

SOMALIA

COUNTRY ECONOMIC MEMORANDUM

Volume I



OVERVIEW

Rebuilding Resilient and Sustainable Agriculture in Somalia



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WORLD BANK GROUP



Food and Agriculture
Organization of the
United Nations

SOMALIA: *Rebuilding Resilient and Sustainable Agriculture*

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ABBREVIATIONS

All currency is in U.S. dollars, except where indicated otherwise.

ARC	American Refugee Committee
DFID	Department for International Development
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FEWS	Food Early Warning System
FGS	Federal Government of Somalia
FSNAU	Food Security and Nutrition Analysis Unit
GDP	Gross Domestic Product
IDP	Internally Displaced Persons
IMF	International Monetary Fund
INDC	Intended Nationally Determined Contribution
IOTC	Indian Ocean Tuna Commission
NGO	Nongovernment Organization
PPP	Public-Private Partnership
SATG	Somali Agriculture Technical Group
SWALIM	Somalia Water and Land Information Management
UN	United Nations
UNFPA	United Nations Population Fund

FOREWORD

Following more than two decades of civil war, Somalia has made important progress in recent years with the establishment of permanent political, economic and security institutions. This points towards a future with stronger prospects for peace and for economic and social development. Agriculture remains key to the livelihood of half of Somalia's population that still lives in rural areas. It is also key to the country's food security and economic growth prospects. We are thus proud that the World Bank and the Food and Agriculture Organization (FAO) collaborated on this important report to assist Somalia in implementing the 2017–19 National Development Plan and to inform its forward policy planning and programming and that of its development partners.

The report canvasses all available information to document how Somalia's livestock and crops subsectors have been buffeted by deteriorating water and transport infrastructure, persistent insecurity, weak regulatory and enabling institutions, and severe environmental degradation of the country's rangelands and forested areas. Widespread losses to assets, income and livelihoods stemming from the current drought attest to the sector's acute vulnerability to extreme weather events and Climate Change. Moreover, coastal fishing has remained artisanal and, in the absence of effective regulations and monitoring, foreign commercial vessels have engaged in both legal and illegal harvesting.

Despite these and other challenges, this report highlights why there is cause for optimism in the sector's growth prospects. Somalia's landmass encompasses vast tracts of arable land and a variety of agroecological zones conducive to agricultural expansion. There are large areas suitable for livestock grazing, browsing, and fodder production to support the country's growing markets and export trade; others with fertile alluvial soils for staple cereals, oil seeds, legumes, and horticulture crops. Its forests provide prized gums and resins for both export and local markets and charcoal for cooking. The country's waters are home to a diverse range of valuable reef and pelagic marine species. With better monitoring, management, supportive public investments, and an enabling environment, the livestock subsector can become more resilient, improve the quality of its animals, and enhance the safety and value added of its products; the crop subsector can recover and surpass its remarkable pre-war production and export levels; and both coastal and offshore fisheries can contribute more meaningfully to sector growth.

Supporting the sector’s drought recovery, strengthening its climate resilience, and improving its overall performance will not only boost prospects for sustained economic development, but will also help cement peace and security, alleviate poverty and malnutrition, and enhance health outcomes in both rural and urban areas. It is therefore our hope that this report will help inform and guide Somalia’s federal and state governments and their international development partners as focus shifts from short-term recovery and humanitarian response to long-term development and sustained sector growth.

Finally, let us take this opportunity to thank the many Somalis — academics and officials — who participated with our technical teams in the research and in consultation and who helped us to better understand the challenges facing Somali agriculture and the opportunities to catalyze its growth.

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PREFACE

During the past 27 years of civil conflict, violence, weak or absent governance, and protracted political crises, governments and local communities have nonetheless tried to rebuild state capacity and institutions, improve security, rehabilitate physical infrastructure, and provide an enabling environment for the private sector, with the dual aim of reviving the economy and ensuring political stability. The northern regions of Puntland and Somaliland have been mostly peaceful and have continued their decades-old processes of state building and economic development. The Federal Government of Somalia that emerged in 2012 has succeeded in extending its territorial control in southern Somalia, though many areas of it are still affected by terrorist insurgency, especially outside the main urban centers of Mogadishu and Kismayo. It has also fostered the creation of new Federal Member States, held indirect elections for a new president, government, and parliament, and is growing its revenues from domestic sources, albeit from a negligible base.

Even during the period of civil conflict and in the absence of a central government, the Somali economy continued to grow at a modest pace. State collapse in southern Somalia did not translate into economic collapse partly because the prewar regime was predatory in nature. The lifting of state constraints on private enterprise led not only to improved economic performance but also to private sector provision of many services previously provided inefficiently by the public sector, including telecommunications, air transport, money transfer, and (inadequately) urban water, electricity, and social services. Other factors that have helped support the economy include remittances sent by a highly skilled diaspora; traditional institutions based on clan networks, which provided some degree of secured property rights and contract enforcement, even in conflict-affected southern Somalia; and booming informal trade with neighboring countries, which provided a new source of income.

Despite rapid urbanization, about 49 percent of the population (6 million people) still lives in rural areas, of which slightly more than half derive their livelihood directly from nomadic pastoralism, slightly less than half from crops cultivation, and a much smaller share from fishing. The welfare of the remaining urban or internally displaced population also depends critically on the consumption and trade of Somalia's livestock and related products, of its crops, and of its fisheries. The premise of this report—like much of the work of international development agencies active in the country—is that a growing economy is a critical element of peace building and state building. Indeed, development and jobs can contribute to improving the security situation and create incentives for political settlement. With agriculture remaining central to the country's economic growth prospects, now is a propitious time for all levels of government and the international development community to assess the medium- and long-term development needs of its agricultural subsectors and start planning to address them.

In recent years, the Food and Agriculture Organization (FAO), various other development agencies, and the World Bank produced reports covering a range of issues including macroeconomic management, intergovernmental fiscal relations, economic growth opportunities, and agriculture. The most recent comprehensive analytical work on Somalia's economy, however, was carried out more than 10 years ago, when the World Bank prepared a Country Economic Report and a Joint Needs Assessment (with the United Nations Development Programme). Both reports covered the agricultural sector's performance and challenges (World Bank 2006; World Bank and UNDP 2007).

This report was prepared jointly by the World Bank and the FAO Investment Centre, with critical inputs by the FAO Somalia Office, and with the support in-country of the Federal Government Ministry of Planning, Investment and Economic Development as well as of sector ministries and sub-national governments. It represents the first module of a broader analytical work planned by the World Bank for a Country Economic Memorandum (CEM) expected to be completed in 2018. As envisioned, subsequent modules of the CEM will cover the information and telecommunications, energy, financial, and transport sectors and several cross-cutting topics, including macroeconomic management, institutions, the diaspora, trade, and the private sector. This module assesses, across all major geopolitical regions of Somalia, the contributions to livelihoods, exports, and economic growth of the primary agricultural subsectors (livestock, crops, forestry, fishery and agro-processing) during the period from before the civil war through the mid-2010s. It also analyzes the major constraints, challenges, options, and prospects for agricultural growth. It does not, however, address the short-term impact of the severe drought that hit northwestern Somalia in 2015 and then moved southward in 2016–17, which is the focus of a separate report (Somalia 2018). Moreover, the limited availability and sometimes inconsistency of the data, especially for the fishery subsector, greatly constrained the quantitative analysis carried out for this report. A standalone overview has been produced which provides a summary of the key findings and recommendations of the report.

It is nonetheless the authors' hope that the information and analysis presented will inform the further elaboration (through sector strategies and programs) and implementation of the National Development Plan 2017–19 and will contribute to the preparation of the next National Development Plan. The report should also support further primary data collection, the formulation of investment projects for agricultural development, and the provision of other financial and technical assistance by the international development community and private sector investors, including the Somali diaspora.

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Core authors from the World Bank include Gianni Zanini, Stephen Paul D'Alessandro, Verena Phipps, and Catherine Ngumbau. Core authors from FAO include Pascal Sanginga, Julia Seevinck, Yamina Cherrou, Andrew Read, and Stephen Akester. Other key contributors from both the World Bank and FAO include Mohamood Abdi Noor, Hussein Mao Haji, Richard Trenchard, Sergio Innocente, Jan Helsen, Saeed Khalid, Malik Amin, Molla Daniel, Njeru Jeremiah, Julius Mwangi, and Laxman Reddy. The team appreciates contributions from the Somalia Water and Land Information Management (SWALIM) and the Food Security and Nutrition Analysis Unit (FSNAU).

World Bank peer reviewers including Teklu Tesfaye (Senior Agriculture Specialist) and Charlotte De Fontaubert (Senior Fisheries Specialist) as well as many other staff from the World Bank and FAO reviewed the final draft report and early versions of the sectoral chapters, and provided valuable contributions that improved the final report quality.

The team is grateful for the support and strategic guidance provided by the World Bank and FAO management, in particular Bella Bird (Country Director, World Bank Somalia); Daniele Donati (Country Representative, FAO Somalia); Abebe Adugna (Practice Manager, World Bank); and Hugh Riddell (Country Representative, World Bank Somalia). Kevin Carey (Practice Manager, World Bank); Mark Cackler (Practice Manager, World Bank); and Gayle Martin (Program Leader, World Bank).

Barbara Karni edited the report volumes and Susan Wangui provided design and layout. Hassan Hirsi and Chi Lael led communication and media related tasks in dissemination of the report. Janerose Lubisia, Eugenia Konya, Margaret Odhiambo, Celestine Kisaka, Mohamed Abdi, and Idris Mohamud provided overall dissemination planning and logistics.

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OVERVIEW



This joint report by the World Bank and the Food and Agriculture Organization (FAO) is part of a wider set of economic and sector work being conducted by various development agencies to assist Somalia in its elaboration and implementation of its 2017–19 National Development Plan and its preparatory work (scheduled to start in 2018) on the next National Development Plan. Despite often poor data availability, the report’s ambition is to assess the medium- and long-term performance of the main agricultural subsectors (livestock, crops, forestry, and fishing), including agro-processing, and their contributions to livelihoods, exports, and economic growth across all geopolitical regions. The report also analyzes the sector’s major development constraints, challenges, potential for growth, policy and institutional reforms, and investment options. The report does not address in any detail the short-term impact of the severe drought that started to affect Somaliland in 2015 and then extended to the rest of the country in 2016–17. That issue is the focus of the *Drought Impact Needs Assessment*, released in January 2018.

The premise of this report is that a growing economy is a critical element of peace building and state building. Weak institutions, insecurity, a persistent insurgency, dilapidated infrastructure, environmental degradation, and climate change are major obstacles to Somalia’s economic development, especially in the southern regions. These challenges, a mostly arid and semiarid climate, and severe drought-related crises in 2011 and in 2015–17 notwithstanding, agriculture is and will remain central to Somalia’s economic development. Supporting the sector’s recovery from the recent drought, strengthening its resilience to increasingly frequent and severe weather shocks, and improving its overall performance will not only strengthen the basis for sustained economic development, it will also help cement peace and security, alleviate poverty and malnutrition, and enhance health outcomes. Beyond responding to short-term emergencies requiring humanitarian assistance and recovery plans, it is thus critical that the federal and state governments in Somalia and their international partners also focus on the medium- and long-term development needs of the economy, particularly the agriculture sector, so that they can start planning suitable programs and projects, adopting good policies, and mobilizing the resources needed to implement them.

