁴⁴

Elizabeth Malou's findings about the ritual importance of *kech* among the Agar and other Dinka people of Lakes state are paralleled by Deng Kuol's findings on the ritual importance of *ruath*. The Ngok Dinka people of Abyei use *ruath* for rituals associated with the birth of twins, and also for harvest offerings of grain to the earth (*amocpiny*).⁴⁵

Jovensia Uchalla's work indicates that grain rituals are important for the agrarian communities of Western Bahr el-Ghazal, with Balanda people using millet porridge mixed with sesame in naming ceremonies.⁴⁶ Deng Kuol, meanwhile, describes the importance of

44 Nyibol, 'Migrating with Seeds'.

45 Kuol, 'Grains As Life'.

46 Jovensia Uchalla, Life and risk: grain traders in Juba markets, forthcoming.

millet and sorghum for naming ceremonies in Acholi and Zande society.⁴⁷ Furthermore, the importance of grain to the ritual life of these communities has been described in ethnographic literature, with Stefano Santandrea, for example, describing how Ndogo people of Western Bahr el-Ghazal used to pour a tin of sorghum into a farmer's grave.⁴⁸ Jovensia Uchalla's work also shows how communities conventionally divided into 'agrarian' or 'pastoralist' share a ritual life focused on grain.

The work of Elizabeth Malou and Deng Kuol both reveals the ritual importance of grain for cattle-keeping communities and challenges many stereotypes of Dinka culture. Many people emphasize the centrality of cattle to Dinka religious belief and ritual life. Grain and cultivation feature in some Dinka myths. Godfrey Lienhardt's classic account of Dinka religion narrates the story of first human beings, Garang and Abuk, who were linked to Divinity by a rope in the sky. There was no death, and Divinity gave them a single grain of millet or sorghum every day, to satisfy their needs, and forbade them from growing any more. But one day Abuk greedily decided to grow some more, and raising her hoe to heaven, she struck Divinity, who was deeply offended and sent a small blue bird, called *atoc*, to cut the rope between heaven and earth. Since then people have had to labour, they have gone hungry, sick and known death.⁴⁹

Beliefs and rituals about cattle feature more often in accounts of Dinka religion and ritual, however. Lienhardt's book, for example, devotes dozens of pages to cattle rituals and only three to grain rituals: sprinkling growing grain with a water, milk, oil and spittle mixture to make it grow; or throwing a calabash of grain into the river to mark the end of the malaria season.⁵⁰

Deng Kuol's work in particular calls into question the emphasis placed on cattle in accounts of Dinka life: 'Many non-Dinka people believe that young Dinka men are totally taken up in the world of cows'.⁵¹ He goes on to show that grain is the main contribution of young men to the traditional agro-pastoralist economy. Young men have no cattle, and so cultivate grain in order to exchange it for livestock, which can then be used for bride-wealth or as a contribution to the collective cattle compensation for homicides and other wrongs, which functions as a kind of community insurance scheme. Sisterless young men, claims Elizabeth Malou, have to be particularly skilled grain cultivators, as unlike men with sisters, they cannot acquire cattle from their sisters' bridewealths.⁵²

47 Kuol, 'Grains As Life'.

48 Stefano Santandrea, 'Ndogo Ethnological Texts (Sudan)', *Anthropos* 75 (1980): 823–904, 842.

49 Godfrey Lienhardt, *Divinity and Experience: The Religion Of the Dinka*, Oxford: Clarendon, 1961, 33,34; see also S.J.M. Zanen and A.W. van den Hoek: 'Dinka Dualism and the Nilotic Hierarchy of Values', in *The Leiden Tradition in Structural Anthropology*, eds. R. de Ridder and J.A.J. Karremans, Leiden: E.J. Brill, 1987, 170-197.

50 Lienhardt, *Divinity and Experience*, 278–80.

51 Kuol, 'Grains As Life'.

52 Nyibol, 'Migrating with Seeds'.



Image 1. Young Dinka men harvesting grain, 1947–1951⁵³

Tastes, smells and energy

People who have moved to Juba now eat from the market. Despite having got used to the tastes and smells of the grains on sale there, they miss the flavours of home. Sometimes they buy domestically produced alternative grains, and sometimes they eat imports. Imported grain and tubers have tied people into regional cross-border market and trade networks, severing ancestral connections.

⁵³ Photograph taken by Godfrey Lienhardt, 'Dinka youths harvesting millet', 1947–1951. Sourced from Pitt Rivers Museum, accessed 17 January 2020. (<http://southernsudan.prm.ox.ac.uk/details/2005.51.101/>)

While South Sudanese grains and tubers are sometimes eaten whole, or fermented into beers, most often they are milled into flour and turned into thin pancakes (Arabic *kisra*), porridge (Arabic '*asida*) or cous-cous (Dinka *akob*, Nuer *kop*, Collo *akello*). The batter (flour-and-water mix) is often slightly fermented, which increases the digestibility of sorghum proteins and gives a depth of sour flavour to many South Sudanese dishes.⁵⁴

Interviewees explicitly associate the smells of indigenous grain varieties with home and a notion of familiarity. One woman from Lakes state living in Juba complains that the smell of maize dulls the appetite.⁵⁵ By contrast, when interviewees remember indigenous sorghums, they remember home cooking. One man who has lived as a refugee for almost three decades describes *ruath* in the following terms: 'When you passed near where women are cooking this grain, you just smell it. This is one type of grain I haven't forgotten'.⁵⁶

Local grains are associated with nutrition and healing. Millet, which is almost always a local grain—only one per cent of global production crosses an international border—and seldom enters domestic marketing chains, is highly prized for its nutritional properties. As an interviewee from Bagari in Western Bahr el-Ghazal reports, 'Millet is medicine'.⁵⁷ Millet is also a preferred food for breast-feeding mothers, with *kech* a favoured indigenous sorghum from Lakes state, the roots of which can be used to treat stomach problems.⁵⁸

Interviewees also associate local grains with energy. In the early 1980s, Sharon Hutchinson observed that Nuer communities used 'blood' as a metaphor to describe the energy content of food, with, for example, milk and sorghum considered richer in blood than maize.⁵⁹ More recently, Zoe Cormack's work in Warrap State finds that some young men have replaced or supplemented home food with *chapati*, a greasy East African version of an Indian pancake that is almost always sold by foreigners and made from imported wheat flour. It is believed that these imported foods reduce *riel* (energy). Older people, who have spent their lives eating homegrown grains, dislike *chapati* and are reluctant to use imported flour, preferring the taste and texture of the homegrown, 'stronger' grains. Younger women, in contrast, sometimes prefer imported flours over homegrown grains, as they reduce labour time.⁶⁰ Processed foods like *chapatis* are a sign that food markets are expanding and deepening, and that imported food is affecting everyday

54 Dirar, *Indigenous Fermented Foods*, 92–98.

55 Interview with a woman from Lakes state, Juba, 24 February 2019.

56 Interview with a long-term refugee man, Juba, 27 February 2019.

57 Interview with a man from Bagari, Juba, 26 March 2019.

58 Interview with a woman from Lakes State, Juba, 24 February 2019.

59 Sharon Hutchinson, *Nuer Dilemmas: Coping with Money, War and the State*, Berkeley, CA: University of California Press, 1996, 163.

60 Zoe Cormack, 'The Making and Remaking of Gogrial: Landscape, History and Memory in South Sudan', PhD dissertation, Durham University, 2014, 182–184.

choices. For both older and younger people, attitudes to food markets and food imports are shaping consumption habits and creating cultural tensions.

One interviewee, originally from Abyei, claims, ‘Local grains were very nutritious. That is why I am still strong—because I ate good things when I was still young’. He uses the Dinka word *riel* (strength, power, energy) to describe how local grains strengthen the body, contrasting them with imported grains, which do not.⁶¹ It is telling that despite the diversity of South Sudanese communities, many of them equate imported grain with bodily weakness. There are further popular reflections on foreign grains, dependence and (national) weakness in ‘Social perceptions on imported grain’ and ‘The history of staple food markets’ sections below.

⁶¹ Interview with Dinka-speaking man from Abyei, Juba, 19 January 2019.

4. Grain and Markets

South Sudan is not self-sufficient in staple foods. This food gap is met by commercial imports, most often from neighbouring countries, supplemented in some locations with supplies imported by humanitarian organizations. These imports, which demonstrate the integration of South Sudan's food system into a regional system that crosses international borders, are changing local tastes and the way that South Sudanese markets work.

Market substitutes for indigenous grains

Some Abyei people risked their lives to continue cultivating *ruath* during the 1983–2005 civil war. Even so, its cultivation declined, as only a few people were able to keep *ruath* seed during displacement. Now, *ruath* is off the menu for Abyei people in Juba. For one interviewee, displaced as a young boy from Abyei in the 1980s, only the smell of it being cooked remains: '[it] was really very good'. Now, he never sees *ruath* in Juba markets, and instead buys maize or reddish sorghums.⁶² One older woman reports, 'Our country is in war and people like me have left the village. This means that people like me who used to grow *ruath* and other local grains are forced to leave their areas only to find life in towns'. Another older woman says, 'We have forgotten some types of grains and tubers such as *ruath*, *amarak*, *diil* and *nyanhiany*. Today we eat what is available to us' (*Nyanhiany* is a white sorghum, *diil* is a red sorghum, and *amarak* is a reddish-brown sorghum; all three are associated with Abyei).⁶³

Some—not all—interviewees from Rumbek are able to find *kech* in Juba market. One older woman interviewee says that *kech*, or a grain just like it, is being cultivated by Acholi people living in Magwi, Eastern Equatoria. Mary Ajok Wetkwoot, who smuggled *kech* out of Rumbek in her black drawstring bag when the wars began thirty years ago, grew and shared it with neighbours to help them keep their customs alive. Though she cannot now get hold of the creamy *kech* grains, she is able to obtain something similar from the market: 'Now I am aged, I rarely go to market ... But should I happen to go, I would buy *malual* grain and cassava and grind them together. Because they are South Sudan products'. *Malual* (or red) grain is a kind of sorghum grown in Lakes state and other Dinka areas.

While Juba markets are often unable to offer preferred grains, they do allow people to substitute them with cheaper, more available, often imported, grains. In doing so, markets are changing tastes and cuisines across Sudan. Some interviewees report that a preferred alternative to grains such as *kech* and *ruath* is *mayo*, a caudatum sorghum

62 Interview with a man originally from Abyei, Juba, 27 February 2019.

63 Interview with an older woman, Juba, 20 March 2019.

hybrid commercially grown in Sudan and the USA. Interviewees like its smell, nutrients and energy, as well as—for some—the fact they remember growing it when they were younger. One older woman from Bazia in Western Bahr el-Ghazal says she buys *mayo* (she calls it *maberou*) when she can afford it, and a mix of red sorghum with cassava flour when she cannot.⁶⁴

Long-maturing, flavoursome and satisfying sorghum varieties are socially prized, but South Sudan is shifting towards short-maturing, fast-selling, blander and less nutritious maize. Maize now covers an estimated 11.7 per cent of cropland, mostly in Equatoria, making it South Sudan's second most important crop.⁶⁵ It was not always so popular. As one woman originally from the Yei area observes, 'When you eat sorghum, you get satisfied faster than when you eat maize'.⁶⁶ Sorghum has a higher protein content than maize, which may be why people find it more satisfying.⁶⁷ But many factors – including lower maize prices during South Sudan's years of plenty – have turned maize into a substitute for sorghum in urban areas.

