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FAO/WFP CROP AND FOOD SECURITY ASSESSMENT MISSION (CFSAM) TO THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

September 2022

SPECIAL REPORT

FAO/WFP CROP AND FOOD SECURITY ASSESSMENT MISSION (CFSAM) TO THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

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ABBREVIATIONS AND ACRONYMS

CARI	Consolidated Approach for Reporting Indicators of Food Security
CFSAM	Crop and Food Security Assessment Mission
COVID-19	coronavirus disease 2019
DCS	Department of Census and Statistics
DNP	Department of National Planning
DZ	dry zone
EOA	exclusive organic agriculture
EIU	Economist Intelligence Unit
FAO	Food and Agriculture Organization of the United Nations
FGD	focus group discussion
F2F	face-to-face
GDP	gross domestic product
GIEWS	Global Information and Early Warning System on Food and Agriculture
HIES	Household Income and Expenditure Survey
IMF	International Monetary Fund
IPC	Integrated Food Security Phase Classification
LKR	Sri Lanka rupee
MoA	Ministry of Agriculture
MOP	muriate of potash
MRI	Medical Research Institute
TSP	triple superphosphate
UN	United Nations
UN DESA	United Nations Department of Economic and Social Affairs
UNICEF	United Nations Children's Fund
USD	United States dollar
VAM	United States dollar
VCI	Vegetation Condition Index
WFP	World Food Programme



HIGHLIGHTS

- A severe macroeconomic crisis caused acute shortages and spikes in the prices of essential products, including medicines, food, agricultural inputs and fuel, bringing the overall economic activities to a standstill, with major disruptions to agricultural production.
- Acute food insecurity has risen dramatically, as a result of import shortages, soaring prices, livelihood disruptions, reduced household purchasing power and exhaustion of less severe household coping strategies.
- Production of paddy, the main food staple, is forecast at 3 million tonnes in 2022, a 42 percent decline year-on-year and the lowest level since the 2017 drought-affected output, mostly due to low yields following reduced application of agrochemicals.
- Production of maize, mostly used as feed, is about 40 percent below the last five-year average, with negative effects on poultry and livestock production.
- Total cereal import requirements in 2022 are estimated at 2.2 million tonnes. In the first six months of 2022, about 932 000 tonnes of cereals were imported, leaving an outstanding import requirement of 1.27 million tonnes. Given persisting macroeconomic challenges, there is a high risk that the full import requirement could not be met.
- Production of vegetables, fruits and export-oriented crops, such as tea, rubber, coconut and spices, is well below the average levels, causing a significant decline in households' income and export revenues.
- Prices of most food items have been on a steady increase since the last quarter of 2021 and reached record or near-record highs in July 2022, with the food inflation rate 90 percent higher year-on-year.



- Over 6.2 million people (28 percent of the population) are estimated to be moderately acute food insecure and 66 000 people to be severely acute food insecure.
- The highest level of acute food insecurity is in the Estate sector (tea production) and among female-headed households, households with no education, Indian Tamil population and Samurdhi programme beneficiaries.
- Food and livelihood-related coping strategies are being widely adopted, including cutting the number of meals consumed in a day, reducing meal sizes, spending savings, and purchasing food on credit. As households exhaust these strategies, more of them are likely to engage in severe means of coping with negative knock-on consequences for food security over the medium term.
- The situation is likely to deteriorate during the lean season from October 2022 to February 2023. Immediate food assistance and livelihood programmes are essential for moderately and severely acute food insecure populations, including through existing social assistance mechanisms, to improve household purchasing power to access nutritious food.

In order to avert a further deterioration of food security conditions and to support the restoration of agricultural production, livelihood assistance targeting smallholder farmers should remain a priority. Improving the production capacity of farmers would ultimately boost the resilience of the agricultural sector.