Agriculture Remains Key to Somalia’s Economic Growth and Poverty Reduction

Somalia’s agriculture sector faces tremendous challenges. Its livestock and crop subsectors have been buffeted by the increasingly fragile and degraded natural environment, by more frequent and extreme cycles of drought and floods related to an intensifying climate change, and by the lack of research and extension services. Crop production has been particularly severely affected by these factors, as well as by

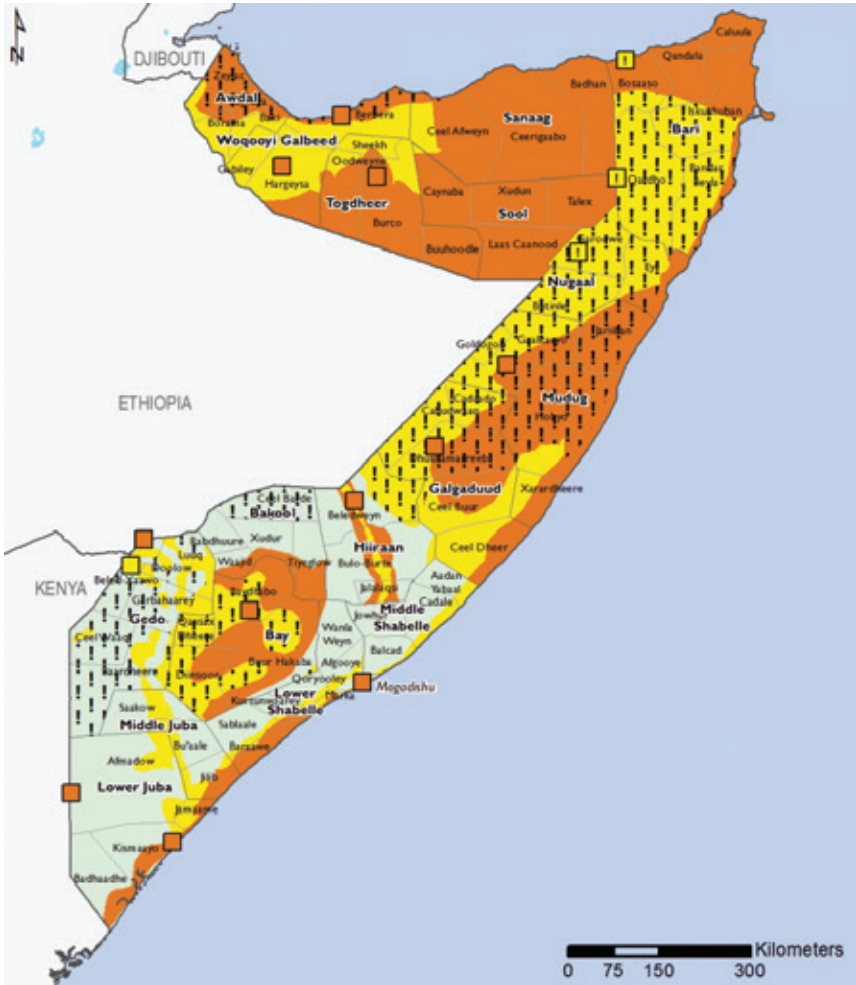
the continuing insecurity; lack of or weak government institutions; and consequent deterioration of the flood control, irrigation, and transport infrastructure in the southern regions.

Somalia was almost self-sufficient in cereals in the late 1980s; since the civil war reached southern Somalia in 1990, however, it has become a chronic food crop deficit country. In recent years (before the latest drought), food aid and food imports were larger than domestic production of grains, which covered only about 22 percent of cereal needs on average; even in the best agricultural seasons, it covered no more than half. In early 2015, before the most recent drought started affecting the northwestern regions, 17 percent of the country's population was undernourished and in urgent need of food aid. By the end of October 2017, after various failed rainfall seasons, about half the country's population (some 6.2 million people) was in need of humanitarian assistance, with about 3.1 million severely food insecure. Thanks to continued large-scale humanitarian assistance and heavier rain (though still below normal in many areas) during the *Deyr* (October–December) 2017 season, food security has improved and the risk of famine has declined. Nonetheless, as of end-January 2018, poor pasture and water conditions still persisted in some pastoral livelihood zones in northern and central Somalia and parts of the Gedo region, and most areas of Somalia were still classified as stressed (2.8 million people) or in crisis (1.5 million people) (figure 0.1).

Despite the tremendous challenges faced over the past three decades—and those that loom ahead—the livestock and crop subsectors remain the main sources of economic activity, employment, and exports for Somalia. They are therefore critical to its economic recovery and long-term development. The country's vast landmass possesses a variety of agro-ecological zones that can support expanded and more efficient production for both domestic and export markets (figure 0.2). Large areas are suitable for grazing, browsing, and fodder production for livestock. Areas with fertile alluvial soils are suitable for staple cereals, oil seeds, legumes, and horticulture crops. Forests still provide gums and resins for both export and local markets and charcoal for cooking.

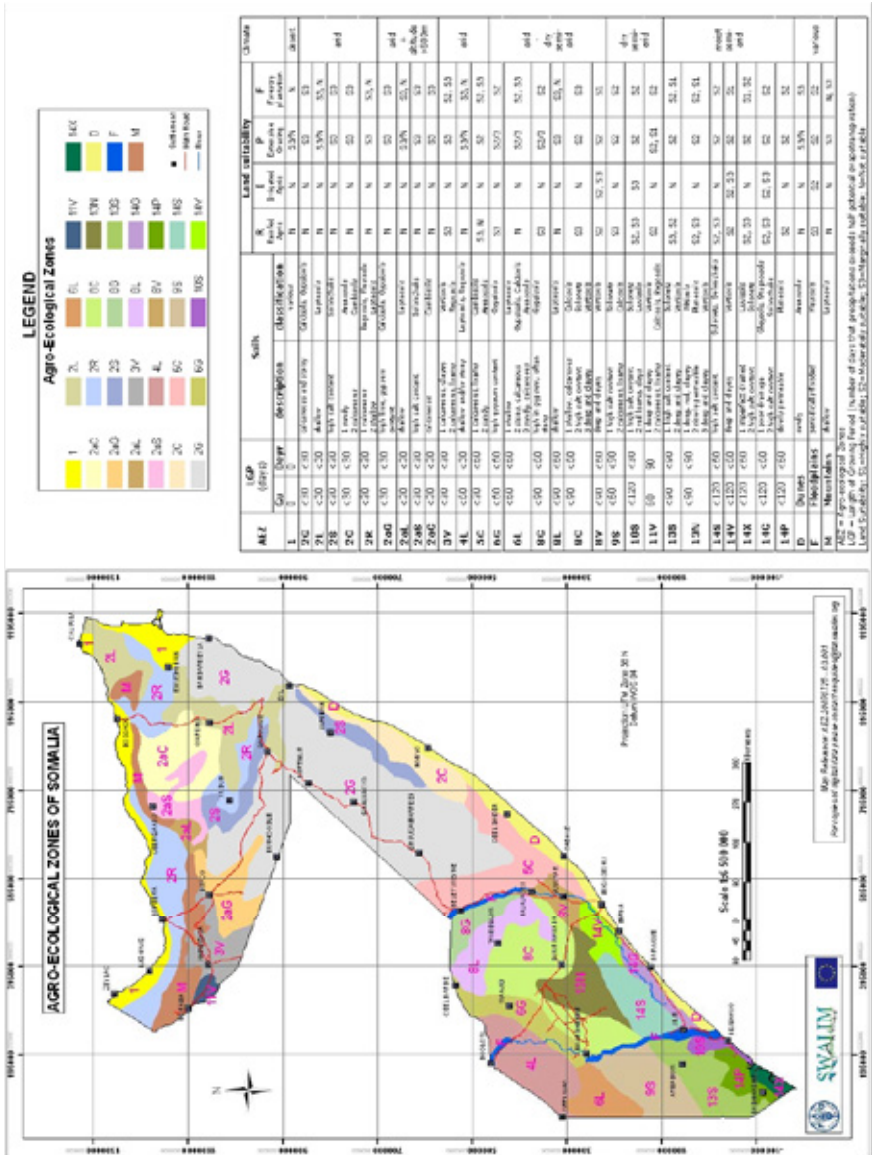
Furthermore, the waters along Somalia's long coast are home to numerous valuable reef and pelagic (highly migratory) marine species. While coastal fishing has remained small-scale and artisanal, in the absence of effective regulations and monitoring foreign commercial vessels have engaged in both legal and illegal harvesting. With better management, both coastal and offshore fisheries have good potential to grow.

Figure 0.1: Somalia Food Security Map, by Livelihood Zone, January 2018



Sources: Food Early Warning System (FEWS) (<http://www.fews.net/east-africa/somalia/key-message-update/january-2018>);
 Note: The Integrated Phase Classification (IPC) is a tool for classifying the food security and nutrition situation. It is based on indicators such as the food consumption, food access, livelihood change, nutritional status, food utilization, and hazards and vulnerabilities of the population.

Figure 0.2: Agro-ecological and livelihood zones of Somalia



Source: SWALIM, reported in FSNAU 2015

Somalia has five diverse livelihood systems: pastoralists, agro-pastoralists, fishing and coastal communities, urban population, and internally displaced people.

About 49 percent of the population still live in rural areas. About 46 percent of employed people work in agriculture, 25 percent in crop cultivation, 9 percent in herding, 4 percent in fishing, and 7 percent in related activities (such as forestry and agro-processing).

Pure pastoralists (about 26 percent of the total population) are found in all rural areas of Somalia.

Most of them are poor and nomadic. Agro-pastoralists (about 23 percent of the population) depend on both settled crop production and livestock rearing (or only crop production). Most of them live along or between the two major rivers in southern Somalia, although some live in the parts of the southern and northwestern regions with underground water and high annual precipitation. Average holdings of banana, lemon, grapefruit, and papaya plantations are 20, 14, 10, and 0.5 hectares, respectively. Most cereal and sesame production, however, is undertaken by small-scale farmers with land holdings of 2–5 hectares; most other crop production is undertaken by subsistence farmers with an average of only 0.2–3 hectares of land (and very few animals). Farmers in this group are usually trapped in a poverty cycle, without the capacity or resources to increase production or modernize their farming practices. Sparsely populated coastal communities rely mainly on artisanal fishing.

People living in cities and towns represent more than 42 percent of the population.

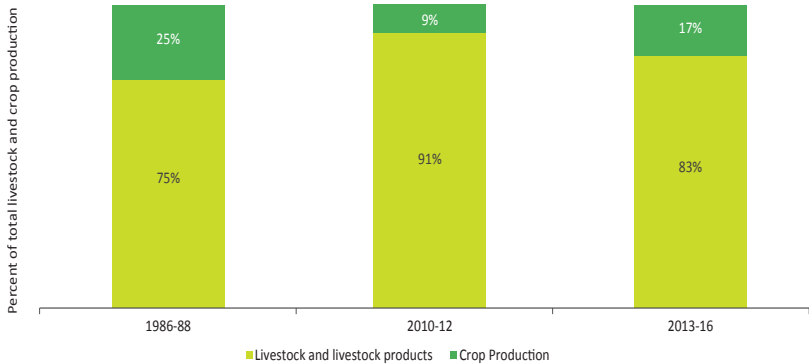
They are net food buyers who depend largely on income from the informal sector, trade, casual labor, and remittances. A legacy of the civil war is a large group of internally displaced people (about 9 percent of the population), most of whom live in acute poverty in urban centers and nearby refugee camps. They are almost totally dependent on international relief assistance and food aid.

The agricultural sector's contribution to the economy remains unknown, because of lack of reliable and consistent data across all products for output, farmgate prices, and input use.

Largely because of the dramatic increase in the relative importance of livestock production and exports, the combined share of the four main agricultural subsectors (livestock, crops, forestry, and fishery) is guesstimated to have risen significantly from its prewar level of about 62 percent of GDP to about 75 percent (and possibly even higher). Before the civil war, the crop subsector was the second-largest contributor to GDP and exports (after livestock). It remains crucial for food security, but its contribution to the economy is much smaller than it was, because cereal output declined by almost 60 percent from its 1989 peak.