The use of cassava flour as a mixer for less-favoured red sorghum flour is one kind of consumer substitution. Some of Juba's cassava supply comes from nearby, with consumers believing that cassava flour softens harder or grainier flours, such red *godo* sorghum or maize. One Bari-speaking interviewee links this change in food preparation to the introduction of cassava from Western Equatoria, which has been impacting people's desires to eat only sorghum.

How are market substitutes changing local societies?

Luga Aquila's work on cassava production shows how farmers in Pojulu areas have oriented production towards money and the regionalized, cross-border markets that increasingly determine what South Sudanese people eat. Pojulu people are a Bari-speaking group settled between Lainya and Yei in Central Equatoria, with cassava an important part of local diets. Cassava can help producers smooth out food consumption, as it does not require harvesting at any particular time, thereby providing an underground reservoir of nutrition throughout the year.

Cassava was an established crop in these areas in the nineteenth century.⁶⁸ In the twentieth century, colonial agriculturalists noted that new varieties of bitter and sweet cassava were spreading in Equatoria.⁶⁹ Sweet cassava can be eaten boiled, fried or even raw, but bitter cassava is poisonous and must be soaked and dried, before being turned into flour or alcohol. Over the twentieth century, cassava—due to its ease of cultivation,

64 Interview with an older woman from Western Bahr el-Ghazal, Juba, 13 March 2019.

65 FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan', 2019, 79.

66 Interview with a woman from Yei, Juba, 23 February 2019.

67 Dirar, *Indigenous Fermented Foods*, 92.

68 Schweinfurth et al., *Emin Pasha*, 370–371.

69 Ferguson, 'Equatoria Province', 895.

storage and processing—ousted cereals such as finger millet from many fields in South Sudan’s south-western greenbelt.⁷⁰



Image 2. Zande women preparing cassava in a stream, 1927–1930⁷¹

While cassava was changing tastes in the greenbelt, little of the harvest was sold. Luga Aquila’s study shows how a move towards markets in the second half of the twentieth century began changing tastes in towns too. During this period, Pojulu people began adopting high-yielding, quick-maturing varieties of cassava. The adoption of high-yielding and quick-maturing crops is often a sign of agricultural commercialization or other pressures on farmers. In contrast, non-commercial farmers may prioritize other factors, such as ease of storage or low labour requirements, when deciding what to sow.

Luga Aquila shows that yield and maturing time became increasingly important factors for farmers in the mid-twentieth century, at the same time that Pojulu people began using money and livestock for bride-wealth. Prior to this, Pojulu bridegrooms used iron rings, bracelets and anklets—called *riyet*—to express their obligations to their brides’ parents. Over time, grooms and their families started cultivating cassava to exchange for livestock or money, which they would then use to pay bride-wealth.

70 G. M. Culwick, ‘A Dietary Survey among the Zande of the South-Western Sudan’, Khartoum: Agricultural Publications Committee, Ministry of Agriculture, Sudan Government, 1950, 8, 36.

71 Photograph taken by Edward Evans-Pritchard, ‘Zande women preparing manioc at stream’, 1927–1930. Sourced from Pitt Rivers Museum, accessed 25 February 2020. (<http://southernsudan.prm.ox.ac.uk/details/1998.341.248.2/>)



Image 3. Iron riyet or necklace, bought or stolen from a Bari community in Central Equatoria in 1933. Such iron rings were used for bride-wealth⁷²

Yoyoji-yoyoja is a quick-maturing and high-yielding cassava variety adopted around this time. Its name means ‘you can now get engaged’. It is also poisonous, which means that Pojulu bridegrooms depended on the collective efforts of their sisters, mothers and aunts to turn the cassava they produced into marketable flour or alcohol. The taste of *Yoyoji-yoyoja* beers and white porridges is favoured, which may have contributed to its popularity.

When Pojulu farmers began meeting the demands of the market, many aspects of their society changed. The farmers also changed tastes in Juba—and still do so today. Interviews with grain and tuber traders in Juba conducted for this project found that several source cassava from the Yei area (others import cassava from Uganda).

Yoyoji-yoyoja cultivation is a sign that money and markets are reshaping Pojulu society. Some interviewees indicate that new methods of cultivating *mayo*—a sorghum variety sometimes substituted for ancestral South Sudanese grains—may be bringing about even greater social change. One grain trader reports that the *mayo* she sells comes

⁷² Photograph: ‘Bari necklet’. Sourced from Pitt Rivers Museum, accessed 17 January 2020. (<http://southernsudan.prm.ox.ac.uk/details/1934.8.52/>)

from Owiny Kibul, a rural barracks in Magwi county, where grain is grown by soldiers. Owiny Kibul is on the leeward side of South Sudan's highest mountains, which catch the Atlantic rains, making the area one of the most fertile in the country. These areas are also not far from the Juba–Nimule road, which carries most of Juba's imports from across the border in Uganda, and despite the long crisis in the Equatorias, still supplies food to the capital. While it was not possible to verify the interviewee's statements, if it is true that soldiers now engage in commercial agriculture in South Sudan's most fertile area, this indicates the kind of social changes needed for markets to be supplied.

The cantonment of soldiers required by South Sudan's 2018 peace agreement may lead to an expansion of this kind of military agriculture.⁷³ Even so, the efforts of civilian and military cultivators are not yet enough to close the gap between South Sudan's grain production and its consumption. As a result, the country has become a significant grain importer.

73 Dawit Kahsay Tedla, 'Security and livelihoods: Opposition soldiers reflect on hopes and life in a cantonment site', 20 January 2020. Accessed 21 January 2020. (<https://unmiss.unmissions.org/security-and-livelihoods-opposition-soldiers-reflect-hopes-and-life-cantonment-site>)

5. Grain Imports

South Sudan imports food because it has a cereal deficit. This has contributed to the creation of a regional grain economy, which has also influenced the way in which countries in the region—notably, South Sudan, Sudan and Uganda—interact politically (although further research is needed to determine the role that the regional economy of grain plays in macro-political changes in the region). These food deficits are a legacy of the civil wars and mass displacements of the late twentieth century, when food production systems were deliberately targeted and millions of cultivators displaced. Now, imports are reworking the structure of South Sudan’s international trade and international relations, as well as, in subtle ways, the social and cultural worlds connecting the local to the global.

South Sudan’s cereal deficit

According to the available data, when South Sudan began moving towards peace in the first years of the twenty-first century, the country’s cultivated area and production increased significantly, more than doubling between 2000 and 2013 (Figure 1). It seems likely, however, that this peacetime expansion of agriculture did not keep up with the pace of population growth, population returns and urbanization. Since the civil war began in 2013, the food deficit has deepened.

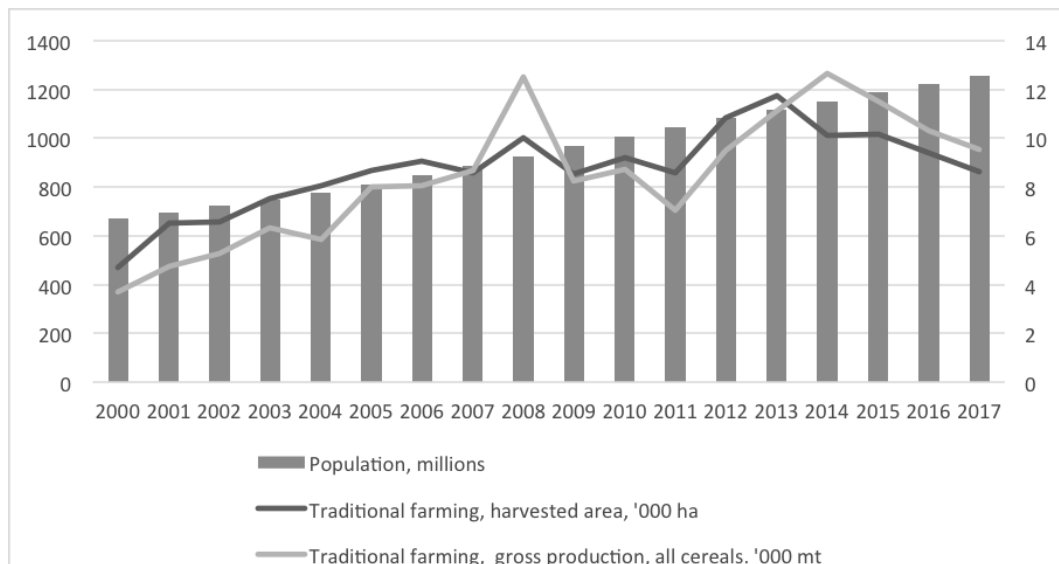


Figure 1. Harvested area/gross production of cereals in traditional farming (left axis) and population (right axis)⁷⁴

⁷⁴ Thomas, ‘Moving towards markets’, 60.

South Sudan's cereal deficit is described in surveys published by the UN's World Food Program (WFP) and FAO. While WFP/FAO methodologies have progressed over time, they are not yet based on nationally representative farm surveys, and so must be used with caution. In good years, WFP/FAO surveys estimate modest cereal surpluses: for example, 47,238 metric tons in 2009. For most years, however, the surveys estimate a large cereal deficit: for example, -225,081, -290,993 and -473,653 metric tons in, respectively, 2010, 2011 and 2012. The enormous deficit estimated for 2012 was the result of poor climatic conditions and rapid demographic changes brought on by population returns following South Sudan's 2011 independence referendum. Civil war broke out in 2013, and when it spread to grain surplus areas of Equatoria, the national cereal deficit once more spiked. In 2019, the cereal deficit was estimated at 524,098 metric tons.⁷⁵

War has also changed the structure of the cereal deficit. Heavy waterlogged soils in the Lou Nuer areas of Jonglei make cultivation difficult, and, historically, deficits there are frequent occurrences.⁷⁶ Western Equatoria, in contrast, as one of the few areas of South Sudan with an equatorial pattern of two rainy seasons, usually has a surplus. Warrap also usually has a surplus—its reliance on crop production increased during the 1983–2005 civil war, when many of its communities lost cattle.⁷⁷

Comparing the cereal deficit in low- and high-production states before and after the conflict can shed light on how the structure of the deficit has changed over the course of the civil war beginning in 2013. FAO and WFP collect county-level data on population, cereal production and estimated cereal deficits in order to plan procurement. From this, it can be seen that in 2009 the harvest was poor. FAO/WFP estimate the population at around 9 million, national net cereal production at 660,257 metric tons, and the national cereal deficit at 225,081 metric tons. Jonglei—101,094 metric tons short of its population's minimum dietary needs—accounts for almost half of the 2010 national cereal deficit. In that year, about 20 per cent of national production came from Warrap and 22 per cent from Western Equatoria, which had surpluses of 24,979 and 74,523 metric tons respectively.⁷⁸

In 2016, the war moved to Western Equatoria. FAO/WFP estimate the population at around 12 million, national net cereal production at 825,807 metric tons, and the

75 FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 6 February 2009', Rome: FAO/WFP, 2009, 24; FAO/WFP, 'Crop and Food Security Assessment Mission to Southern Sudan, 17 February 2010', Rome: FAO/WFP, 2010, 22; FAO/WFP, 'Crop and Food Security Assessment Mission to Southern Sudan, 12 January 2011', Rome: FAO/WFP, 2011, 15; FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 8 February 2012', Rome: FAO/WFP, 2012, 19; WFP/FAO, 'Crop and Food Security, 2019', 31.