OVERVIEW

At the request of the Government, a joint FAO/WFP Crop and Food Security Assessment Mission (CFSAM) took place in June and July 2022 to analyse the country's agricultural production in 2022, particularly of the main staple cereals, and to assess households' food security conditions. The request was prompted by expectations of a well below agricultural output in 2022, owing to the effects of the severe macroeconomic crisis, which also pushed up food prices to record or near-record levels. This caused a significant worsening of households' food security.

The mission analysed official data of cereal production for the 2021/22 main "Maha" crops, harvested by March 2022, forecasted the production of the 2022 "Yala" crops, to be harvested by September 2022, and estimated the cereal import requirements for the 2022 marketing year (January/December). The mission assessed market conditions and households' food security and nutrition situation. Based on the factors that have constrained food availability and access, the report provides recommendations for urgent actions of food and livelihood assistance in order to avert a further deterioration of the food security situation in the country. To estimate the number, location and characteristics of acutely food insecure households, a face-to-face (F2F) household food security assessment of 2 970 households was conducted between 31 May and 17 June 2022, generating representative findings for each of the nine provinces of Sri Lanka, as well as urban, rural and estate populations.¹

Apart from FAO and WFP staff, the mission included technical staff from the Ministry of Agriculture (MoA) and two observers from the United Nations



Children's Fund (UNICEF). Divided in two teams, the mission visited all the 25 districts as follows (Figure 1):

Team 1: Colombo, Gampaha, Kegalle, Kandy, Nuwara Eliya, Badulla, Ampara, Batticaloa, Kilinochchi, Mullaititvu, Jaffna, Mannar, Kaltara and Galle.

Team 2: Kurunegala, Matale, Ratnapura, Monaragala, Polonnaruwa, Trincomalee, Vavuniya, Anuradhapura, Puttalam, Matara and Hambantota.

Prior to departing for the field visits, the mission met and discussed with representatives of several national institutions the performance of the country's agricultural sector in 2022, including the ongoing "Yala" cropping season, the food security conditions as well as the general macroeconomic context in the country. The mission obtained data at national and district level on agricultural production, food prices, availability and requirements of agricultural inputs, and food trade. The mission interacted with representatives from the Prime Minister's Office, MoA, Department of Census and Statistics (DCS),

¹ The sample size was set to allow provincial-level estimates with a precision of 7 percent and confidence intervals equal to: estimate ± 1.96 * SE (standard error).

Figure 1: Sri Lanka - The route and districts visited by the CFSAM teams during the field mission



Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Source: Google Maps. 2022. Sri Lanka. In: Google Maps. [Cited August 2022], complies with UN. 2022. <u>Map of the World</u> [online].

the Central Bank of Sri Lanka (CB), Department of National Planning (DNP), Ministry of Fisheries, Ministry of Finance and the Mahaweli Authority of Sri Lanka.

During the field visits, the mission was able to observe the standing paddy crops at reproductive stage of development for the 2022 "Yala" season. The mission held structured interviews with district level authorities, farmers, fishing communities and livestock owners. Visits to retail and wholesale food markets as well as government-controlled outlets, called "Sathosa", and interviews with rice millers, rice traders and merchants, were conducted. The mission triangulated field observations with official data provided by government agencies.

Satellite based imagery (VCI and estimated rainfall amounts) was used to retrospectively validate the

official information on the production of the main 2022 "Maha" season crops that were harvested prior the arrival of the mission in the country.

Upon return from the field, the mission held technical meetings with officials from the MoA, Food Commissioner Department, MRI, Trade Ministry and the International Monetary Fund (IMF) with the aim to gain in-depth knowledge on some specific issues and to collect additional information. Prior to leaving the country, the mission briefed officials of the MoA and the DNP on its main preliminary findings. A similar briefing was delivered to members of United Nations (UN) agencies, resident non-governmental organizations (NGOs), donors and the diplomatic community.