More reliable than these guessestimates of GDP shares is the dramatic expansion of the relative importance of the livestock subsector, which rose from 75 percent of sector production in the late 1980s to 83 percent in the mid-2010s. Over the same period, the crop subsector dropped from 25 percent of sector output to 17 percent (figure 0.3).

Figure 0.3: Relative Shares of Livestock and Crop Production in Somalia, 1986–88 to 2013–16



Source: Somalia 1989 (official National Accounts for 1977–88), FAOSTAT for 2010–12, and Somalia 2018 for 2013–17.

In the first half of the 2010s, agricultural exports represented 93 percent of the country’s total exports, only slightly lower than the 95 percent share before the war. Annual agricultural exports climbed every year since the late 2000s, to a peak of \$634 million in 2015—more than five times the value before the civil war. The increase, however, largely reflected strong livestock export growth (mostly for slaughter but also for breeding). These exports peaked at \$533 million in 2015, almost 10 times higher than their level in the late 1980s. In contrast, crop exports are a fraction of what they were before the civil war. As a result of such record performance of livestock exports and the collapse of banana exports (once a close second item by value), by the mid-2010s the livestock subsector accounted for about 84 percent of total export earnings, up from 53 percent in the late 1980s (table 0.1). Because of the recent drought and a renewed import ban by Saudi Arabia, the volume of livestock exports fell in 2016 and 2017.¹

¹ Value data from COMTRADE for 2016 are still incomplete and thus not comparable to those for previous years. Furthermore, there is a large unexplained divergence between export totals based on product-by-product and country-by-country statistics captured by the UN Common Format for Transient Data Exchange (COMTRADE) on the one hand and export totals based on only country-by-country aggregate flows captured by the IMF on the other.

Table 0.1: Somalia's Top 15 Agricultural Exports, 1981–2015
(millions of dollars, annual averages)⁶

Product Description	1981-85	1986-90	1991-95	1996-2000	2001-05	2006-10	2011-14	2015
Live animals chiefly for food	88.4	55.7	66.6	72.9	76.7	126.3	377.1	493.9
Animals, live, zoo animals, dogs, cats	0.0	0.0	4.2	6.5	0.6	5.2	42.8	38.7
Oil seeds and oleaginous fruit	0.0	0.7	0.1	1.0	2.1	6.2	40.0	34.3
Cork and wood	0.1	0.0	1.1	6.9	16.1	31.0	25.0	0.0
Hides, skins and furskins, raw	3.9	5.3	2.4	2.3	6.6	8.7	8.6	3.8
Crude animal and vegetable material	4.8	7.1	3.8	3.0	3.3	5.2	6.0	20.7
Vegetables and fruit	14.7	29.5	5.0	7.2	0.6	4.5	5.9	4.9
<i>Of which: Bananas, fresh or dried</i>	13.8	28.1	4.3	6.6	0.0	0.0	0.0	0.6
<i>Other citrus fruit, fresh or dried</i>	0.1	0.1	0.7	0.0	0.1	0.6	4.5	4.0
<i>Other vegetables & fruits</i>	0.5	0.8	0.6	0.5	0.5	4.0	1.3	0.3
Cereals and cereal preparations	0.0	0.0	0.0	1.0	4.7	0.2	4.8	0.1
Meat and meat preparations	0.1	0.0	0.1	1.7	7.5	13.2	4.0	9.6
Fish, crustaceans, molluscs, preparation	2.1	9.0	10.1	8.1	18.3	7.6	3.6	27.8
Dairy products (all)	0.0	0.0	0.1	0.3	1.2	0.4	0.2	0.0
Fixed vegetable oils and fats	0.2	0.1	0.0	1.3	1.6	0.1	0.0	0.1
Sugar, sugar preparations and honey	0.7	1.5	0.2	0.1	1.9	0.3	0.0	0.0
Animal-vegetable oils-fats, processed	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0
Animal oils and fats	0.0	-	0.0	0.0	0.1	0.0	-	0.0
Total (Top 15 agric exports)				115.0	109.0	93.7	112.3	141.1
Total Agric Exports	115.0	109.0	93.7	112.3	141.1	208.9	518.1	634.0
Total Exports	119.6	114.3	102.5	119.9	169.5	282.5	559.1	688.5

Source: Partner country data from UN COMTRADE.

Recorded exports of sesame seeds fell back to about \$34 million in 2015, after reaching a peak of \$40 million a year (mostly to India), although major Somali exporters believe that these figures grossly underestimate actual export revenues. Given the collapse of banana exports, dry lemon exports are the only sizable component within the vegetables and fruits export category, whose combined export value is only about 20 percent of prewar levels. While still in third place (at about \$21 million a year in 2015), destructive charcoal exports to the Arabian Peninsula have fallen by one third from the average annual level of \$31 million during 2011–14. This decline coincides with the enforcement by the federal and state governments of the export bans they adopted in 2012. (Some illegal exports still take place, however, through informal channels and misclassification of shipments.)

Since the late 1980s, there has also been a steady increase in agricultural imports, mostly food. The value of food imports rose by a factor of 18, reaching almost \$1.5 billion in 2015, up from an annual average of about \$82 million (table 0.2).² Imports of food grain already exceeded domestic production before the current drought. Increased domestic demand for food (mostly for cereals, sugar, and other processed foods) and the collapse of domestic staple crop production are the two key factors behind the massive increase.

Another striking trend is the jump in recorded imports of *khat*, a mild stimulant imported by air from Ethiopia and Kenya. *Khat* has deleterious side effects on health, labor productivity, and socioeconomic activities. Largely financed from remittances, *khat* imports experienced another large jump in the early-mid 2010s. Since 2011 *khat* imports have been increasingly disguised under the code for other vegetables and fruits.

Qualitative studies and anecdotal evidence strongly suggest that Somalia has also become a major informal supplier of cattle and charcoal to large parts of the Horn of Africa and a reexporter of sugar, pasta, and electronics, among other commodities subject to high import tariffs in neighboring countries. This formal and informal trade expansion was facilitated by the growth in telecommunication and money transfer services, which have supported deeper domestic, cross-border, and international market integration despite highly insecure conditions in southern Somalia. The country has become a de facto duty-free zone and a critical part of a regional trade network spanning from Dubai (a critical supply and finance center for Somali businessmen) to Ethiopia and Kenya.

² See previous footnote for data problems. For instance, total imports (including nonfood nonagricultural imports) from Somalia were \$2,143 million in 2014 according to the COMTRADE data but \$3,482 million according to the balance of payments statistics in the latest IMF report (IMF 2016).

Table 0.2: Somalia's Top Agriculture Imports, 1981–2015 (millions of dollars, annual averages)⁷
(millions of dollars, annual averages)

Product Description	1981-85	1986-90	1991-95	1996-2000	2001-05	2006-10	2011-14	2015
Vegetables and fruit	2.6	2.9	6.7	2.0	3.4	94.2	386.6	552.1
Cereals and cereal preparations	63.0	40.3	32.8	38.1	51.7	132.7	293.7	313.9
Sugar,sugar preparations and honey	4.5	3.2	17.9	37.6	55.9	93.8	160.6	187.7
Live animals chiefly for food	0.0	0.0	0.0	-	1.2	9.4	93.1	147.7
<i>of which: Poultry</i>	0.0	0.0	0.1	0.0	1.8	0.6	0.5	3.4
Miscel. edible products and preparation	1.3	6.3	1.9	0.7	6.2	15.3	65.3	51.6
Dairy products (all)	15.9	5.9	2.4	1.7	4.7	16.2	62.0	82.0
Tobacco and tobacco manufactures	4.5	4.0	7.7	15.8	33.9	38.9	57.0	18.1
Fixed vegetable oils and fats	15.9	9.3	6.1	8.6	13.9	31.0	52.9	76.8
Cork and wood	1.6	2.8	0.2	0.1	0.3	1.0	8.3	5.9
Fish, crustaceans, molluscs, preparation	0.2	0.0	0.2	0.1	0.6	2.9	8.2	13.9
Crude animal and vegetable material	0.2	0.2	1.7	11.8	25.4	75.6	8.1	2.4
<i>of which: Raw vegetable matter</i>	0.2	0.2	1.7	11.8	25.4	75.6	8.1	2.4
Cork and wood manufactures (excl. fu	1.4	1.8	2.6	0.3	0.2	4.2	7.6	16.6
Paper, paperboard, artic. of paper, pap	3.8	3.6	0.7	1.0	1.0	2.1	6.8	16.9
Beverages	1.0	0.7	2.0	0.6	1.0	4.4	4.7	7.2
Coffee, tea, cocoa, spices, manufacture	2.2	1.0	1.7	3.5	2.6	4.1	2.3	3.4
Poultry products (eggs)	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.5
Total (Top 15 agric imports)	118.1	82.0	84.7	122.0	201.9	525.9	1,217.9	1,496.8
Total imports	297.9	279.1	144.2	167.1	288.1	719.7	1,674.9	2,358.0

Source: Partner country data from UN COMTRADE.

Poor Infrastructure and Low Skills Hold Back Agricultural Development

Somalia's central and northern rangelands receive little rainfall and have few permanent springs. Water has therefore always been one of the main sources of conflict between nomadic pastoralists and agro-pastoralists. Even in the fertile areas of southern Somalia blessed with more abundant rain and river water, the struggle over both land and water resources between pastoralists and settled farmers has been one of the major factors behind the almost three-decades-long civil war.

All infrastructure to harness river water and rainwater and extract groundwater has severely deteriorated since the outbreak of the civil war in the southern regions, as a result of lack of regular maintenance and repairs, prolonged insecurity, weak government institutions, and the absence of effective community organizations. The already insufficient prewar road network is also in extremely poor condition. Water and road infrastructure are still functional and gradually expanding in the northern regions, but they are far from adequate to meet needs. Without large-scale rehabilitation and new investments in water and road infrastructure and better management, the scarcity of water for sustaining livestock, raising crops, and serving household needs will only worsen. These problems will only worsen as population growth and associated demand for water intensify.

Livestock herders rely mostly on rainfall harvested by an extensive network of reservoirs (berkads), which often become silted during the dry seasons and thus need regular desilting. During longer, more severe dry seasons, herders move closer to the Juba and Shabelle river. Both rivers have experienced great seasonal variation. At times they have broken through their weak embankments, causing major flooding to the adjacent villages and beyond; at other times they have dried up completely. With much of livestock watering infrastructure in disrepair, animal survival during severe droughts has become dependent on very costly and often unaffordable privately-owned water trucking services. The share of grazing areas severely or moderately affected by the recent drought reached peaks of more than 90 percent in the inter-riverine and Juba valley regions in the most recent *Deyr* season. Fewer grazing areas were affected during the mid-2017 *Gu* season, but the drought has had a very large adverse impact on livestock mortality and health as well as on productivity.

For reasons similar to the ones listed above, Somalia's extensive prewar network of crop-related flood control and irrigation infrastructure, as well as the road network, are also in extremely poor condition. The few modest donor-funded cash-for-work rehabilitation efforts of some irrigation canals and feeder roads have

had very little impact. Most of this infrastructure is not functioning. As a result, the cultivated area under irrigation has shrunk to only about half the estimated 222,950 hectares before the war (split almost equally between land under controlled irrigation and land under flood-recession irrigation), with the most recent drought reducing it even further. At the same time, deteriorated rainwater harvesting infrastructure and capacity have reduced the total rainfed area under cultivation. Access to urban markets has become very costly, and sometimes very difficult, for producers and traders, especially for horticulture crops.