76 Southern Development Investigation Team, 'Natural Resources', 88–89; FEWS NET, 'Livelihoods Zone Map and Descriptions for the Republic of South Sudan (Updated)', Nairobi: FEWS NET, August 2018, 28–29. Accessed 17 December 2019 (<https://fews.net/sites/default/files/documents/reports/Livelihoods%20Zone%20Map%20and%20Descriptions%20for%20South%20Sudan.pdf>)

77 E. Muchomba and Buzz Sharp, 'Southern Sudan Livelihoods Profiles: A Guide for Humanitarian and Development Planning', Nairobi: Southern Sudan Centre for Census, Statistics and Evaluation, 2006, 36.

78 FAO/WFP, 'Crop and Food, 17 February 2010', 20–22.

national cereal deficit at 490,801 metric tons. Jonglei accounts for about a third of the cereal deficit (150,789 metric tons), and taken together, the conflict states of Jonglei, Upper Nile and Unity account for almost two-thirds of the deficit. Western Equatoria's share of national production fell to 14 per cent, and it registered a deficit of 4,619 metric tons. Warrap, meanwhile, had a surplus of 4,684 metric tons.⁷⁹

The cereal deficit thus affects different areas and populations in differing ways. For example, the predominantly urban counties of Juba, Wau and Malakal constitute about 8 per cent of the population but about 16 per cent of the cereal deficit, meaning their tastes are more likely to be changed by imports. In the first half of the twentieth century, South Sudan's cereal deficit was concentrated in towns. Some rural areas also have a structural deficit. Northern areas of Jonglei, for example, have heavy soils and some pastoralists there have constrained access to water, which makes them migrate more and cultivate less. This often creates food deficits, which can become entangled in conflict.⁸⁰

South Sudan's cereal deficits have made it dependent on imported grain from its neighbours. The following section attempts to quantify South Sudan's import dependence and examine the ways imported grains and tubers are changing tastes and social relationships.

Social perceptions of imported grain

Almost all interviewees compare imported grains unfavourably with traditional grains. Very often, interviewees frame the comparison as being between traditional, indigenous sorghum and imported maize, though hostile opinions are also expressed regarding imported Ugandan sorghum. Ugandan sorghum is, however, a relatively recent arrival (see Figure 6 below), while cheap imported maize has been changing tastes for at least two decades.⁸¹

Many interviewees, particularly older people, question the quality and flavour of imported maize. One older woman from Lakes state says she 'received this maize flour with a lot of scepticism because we are not sure about the quality or ingredients making up the maize flour'.⁸² A woman from Juba claims imported grain loses its taste and sweetness on the road.⁸³

79 FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 26 May 2017', Rome: FAO/WFP, 2017, 24–25.

80 Southern Development Investigation Team, 'Natural Resources', 88–89; Thomas, *South Sudan*, 243–260; Thomas, 'Moving towards markets', 79–80.

81 Bank of Uganda, 'Composition of Exports'. Accessed 17 January 2020. (https://bou.or.ug/bou/bouwebsite/bouwebsitecontent/statistics/External_Sector_Statistics/Trade_Statistics/Composition-of-Exports_Values-and-Volumes.xlsx)

82 Interview with older woman from Lakes state, Juba, 28 January 2019.

83 Interview with woman from Juba, Juba, 16 March 2019.

Dinka-speaking interviewees associate local grains with *riel* (energy or strength). In contrast, they use the phrase ‘castrated bull’ (*mabor-boch*) when talking about imported maize flour. This phrase has several associations, with one interviewee regarding *mabor-boch* as a food people are forced to eat during famine and war.⁸⁴ Others link it to malnutrition: ‘Whoever is fat in this country is not eating *mabor-boch*’.⁸⁵ Some used the term in a sense that suggests impotence, or lack of male fertility—that unlike local grains providing *riel*, foreign imports sap potency. Finally, some interviewees link imported cereals to ill health, with many believing that imported grains are grown with artificial fertilizers, which cause disease.⁸⁶

Ugandan red sorghum, called *godo* by many interviewees, also attracts plenty of hostility. Even WFP, one of its main importers, acknowledges this unpopularity.⁸⁷ The main complaint levelled against *godo* is not impotence, but constipation, which is seen as a particularly undignified affliction in the Protection of Civilian (PoC) camps where it is often distributed.⁸⁸ Camp residents sometimes sell or exchange red sorghum for preferred alternatives.

Attitudes towards Sudanese sorghums are more complex than attitudes towards Ugandan sorghum, which is seen as an indigestible interloper in the land of creamy grain. Two important varieties of the former are *feterita* and *mayo*. *Feterita* refers to a small group of caudatum sorghum varieties, still the basis of Sudan’s food security. *Mayo* is a Sudanese Arabic name for American white dwarf milo, a caudatum hybrid that probably originated in Sudan but was adapted to US conditions and re-introduced in the mid-twentieth century, when it was recognized as a form of an older grain.⁸⁹ One interviewee associates *mayo* with other grains, such as *mabor-boch*, which arrived during the famines and wars of the 1980s.⁹⁰ Another remembers the rural sorghums of childhood and contrasts them with the taste of town grains, such as *feterita* and *mayo*.⁹¹ Many interviewees, though, claim to prefer *mayo*, with some interviewees from Western Bahr el-Ghazal saying they had grown it in their village and had a South Sudanese name for it: *maberou*.

While preferences for sorghum are mostly based on its effect on people’s bodies—their taste buds and digestive systems—attitudes are sometimes affected by sorghum ideol-

84 Interview with Dinka-speaking man, Juba, 24 February 2019.

85 Interview with Dinka-speaking man, Juba, 28 January 2019.

86 Interview with a woman from Central Equatoria, Juba, 16 March 2019.

87 Nick Maunder et al., ‘Country Portfolio Evaluation, South Sudan: An evaluation of WFP’s Portfolio (2011–2016)’, Report number: OEV/2016/013, vol. 2, Rome: WFP Office of Evaluation, 2017, 204.

88 Interview with residents of PoC camp, Juba 27 January 2019.

89 Burnett, ‘Crop production’, 305; Dirar, *Indigenous Fermented Foods*, 55–68; B. Hari Vara Prasad and B. D. Biradar, ‘Geographical and Racial Distribution of Restorers and Maintainers on Milo and Maldandi Cytoplasm from Minicore Collection of Sorghum’, *International Journal of Current Microbiology and Applied Sciences* 6/11 (2017).

90 Interview with a woman from Lakes State, Juba, 24 February 2019.

91 Interview with a man from Western Bahr el-Ghazal State, Juba, 26 March 2019.

ogies: value judgements that reflect power relations. Although rural Sudan still mostly eats sorghum, urban Sudan has a strong preference for wheat. A small amount of the latter is grown in the far north, where the winters are cold enough for the crop, but nearly all the country's wheat has to be imported. This means that whenever there is a balance of payments crisis, there is also a bread crisis, such as that of 2019, which helped topple former president Omar al-Bashir.⁹²

Hamid A. Dirar, one of Sudan's most influential nutritional scientists and a partisan of *feterita*, the caudatum sorghum that remains a mainstay of the countryside, explains how ideas about sorghum acquired ideological force. Sudan's urban/rural divide became a feature of popular culture after the Second World War, with wheat/sorghum giving the divide its flavour. In those days, many city people came from the far north's wheat-producing areas, and they fostered the idea that *feterita* was donkey food. They contrasted the white of wheat bread with darker sorghum flours, associating the darker grains with animals.⁹³ One interviewee—a middle-aged woman who lived her life between Juba and Khartoum—explains that while she used to eat a white *feterita* in Juba in her youth, 'When we went to Khartoum, we found people there were not eating *feterita* ... Rather they used *feterita* for feeding donkeys'.⁹⁴ She began eating a smoother, paler sorghum instead.

During the 1983–2005 civil war, Sudanese grains such as *feterita* formed an important basis of nutrition in the government's garrison towns. Jovensia Uchalla's work on grain traders and millers in Juba markets reveals how these grains have become a preferred alternative for some customers in Juba. One grain trader, a woman from Magwi county in Eastern Equatoria, explains how value judgements about sorghum are also linked to power relations in Juba:

For me, I think the mindset of South Sudanese customers influence the types of grains and tubers I import. For example, most of South Sudanese who grew up in Khartoum they prefer goods from Khartoum to be the best, whether is good or bad, because they grew up with this mentality which is inculcated in them, and they believe that any grains from Khartoum is good in taste and of quality compared to other countries. Therefore, goods imported from Uganda are of low quality according to their mindset. So I just import those grains and whoever wishes to buy they can buy because I believe not all South Sudanese grew up in Khartoum, there are some who came from Uganda, others were here in South Sudan. So that does not prevent me from importing these different types of grains from Uganda despite all of that.⁹⁵

92 Edward Thomas and Magdi El Gizouli, 'Sudan's Grain Divide: A revolution of bread and sorghum', London: Rift Valley Institute, 2020.

93 Dirar, *Indigenous Fermented Foods*, page 63.

94 Interview with middle-aged woman who has lived in Juba and Khartoum, Juba, 16 March 2019.

95 Interview with female grain trader from Eastern Equatoria, Juba, 28 February 2019.

If sorghum and maize ideologies emerge in Juba, they may turn out differently to those in Khartoum. Rather than reject the foods of the countryside, interviewees smother them with nostalgia, as well as fears of foreign encroachment.

The history of staple food markets and import dependence

Mary Ajok Wetkwoth is scathing in her assessment of *mabor-boch*—the emasculating white maize flour from Uganda—reflecting a sense that conflict has undermined South Sudan’s agricultural production:

I thank God and ask Him to bring everlasting peace to South Sudan, bless our president, and [for] Riek to come and cooperate with president so that ordinary citizens enjoy the fruits of peace. For when peace is fully realized in the country we are free to cultivate all sorts of grains and tubers and stop relying on foreign imports ... the so-called *mabor-boch*.⁹⁶

Her preferences for local grains are moulded into beliefs about the enormous social cost of South Sudan’s wars, and how they have shaped the country’s place in East Africa’s trade politics. As one older woman from Abyei explains:

life in a new place has changed the types of food I used to eat, which were never eaten by my grandparents. This is because what we used to eat was not there ... I have no choice but to eat imported grain. Imported grain is the only alternative food for me or otherwise I will not eat. Our country is in war and people like me have left the village. This means that people like me who used to grow *ruath* and other local grains are forced to leave their areas only to find life in towns.⁹⁷

Though quantitative historical information on the importing of staple foods to South Sudan is imprecise, the information that does exist sheds light on regional politics. In the twentieth-century colonial period, South Sudan’s cereal deficits averaged around 3,500 metric tons a year. These were addressed through the supply by Nile steamer of several thousand metric tons of Sudanese sorghum, most of it destined to feed colonial towns and barracks. This figure increased gradually after independence: in 1972, Nile steamers supplied about 18,000 metric tons of Sudanese sorghum.⁹⁸ After 1972, humanitarian interventions increased the scale of imports.

Though humanitarian food aid distributions increased during the war years of the 1980s and 1990s, their volume and impact is routinely exaggerated. For example, between 1992 and 1998, Operation Lifeline Sudan distributed about 50,000 metric tons of food to a target population of 4.7 million people across the whole of Sudan, which averages out at 200 grams a week per beneficiary (the food was in reality distributed during hungry

96 Interview with Mary Ajok Wetkwoth, a farmer from Lakes state, Juba, 28 January 2019.

97 Interview with older woman from Abyei, Juba, 20 March 2019.

98 Thomas, ‘Moving towards markets’, 80.

periods or displacements, rather than as a weekly dole, but the average indicates how modest the quantities of food distributed were).⁹⁹

At the start of South Sudan's twentieth-century wars, most households grew their own food. By their end, most bought food from markets, as people moved to towns or returned from long exiles.¹⁰⁰ Purchasing power boosted demand, with oil revenues flowing into Juba before being distributed around the country in the form of government salaries.