Since 2020, the country has been facing a severe economic crisis caused by reduced government earnings, following a tax cut in 2019, coupled with the effects of the COVID-19 pandemic, which virtually brought to a halt the tourism sector, the country's main foreign exchange earner, along with reduced remittances from expatriate workers. As a result, debt levels became unsustainable, leading to a declaration of sovereign default in May 2022. The strong depreciation of the Sri Lanka rupee (LKR) and the dwindling foreign currency reserves have curtailed the country's capacity to import. This has caused acute shortages and spikes in the prices of essential products, including fuel, medicines, food and agricultural inputs, bringing the overall economic activities to a standstill and causing major disruptions to agricultural production.

The 2022 aggregate production of paddy, including a forecast for the 2022 "Yala" crops to be harvested by September, is estimated by the mission at 3 million tonnes, the lowest level since 2017 when a severe drought affected paddy crops. The reduced production is mostly due to low levels of yields following reduced application rates of agrochemicals, including chemical fertilizers and pesticides, as a result of an import ban introduced between May and November 2021 aiming to transform the country's agricultural sector into exclusive organic agriculture (EOA). Although the ban was lifted in late November 2021, after months of protests by farmers, the country's import capacity at that time was limited due to low foreign reserves and the strong depreciation of the Sri Lanka rupee, resulting in widespread severe shortage and high prices of agrochemicals. Localized unfavourable weather conditions contributed to the production shortfalls.

Maize production, mostly grown during the "Maha" season, is estimated at 187 000 tonnes in 2022, about 40 percent below the five-year average, reflecting low levels of both plantings and yields. Similarly, production of other food crops, including vegetables and annual fruits, as well as export crops, such as tea, rubber and coconut, has been severely affected by the limited application of chemical fertilizers and pesticides.

The total cereal import requirement in 2022 is estimated at 2.2 million tonnes. In the first six months of 2022, a total of 932 000 tonnes of cereals have already been imported (472 000 tonnes² of rice, 425 000 tonnes of wheat and 35 000 tonnes of maize), leaving an outstanding import requirement of about 1.27 million tonnes of cereals for 2022. Given the persisting macroeconomic challenges, particularly the very low level of foreign reserves, there is a serious risk that the full import requirement of cereals could not be met.

The livestock sector has been severely affected in 2022, particularly the production of chicken meat and eggs, the main source of protein in the local diet. Shortages and high costs of inputs, including animal feed, electricity and fuel, have forced many poultry and egg production units to close. Similar factors affected the production of beef and mutton meat as well cattle and buffalo milk in 2022, with fuel shortages and electricity cuts compounding the situation. Animal husbandry extension services have been interrupted, leading to limited vaccinations, treatments and artificial inseminations, with deterioration of animal health conditions. Difficulties in animal transportation and milk collection, coupled with power cuts, resulted in increased product losses and lower income to farmers.

² Includes 45 000 tonnes of rice in the form of food aid.

Regarding fishery, shortages of fuel and cooking gas, together with increased costs of labour, inputs and equipment, have curtailed the capacity of fishing communities to reach deep waters, secure profitable catch amounts and avoid significant losses and waste along the supply chain. Inland fisheries have experienced minor production declines, reflecting an adequate availability of fish and shrimp fingerlings to be released in the ample national network of water bodies.

Domestic prices of rice, the country's main staple, have been increasing since the last quarter of 2021 and reached unprecedented high levels in July 2022. The price spikes are associated with inflationary pressure and tight market availability, due to the sharply reduced 2022 main "Maha" production. Prices of wheat flour, totally imported, more than tripled their year-earlier levels and were at record levels in July 2022, reflecting the depreciation of the national currency and increasing trends in the international markets. Similarly, prices of a wide range of imported basic food items, including sugar, milk powder and onion, and locally-produced chicken meat, eggs and coconut oil, have generally increased since October 2021 and reached, in many cases, record or near-record levels in July 2022. Prices of chicken meat were 90 percent higher year on year in July 2022, while those of milk powder (Lactogen-1) increased by more than 200 percent compared to same month a year earlier.