Postharvest losses are substantial across the country. Average annual cereal losses in southern Somalia are estimated to be on the order of 50,000–80,000 tons, valued at \$15–\$20 million, representing about 20–30 percent of the harvest. According to the Somali Agricultural Technical Group (SATG), the losses associated with traditional storage systems such as underground pits are significantly higher (40 percent) than losses associated with downstream harvesting, transportation, and drying (20 percent). The traditional underground storage pits lined with clay are highly prone to moisture contamination, particularly during the rainy season, and contamination from aflatoxin, other bacteria, and fungi. The health hazards—including stunted growth, delayed development, and liver damage and cancer—have even more serious effects than the economic loss. These postharvest losses for producers and health hazards for consumers can be mitigated by widespread rehabilitation of underground storage pits and adoption of household metal silos produced by local artisans and recently introduced by SATG, each holding 120–250 kilograms of grain (figure 0.4).

Figure 0.4: Postharvest Grain Storage Pits and Metal Grain Silos



On the positive side, the large geographical coverage of mobile phone services has allowed remote communities to communicate directly with nearby urban markets about input and output prices. It also facilitates the receipt of remittances from the diaspora, the payment of all kinds of purchases, and the use of updated information on domestic and international political and economic developments and the availability of local services.

In the past two decades, a number of community and privately supported technical schools and universities have been established. Some of them offer degree programs in livestock, crops, and fishery sciences. So far, these efforts have been inadequate to ease the acute scarcity of skilled personnel, including for agricultural development.

Weak Security and Institutions Undermine Recovery

The long civil war resulted in extreme lack of security in southern Somalia. Armed militias with little farming skills and experience continue to occupy prime farmland in the Lower Shabelle region. Political and taxation control over much of the riverine and inter-riverine areas is still being contested by Al-Shabaab, a terrorist insurgency movement, and the national army (supported by a peace-keeping contingent from the African Union). Continuing insecurity makes access to farms and markets risky, costly, and unprofitable. It also makes interventions by aid agencies extremely challenging.

There is a lingering vacuum in the policy functions, monitoring, and services normally provided by government. Ministries at the federal and state level are capable of providing agricultural services only in southern Somalia—and even there only in a very limited, fragmented, and inefficient way, because of limited skilled staff, funding, and access to most rural areas. Grazing disputes between pastoral communities have become more common since the collapse of the pre-civil war government. Recent expansion of private enclosures on traditionally open rangelands, especially along livestock migration and transport corridors and urban centers, has exacerbated tensions. Even in the more secure northern regions, neither government nor community institutions appear capable of dealing with such disputes.

A complete registry of farms survived the civil war, thanks to a prescient former ministry official, who safeguarded it from the looting that was rampant after the collapse of the Siad Barre regime. For a fee, he provides farmers with copies of their land records, which they can use as proof of ownership in case of land disputes. The time has come, however, for the Federal Government of Somalia to reclaim these

important records and properly manage new requests for land titles.

Even with documentary evidence and rulings, however, landholders who left their farms in the Lower Shabelle region during the civil war are still unable to reclaim their land, because of insecurity, weakness of traditional arbitration, and the absence of modern judicial institutions. In contrast, there are very few farmland disputes in the northern regions, because prewar landholdings in Somaliland and Puntland were never disrupted and their ministries of agriculture issued proper lease certificates for newly allocated farmland (mostly to new, small farmers).

The knowledge vacuum created during the long civil war was partly filled by specialized agencies and programs of international development organizations, such as the Somalia Water and Land Information Management (SWALIM), the Food Security and Nutrition Analysis Unit (FSNAU), and the Somalia Food Early Warning System (FEWS), which monitor water and land availability, food security, and prices. With support from external donors, local and international nongovernmental organizations (NGOs), professional associations, and the private sector have also stepped up to provide some services, such as vaccinating livestock; digging wells and water storage systems; training people in agriculture, livestock, and fishery; distributing seeds, fertilizer, and tools to farmers; rehabilitating flood control and irrigation infrastructure; building agriculture markets; and rehabilitating fish landing sites.

Narrowing Gender Gaps Would Benefit Agricultural Growth and Food Security

Men and women in pastoral and agro-pastoral communities maintain a well-defined, synergistic partnership in livestock and crop production activities. According to the FAO, women account for about 45 percent of people involved in livestock management and crop and natural resource harvesting. In the livestock subsector, men and boys are responsible for most activities related to camels, including buying, owning, grazing, milking, slaughtering, and selling them. They also typically handle the major livestock trade for export. Women and children are tasked with raising and tending sheep and goats (shoats). Their engagement in livestock trading and marketing has been increasing but is usually local, limited to shoats, and at the subsistence level. Women are also responsible for the sale and processing of most livestock products, including camel milk and ghee (they control at least 80 percent of milk production and 100 percent of milk collection).

Somali men and women have always shared crop-related responsibilities, especially in subsistence farming, where women provide more than 60 percent of

labor. The productivity of women, however, has been constrained by even weaker land tenure and more limited access to extension services than for men, with negative implications for food security, rural poverty, and overall economic growth. Before the war, only 28 percent of women in the Juba valley owned any livestock; only 14 percent owned farms; and the farms they owned tended to be the least productive, least secure, rainfall-dependent dryland plots. The insecurity of land tenure for women partly reflects complex dynamics extending from the interaction of multiple legal systems and socio-cultural norms that undermine women’s capacity and agency within Somali society. Agricultural extension also never reached women farmers effectively.

Women and men maintain differentiated roles in the fisheries value chain. Most fishers are men, although there is evidence of women’s engagement in fishing at least at subsistence levels. Women are engaged in processing, trading, and support activities. Additional research is needed to understand the gender dynamics of this subsector and identify potential opportunities for expanding the roles of both men and women.

Somali women confront numerous barriers to expanded economic engagement. They include lack of access to financial resources; extreme time poverty, linked to domestic and reproductive constraints; insufficient market research on viable opportunities; and lack of access to formal networks to provide business guidance. Narrowing gender gaps in agricultural production would yield significant benefits for growth, poverty reduction, and food security. If further developed and modernized, the milk sector in particular presents a promising opportunity for women’s economic expansion. A revived banana sector would also create many jobs, including for women, as it did before the war.

Environmental Degradation and Climate Change Pose New Challenges

The increasingly erratic and diminishing flows of Somalia’s major rivers—caused partly by a drier climate and related increased use of their water in the upstream Ethiopian highlands—threaten the recovery and growth of irrigated crop cultivation. Severe deforestation and soil erosion from unregulated human activity, overgrazing of rangelands, and climate change threaten both the growth prospects and the viability of Somalia’s traditional nomadic pastoralism and rainfed crop cultivation (upon which the subsistence of rural households largely depends).

Since 1990, Somalia has lost an average of almost 1 percent a year of its forests. As a result, forests covered only 10 percent of the country’s land area in 2014,

down from 62 percent before 1980. Already by the end of the 1980s, virtually all the floodplain forests had been cleared for irrigated agriculture production. The move toward more private enclosures for livestock grazing and toward semi-permanent family shelters has exacerbated deforestation, and the phenomenon is still gathering speed.

The main development of the last three decades responsible for the large-scale deforestation of the rangelands has been the massive and unsustainable cutting of acacia trees to produce charcoal, mostly for export to the Gulf states.

Annual charcoal production almost tripled, to about 1.2 million tons, between the early 1990s and 2013; in the early 2010s, 80 percent of it was exported. Exports reached \$56 million at their peak in 2011, up from zero as late as the mid-1990s. In the last decade, this trade became increasingly controlled by and a major source of revenues for Al-Shabaab. Since 2012, adoption and increasingly effective enforcement of charcoal export bans by the federal and regional governments as well as by importing countries in the Gulf, the introduction of gas stoves, and growing popular environmental awareness have significantly reduced demand for and thus production of charcoal.

In the late 1980s, Somalia was the world's largest producer and exporter of frankincense and myrrh. The average annual export value, including gums and resins, was about \$7.1 million, making these exports the fourth-largest source of foreign exchange. By 2014, the export value exceeded the value of the late 1980s, reaching about \$7.3 million (figure 0.5).³ Fluctuations were wide, however, partly because of overexploitation and poor harvesting practices by a new generation of tree owners and minders eager to maximize short-term earnings and unaware of the trees' long-term health needs. With better and stronger environmental stewardship, supervision, and management, the gum and resin subsector has potential for expanded value addition and export revenues.

The unsustainable exploitation of natural resources, especially forests and grasslands, has greatly amplified the country's vulnerability to weather shocks and climate change.

Fluctuations in air and sea surface temperatures, rainfall, humidity, cloud cover, atmospheric pressure, and wind speed have already become increasingly unpredictable and extreme across the Horn of Africa. Increases in air and sea surface temperatures have also been observed. Eight major droughts in the past four decades have severely affected crop and livestock production (figure 0.6). The cumulative impact of various failed rainy seasons since the start of 2015 led to a very serious

³ The sudden jump in the export values recorded since 2014 may be the result of misclassification by Somali exporters and customs authorities of importing countries in the Gulf of partially illegal charcoal exports.

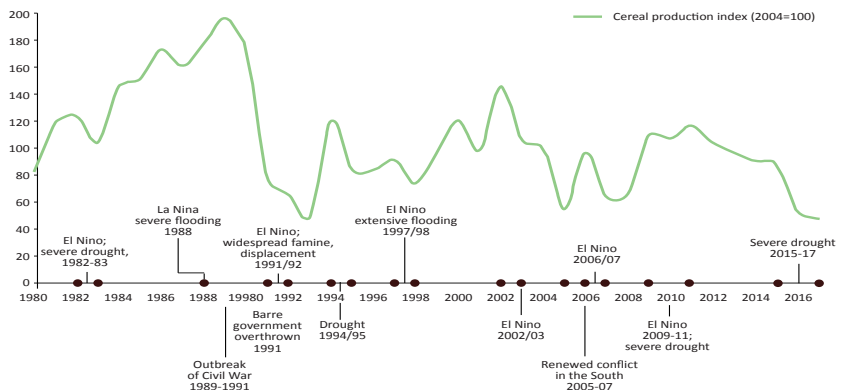
Figure 0.5: Exports of Gums and Resins by Somalia, 2005–16



Source: Volume figures are from FSNAU; dollar figures are from COMTRADE.

humanitarian crisis in early 2017 that lingers on in 2018 in many areas of the country. **Strong historical, including pre-historical, scientific evidence suggests that the climate in the region will become drier, although most climate models predict higher rainfall.** Whether the Horn of Africa becomes drier or wetter, it is projected to become warmer, more erratic, and more extreme.

Figure 0.6: Risk Events Affecting Agriculture in Somalia, 1980–2017



Source: FAOSTAT until 1997, FSNAU from 1998.

The consequences of such changes are dire, especially for Somalia’s livestock and crop subsectors. Higher air temperatures will increase transpiration from the soil, tree canopies, and water bodies. More variable and extreme rainfall on already barren soils will result in more runoff and erosion, less groundwater recharge, and

less water availability in the surface layers for plant growth. Other likely impacts include reduction of vegetation for grazing and more variable water availability, with grave impacts on livestock herding and related livelihoods. Rising sea temperatures and acidification will also reduce fish stocks and change their distribution.

By threatening the long-term viability of the already fragile ecosystems underpinning Somali agriculture, climate change poses a huge and unprecedented challenge for the country's weak institutions and limited capacity. In the absence of substantial investment in adaptation to make agricultural systems more climate resilient, there is little scope for broader economic recovery or growth. The United Kingdom's Met Office Hadley Centre for Climate Science and Services predicts that Somalia's vulnerability to food insecurity will grow by 27 percent by 2050 and 38 percent by 2080.