South Sudan's autonomous government, set up in 2005, imported grain from its neighbours to manage the cereal deficit. In 2008, the government attempted to set up a strategic sorghum and maize reserve, apparently based on imports. While this turned out to be a front for a complicated government scam often referred to as the Dura Scandal, it also indicates that the government saw commercial imports from the regional grain market—rather than improved agricultural production—as the best way of addressing the national grain deficit.

One of the factors driving the new demand for imports was the increased dependence on markets for basic foods. The role of markets in South Sudanese food cultures expanded significantly after the 2005 Comprehensive Peace Agreement. This agreement set up the autonomous Government of Southern Sudan in the run up to the country's independence. South Sudan's new government was independently-financed, and import-hungry, and the hundreds of thousands of people on its payroll, many of them in barracks or urban centres, had the money to buy food instead of growing it.

By 2011, the year of independence, much of the population turned to markets to purchase basic foods. In the lean period before the 2011 harvest, WFP estimated that households depended on markets for 75 percent of the sorghum they consumed. Even after 2011, sorghum markets retained their importance, accounting for 47 per cent of household supply. Markets played an equally important role in maize supply.¹⁰¹

Ugandan export data, discussed in more detail below, suggests that its global maize exports and its exports to South Sudan increased dramatically in the years running up to South Sudan's independence. At the start of this export bonanza, Uganda mainly exported maize. Price surveys conducted by the Famine Early Warning System Network (FEWS NET) in Juba and other markets suggest that until 2016, maize prices remained

99 Thomas, 'Moving towards markets', 21.

100 Thomas, 'Moving towards markets', 21.

101 FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 22 February 2013', Rome: FAO/WFP, 2013, 42.

about 20 per cent below sorghum prices.¹⁰² As people moved towards markets, they could choose cheaper maize or more expensive sorghum. This price difference probably helped the popularity of maize.

South Sudan's sorghum supplies mainly came from Sudan. After 2012, when Sudan and South Sudan fought a brief war over oilfields, Ugandan sorghum exports began to increase, and price data suggests that the difference between sorghum and maize prices narrowed as a result.

Over the course of the current conflict, market dependence has declined. People are more reliant on household production and, to a lesser extent, on food aid, according to WFP data. But the changes to food cultures that took place in the years immediately before and after independence have led to lasting change. Humanitarian imports of grain have increased significantly since South Sudan became independent, with humanitarian actors responding to returns, new conflicts and the threat of politically manufactured famine.

Despite food aid volumes currently being at unprecedentedly high levels, however, it is likely that most South Sudanese people are still reliant on locally marketed or commercially imported grain. This is for two reasons. First, WFP reports suggest that household production has become a more important food source and that yields in the traditional sector have risen. But despite the increased reliance on domestic production, cereal deficits have increased (see Figure 2).

Exceptionally good rains—such as those of 2014/15—increase production and decrease deficits. But the broad trend identified by this data is that deficits are increasing. And food aid is not increasing at a rate that would meet the deficit. For example, FAO/WFP harvest estimates for 2016/17 were pessimistic, with net production estimated at 825,807 metric tons for a population of almost 12 million people. It was estimated that the population needed 1,324,608 metric tons of cereals to survive 2017, representing a deficit of 498,801 metric tons.¹⁰³ In reality, WFP delivered 191,065 metric tons in 2017.¹⁰⁴ This means humanitarian assistance was far below assessed need (and FAO/WFP estimates of the annual cereal deficit are low, relative to other informed actors).¹⁰⁵

102 Paul A. Dorosh, Shahidur Rashid and Joanna van Asselt, 'Enhancing food security in South Sudan: the role of markets and regional trade', *Agricultural Economics* 47/6 (2016): 5; FEWS NET, 'South Sudan Price Bulletin', Nairobi: FEWS NET, December 2012/December 2013/December 2014/October 2015/December 2016. Accessed 17 December 2019, 31. ([https://fews.net/archive?f\[1\]=field_report_type:65&f\[2\]=field_report_countries](https://fews.net/archive?f[1]=field_report_type:65&f[2]=field_report_countries)). Note that data from the website <https://climis-southsudan.org/markets> suggests that prices of sorghum and maize flour (not grains) were at parity after 2013. Accessed 27 April 2020.

103 FAO/WFP, 'Crop and Food, 26 May 2017', 25.

104 WFP, 'Update on food procurement. Executive Board Annual Session', WFP/EB.A/2018/10-C. 25, Rome: WFP, 2018, 6

105 Dorosh, Rashid and van Asselt, 'Enhancing food security'.

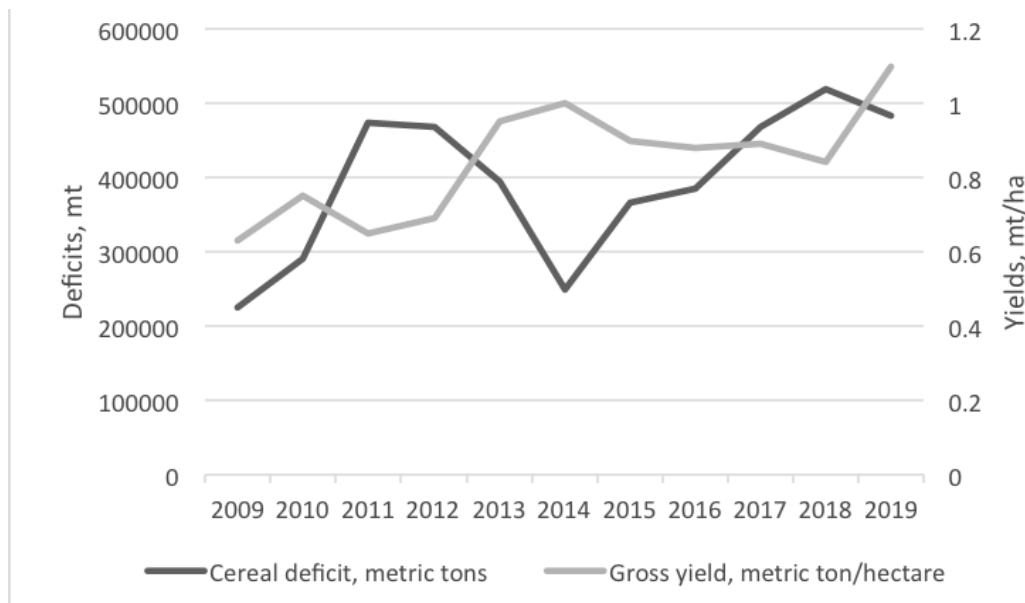


Figure 2. National cereal deficits and yields in the traditional sector¹⁰⁶

The combination of domestic production and food aid did not meet minimum food requirements. Did commercial imports meet the gap? In October 2016, inflation stood at 835 per cent, and market demand for cereals was depressed.¹⁰⁷ Ugandan export data also suggested sharp declines in grain supplies (see Figures 5, 6 and 7, below). People appear to have coped with these extraordinary circumstances by reducing consumption: WFP estimated that the proportion of food insecure households jumped from 49 per cent in 2015 to 67 per cent in 2016. It seems likely that people are coping with crises by decreasing food intake, and that dependence on markets has eroded slightly as a result. But markets in staple foods are still very significant, and South Sudan’s dependence on them is likely to survive this long crisis.¹⁰⁸

Regional supply of staple crops

Quantifying South Sudan’s cereal imports is a challenge. No primary data is collected by the South Sudanese National Bureau of Statistics. Since 2012, trade between Sudan and South Sudan has sometimes been prohibited by law, and thus not recorded. Avail-

¹⁰⁶ FAO/WFP ‘Crop and Food Security, 17 February 2010’, 22; ‘Crop and Food Security, 12 January 2011’, 14, 17; ‘Crop and Food Security Assessment Mission to South Sudan, 20 February 2014’, Rome: FAO/WFP, 2014, 26, 33; ‘Crop and Food Security Assessment Mission to South Sudan, 5 April 2016’, Rome: FAO/WFP, 2016, 30, 35; ‘Crop and Food Security Assessment, 14 March 2019’, 32, 37; ‘South Sudan 2019 Crop and Food Security Assessment Mission: Crop performance findings of the 2019 cropping season’. Juba: FAO/WFP, 2020, 5.

¹⁰⁷ Oscar Maria Caccavale and Valerio Giuffrida, ‘The South Sudan Western Trade Corridor in Times of Hyperinflation: Rapid Market Assessment in Northern Bahr El Ghazal and Warrap’, Rome: WFP, 2017, 35.

¹⁰⁸ FAO, WFP and other estimates of population and agricultural production are imprecise. For an assessment of their value, see Thomas, ‘Moving towards markets’, 94–99.

able data on South Sudan’s foreign trade—export data from the UN, export data from Ugandan banking and statistics authorities, and informal cross-border trade data from international organizations—is not consistent. Some crops, such as cassava and millet, are not included in the statistics. Even so, some trends are evident.

Informal regional trade volumes for maize and sorghum are estimated by the FEWS NET (see Figures 3 and 4). Regional maize production is dominated by Ethiopia, Kenya, Tanzania and Uganda, though only the latter two export significant amounts. While regional sorghum production is dominated by Ethiopia and Sudan, South Sudan’s sorghum imports come from Sudan and Uganda, with the latter only beginning to export sorghum a few years ago. According to FEWS NET, although South Sudan’s cereal deficit is not large relative to regional supply, its relatively small population is the least self-sufficient in the region.¹⁰⁹

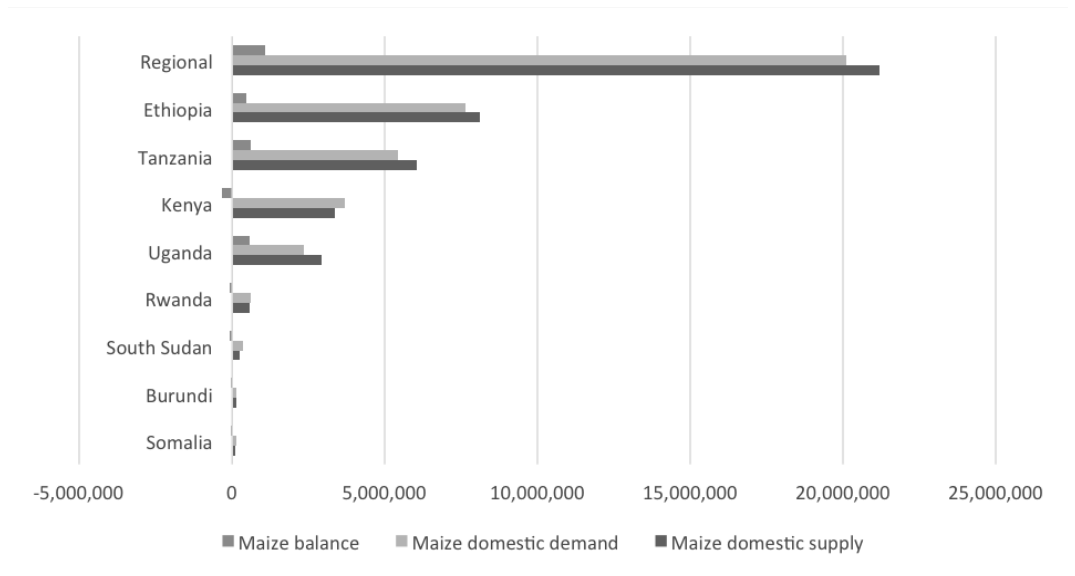


Figure 3. Regional maize supply, demand and balance in metric tons. Five-year average, 2014/15 to 2018/19¹¹⁰

¹⁰⁹ FEWS NET, ‘East Africa: Maize, Regional Supply and Market Outlook’, Nairobi: FEWS NET, 6 November 2019, 9. Accessed 17 December 2019. (https://fews.net/sites/default/files/documents/reports/East%20Africa%20Maize%20Market%20Supply%20Outlook_20191106.pdf); FEWS NET, ‘Regional Supply and Market Outlook, East Africa: Sorghum’, Nairobi: FEWS NET, 8. March 2019, 7. Accessed 17 December 2019. (https://fews.net/sites/default/files/documents/reports/East%20Africa_Market%20Supply%20Oulook_20190308_FINALrev.pdf)

¹¹⁰ FEWS NET, ‘East Africa: Maize’, 6 Nov 2019.