Reflecting increased food prices, reduced income opportunities, poor harvests and disruptions to the food supply chain, the food and nutrition security of households has deteriorated in the first six months of 2022. Over 6.2 million people (28 percent of the population) are estimated to be moderately acute food insecure³ while 66 000 people are severely acute food insecure and in need of immediate food assistance. Diets of the most vulnerable households were particularly lacking protein and iron-rich foods, and their diversity was generally low. There is a risk that the food security of the 6.3 million people may continue deteriorating driven by shortages of imported goods, increased prices, livelihood disruption and reduced crop production.

Households were using a variety of coping strategies to deal with problems of food availability and access, with one in every four households reducing the number of daily meals and nearly half of them limiting portion sizes. About one in four households were also applying crisis or emergency livelihood coping strategies, such as selling productive assets, reducing essential healthcare expenses and withdrawing children from school.

The food security situation could deteriorate during the upcoming lean season, between October and February 2023, if the country is unable to import adequate amounts of rice and other food products to cover the existing food deficit and humanitarian assistance is not sufficient. Significant concerns exist for the 2022/23 "Maha" season, production of which may be affected if agriculture inputs, including chemical fertilizers, pesticides, along with locally produced organic fertilizers, and agriculture supplies, are not timely provided in adequate amounts. Therefore, assistance should be provided in order to improve the productive capacity and resilience of farmers, particularly smallholder farmers. Improvements in domestic agricultural production would help reduce import requirements of some key products amid lingering shortages of foreign exchange reserves and improve food security outcomes.

³ Acute food insecurity has been estimated based on WFP's Consolidated Approach for Reporting Indicators of Food Security (CARI) Guidelines. According to the CARI standard methodology used to classify the household's acute food insecurity, "moderately acute food insecurity" is an approximation of the Integrated Food Security Phase Classification (IPC) Phase 3 (Crisis), while "severely acute food insecurity" is an approximation of the IPC Phase 4 (Emergency) or above

SOCIOECONOMIC CONTEXT AND AGRICULTURE

General

The country is an island nation located in the Indian Ocean, namely in the southwest of the Bay of Bengal, with a tropical climate. Sri Lanka's total area is 65 610 km², including 64 630 km² of land and 980 km² of territorial waters. The national population, estimated at 21.6 million in 2022, is predominantly rural with around 30 percent relying on agriculture, mostly on the cultivation of paddy, the country's staple, and export-oriented tea, rubber and coconut crops.

According to the 2021 Department of Census and Statistics, the agricultural sector accounted for 6.9 percent of the gross domestic product (GDP), the industry and manufacturing sector for 25.9 percent and the service sector, highly reliant on tourism, for 58.3 percent. With an average annual GDP per capita of about USD 3 900 at purchasing power parity, the country is classified as a lower-middle income country. However, the country shows a Gini coefficient of 0.46 (Central Bank of Sri Lanka, 2021), implying a wide disparity among household incomes. The poverty rate decreased steadily in the last two decades and, as of 2019, the share of the population living below the poverty line was estimated at 14.3 percent, significantly below the 46.8 percent in 2002. Most of the poor live in rural areas and are predominantly concentrated in the districts of Nuwara Eliya (Central Province), Badulla and Monaragala (Uva Province), Ratnapura (Sabaragamuwa Province) and Mannar and Vavuniya (Northern Province). As for the urban poor, a high number of people were estimated to be living below the poverty line in the districts of Colombo and Gampaha (Western Province).

The country is prone to weather-related hazards, such as floods and droughts, and it is affected by high levels of coastal erosion and environmental pollution.



Macroeconomy

Since 2015, the economic growth has steadily declined until it contracted by 3.6 percent in 2020 (Table 1), driven by high trade deficits, unsustainable debt levels, low foreign exchange reserves and a sharp reduction of government revenues, exacerbated by the effects of the COVID-19 pandemic and its containment measures on tourism, merchandise exports and remittances inflows. A critical drawdown of foreign exchange reserves from the last quarter of 2020, coupled with the sharp depreciation of the national currency in early 2022, have exacerbated the current economic crisis (Figure 2).