Strong Production and Trade Performance in Live Animals Contrasts with Weak Performance in Livestock Products

Livestock remains the traditional repository of household wealth in Somalia, the largest export (75–78 percent of total exports by value), and an important source of livelihood for a large part of the population. The main production systems are nomadic pastoralism and agro-pastoralism. Large livestock-rearing operations with dairy animals (mostly camels), however, have been on the rise in settled mixed farming in peri-urban areas, with dairy animals at times confined to sites with water supplies, where they are fed conserved fodder and supplements. These animals supply nearby urban markets with fresh milk only, as there are no or minimal processing facilities.

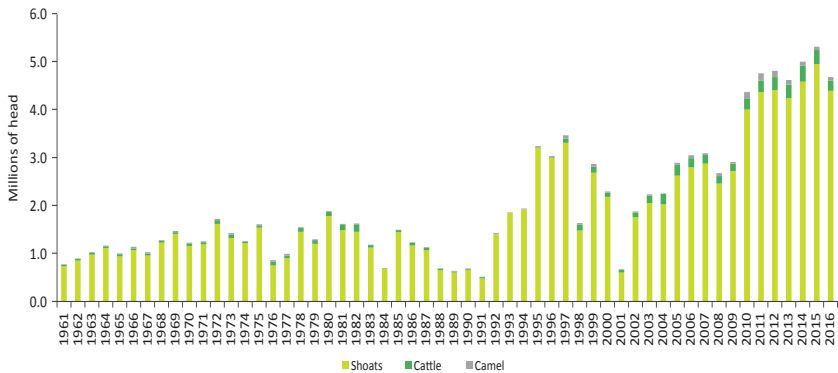
Demand is high and growing for good-quality fodder along trading routes, in market centers, and at terminal ports. However, the predominant feed production systems rely mostly on fresh grasses and shrubs on the country's vast rangelands and on their straw, which is of low nutritional value. Hay production from native grasses is very limited, and storage practices are so poor that its nutritive value very quickly drops to that of straw. At peak demand periods, various fresh crops, including maize, sorghum, and even emergency relief food, are also sold as livestock feed.

Although well adapted to the harsh geographical and climatic environment, Somali livestock are characterized by low weights and milk yields, mainly because larger and heavier animals are selected for slaughter or live export rather than breeding. In the absence of government animal health programs and institutions, the private sector and local veterinary associations (funded by development partners) have

provided many critical services (including quarantine stations, health certifications, mass vaccinations, and training). Such efforts have dramatically enhanced the confidence of importers in the safety of Somali livestock and led to large reductions in handling time and marketing costs, but they remain insufficient to address the serious risk of various animal diseases and consequent import bans. The latest ban, imposed by Saudi Arabia at the end of 2016, was suspended only temporarily, between July 2017 (only a month before the start of the peak *haj* livestock export season) and September 2017. As of early 2018, it remained in effect.

The sector showed remarkable resilience in recent decades through the first half of the 2010s. Following a sharp decline immediately following the start of the civil war, the stock of animals reached a peak of about 52.9 million in 2014 (table 0.3), well past the peak of about 40 million registered in the late 1980s. Somalia has more camels (7.1 million) than any country in the world. Substantial investment by the diaspora and by Saudi-controlled companies in quality improvements as well as some donor-funded programs have supported impressive growth in livestock exports, including for breeding. Both volumes and values (peaking at \$533 million in 2015) are higher than before the civil war (figure 0.7). Processing of livestock

Figure 0.7: Livestock Exports by Somalia, by Type, 1961–2016



Source: Data for 1961–88 are from FAOSTAT and reflect official government data. Data for 2002–16 are from FSNAU. Data for interim years are as reported in the FAOSTAT database, but they are unofficial figures, projections, and estimates, whose source and methodology is unknown. Export figures for cattle are missing between 1992 and 1994. Shoats are sheep and goats.

products is minimal, however, and well below prewar levels.

Sales of cattle from Somalia dominate many markets in the Horn of Africa, particularly the southward routes and markets on the border of Kenya and Ethiopia. Small stock, a large share of which originate in Ethiopia, dominate northward

Table 0.3: Livestock Population in Somalia by Region, 2014 (before Drought)

Region	Goats	Sheep	Camel	Cattle	Total
Juba River valley	3,036,320	1,636,204	1,258,271	1,477,458	7,408,254
Juba Hoose (Lower)	732,224	492,673	322,042	620,654	2,167,593
Juba Dhexe (Middle)	478,247	393,329	165,335	520,175	1,557,086
Gedo	1,825,849	750,202	770,894	336,629	3,683,575
Inter-riverine regions	2,630,485	525,837	979,467	1,170,565	5,306,354
Bay	1,171,477	117,007	361,562	800,964	2,451,010
Bakool	1,459,008	408,830	617,905	369,601	2,855,344
Shabelle River valley	4,076,419	1,666,869	1,081,843	1,068,031	7,893,163
Shabelle Hoose (Lower)	981,022	464,193	286,770	535,447	2,267,433
Shabelle Dhexe (Middle)	1,099,778	521,759	156,138	185,540	1,963,214
Hiraan	1,995,619	680,917	638,935	347,044	3,662,516
Northeastern region	7,544,817	3,695,449	1,363,688	47,048	12,651,001
Galguduud	2,031,000	850,953	461,495	33,978	3,377,426
Mudug	2,057,841	881,057	437,672	13,070	3,389,640
Nugaal	1,959,593	1,217,801	377,872	0	3,555,266
Bari	1,496,383	745,638	86,649	0	2,328,669
Northcentral region	4,384,489	3,312,691	470,202	0	8,167,383
Sool	1,541,657	1,267,790	236,260	0	3,045,707
Sanaag	2,842,832	2,044,901	233,942	0	5,121,676
Northwestern region	7,030,849	2,810,858	1,458,364	167,281	11,467,352
Togdheer	1,952,918	582,689	496,815	5,018	3,037,441
Woqooyi Galbeed	2,745,465	1,139,224	564,659	96,567	4,545,914
Awdal	2,332,466	1,088,945	396,890	65,696	3,883,997
All regions	28,703,379	13,647,910	6,611,835	3,930,383	52,893,507

Source: FSNAU estimates for the Drought Impact Needs Assessment (FGS 2017a).

trading routes to the Gulf states. These sales peak during the *haj* season. In 2015, Somalia exported a record 5.3 million livestock (4.9 million shoats, 295,000 cattle, and 72,000 camels), 6.3 percent above the previous year's level. The estimated average annual value of exports of live animals for food rose from about \$56 million in the late 1980s to \$378 million during 2011–14, peaking at \$494 million in 2015. The additional value of live animals exported for breeding purposes jumped from virtually nil before the civil war to a peak of \$81 million in 2014, though falling back

to \$39 million in 2015.

In the mid-2010s, the drought started reducing livestock exports (exports fell 12 percent in 2016), the animal population, and the output of livestock products, especially milk. Livestock exports are estimated to have fallen further in 2017, as a result of the lingering effect of the drought and the Saudi import ban. The drought is estimated to have killed 6.4 million head (valued at more than \$350 million), reducing the stock of animals from 52.9 million in 2014 to about 46.5 million by mid-2017.

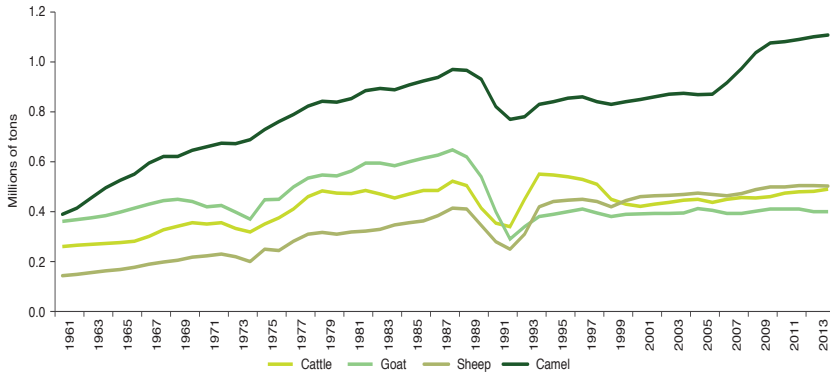
Even before the civil war, livestock officials and experts were concerned about the sustainability of further growth of livestock populations on already fragile and overgrazed rangelands. Since then the rangelands have experienced further environmental degradation; the absence or failure of traditional or modern governance for access to water sources and grazing areas; and the combined impact of higher temperatures, decreased rainfall, and more extreme drought events linked to climate change. Most experts believe that the pre-drought livestock population already surpassed the carrying capacity of the rangelands. Recovery from the drought and further growth prospects for the sector are therefore not to be found in restocking to reach the pre-drought herd size (except for the poorest agro-pastoral households). Instead, the focus should be on improving the health and quality of the current stock and increasing productivity (offtake for exports and domestic consumption) and value added (from processing of animal products).

Milk production has been rising steadily since the late 1980s. It reached 1.1 million tons in 2013, with a gross market value estimated at about \$2.7 billion (\$1.65 billion just for camel milk) (figure 0.8). Estimates in the *Drought Impact Needs Assessment* (Somalia 2018) put total baseline milk production in 2014–15 at \$3.3 billion (\$2.7 billion for camel milk). Despite this record production, Somalia imports dairy products while exporting none. Structural constraints that have kept the dairy sector from reaching its potential include the same ones that affect the welfare and health of live animals, as well as poor or no enforcement of low and outdated prewar hygiene standards, lack of processes to preserve milk, inefficient marketing channels fraught with excessive intermediaries, the poor state of roads, rapid spoilage from high temperatures and humidity, and the absence of economies of scale.

Production of fresh meat has expanded to meet rising domestic demand, but it remains well below potential. Commercial meat processing is limited to very small quantities of chilled goat and beef meat for export. Growth has been hampered by

most of the constraints listed above as well as mismanagement. The quantity of hides and skins is comparable to the late 1980s, at about 7 million pieces a year. Raw hides and skins are of poor quality, however, as improper preservation and storage often leaves them damaged by vermin. Unlike before the civil war, processing is

Figure 0.8: Production of Fresh Raw Milk in Somalia, by Milk Type, 1961–2014



Source: FAOSTAT

currently minimal (sun-drying only), with virtually no leather production.

The recent drought reduced camel milk yields by more than half and cow and goat milk yields by as much as two-thirds. The aggregate annual loss (October 2016–September 2017) from lower milk production and body weight for exported or slaughtered animals has been estimated in the Drought Impact Needs Assessment (Somalia 2018) at a staggering \$1.2 billion. Compared with the 2014 baseline, monetary losses from lower production are estimated at 3 percent for camels held by middle-income and better-off (by Somali standards) households, 14 percent for camels and cattle held by poor households in the southern regions along the rivers, and 42 percent for shoats held by all types of households in the north-central and northeastern regions.

Poultry keeping is widespread among poor households, for both self-consumption and resale. Imports of day-old chicks and eggs for local hatcheries are still limited but growing steadily. Commercial poultry farming is on the rise, particularly in urban areas, but it is limited almost exclusively to supplying eggs to nearby towns, as there is stiff competition in chicken meat from frozen imports from Brazil. The subsector’s further expansion is constrained by shortages and the high costs of inputs, including poultry feed and feed concentrates, poultry stock, and drugs and vaccines.

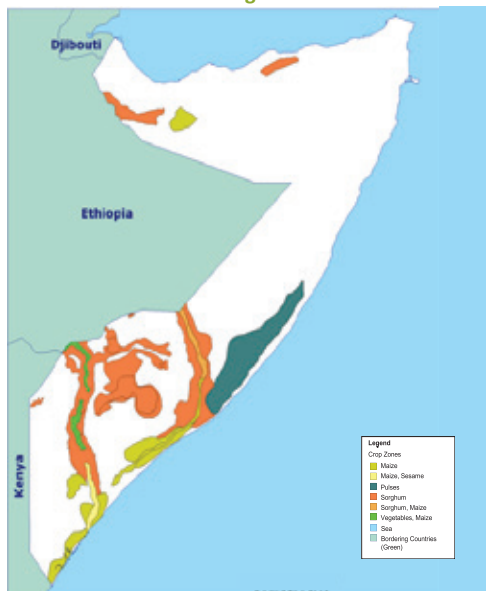
Despite structural constraints and drought-related damages and losses, there is strong potential for expanding and upgrading local processing and value addition of livestock products. Benefits include higher employment, income for producers and traders, revenues for all levels of government, and quality and safety for consumers. Exploiting this potential requires the modernization and professionalization of all livestock value chains.