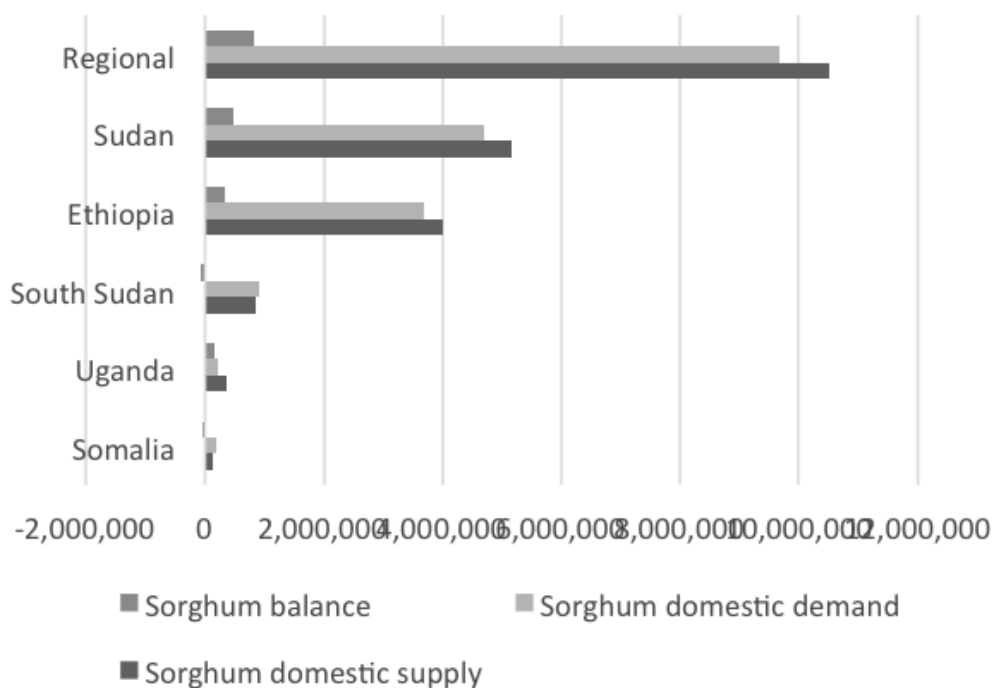


Figure 4. Regional sorghum supply, demand and balance in metric tons. Five-year average, 2014/15 to 2018/19¹¹¹

Uganda exported relatively small quantities of cereals in the 1990s, prior to which its exports were dominated by coffee, cotton and tobacco. While Ugandan goods flowed into areas of South Sudan under the control of the Sudan People’s Liberation Army during the 1990s, trade studies from the period suggest that grain was not imported in significant quantities due to the challenges of transporting bulk goods.¹¹² In the decade from 1991, Uganda exported about 40,000 metric tons of maize a year, which represents only about 10 per cent of its level of maize exports in 2018.¹¹³

The proxy war between the governments in Kampala and Khartoum, centred around the Lord’s Resistance Army, meant that Uganda had no formal exports to Sudan until the early 2000s (Figure 5). From a very low base, Ugandan cereal exports to the former Sudan and to South Sudan expanded dramatically after 2006, when the new Juba government began receiving a share of Sudan’s oil revenues.

¹¹¹ FEWS NET, ‘Regional Supply’, 8 Mar 2019, 7.

¹¹² Peter Adwok Nyaba, ‘Report on the Trade Consultancy Conducted in Northern Bahr el Ghazal’, Nairobi: Save the Children UK, 2002, 31, 34.

¹¹³ Bank of Uganda, ‘Composition of Exports’.

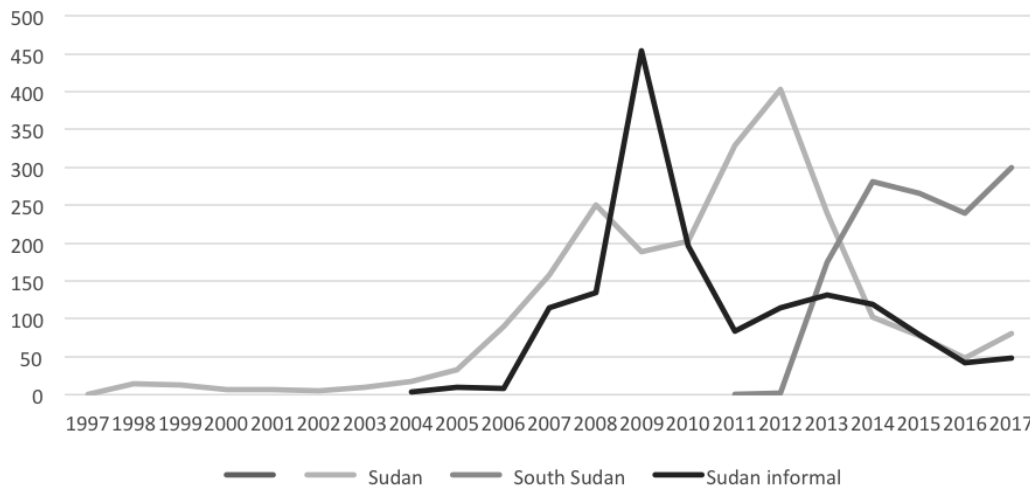


Figure 5. Total formal and informal Ugandan exports to former Sudan, Sudan and South Sudan by value, USD million¹¹⁴

At the start of this export bonanza, Uganda mainly supplied maize to South Sudan, with the latter’s sorghum supplies mostly coming from Sudan. South Sudan became independent in 2011, then in 2012 fought a brief border war with Sudan, leading to several years of border closures, trade restrictions and cut-offs. As a result, South Sudan became ever more reliant on Ugandan cereal imports.

Export data from the Bank of Uganda (Figure 6) suggests that 2012 was the year Uganda began exporting sorghum for the first time. Sorghum is a Ugandan crop, mainly grown in arid areas, and appears not to have been traded internationally until Sudanese supplies were cut off as a result of conflict. Not all the sorghum exports indicated in Figure 5 have gone to South Sudan, but it seems likely that South Sudanese demand led to new supplies from Uganda, thus showing how regional conflict can affect food export patterns

Until 2016, monthly price bulletins indicated that maize prices in Juba were roughly 20 per cent below those of sorghum. As Ugandan sorghum became available in Juba, however, this differential has narrowed.¹¹⁵ Unpopular varieties of Ugandan sorghum, such as red *godo*, are sometimes mixed with cassava flour to soften it, which may represent another important shift in tastes in Juba.

¹¹⁴ Bank of Uganda, ‘Composition of Exports’.

¹¹⁵ FEWS NET, ‘South Sudan Price Bulletin’, December 2012/December 2013/December 2014/October 2015/December 2016/October 2017/November 2019.

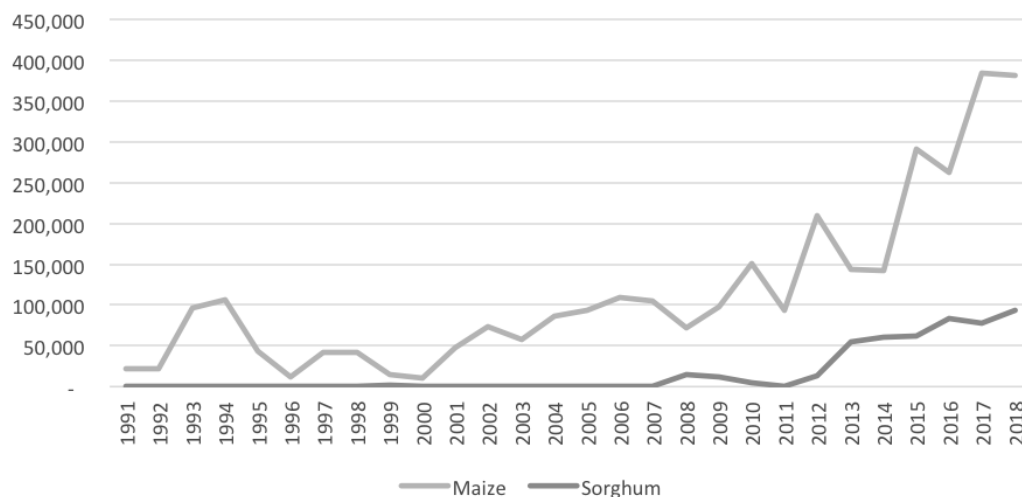


Figure 6. Ugandan total export volumes in metric tons, all countries, maize and sorghum¹¹⁶

Traders

What kind of traders manage these volatile import volumes? According to the Food Security and Nutrition Working Group (FSNWG), a Nairobi-based coalition of food security agencies, most grain is traded informally in the East African region. While monitoring small-scale agricultural production and informal trade in wartime is an inexact science, available evidence suggests that South Sudan’s domestic agricultural production declined after the 2013 war broke out. Furthermore, South Sudan’s imports initially declined as a result of instability and reduced purchasing power, which resulted in sharply contracted market demand.¹¹⁷ Whenever the warring parties signed peace agreements, or when the currency strengthened, trade volumes rose.¹¹⁸

Jovensia Uchalla finds that, in early 2019, most Juba grain traders and transporters they interviewed were dealing in Ugandan maize and sorghum (a few were dealing in maize, sorghum or cassava from Eastern or Central Equatoria).¹¹⁹ Most interviewees were relatively small importers. Irina Mosel and Emily Henderson’s 2015 study of South Sudanese markets reveals a high degree of concentration in Juba markets for staples. Prior to the 2013 conflict, for example, 12 per cent of traders controlled 70 per cent of the sorghum

¹¹⁶ Bank of Uganda, ‘Composition of Exports’.

¹¹⁷ FSNWG, ‘East Africa Cross Border Trade Bulletin’, Nairobi: FEWS NET/WFP/FAO, July 2014, 3. Accessed 17 December 2019, 23. ([https://fews.net/archive?f\[0\]=type:report&f\[1\]=field_report_type:59&f\[2\]=field_report_countries](https://fews.net/archive?f[0]=type:report&f[1]=field_report_type:59&f[2]=field_report_countries))

¹¹⁸ FSNWG, ‘East Africa Cross Border Trade Bulletin’, Nairobi: FEWS NET/WFP/FAO, October 2019. Accessed 17 December 2019, 23. ([https://fews.net/archive?f\[0\]=type:report&f\[1\]=field_report_type:59&f\[2\]=field_report_countries](https://fews.net/archive?f[0]=type:report&f[1]=field_report_type:59&f[2]=field_report_countries))

¹¹⁹ Uchalla, forthcoming.

trade.¹²⁰ More recent figures from the same sources used by Mosel and Henderson suggest that the role of small or medium merchants is expanding as risks increase.