The GDP rebounded by 3.7 percent in 2021 supported by a recovery in the agriculture, manufacturing, financial services, construction, transport and real estate sectors.ⁱ However, the economic outlook for 2022 and 2023 is dire, reflecting the severe shortage of foreign exchange and the rampant inflation rate. The supply of energy and fuel is expected to remain insufficient and unreliable, constraining economic activities in the short term. In addition, the overall global economic slowdown, particularly expectations of reduced demand for exports, would limit foreign

Domestic Economy	2017	2018	2019	2020	2021	2022 ^{1/}
Real GDP growth (percentage)	3.6	3.3	2.3	-3.6	3.7	-8.0
Consumer price index (end of period, percentage)	7.1	2.8	4.8	4.2	12.1	126.3
Exports of goods (USD million)	11 360	11 890	11,940	10 047	12 499	8 868
Imports of goods (USD million)	-20 980	-22 233	-19 937	-16 055	-20 637	-15 400
Trade surplus/deficit (USD million)	-9 619	-10 343	-7 997	-6 008	-8 139	-6 532
Average international reserves (USD million)	8 887	7 738	8 597	6 073	3 315	1 828
Average exchange rate LKR/USD	152.85	182.75	181.63	186.41	200.43	360.00

Source: Economist Intelligence Unit (EIU), Country Report Sri Lanka, accessed in July 2022. ¹⁷ Forecast by EIU.



Figure 2: Sri Lanka – International reserves and exchange rate, 2020-2022

Note: Date for FOREX reserves available up to May 2022.



currency inflows in 2022 and, therefore, foreign exchange reserves are anticipated to remain tight. A poor performance of the whole agricultural sector will also hamper economic growth. The government has mobilized external financing from bilateral partners, including a financial assistance package from India worth USD 1.4 billion signed in January 2022 and an addition USD 1 billion support package signed in March 2022, to pay for essential imports and boost foreign exchange liquidity.

In May 2022, the foreign exchange reserves were estimated at USD 1 920 million, well below the average of USD 8 600 million in 2019, driven by

unsustainable debt service costs and widening trade deficits, which led to the country's first sovereign debt default. The exchange rate was generally stable at LKR 200/USD between August 2021 and February 2022. On 7 March, the Central Bank decided to devaluate the LKR to prevent reserve losses. Overall, the Sri Lanka rupee lost more than 40 percent of its value against the US dollar between March and July 2022. In July 2022, the LKR reached an all-time low value of LKR 360.3/USD, compared to LKR 199.2/USD a year earlier (Figure 2). The strong depreciation of the national currency, coupled with dwindling foreign currency reserves, have curtailed the country's capacity to meet its



Figure 3: Sri Lanka – General and food inflation, 2020-2022

Source: Central Bank of Sri Lanka, 2022.

external and domestic debt commitments and pay for imports. This has caused acute shortages and price spikes of essential products, including fuel, medicines, food and agricultural inputs, paralyzing the whole economy and causing major disruptions to agricultural production. In an attempt to improve availability of essential food and medicine, on 9 March 2022, all taxes on these items were waived and the government limited imports of 350 non-essential items, including dairy products, fruits, footwear and wine.

The general and food inflation rates strengthened since October 2021 and reached 60.8 and 90.9 percent, respectively, on a yearly basis in July 2022, the highest levels on record (Figure 3). The inflationary pressure for the remainder of 2022 is expected to strengthen as a result of severe shortages in foreign exchange, the recently introduced special good and services tax, and a surge in global energy and fuel prices due to the sanctions imposed on the Russian Federation. The depreciation of the Sri Lanka rupee will likely continue in 2022, adding upward pressure on prices of imported goods.

Based on expectations that a debt restructuring operation would take place by the end of 2022 and an IMF financial bailout programme is implemented in 2023, the economy may begin to recover from 2024, with a modest GDP growth due to an expected increase in exports of goods and services, consumption and the disbursement of donor funds.