Performance of the Crop Subsector Is Weak, but Growth Potential Is High

Somalia's major staple food crops are sorghum (mainly rainfed, with an annual gross value of \$47.6 million); maize (mainly irrigated, \$35.4 million); sesame (mainly irrigated, \$33.3 million); and cowpeas (mainly rainfed, \$15.4 million). Figure 0.9 shows their geographical distribution. There is also about \$1.5 million of rice production, which is important to the Middle Shebelle region, where its cultivation is concentrated.

Many fruit crops are grown, mostly under irrigated conditions in southern Somalia and virtually all for domestic consumption, including banana (with the gross average annual production value estimated at \$82.3 for the pre-drought baseline), lemon (\$39.3 million), watermelon (\$31.5 million), papaya (\$23.1 million), and grapefruit (\$19.7 million), among others. Unlike before the war when there were large-scale banana exports, only two of these fruit crops are currently exported (dry lemons from Mogadishu and watermelons across the Somaliland border into Djibouti). In the arid north-central and north-eastern regions, dates (\$121.7 million) and frankincense (\$87.6 million) are also grown, including for export. Many vegetables are also grown for domestic consumption under both rainfed and irrigated conditions. The major ones are

Figure 0.9: Map of Somalia's Staple Food Crop-Growing Zones



Source: Food Security Analysis Unit (FSAU, renamed FSNAU in 2010).

tomatoes (\$102 million) and onions (\$77 million).

Some 3 million hectares (about 5 percent of the total land area) are cultivable, including 2.3 million under rainfed conditions and 700,000 hectares split about equally between land potentially under controlled (pump) irrigation and flood-recession irrigation. Almost two-thirds of the cultivable land, both rainfed and irrigated, is in the fertile areas along and between the two major rivers in the south. A smaller cultivated rainfed area in the northwest and some oasis and coastal cultivated areas in the northeast constitute the remaining third. Rainfed areas rely mostly on groundwater extraction, rainfall harvesting, and moisture-retaining techniques. Much of the rest of the country is covered by rangeland with low productivity potential for crops because of very low and unreliable rainfall.

Because of the insecurity in southern Somalia that has prevented regular maintenance and repairs and the absence of effective community organizations, however, most of the extensive prewar network of irrigation and flood control infrastructure, as well as main and rural roads, have fallen into disrepair. As a result, only a fraction (about 111,000 hectares) of the irrigable land was recently irrigated and cultivated in southern Somalia. This area represents only about 16 percent of the potential mentioned above and only about half of the land actually irrigated (222,950 hectares) just before the civil war.

Areas irrigated with groundwater have expanded in Somaliland's northwestern regions and Puntland's oasis farming. The total irrigated area in Somaliland is estimated at about 35,000 hectares (10 percent of total arable area), supporting about 4,000 farming households. Small oasis farms in Puntland cover about 2,848 hectares. Large parts of these areas were severely or moderately affected by the recent drought, especially during the *Deyr* 2016 and *Gu* 2017.

Irrigated farming systems face many constraints, including the following:

- much diminished and inconsistent surface water availability in southern Somalia, as a result of the dilapidated state of its prewar irrigation and flood control infrastructure and minimal rehabilitation efforts because of persistent insecurity.
- inefficient water use, increased salinization, and waterlogging, caused by lack of water use planning and regulation.
- poor management of soil fertility, as inputs such as manure, fertilizer, and pesticides are either used in a suboptimal way or not used at all, because of limited funds and access in remote areas.
- low-quality seeds and the availability of only a few seed varieties.

- limited and unreliable mechanized equipment (most farmers use handheld tools to till the land).
- badly deteriorated roads, which increase the time and costs of transporting crops to markets, undermining incentives to expand perishable horticulture crops.
- inappropriate farming techniques, as a result of the absence of extension and research services.

Another, potentially overwhelming, threat to Somalia’s irrigated crop production is agricultural development upstream in the Ethiopian basins of the Shabelle and Juba rivers. The Shabelle River dried out completely twice in recent years (in March 2016 and December 2016–early April 2017), a new and unprecedented development (figure 0.10). Full implementation of the Ethiopian water master plan could eventually reduce downstream flows of the Shabelle River by more than 80 percent and alter prevailing stream flow patterns, including flood intensities.

Under rainfed farming, the major crops are sorghum, cowpeas, and, to a lesser extent, maize and sesame, which are grown in the inter-riverine areas of the Bay and Bakool regions, in parts of the Shabelle and Juba riverine valleys, in a coastal belt in southern Somalia, and in Somaliland’s northwestern corner, where relatively high rainfall also allows cultivation of *khat* and millet (figure 0.11). The main constraints

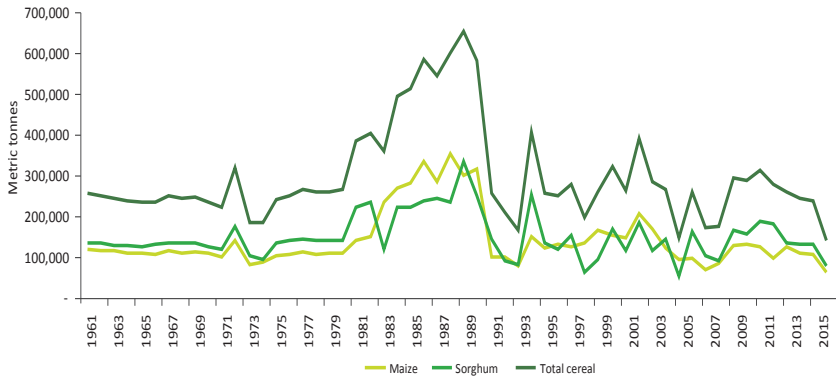
Figure 0.10: Dry Bed of the Shabelle River



Source: Puntland News24, February 5, 2017.

faced by rainfed farming systems include (a) lower and more erratic rainfall than in the past, punctuated by more frequent and intense cycles of droughts and floods; (b) deteriorated water harvesting and storage infrastructure, with minimal investments in new facilities; (c) poor soil management, resulting in very low moisture retention and inadequate internal drainage, which cannot support the crops to maturity; and (d) very-low-input farming techniques, a traditional, low-risk response to erratic rainfall conditions.

Figure 0.11: Production of Cereal in Somalia, 1961–2015



Source: FAOSTAT for 1961–94, FSNAU for 1995–2016.
 Note: Annual figures include mid-year Gu harvests and end-of-year Deyr harvests (of January of the following year).

Over the past three decades, the volume of cereal production fell almost 60 percent from its 1989 peak (53 percent compared with the average for the 1980s). In the decade before the civil war, average cereal production was about 500,000 tons a year; it peaked at 654,000 tons in 1989. Since 1995, it has averaged only about 265,000 tons a year, with wide variations, caused by erratic rainfall, dry spells, recurrent floods, pests, and diseases. Food aid and food imports were already high before the current drought (figure 0.12). Average yields were very low, as a result of limited inputs (poor-quality seeds), moisture stress, poor farming techniques, pest and diseases, and an almost nonexistent extension service. If appropriate inputs were used, average yields could increase by a factor of four to six for maize and three for sorghum, as many donor-funded field projects have shown.

Despite being buffeted by most of the same factors that caused the long-term collapse in cereal production, sesame seed production (on about 150,000–250,000 farms) rose between 1991 and 2015 (figure 0.13). During 2011–14, average annual exports of about \$40 million (with a peak of \$81 million in 2014) were more than

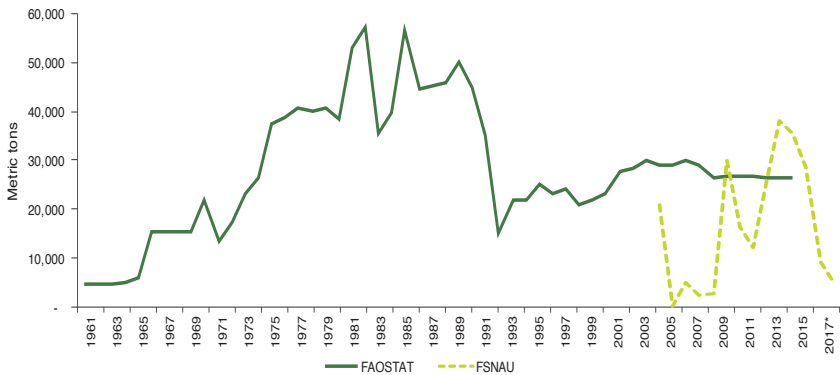
20 times higher than the \$1.8 million average recorded in the late 1980s and almost 10 times higher than the \$4.2 million average recorded in the very early 1990s. Production is still characterized by low yields (especially for the many smallholders), stemming mainly from a lack of good-quality seeds, endemic pests and diseases, and poor crop management practices. With only slight improvements in the irrigation system, seed quality, pest management, and related good agricultural practices, Somali sesame farmers have already demonstrated that they can generate yields that are 2.5 times higher than current peak yields and almost four times higher than current average yields.

Figure 0.12: Domestic Cereal Production, Cereal Imports, and Food Aid in Somalia, 1988–2015



Source: FAOSTAT, World Food Programme, and FSNAU.

Figure 0.13: Production of Sesame in Somalia, 1961–2017



Source: FAOSTAT data are based on national accounts through 1988. Figures for 2016 and 2017 were estimated for the Drought Impact Needs Assessment (Somalia 2018).

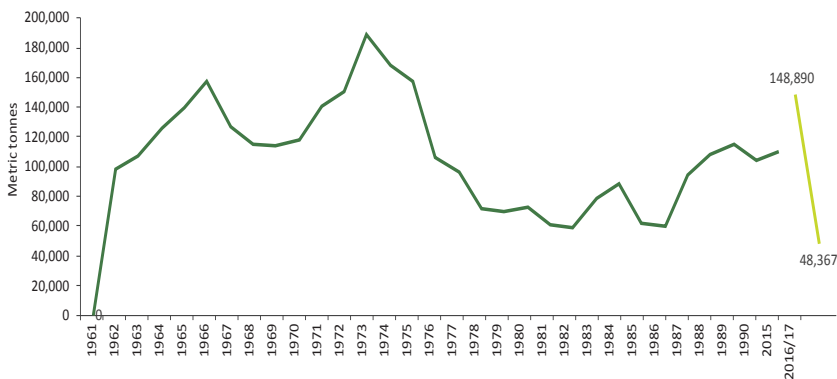
Before the war, bananas were the country’s largest crop (by gross production value, export value and employment), directly and indirectly employing about 120,000 people. Moreover, Somalia was the largest banana exporter in East Africa. Banana exports decreased drastically in the years after the start of the civil war in southern Somalia, ceasing completely in 1999 following devastating El Niño floods and loss of preferential access to European markets. Production was vertically integrated and carried out mostly by large private farms that supplied their output to and were supported technically and financially by a marketing company jointly owned by the government and Italian and Saudi private investors.

Estimated banana production in recent years has been much lower than before the start of the civil war (figure 0.14). The Lower Shabelle region, with about 1,535 hectares under banana cultivation, accounts for more than three-quarters of total production, which was estimated at about 148,890 tons on 2,135 hectares before the most recent drought, all for domestic consumption. Yields were relatively high, at 50–74 tons per hectare. Many commercial banana plantations also produce other fruit (such as grapefruit, watermelon, and citrus) and food crops for local consumption.