Sorghum and maize prices in Juba are almost always the highest in the East Africa region, with five-year-average prices there about twice those of Kampala.¹²¹ Though traders make their profits from these price differentials, they also take on big risks. In 2016, FSNWG reported that larger traders were reducing their cross-border trade risks, and depending on smaller traders to manage supplies.¹²² These small traders have an important role to play in maintaining food security in Juba, and it is they that must manage escalating risks: checkpoints, informal taxation, bribes and protection money.¹²³

None of the grain traders and transporters discussed in Jovensia Uchalla’s study—all of whom are small or medium merchants pooling lorries with each other—could give a price per metric ton for transporting grain from Kampala.¹²⁴ One woman, trading in grain exchanged with beneficiaries living in the Protection of Civilians camp, runs her business at a loss. Another, trading in *mayo* grown by soldiers in Owiny Kibul, Eastern Equatoria, complains of low profits.¹²⁵

The interviews Jovensia Uchalla conducted in Juba markets uncover the life histories of traders, transporters and millers. Most interviewees move into the grain trade after working in an even more difficult job, or because they have suffered a shock. One, for example, had worked in a warehouse in Kakuma refugee camp in Kenya, before getting a job in the grain trade through family connections. An interviewed miller had previously been a hunter, giving it up after a scary encounter with gunmen in a forest, while another was a former farmer who had had to give up his farm following confrontations with cattle-keepers. One interviewed trader had been a lorry loader who switched to trade after a work-related injury, while another, formerly a driver, who moved into trade after a terrible attack on his lorry in Yei. Others again had been clothes hawkers, charcoal cutters and lorry workers.¹²⁶

Such people are moving into the staple food trade due to demand for grain (probably rising during the conflict, and perhaps because larger traders with more to lose are

120 Irina Mosel and Emily Henderson. ‘Markets in crises: South Sudan case study’, HPG Working Paper, London: ODI, 2015, 11.

121 FSNWG, ‘East Africa Cross Border’, October 2019, 5–6.

122 FSNWG, ‘East Africa Cross Border Trade Bulletin’, Nairobi: FEWS NET/WFP/FAO, June 2016, 1; FSNWG, ‘East Africa Cross Border Trade Bulletin’, Nairobi: FEWS NET/WFP/FAO, October 2016, 3. Both accessed 17 December 2019, 23. ([https://fews.net/archive?f\[0\]=type:report&f\[1\]=field_report_type:59&f\[2\]=field_report_countries](https://fews.net/archive?f[0]=type:report&f[1]=field_report_type:59&f[2]=field_report_countries)).

123 FSNWG, ‘East Africa Cross Border Trade Bulletin’, Nairobi: FEWS NET/WFP/FAO, January 2017, 4. Accessed 17 December 2019, 23. ([https://fews.net/archive?f\[0\]=type:report&f\[1\]=field_report_type:59&f\[2\]=field_report_countries](https://fews.net/archive?f[0]=type:report&f[1]=field_report_type:59&f[2]=field_report_countries))

124 Mosel and Henderson, ‘Markets in crises’, 9–11.

125 Uchalla, forthcoming.

126 Uchalla, forthcoming.

retreating from the market, leaving a space for those with immediate livelihood needs. The data in Figure 7 only covers the period after the 2016 crisis, when the Transitional Government of National Unity collapsed in a palace shoot-out, and Ugandan imports collapsed (earlier data has not been published). While many questions as to accuracy can be raised, they do suggest that Juba’s grain and tuber trade requires traders who can manage highly volatile shifts in volume and price.

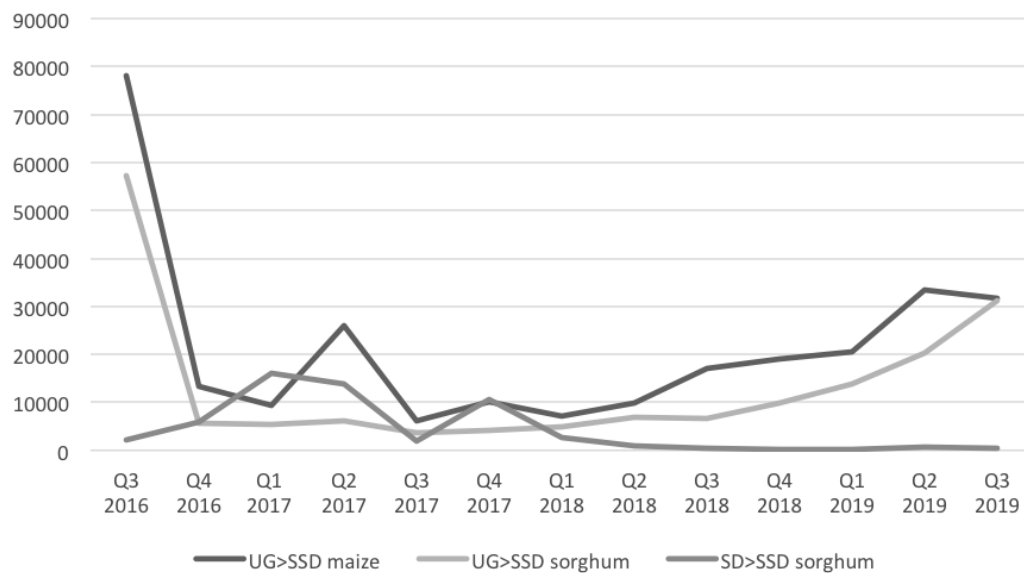


Figure 7. Maize and sorghum flows to South Sudan, 2016–2019¹²⁷

Grain imports and complicated neighbours

The politics of regional trade also affects tastes. South Sudan is now a major purchaser in East Africa’s regional grain market with, over the past decade or so, its grain shortfall filled by Sudan’s sorghum surplus and Uganda’s maize surplus. In contrast to most African countries, which have become food importers over the past forty years, Sudan and Uganda have both become exporters of staple foods.¹²⁸ The two countries are also major suppliers of food distributed through humanitarian programmes in South Sudan, with Sudan the world’s single biggest food supplier by volume to the WFP in 2017.¹²⁹

Sudan and Uganda are, however, complicated and interfering neighbours. During the 1990s, South Sudan was used as a battleground for a proxy war organized around the Sudan-backed Lord’s Resistance Army, and the Ugandan-backed Sudan People’s

¹²⁷ Compiled from: FSNWG, ‘East Africa Cross Border Trade Bulletin’, Nairobi: FEWS NET/WFP/FAO, January 2017/April 2017/July 2017/October 2017/January 2018/April 2018/July 2018/October 2018/January 2019/April 2019. Accessed 17 December 2019, 23. (https://fewsn.net/archive?f0=type:report&f1=field_report_type:59&f2=field_report_countries)

¹²⁸ Manitra A. Rakotoarisoa, Massimo lafrate and Marianna Paschali, ‘Why has Africa become a net food importer? Explaining Africa agricultural and food trade deficits’, Rome: FAO, 2011, 5.

¹²⁹ WFP, ‘Update on food procurement’.

Liberation Army. The brief war South Sudan fought with Sudan in 2012, following independence the previous year, reshaped its trading relations. After 2012, Sudan frequently cut off trade with South Sudan, pushing it towards increased dependence on Ugandan imports, which at the time were mainly maize. According to some observers, consumption of maize in South Sudan after 2013 almost equalled that of sorghum.¹³⁰

Sudan and Uganda have had an antagonistic relationship for much of the past three decades. At the start of the South Sudanese civil war, which began in 2013, Uganda was aligned with the government and Sudan with the opposition. After 2015, however, economic pressures on Sudan led to a rapprochement with Juba and its Ugandan backers.¹³¹

Since the beginning of the conflict, peace diplomacy has been directed by the Intergovernmental Authority on Development (IGAD), a regional body often beset by friction and rivalries. Ethiopia led the diplomacy until June 2018, when the country's new prime minister agreed to hand over mediation to Sudan and Uganda.¹³² In September 2018, the South Sudanese government and several rebel groups signed a Revitalized Agreement on the Resolution of the Conflict in South Sudan (R-ARCSS)—devised by Sudan and Uganda—in Khartoum.

Unlike Ethiopia, Sudan and Uganda—as South Sudan's two main grain suppliers—have significant economic interests in the country, and changes to the regional order are further likely to affect imports and tastes. In 2019, Sudan's engagement with South Sudan deepened after the fall of the former's National Salvation regime, which had ruled the country for thirty years. As a result, Sudanese exports, intermittent and sometimes illegal for several years after 2012, are likely to increase significantly. Thus, Sudanese sorghums may now displace the indigestible Ugandan sorghums that only a few years ago supplanted them in Juba markets.

The 2018 peace deal may also affect domestic production. At the time of writing, the transitional government envisaged by the 2018 agreement was emerging from a lengthy truce between the main warring parties. Local negotiations between representatives of these parties in places such as Western Bahr el-Ghazal are likely to have helped farmers return to their fields.

130 Dorosh, Rashid and van Asselt, 'Enhancing food security', 3.

131 International Crisis Group, 'Salvaging South Sudan's Fragile Peace Deal', Juba/Nairobi/Brussels: International Crisis Group, 2019, 8.

132 IGAD, 'Communiqué of the 32nd Extra-Ordinary Summit of IGAD Assembly of Heads of State and Government on South Sudan', Addis Ababa: IGAD, 24 June 2018.

6. Conclusion

From home-grown sorghum to imported maize

Sorghum is the grain of South Sudan's antiquity. It still provides most of the country's calories consumed, and the meaning and value of indigenous sorghum varieties span different social worlds. Quick- and slow-maturing indigenous varieties, resistant to drought or flood, allow cultivators to hedge against climate risks and make the most of South Sudan's diverse soils and ecologies.

Indigenous sorghum varieties also offer migrants and displaced people—often living in South Sudan's neighbours, or far from their home areas—the rural tastes and smells of home. These grains follow people into displacement, helping migrants remember and reconstitute their old lives. While the ritual role of indigenous sorghums is overlooked by many outsiders, alongside millet (another ancient grain), it can be seen to help those from agriculture- or pastoralism-associated communities celebrate or commemorate births, marriages and deaths, as well as relationships with nature and divinity.

Though South Sudanese cultivators and consumers are often nostalgic about indigenous sorghum varieties, this is not to say the country's food economy is hidebound by tradition. On the contrary, South Sudanese farmers adopted cassava and maize—American crops that had travelled from the Africa's eastern and western coasts—in the nineteenth century (perhaps even earlier). Today, South Sudanese people are again having to adapt to changes to their food, brought about their growing dependence on food markets.

Food markets do not always supply local indigenous varieties. Price is king, and food producers are orienting production towards high yields and high profits. As people switch to commercially successful maize and sorghum varieties, so tastes are changing. More maize and less millet is being eaten. Long-maturing sorghum varieties are being replaced by short-maturing varieties, which do not give the same depth of flavour or feeling of fullness.

These changing tastes are linked to changing systems of production. Over the past six or seven decades, grains and tubers—staple foods—have become commodities in South Sudan. Rather than relying on their own production and social networks, as many did in the past, people now buy and sell food in markets. Many inter-connected factors are contributing to these changes, including: population growth, displacement, militarization, migration and urbanization; conflict; climate; the spread of money; and the shift towards market exchange, with its laws of supply and demand, and price mechanisms.

As cities grow and market valuation triumphs over other systems of value, farmers come under pressure to increase and commercialize production. This in turn leads to them choosing high-yielding, quick-maturing grains and tubers that can turn a quick profit, or

save labour. In the process, the social and ecological dimensions of old systems of production and ancient grains are shifting shape.