Population

The country's population in 2022 is estimated at 21.6 million, with an annual growth rate of approximately 0.4 percent during the last five years (UN DESA, 2022).ⁱⁱ About 80 percent of the population live in rural areas, with a relatively high population density of 334 people per km² (Sri Lanka DCS, 2021/22)ⁱⁱⁱ.

Agriculture

The total land area is estimated at about 6.5 million hectares, including 3.54 million hectares of agricultural land (54 percent), 1.95 million hectares of forest (31 percent) and the rest is occupied by water bodies and urban areas.

The country's main agricultural product is rice, which is the staple food and the main source of calories. Rice is grown under a wide range of environmental conditions, such as different elevations, soils and hydrological regimes. The main cropping season, known as "Maha", stretches from September to March, and normally accounts for 60 to 65 percent



Figure 4: Sri Lanka - Crop calendar

Source: FAO/Global Information and Early Warning System (GIEWS), 2022.

Figure 5: Sri Lanka - Area harvested, yield and production of paddy crop, 1983–2021



Source: Department of Census and Statistics, 2022.

of the country's annual paddy production (Figure 4). The output of the "Maha" season depends on the amounts of the inter-monsoon rains and the northeast monsoon. The secondary "Yala" season stretches from April to September and relies on the minor southwest monsoon and irrigation waters. Rice crop is mostly grown by smallholder farmers. About 70 percent of the paddy holdings have a size smaller than 0.8 hectares (2 acres) and 25 percent of the paddy holdings have less than 2 hectares (5 acres).^{iv} The most popular rice type, accounting for 60 percent of paddy production, is the long grain rice (*nadu*), followed by the short grain rice (*samba*), which accounts for about 20 percent of production.^v Legislation prohibits the cultivation of other crops on most paddy lands and alternative crops are allowed only on exceptional cases, depending on the availability of irrigation water, which is provided free of charge through an extensive network of irrigation canals.

Rice production has steadily increased between 1980 and 2013, reflecting improved seed varieties, including hybrids, extension of irrigation infrastructure and higher supplies of agricultural inputs (Figure 5). Over the last 20 years, yields increased by more than 20 percent, which together with steady increases in planted area, allowed the country to become nearly self-sufficient in rice by 2010. The paddy output was volatile between 2013 and 2017, mostly reflecting unfavourable weather





Note: Blue colour - wet zone, green colour - intermediate zone, rose coulour - dry zone. Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

Source: Department of Agriculture of Sri Lanka. [Cited August 2022], complies with UN. 2022. Map of the World [online].

conditions and forced the country to increase rice imports. Paddy production followed an increasing trend between 2018 and 2021, reflecting generally favourable weather conditions and adequate agricultural inputs availability, including fertilizers, pesticides and irrigation water availabilities.

Other important agricultural food crops and food items are maize, pulses, oilseeds, vegetables, fruits, sugarcane, milk, eggs, beef and fish. Tea, grown on about 225 000 hectares of agricultural land, is a major source of foreign exchange and it employs, either directly or indirectly, more than 1 million people. Other important export crops are rubber (on about 125 000 hectares) and coconuts (on about 395 000 hectares), while the production of spices, such as cinnamon, pepper, cloves, cardamom, turmeric, coffee, cocoa and nutmeg, has been promoted in recent years.

There are four main distinct rainfall seasons. The first inter-monsoon season usually stretches between March and April and supports planting of the secondary "Yala" season crops, such as

paddy, various types of pulses and oil crops, chilies, onions and maize that will be harvested in August–September.^{vi} The "Yala" crops receive also rains of the Southwest monsoon season that usually begins in May and ends in September. The second inter-monsoon season usually stretches between October and November and supports plantings of the main "Maha" season crops, mainly paddy, maize, millets and pulses. The "Maha" crops receive rains of the Northeast monsoon season that usually begins in December and continues until February.