Bananas have good potential in Somalia, including for export to the Gulf countries, because of several factors:

- a large domestic consumer base with a taste for bananas paired with pasta or rice or meat
- local farmers and internally displaced people with the technical know-how to raise bananas

Figure 0.14: Production of Bananas in Somalia, 1961–90 and 2015–16/17



Source: Data for 1977–88 are from Somalia National Accounts; data for 1961–76 and 1989–90 are from FAOSTAT data. FAOSTAT estimates for 1991–2014 are not shown, because they are inconsistent and unreliable. Data for 2015–17 are from the Drought Impact Needs Assessment (Somalia 2018).

- the availability of good alluvial soil and water quality, requiring little or no supplementary fertilizer for banana cultivation
- highly disease-resistant local varieties of banana trees
- a well-designed irrigation, drainage, and flood control system that can be made 100 percent functional after rehabilitation
- a network of roads that can be made 100 percent functional after rehabilitation, linking banana farms to the nearby ports of Mogadishu and Kismayo.

The production of vegetables and fruits other than bananas has grown rapidly in southern Somalia, in the northwestern region of Somaliland, and on oasis farms in Puntland, thanks to strong and rapidly growing domestic demand and export success in dry lemons (table 0.4). Just before the drought (2014–15), production of the three main vegetables was estimated at 97,025 tons, almost double that of the entire vegetable subsector before the war. For grapefruit and lemons/limes, recent output before the drought is estimated to have been about 89 percent the level in 1988, the last prewar year for which official statistics are available. Opportunities for private investment and growth in this subsector abound.

The most recent drought for the *Deyr* 2016 and *Gu* 2017 seasons has had a severe impact on the crops subsector, with the total monetary loss of output for the four main staple food crops estimated at 54 percent (\$71.1 million) of the 2013–15 baseline. The monetary loss has been estimated at 35 percent for maize, 47 percent for sorghum, 59 percent for cowpeas, and 83 percent for sesame. The Bay and Lower Shabelle regions experienced the highest absolute monetary losses, down 74 percent and 54 percent from their respective baselines (about \$23 million each). Thanks to the improved level of the river since April 2017, the loss for rice, which is grown only around Jowhar, in the Middle Shabelle region, was limited to 60 percent.

Estimated physical and monetary losses for the *Deyr* 2016 and *Gu* 2017 seasons were also large for fruits, vegetables, and frankincense. For fruits, physical output losses ranged from 48 percent for lemons to 94 percent for dates, with banana recording a 68 percent decline in output. For vegetables, physical losses were in the 88–93 percent range. The loss for frankincense, grown in the Bari and Sanaag regions, was estimated at 17 percent (Somalia 2018). As a result of earlier drought conditions and much reduced production of all crops, farmers in the northwestern regions during 2015 and in the southern regions through the middle of 2016 had already incurred substantial losses.

Table 0.4: Production of Vegetables and Fruits by Somalia, 1977–2017

	1977-80	1981-84	1985	1986	1987	1988	2015 (Pre-Drought) ^a	2016-17 (Drought) ^a
Vegetables ^b	26,600	30,100	40,800	48,300	52,500	54,600	97,025	15,632
Watermelon							30,000	7,904
Tomatoes							59,023	7,143
Onions							8,002	585
Other							-	-
Grapefruit and Lime	9,650	10,275	10,900	13,100	27,300	34,600	30,648	14,376
Banana ^c	68,500	72,200	60,000	93,900	108,000	115,200	148,890	48,367
Other Fruits ^d	88,250	96,750	100,000	113,000	125,400	135,000	14,767	3,425
Papaya							8,000	3,025
Dates							6,767	400
Other							-	-
Total Horticulture Production	193,000	209,325	211,700	268,300	313,200	339,400	291,330	81,800

Source: Central Statistical Department, Ministry of Planning, Somalia 1989 and Drought Impact Needs Assessment (FGS 2017a).

Notes:

^a The 2015 and 2016–17 figures are point estimates agreed upon by federal and state governments, the FAO, and the World Bank for the Drought Impact Needs Assessment (Somalia 2018). The 2016–17 figures refer only to the drought period of October 2016–September 2017.

^b The vegetable estimate in the 1977–88 national accounts is an aggregate that includes watermelon, tomatoes, onions, carrots, and other vegetables. The total for 2015–17 covers only watermelon, tomatoes, and onions.

^c The estimate for bananas for 1977–88 is the same in the national accounts and in FAOSTAT, but both figures are probably underreported.

^d The estimate for other fruits in the 1977–88 national accounts is an aggregate that includes mangoes, papaya, coconuts, dates, guava, oranges, and other fruits.

If river levels and rains return and stay at normal levels, Somalia has much room to expand production of cereals, oilseed, fruits, and vegetables. However, improvements to the country's flood control and irrigation infrastructure, seed quality, pest management, and related good agricultural practices are needed if farmers are to place more land under cultivation, raise productivity, and strengthen their resilience to future weather shocks. All such improvements require stronger security in the rural areas of southern Somalia and a supportive and efficient public sector in all regions. Many constraints stifle the possibility of increasing yields and land under cultivation, but adoption of farm management practices of climate-smart agriculture—including use of improved seeds for drought resiliency, conservation agriculture, and drip irrigation technologies—would increase the output of major rainfed crops, the yields and area under cultivation of which could be doubled or even tripled.

Little Is Known about the Performance of the Fishery Subsector, but Growth Potential Is Good

Somalia has the longest coastline in Africa (3,333 kilometers) and a large Economic Exclusive Zone. Although its coastal shelf is narrow and has limited habitats for demersal (bottom feeder) fish stocks, except off the Puntland coast, the Somali Large Marine Ecosystem supports a wide variety of marine ecosystems and a high level of diversity of fish, from large pelagic (highly migratory) species like tuna to smaller pelagic fish, crustaceans, and other reef species.

Fish consumption in Somalia remains one of the lowest in Africa, but increased urbanization and the return from the diaspora of Somalis with newly acquired food preferences have increased domestic demand for fresh fish. Coastal communities have traditionally relied on fishing for both their food security and their livelihood, exporting fish products on dhows sailing south to Kenya and Tanzania and north to the Arabian Peninsula. For generations, sharecropping communities, particularly in tsetse fly–infested areas, where little or no livestock is available for consumption, have also valued fish caught in the lower reaches of southern Somalia's rivers as a good food source. Inland fishing activity and fish consumption, however, are less established farther upstream.

Weak or absent governments and lack of active fishery management during the past three decades have allowed both artisanal fishing and (legal and illegal) fishing activity by foreign vessels to expand without controls. The result has been serious degradation of the marine and coastal environment, with many coastal communities reporting reductions in stocks. Projected increases in sea temperature

and sea level will negatively affect coastal fish nesting and fishing grounds; they will also increase the frequency and severity of flooding of low-lying coastal lands, estuaries, deltas, and salt marshes.

Knowledge of Somalia's fishery subsector is very limited, because its waters remain uncharted, unsupervised, and unmonitored. No reliable data on fishing activity, landings, stocks, or habitat status have been collected since before the civil war. The onshore marine fishery subsector has remained modest in size, with artisanal fishing carried out mostly by men (about 9,500 full-time or part-time, with about 1,300 small vessels) and trading and support activities and (minimal) fish processing carried out by women. Guesstimates of onshore and offshore marine catches by domestic and foreign vessels have fluctuated since 1980, but they show an increasing trend. Current levels are estimated to be one-sixth to one-fourth of the guesstimated annual production potential of about 835,000 tons. Reliable survey assessments of 17 species, however, find that 8—swordfish, striped marlin, emperors, goatfish, snapper, sharks and rays (which represent as much as 40 percent of the catch of artisanal fisheries), grouper, and grunts—are fished unsustainably.

Maritime and fisheries' governance in Somalia is in its infancy. Provisions for licensing are defined partly under the new 2016 federal Fisheries Law, which still lacks important provisions, and partly under some states' legislation and regulations. Revenue sharing between federal and state governments for the licenses recently granted remains to be implemented. Despite stated ambitions, neither the federal nor the regional state ministries have been transparent about the licenses they have issued, and they lack the capacity to monitor or control fisheries, especially offshore.

The business model for piracy that supported the high level of attacks—based largely in the Indian Ocean coastal communities of Galmudug and Puntland between 2007 and 2011—has been disrupted, principally because naval patrols by the international community have made the activity unprofitable. Although a few pirate attacks have been attempted since 2015, there have been no successful hijackings of merchant ships (one, in early 2017, was speedily resolved by the intervention of Puntland authorities and local community elders) (table 0.5). There have, however, been small-scale incidents involving foreign fishing trawlers (in 2015, for example, two Iranian gillnetters were attacked; one escaped, the other was seized and impounded), and hostages from earlier attacks are still being held for ransom.

Table 0.5: Pirate activities in Somalia, 2008–16

Pirate Activities	2008	2009	2010	2011	2012	2013	2014	2015	2016
Suspicious events	8	59	99	166	74	20	5	1	2
Total attacks	24	163	174	176	34	7	2	0	1
<i>Of which pirated</i>	14	46	47	25	4	0	0	0	0

Source: EU Navfor (<http://eunavfor.eu/>).

The spread of piracy reduced illegal, unreported, and unregulated (IUU) fishing activities in Somali waters and in the western Indian Ocean, probably resulting in some stock recovery. With the recent decline in piracy, IUU activities are reportedly on the increase. According to the UN Monitoring Group on Somalia and Eritrea, private security guards from Somalia are sometimes involved in these activities. Many of them may previously have been engaged in piracy.

The main challenges for the fishery subsector are (a) inadequate fish landing facilities at all major ports, (b) lack of or poorly functioning cold-chain facilities, (c) minimal processing ventures, and (d) lack of or very poor transport links between major urban centers and isolated fishing communities along the coast, many of which remain reliant on trading with Yemeni vessels for their income.

Considerable potential exists for sustainable expansion of fisheries, especially of tuna and oceanic tuna-like species. Fish waste could be also used in a variety of ways, including for human consumption, livestock feed, and energy generation. Effective management, supervision and monitoring, and public investment and technical assistance plans, including for support of expansion plans by fishers’ cooperatives and the private sector, are needed to ensure the sustainability of all fisheries. Two prerequisites for improvement are (a) stock and catch assessments and (b) ecosystem analysis and enforcement of existing regulations.

Stronger Institutions, Management, Extension Services, and Infrastructure Are Needed to Support Private Investment in Production and Markets

In the short to medium term (one to five years), recovery of agricultural production, especially crops, to prewar levels depends on better security; stronger public and community institutions; and at least a start toward rehabilitating dilapidated flood control, irrigation, and transport infrastructure. In the longer term, the sector’s growth potential can be realized only by developing and implementing a comprehensive sector development strategy, supported by institutions and

interventions that harness the dynamism of its private sector in both primary production and domestic and foreign trade of inputs and processed products. The strategy should aim at achieving the following key objectives:

- Increase crop production beyond prewar levels, through rehabilitation of prewar flood control, irrigation and road infrastructure, expansion of infrastructure and technologies for water storage and harvesting, and recapacitating research and extension to promote the widespread adoption of climate-smart agriculture practices.
- Protect and improve the natural environment, in light of the vulnerability of all agricultural subsectors to climate change.
- Transform private sector–led production systems in all subsectors into modern, commercial, and competitive ones that add value through agro-processing.
- Strengthen household resilience and reduce malnutrition, including by adopting modern postharvest storage technologies and drought risk mitigation measures.

The recommended sectoral components of such a strategy are summarized below.