South Sudanese farmers have worked hard to change agricultural practices to meet market demand. FAO estimates suggest that South Sudan's cereal area and production level doubled over a decade of peacetime agricultural expansion following 2000.¹³³ The population and cities have also grown, however, with poor transport infrastructure preventing most agricultural commodities from travelling far from the farm.¹³⁴ As a result, South Sudan has a cereal deficit, the roots of which lie in the country's twentieth-century wars. Imports from South Sudan's neighbours fill the gap between food needs and domestic food supply, creating dependency on cross-border trade and East African grain markets.

For the past few decades, South Sudan has been meeting its staple food deficits through imports. While humanitarian agencies provide some of these, outsiders routinely overestimate the importance of such supplies. Commercial imports likely play a much more important role. Food imports reflect South Sudan's international relations, its history of conflicts, and its current peace process. Uganda has overtaken Sudan as a supplier of basic foods, and Ugandan grains are rapidly changing tastes in Juba—people routinely substitute cheaper grains such as maize or red Ugandan sorghum for their favoured grains. Current developments in the peace process may, however, facilitate the return of commercial Sudanese sorghums.

Imports are also changing the regional grain market, with South Sudan now a key grain importer in a regional market supplied mainly by Sudan, Uganda and Tanzania. The availability of affordable surpluses in neighbouring countries is good news for consumers—in 2019, bumper sorghum harvests and falling currency values in Sudan probably eased people's lives. The flipside to this is that when grain is short and exchange rates unfavourable, the supply of imported grains may contract, and food crises may get enmeshed in currency crises. In Bentiu in 2016, the price of a *malwa* of sorghum went for the equivalent of USD 8. A *malwa* is a measure of volume equivalent to about 3.5 kilogrammes, meaning prices reached almost USD 2.5 per kilo, or USD 2,500 per metric ton.¹³⁵

South Sudanese sorghum fed Sudan during the vast famines of the nineteenth century, and the country could become a food exporter again. It is currently, however, undergoing a complex and poorly understood transition from a long-standing system of agricultural production, based around kinship and household consumption, to a new system based on markets. This transition is taking place during a period of great violence. South Sudanese households, experienced in heroic improvisation, will need to improvise new strategies in order to manage the uncertainties of grain supplies under the new system. As can be seen, people who risked their lives to preserve the flavours of their childhood are now changing their tastes under the pressures of the present.

133 Thomas, 'Moving towards markets', 60.

134 Thomas, 'Moving towards markets', 60, 65–69.

135 Caccavale and Giuffrida, 'The South Sudan Western Trade Corridor', 38.

Epilogue

South Sudan's food system in the time of COVID-19

The coronavirus pandemic (COVID-19) of 2020 is likely to have profound effects on stressed food systems in already hungry countries. Even before South Sudan reported its first COVID-19 case at the beginning of April, media reports indicated that the pandemic had led to restrictions on the movement of goods from neighbouring countries, which affected prices in markets across the country.¹³⁶ In Juba, the price of a kilo of maize flour increased from 159 South Sudanese Pounds (SSP) in April 2019 to SSP 298 in April 2020.¹³⁷ Import volumes have fallen by up to 50 percent.¹³⁸ At the time of writing, South Sudan faces the risk of a protracted pandemic with unpredictable consequences for cereal imports and domestic supplies.¹³⁹

Cereal imports make up a significant proportion of the calories consumed in South Sudan. These increased significantly in the years between the signing of the Comprehensive Peace Agreement (CPA) in 2005, which coincided with an oil boom, and the re-start of conflicts in 2012/13. South Sudan is sometimes seen as an outlier or an exception, but in many respects it exemplifies wider trends in the African continent. South Sudan's transition towards dependence on imported cereals reflects wider patterns, although its transition has probably happened at a faster pace. In 1980, Africa's food imports were worth about USD 7 billion: the same as its food exports. Over the next two decades, exports stagnated and imports grew. In 2007, The UN's Food and Agriculture Organization (FAO) estimated that imports exceeded exports by about USD 22 billion. Cereal imports made up almost half of the total.¹⁴⁰ In 2015, the African Development bank estimated that net food imports were at USD 35 billion, and that on current trends, net food imports would be worth over USD 110 billion by 2025.¹⁴¹

¹³⁶ 'Commodity prices rise in Bor town', *Radio Tamazuj*, Bor, 30 March 2020; 'Traders accused of hiking prices in Yei', *Radio Tamazuj*, Yei, 27 March 2020; 'Maridi traders warned against price hikes', *Radio Tamazuj*, Maridi, 27 March 2020; 'Nimule border closure causes increase in food prices', *Radio Tamazuj*, Nimule, 25 March 2020.

¹³⁷ 'Market Prices', dataset. Accessed on 22 April 2020. (<https://climis-southsudan.org/markets>)

¹³⁸ Elliot Vhurumuku and Lia Pozzi, 'COVID-19: Potential impact on South Sudan: A WFP analysis of the market and food security implications of the pandemic', WFP: Juba, 6 April 2020, 5.

¹³⁹ Maximo Torero Cullen, 'COVID-19 and the risk to food supply chains: How to respond?' Rome: FAO (29 March 2020).

¹⁴⁰ Manitra A. Rakotoarisoa, Massimo Iafate and Marianna Paschali, 'Why has Africa become a net food importer? Explaining Africa agricultural and food trade deficits', Rome: FAO, 2011, 1, 2.

¹⁴¹ 'Policy reforms urgently required for increased private investment in agriculture and agribusiness in Africa, says Blanke, 16 October 2017', African Development Bank. Accessed 14 April 2020. (<https://www.afdb.org/en/news-and-events/policy-reforms-urgently-required-for-increased-private-investment-in-agriculture-and-agribusiness-in-africa-says-blanke-17438>)

Food imports and global food price spikes

Import dependence exposes countries like South Sudan to international cereal and food price volatility. That volatility has increased significantly over the course of the twenty-first century. Figure 7 shows FAO's inflation-adjusted cereal price index over three decades.

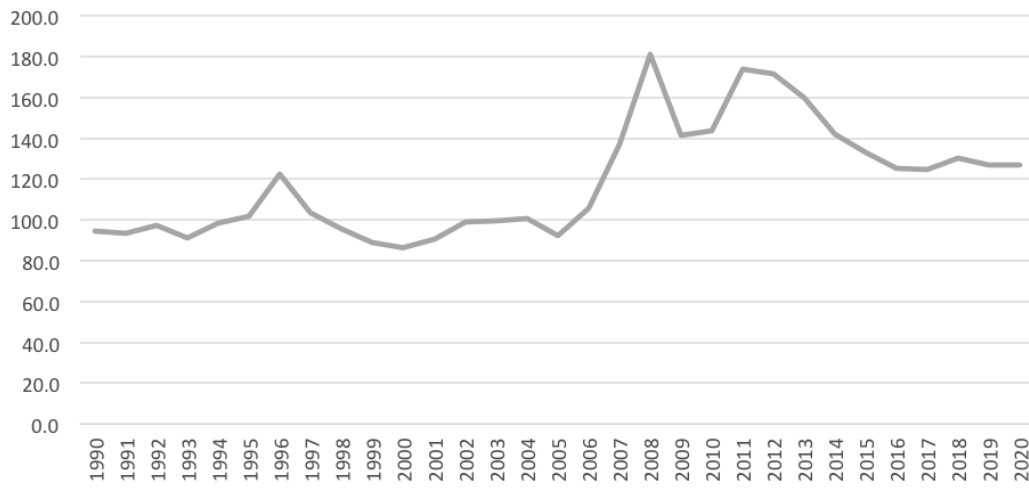


Figure 8: FAO cereal price index, adjusted for inflation. 2002-2004 price = 100¹⁴²

What effect did price spikes have on South Sudan? During the three peak (spike) years—1996, 2008 and 2011 (shown in Figure 7)—FAO and the World Food Programme (WFP) reported on prices in South Sudan. In 1996, present-day South Sudan was part of Sudan, and Sudan as a whole had an excellent harvest, despite the civil war in the south. In those days, the UN's capacity to monitor food prices in the south was limited. FAO reported that harvests were good in grain-producing areas of northern Sudan. But good harvests were not enough to keep hunger at bay in deficit areas, such as the south, because many Sudanese farmers with surplus production raised their prices to match international ones. In 1997, FAO wrote: 'Although supplies of sorghum are moving from surplus to deficit areas, prices are extremely high and out of the reach of sectors of the population with low purchasing power'.¹⁴³

A decade later the spike in food prices which peaked in 2007/2008 was linked to conditions in global commodity and financial markets, and to the global financial crisis that ensued. In South Sudan, the global cereal price increase was one of the main drivers of significant price increases for all food commodities in all markets. In October 2008,

142 Food Price Index, FAO, Accessed 13 April 2020, (<http://www.fao.org/worldfoodsituation/foodpricesindex/en/>)

143 FAO/WFP, 'Crop and Food Supply Situation in Sudan, 30 April 1997.' Accessed 13 April 2020, (<http://www.fao.org/3/w5088e/w5088e00.htm>)

prices for sorghum in Juba were about 50 percent higher than in October 2007. In Malakal, sorghum prices doubled over the same period.¹⁴⁴

The 2011 food price spike was implicated in the famine of the same year in conflict affected Somalia.¹⁴⁵ South Sudan's food prices increased dramatically too. But it is difficult to quantify the influence global cereal price rises had on South Sudanese prices, or to quantify the effect on South Sudan's already-precarious household food security. International prices were only one factor affecting domestic cereal prices in South Sudan: climate, conflict, currency crises and relations with Sudan were also influential. And just as the causes of food price inflation are multi-factoral, its effects are multi-dimensional. In 2008 and 2011, FAO and WFP reported that agricultural wages and livestock prices increased in South Sudan. In 2011, when households were asked to list the main shocks they face, 'food too expensive' was the most common response.¹⁴⁶

Food price rises and social unrest

Many African cities witnessed food riots during the price spike of 2007-2008.¹⁴⁷ In South Sudan, these food price spikes coincided with serious rural unrest. The 2008 unrest in Greater Upper Nile was linked to several factors. The government's violent, ill-sequenced, ethnically-targeted civilian disarmament campaign was the most visible factor. The disarmament took place in places of historic, structural food deficits, such as the Lou Nuer areas of northern Jonglei. Over decades of conflict, local people adopted new strategies for dealing with food deficits. One was the food market: Jonglei became highly dependent on purchased food, although it was a state where little money circulated. Another was guns and raiding, which became adjuncts to food production.¹⁴⁸

The 2008 global cereal price spike came at a bad time for Greater Upper Nile. Its version of unrest was very different from street protests that were simultaneously taking place the Tunisian mining region of Gafsa, the Cameroonian capital Yaounde and the Somali capital, Mogadishu. Instead, thousands of young men from one ethnic community launched devastating cattle raids against their neighbouring ethnic communities. The violence prefigured that of South Sudan's civil war, which began in 2013 and it seems likely that it was catalyzed by the effect of food price rises on deeply stressed food

144 FAO/WFP, 'Crop and Food Security Assessment Mission to Southern Sudan, 6 February 2009', Rome: FAO/WFP, 2009, 29, 35.

145 Kerren Hedlund, Nisar Majid, Dan Maxwell, and Nigel Nicholson, 'Final evaluation of the unconditional cash and voucher response to the 2011-12 crisis in Southern and Central Somalia, Report,' London: Humanitarian Outcomes, 2013, 1.