Based on the total annual rainfall amounts, the country is broadly divided into three climatic zones (Figure 6):

- Wet zone (WZ) Rainfall > 2 500 mm
- Intermediate zone (IZ) Rainfall 1 500 2 500 mm
- Dry zone (DZ) Rainfall < 1 500 mm</p>

The annual rainfall amount varies from less than 900 mm in the southeastern and northwestern areas of the country to over 5 000 mm in the western slopes of the central highlands. Reflecting differences in land use, vegetation, rainfall and soils the country is divided into 24 agroecological regions. Environmental change, coupled with availability of more spatial and temporal data has led to the further division into 46 subregions.

Food imports

Wheat and wheat flour account for the largest share of national cereal imports. Large quantities of rice and maize are only imported when local production is not sufficient to cover the domestic needs.

The imports of rice, after reaching a record high volume of 750 000 tonnes in 2017 as a consequence of the drought-reduced 2016/17 "Maha" output, fell to low levels of about 16 000 to 25 000 tonnes between 2018 and 2020, reflecting a recovery of paddy production and the implementation of high import duties (Figure 7). In 2021, imports of rice spiked to about 150 000 tonnes, as a preventive measure to secure stocks ahead of the poor 2021/22 "Maha" output harvested in February/March 2022.

Wheat is not produced in the country and the entire domestic requirements are covered by imports. Annual imports of wheat grain and flour ranged from 1.2 to 1.4 million tonnes between 2017 and 2021. Maize imports have steadily decreased during the last years, reflecting the rising production, which recently nearly covered the entire domestic requirements.



Figure 7: Sri Lanka - Cereal imports (rice milled equivalent), 2017–2021

Source: Trade Data Monitor, accessed July 2022.

KEY FACTORS AFFECTING AGRICULTURAL PRODUCTION IN 2022

In 2022, a set of factors has affected the agricultural output, including paddy, the country's main staple.

Rainfall

The spatial and temporal distribution of rains during the 2021/22 main "Maha" season was uneven and had localized negative effects on crop yields. After a timely start of the inter-monsoon rains, average to above-average rainfall amounts between October and November 2021 benefited planting activities and early development of paddy crops, and boosted irrigation water availabilities. However, heavy rains between the third dekad of October and the first dekad of November triggered floods in parts of Northern, North Central, Eastern and Central provinces, causing localized crop losses. Many farmers in these areas had adequate stocks of seeds and replanted crops after the floods. Between December and February 2022, erratic and reduced rains were recorded in parts of Northern, North Central, North Western, Eastern and Southern provinces. The rainfall deficits almost did not affect the early-planted crops, which were ready to be harvested, but had a moderate impact on late-planted paddy crops, which were at critical reproductive stages of development, resulting in below-average vegetation conditions (Figure 8 and Figure 9).

Since April 2022, rainfall amounts were close to average over most parts of the country and, together with adequate irrigation water supplies, benefited planting activities of the 2022 "Yala" crops. However, the Southern and North Western provinces, which together account for about 25 percent of the "Yala" paddy sowings, received below-average rains between the first dekad of June until the third dekad of July. These rainfall deficits, coupled with drainage problems and lack of fuel for pumping irrigation waters, constrained the late cultivation of the "Yala" paddy crops.



Seed availability

Seed availability for paddy, maize and other crops during the 2021/22 "Maha" and 2022 "Yala" seasons was adequate. For paddy, farmers normally source seeds from retained production of their previous harvest, farmer-to-farmer exchanges or purchase of certified seeds produced by the Department of Agriculture and the Provincial Department of Agriculture, or by government-registered local seed farmers and private seed companies. Conversely, farmers growing maize and vegetable crops rely exclusively on markets to purchase hybrid seeds, which are mostly imported.

In 2022, approximately 90 percent of the farmers used seeds saved from the previous harvests, while less than 10 percent of them had access to improved varieties from the Department of Agriculture or the government-registered seed farmers. The availability of imported hybrid seeds of maize and vegetables were reported to be adequate. However, prices of paddy, maize and vegetable seeds for the 2021/22 "Maha" and 2022 "Yala" seasons, albeit homogeneous throughout the country, were significantly above their year-earlier levels.