Recommendations for Addressing Climate Change

Full implementation of Somalia’s well thought-out National Adaptation Programme of Action to Climate Change (NAPA) and Intended Nationally Determined Contributions (INDC) action plan is needed to if its agricultural systems are to become more climate resilient. Implementation should focus on supporting adoption and scale-up of climate-smart agriculture practices and innovations (table 0.6).

Table 0.6: Somalia’s Priority Actions for Adapting to Climate Change

Program area	Activity
Sustainable land management	<ul style="list-style-type: none"> • Develop national regional policies for the protection of forests, ecosystems, and biodiversity. • Protect forests by hiring community-based rangers. • Raise awareness about the environment, focusing on ecosystems and their services and the promotion of alternative energy sources. • Develop and enforce land use plans for each district. • Improve rangeland management, by developing and enforcing rotational grazing. • Launch a large-scale afforestation campaign, including the distribution of seedlings to vulnerable communities. • Curb charcoal production, by banning exports, developing alternative energy plans, supporting the manufacture and use of fuel-efficient stoves, and supporting alternative livelihood options for charcoal producers.

Program area	Activity
Watershed management and development	<ul style="list-style-type: none"> • Build medium- to large-scale infrastructure, such as dams, irrigation diversions, livestock watering points, and boreholes. Subject all new projects to environmental impact assessments. • Build or rehabilitate community-level infrastructure, including berkedes, shallow wells, ponds, and other technologies, ensuring that a mechanism for maintenance is in place. • Build embankments/gabions and check-dams to protect flood-prone areas.

Source: Somalia 2013a, 2015.

Recommendations for Managing Natural Resources and Rangelands

There is a pressing need to clarify land tenure arrangements, reach consensus on policies and their implementation with and among local communities, improve communities’ capacity to manage their natural resources in a sustainable manner, and support rangeland rehabilitation. Rangeland rehabilitation can be achieved through intensified soil and water conservation, reforestation and afforestation, the reseeding of pastures, the planting of drought-resistant and fast-growing grasses and legumes, and the use of micro-catchments to enhance water filtration and various flood control technologies.

Somalia’s two main forestry products are charcoal and gums and resins. An expanded program of action to reduce charcoal production, especially from acacia trees, should build on three pillars: (a) development of a legal framework and capacity development of relevant institutions; (b) promotion of “green” cooking and agricultural production practices and technologies, including safe, reliable, sustainable energy alternatives; and (c) greatly expanded use of the invasive *Prosopis juliflora* tree (mesquite or, in Somali, *garaanwa*), including for charcoal and commercial livestock feed.

Promotion and enforcement of sustainable tapping methods for frankincense, myrrh, and gum arabic should be the top priority for the Puntland and Somaliland governments and the donors supporting them. A second priority should be increasing value addition by supporting new private investments in processing.

Recommendations for Increasing Production of Livestock and Livestock Products

The government can help increase livestock production by (a) expanding access to traditional and new export markets and (b) building capacity along the entire value chain to cope with animal disease threats, including by engaging in regular dialogue with importing countries to review and update sanitary standards and other import

requirements. Other priorities include the promotion of innovative breeding and good husbandry practices and the strengthening of rangeland-use policies, planning, and enforcement, with community participation. More emphasis should be given to supporting integrated production systems, leveraging the complex interlinkages between crop agriculture and peri-urban livestock rearing systems for an expanded and more efficient feed supply chain and the promotion of more value addition and diversification opportunities. Rangeland-use policies, planning, and enforcement at both government and community levels, especially regarding private enclosures, also need strengthening.

The growth in output and value of livestock products should be pursued by promoting and regulating effectively private sector efforts to process animal products. In addition to public investments in transport and power infrastructure to reduce production and marketing costs, the following public interventions are recommended:

- Adopting a bold reform and investment program to transform the informal milk sector and upgrade the entire value chain for (fresh and sour) milk, in order to ensure consumer safety, reduce seasonality, eliminate inefficiencies, address low productivity and high processing costs, and expand it to higher-value products, including pasteurized milk, yoghurt, and cheese.
- Addressing substandard hygiene conditions in meat markets and slaughter facilities, to both ensure consumer safety and help penetrate regional markets, especially in the Middle East.
- Educating actors in the hides and skins subsector about the proper handling of raw materials and modern processing methods to increase output and per unit value while also enforcing environmental regulations for tanneries, in order to prevent environmental damage and subsequent popular backlash against tanning.
- Facilitating better access to inputs, health, extension services, and microfinance for family poultry and village-based poultry producers; ensuring adequate systems of input supply and health monitoring of large-scale, commercial egg production; and supporting large-scale commercial poultry meat production only after value chain and market analyses that can assess the subsector's competitiveness.

Recommendations for Increasing Crop Production

A holistic medium-term program is required to deliver quick, large, and sustainable production and productivity gains for staple commodities and diversify into horticulture and other high-value crops. The main components should include (a)

institutional and human capacity building; (b) rehabilitation of prewar flood control and irrigation infrastructure along the two major rivers in southern Somalia; (c) expansion of rainwater catchment and moisture conservation and introduction of control measures for soil erosion and gully formation in the central and northern regions; (d) rehabilitation of prewar trunk and rural roads to improve transportation of inputs to farms and of produce to markets; and (e) improved access to and adoption of climate-smart agriculture practices. The first four components should be pursued in parallel, rather than sequentially, as institution building without investment in infrastructure will not yield gains, and initial gains in production and productivity from investment in infrastructure will likely prove unsustainable without complementary institution and capacity building.

Recommended interventions include the following:

- For cereals, investments in improved flood control, irrigation and water catchment infrastructure and farm management practices such as those mentioned above are needed to raise yields threefold or even fourfold, double the land under irrigation, and expand the land under rainfed cultivation by even more. The public sector should aggressively promote better postharvest and dry storage facilities and techniques that would provide a reserve to sell when prices are favorable, ensure better grain quality, and reduce exposure to dangerous aflatoxins and the size of postharvest losses (estimated to be in the 20–30 percent range).
- For sesame, which matures earlier and requires less input and irrigation than cereals, strong recent growth and export performance, including under rainfed conditions, as well as further private investment in oil extraction, can be sustained by the same public interventions mentioned above.
- The horticulture subsector, especially highly perishable crops, would benefit greatly from public investments in rehabilitating and improving transport links between main ports, farms, and urban markets and from private investments in cold-storage facilities. Introduction of tissue culture technology, which can provide uniform seedlings free from insects and diseases, is crucial to the success of banana development and export programs.

Recommendations for Developing Fisheries

The strongest growth prospects in this subsector are from fisheries in Somalia's highly productive oceanic waters. Both small pelagic fish and tuna and tuna-like species migrate through the country's waters during the southwest monsoon. Realizing this potential will require private investments to (a) expand into

underexploited offshore fisheries; (b) develop coastal and inland fisheries, including cold chains for domestic markets and improved nutrition; and (c) move into processing.

All levels of governments, in partnership with international fishery and development organizations, academic institutions, and the donor community, have roles to play in promoting and sustaining growth of the fishery subsector. Support is needed in the following areas:

- The collection of basic field data; the estimation of indicators; and the building of teaching, research, and professional capacity are prerequisites for sound policy, regulatory, and investment decisions at all levels and by all stakeholders.
- A clear and effective system of fishery management, at both the federal and regional levels, is needed. In the short term, the priority is to establish a comprehensive, secure enabling environment, based on a sound legal framework and the rule of law for private investors, including for licensing.
- Design and cost estimates for rehabilitating and developing fish landing sites at all five major ports and redeveloping related transport infrastructure, including rural roads connecting small fishing communities to main roads and to urban markets, need to be finalized. Once they are, the plans need to be adopted and implemented.

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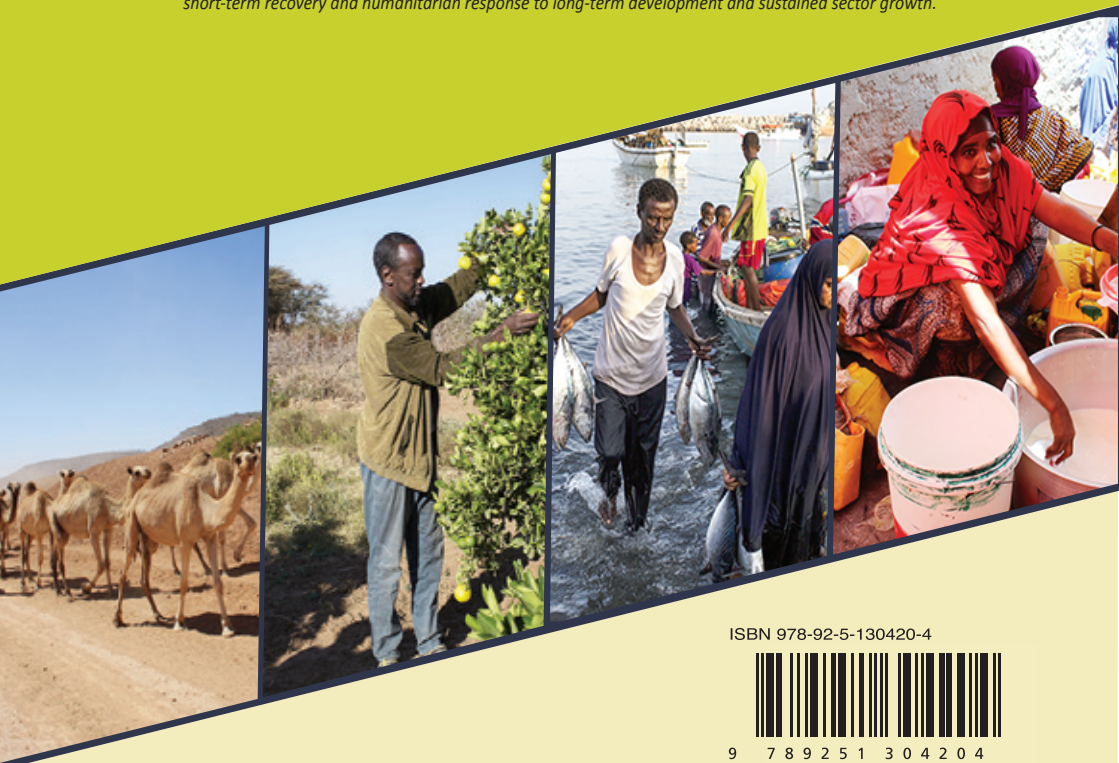


Rebuilding Resilient and Sustainable Agriculture in Somalia

Following more than two decades of civil war, Somalia has made important progress in recent years with the establishment of permanent political, economic and security institutions. This points towards a future with stronger prospects for peace and for economic and social development. Indeed, development and jobs can contribute to improving the security situation and create more incentives for political settlement. Now is a propitious time for both the government and the international development community to assess the medium and long-term development needs of the Somali economy and start planning to address them.

Agriculture remains key to the livelihood of half of Somalia's population that still lives in rural areas. It is also key to the country's food security and economic growth prospects. Somalia's landmass encompasses vast tracts of arable land and a variety of agroecological zones conducive to agricultural expansion. There are large areas suitable for livestock grazing, browsing, and fodder production to support the country's growing markets and export trade; others with fertile alluvial soils for staple cereals, oil seeds, legumes, and horticulture crops. Its forests provide prized gums and resins for both export and local markets. The country's waters are home to a diverse range of valuable reef and pelagic marine species.

Supporting agriculture sector recovery, strengthening its climate resilience, and improving its overall performance will not only boost prospects for sustained economic development, but will also help cement peace and security, alleviate poverty and malnutrition, and enhance health outcomes in both rural and urban areas. This report provides information and analyses that will help inform and guide Somalia's federal and state governments and their international development partners as focus shifts from short-term recovery and humanitarian response to long-term development and sustained sector growth.



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