146 FAO/WFP, 'Crop and Food Security Assessment Mission to Southern Sudan, 6 February 2009', 7; FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 8 February 2012' Rome: FAO/WFP 2012, 35

147 Stijn van Weezel, 'Food imports, international prices, and violence in Africa', *Oxford Economic Papers*, 68/3 (2016); Julia Berazneva and David R. Lee, 'Explaining the African food riots of 2007-2008: An empirical analysis', *Food Policy*, 39 (2013)

148 Edward Thomas, *South Sudan: A Slow Liberation*, London: Zed, 2015, 211-260.

systems. During the global food price spikes of 2008, 2011 and today, hunger and unrest converge in food deficit areas like Jonglei.

Interpreting the violence in places like Jonglei is a challenge. The data does not show a simple, cause-and-effect relationship between food price shocks and social crises. Since the global cereal price spike of 2011, prices have been declining, and increasing the risks that international food markets may present to societies, like South Sudan, living through violent change. COVID-19 may yet bring these risks starkly into focus.

Food price rises and cash transfers

Since the shocks of the period from 2007-2011, the global cereal price index has seen sustained and marked decreases. In many countries, policy makers have pushed people towards dependence on cereal markets that are geared to international price mechanisms. The rise in cash transfers is one of the ways in which humanitarian agencies foster market dependence. In the whole of 2014, WFP distributed USD 1.3 million in cash transfers: in December 2019, it distributed USD 3.6 million in cash transfers in one month alone.¹⁴⁹

Part of the reason that cash transfers worked is that they were implemented during years of declining international cereal prices. This decline may have helped South Sudanese people deal with the dramatic increase in food insecurity resulting from conflict, food price inflation, and linked economic crises. Basic food commodities, priced in South Sudanese pounds, quickly became unaffordable. Cash transfers were able to help South Sudanese beneficiaries to manage food price inflation because they were backed by US dollars and rose in value as the South Sudanese pound fell. And in any case, international US dollar prices for those commodities were undergoing a decade of decline. A global price shock, triggered by the pandemic, may well upend this system. If local-currency cash transfers do not keep up with rising international prices, in US dollars, the utility of those transfers may come into question.

Potential consequences of COVID-19

Today, food insecurity is devastating South Sudan. This insecurity is linked to South Sudan's conflicts, but also to a less visible factor its move towards markets. Producing food for markets rather than for home consumption, turning food into a commodity and turning farmers into wage workers—all these shifts appear to be implicated in the country's hunger crisis.¹⁵⁰

149 Nick Maunder, Annemarie Hoogendoorn, David Coombs, George Fenton and Lia Carboni, 'South Sudan: An evaluation of WFP's Portfolio (2011-2016),' Rome: WFP, OEV/2016/013, 2017, volume 2, page 204; WFP, 'South Sudan Country Brief', Juba: WFP, January 2020.

150 Edward Thomas, 'Moving towards markets: cash, commodification and conflict in South Sudan', London: Rift Valley Institute, 2019

The move towards markets has acquired enormous momentum. Conflict intensifies hunger, displaces farmers, and accelerates the process. The civil war that began in 2013 has deepened food insecurity. In December 2011, the widely used Integrated Food Security Phase Classification found that 25 percent of the South Sudanese population faced crisis (Phase 3) or emergency (Phase 4) levels of food insecurity. In January 2020, 45.2 percent of the population faced crisis or worse-than-crisis levels of food insecurity, and that figure was projected to rise to 55 percent between May and July, the pre-harvest dearth.¹⁵¹

If there is a global cereal price spike in 2020, as a result of the COVID-19 pandemic, it may play out differently this time—global food stocks are high and this may cushion markets.¹⁵² FAO estimates that South Sudan’s 2019 cereal harvest, which forms the basis of 2020 consumption, was 818,486 metric tonnes (better than the previous two years). It estimates that the cereal deficit, which forms the basis of demand for imports, was 482,504 metric tonnes. Some of this deficit will be met by food aid—in recent years, WFP supplies have amounted to about half of FAO’s deficit estimates.

The deficit leaves South Sudan with a significant dependence on imported food. Most of its cereal imports come from the regional grain market, but that market is getting tighter and COVID-19 may accentuate this trend. According to FAO reports, East African regional food stocks were below average after the 2019 harvest: ‘Exportable cereal surpluses in the region were 18 percent below average, with Uganda’s production being 9 percent below average.’¹⁵³ During the pandemic, regional governments have indicated that they will allow commercial and humanitarian cargo to keep moving, despite current movement restrictions. However, grain prices in Juba rose by 20-36 percent in the last two weeks of March, with maize rising faster than locally produced sorghum.¹⁵⁴ Part of the reason for the rise in prices in March 2020 is decreased supply. Exports of Ugandan maize to South Sudan declined by 30-50 percent in the last two weeks of March. Initial reports suggest that traders and consumers were responding to decreased availability by decreasing consumption.

In February 2020, the World Bank published a cautiously optimistic forecast for South Sudan’s growth rates, based on increased oil production and regional growth. Economic growth, the Bank argued, might allow South Sudan to address the deep poverty which the conflict has helped create, and to finance its costly peace agreement—the government budget trebled relative to GDP in the financial year 2019-2020.¹⁵⁵

151 ‘IPC Analysis portal’ data search. Accessed 14 April 2020. (<http://www.ipcinfo.org/ipc-country-analysis/en/>); FAO, ‘South Sudan Situation Report – March 2020’, Juba: FAO 2020.

152 Cullen, ‘COVID-19’.

153 FAO, ‘COVID-19 Impact on Markets and Trade in South Sudan’, Juba: FAO (6 April 2020).

154 Vhurumuku and Pozzi, ‘COVID-19: Potential impact on South Sudan’, 5-7.

155 World Bank, ‘South Sudan Economic Update: Poverty and Vulnerability in a Fragile Environment’, Washington D.C.: World Bank, 2020, 8, 18.

The COVID-19 pandemic has upended those forecasts, and the linked steep decline in oil prices may yet affect the South Sudanese currency, and its ability to finance cereal imports. FAO reported in April 2020 that South Sudanese traders were unable to obtain sufficient foreign currency.¹⁵⁶ In contrast, some observers argue that cereal traders may no longer need foreign currency, pointing to the sharp decline in trade volumes.

If the market in imported cereals is depressed by movement restrictions and deepening poverty, could consumption needs be met by domestic production for domestic markets? Markets are the primary mechanism for dealing with this cereal deficit. Markets have steadily declined in relative importance as a food source. In the lean season of 2011, WFP estimated that 75 percent of sorghum was bought from markets: in the 2018 lean season, that figure dropped to 41 percent.¹⁵⁷ Market-dependent populations include the urban population and displaced persons and the populations of states where market transformation is advancing most quickly, such as Central Equatoria, Western and Northern Bahr el-Ghazal, Warrap and Upper Nile.

But domestic production for markets faces many challenges. Cereal deficits have risen during the conflict. Farmers displaced from border areas to Uganda began returning to their lands to cultivate earlier this year, but movement restrictions as a result of COVID-19 have put an end to that recovery. Unpredictable rains led to droughts and flooding in the last cultivation season, which affected production. A serious East African locust plague could hit South Sudan, with potentially devastating consequences.

Even if production increases this year, getting food to markets and market-dependent populations is an enormous challenge. Many farmers trade cereals, but they do so in small quantities and poor infrastructure means that South Sudan's domestic production does not circulate far from where it is produced. Small-scale farmers cannot ramp up production in a social vacuum: they need to mobilize wage labour and even sometimes rent land. Often the workers and land become available as a result of displacement: the process of commodifying land and labour has heavy social costs that are poorly understood.

Food aid is a secondary mechanism for dealing with food deficits. Only in a few areas where intense conflict interacts with structural food deficits, has food aid become the main mechanism for addressing food deficits in the pre-harvest lean season—areas like northern Jonglei are among the most food-insecure in the world (see map). But although food aid deliveries in South Sudan only provide about ten percent of calories consumed in the country, South Sudan is one of the world's biggest consumers already, in a year when these requirements are likely to rise. Any reductions in food aid due to COVID-19 will put pressure on stressed productions.

156 FAO, 'COVID-19 Impact on Markets and Trade in South Sudan'

157 FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 14 March 2019', Rome: FAO/WFP, 2019, 45-47; FAO/WFP, 'Crop and Food Security Assessment Mission to South Sudan, 20 February 2014', Rome: FAO/WFP, 2014, 41.

Conclusion

The COVID-19 pandemic presents a serious risk to food security in South Sudan. Food insecurity already has enormous social costs in violent areas such as Jonglei. And these costs could be aggravated in unprecedented ways if the population is exposed to the virus. At the moment, infection rates in South Sudan are among the lowest recorded in the world. But South Sudan has an exceptionally weak health infrastructure and many people are malnourished. Most deaths of children under the age of five happen in Africa, and respiratory infection is the biggest single cause of child death.¹⁵⁸ Many of these deaths are complicated by malnutrition or malaria.

South Sudanese food producers and consumers are moving towards markets. This shift is one of several causes of the country's deepening food insecurity. The processes of commodifying food, labour, and land creates winners and losers, and losers are likely to become more dependent on markets for basic foodstuffs, which are mostly supplied by regional producers. If imported food becomes unaffordable or unavailable as a result of the global COVID-19 pandemic, South Sudan's social crisis will deepen.

Hungry people without access to land or other productive resources may be forced to migrate in search of food or work or aid. People whose lives are immersed in informal urban economies, and landless rural workers, may need to reorganize their livelihoods dramatically to cope with food and health price inflation. Those with access to land may be tempted to disengage from food markets and focus on production for household consumption, particularly if South Sudan's trading infrastructure—its roads, transporters and markets—is compromised by economic disruption or fears of COVID-19 contagion.

If the availability of imported food decreases significantly, domestic food producers will need to increase supply to the food markets on which so many people depend. But this is not the only challenge that domestic food producers face. Many are reinventing themselves as commercial farmers, and reinventing food, labour and land as commodities. More understanding of the dilemmas and impossibilities faced by food producers and food consumers is an essential part of the response to this new crisis.

158 GBD 2013 Mortality and Causes of Death Collaborators, 'Global, regional, and national age–sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013', *Lancet* 385 (2015), 141; 'Number of deaths of children under 5', UNICEF dataset. Accessed on 16 April 2020. (<https://data.unicef.org/topic/child-survival/under-five-mortality/>)

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Rome: FAO/WFP, 2010.
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Rome: FAO/WFP, 2011.
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Rome: FAO/WFP, 2012.
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Rome: FAO/WFP, 2013.
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South Sudan's long wars have forced millions of people to leave their own homes, farms and pastures and move to unfamiliar new areas of the countryside, to refugee camps and cities. In the process, they have changed the way they get and eat basic foods. Many remember the tastes of the old days: flavourful, satisfying sorghums, millets and other staples like cassava, which are grown from local seeds at home—South Sudan is fabulously biodiverse, and has dozens of unclassified local seed varieties. Now, many eat blander grains like maize, purchased at markets. The displacement of millions of rural producers has made South Sudan one of the hungriest places on earth—and caused a chronic cereal deficit. Neighbouring countries with grain surpluses now supply a huge proportion of the grain calories consumed in South Sudan. *South Sudan's Changing Tastes: Conflict, displacement and food imports* explains how South Sudan's reliance on regional grain markets is shaping its international relations. But it also looks in detail at everyday life: how homegrown grains give South Sudan's diverse cultures flavours, memories, meanings and rituals.