Figure 8: Sri Lanka – Anomalies of Vegetation Condition Index (VCI), October 2021–June 2022

Note: The Index calculation is based on METOP-AVHRR data.

Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

Source: FAO/GIEWS Earth Observation - <u>www.fao.org/giews/earthobservation</u>, 2022. [Cited June 2022], complies with UN. 2022. <u>Map of the World</u> [online].



Figure 9: Sri Lanka – Seasonal rainfall patterns in all provinces, 2021-2022

Source: Vulnerability Analysis and Mapping (VAM) of WFP - Seasonal Explorer https://dataviz.vam.wfp.org/, 2022.

For the upcoming 2022/23 "Maha" season, concerns about paddy seed availability and quality arise due to poor yields of the 2021/22 "Maha" and 2022 "Yala" crops. Many farmers and district authorities reported low levels of quantity and quality of seeds retained from domestic production in 2022, increasing the likelihood of shortages of paddy seeds.

Reflecting the severe shortages of foreign exchange reserves, the country is not expected to be able to import maize and vegetable seeds to bolster the depleted seed stocks. This raises serious concerns and could have a negative impact on the cultivation of maize and vegetables in 2022/23 "Maha" season.

Agrochemicals

In 2022, the extremely low availability, access and use of fertilizers and pesticides were the main factors that negatively impacted the 2022 crop production, leading to a sharp decline in yields of the 2022 "Maha" crops and curtailing yield expectations of the "Yala" crops.

On 6 May 2021, the government banned the imports of chemical fertilizers with the aim to transform the country's agricultural sector into EOA. The use of agrochemicals was linked to widespread chronic health problems and ecological destruction across the country.

The government also banned the imports of synthetic agrochemicals (pesticides, fungicides and weedicides). Prior to the ban, the most commonly used pesticides products were Abamectin, Carbosulfan and Chlorantraniliprole 20% + Thiamethoxam 20%. Used fungicides products were Chlorothalonil, Mancozeb, while pretilachlor 30% EC, Bispiribac sodium + Metamisop, Propanil + clomazone and MCPA were the most common weedicide.^{vii}

To roll out the EOA transition during the 2021/22 "Maha" season, the government announced, in mid-July 2021, the payment of LKR 12 500 (about USD 35) for each hectare of paddy cultivated, up to a maximum of 2 hectares, to farmers who would produce organic fertilizers for their own use following the guidance of the Agrarian Development Department. In late August 2021, the government allocated LKR 3.8 billion (about USD 10.6 million) for the purchase and free distribution of organic fertilizers, produced by local manufacturers. As domestic production of organic fertilizers was not sufficient to meet the national requirement, organic nutrients to produce organic fertilizers domestically and already prepared organic fertilizers needed to be imported. The imports mostly consisted of liquid nano-nitrogen fertilizers and natural granular potassium chloride, products that failed to supply the required nutrients, especially nitrogen for the paddy crop. Due to the country's constrained capacity to import and issues related to guarantine and other phytosanitary requirements imposed by local authorities, imports of organic fertilizers were

stopped. As a result, the volume of organic fertilizers produced by the government, farmers and the private sector for the 2021/22 "Maha" season was not adequate to cover the estimated requirements.

The availability of organic fertilizers was very limited in most markets and their access was hampered by extremely high prices. Some farmers resorted to buy low quality fertilizers and illegal pesticides in a flourishing black market. Most farmers interviewed by the mission reported that the training delivered to farmers on how to shift from chemical to organic-based agriculture was not extensive and consisted mostly about formulas for the preparation and the mix of raw organic materials into compost production. Essential technical components, such as land preparation and fertilizer application schemes, were not included in the training.

In late November 2021, the EOA was phased out, following months of increasing upheaval and protests by farmers and the initial signs of a rampant food inflation, together with unfavourable prospects for the 2021/22 "Maha" crop due to nutrient deficiency. When the ban was lifted, the international prices of chemical fertilizers were at all-time highs. The most notable increases were registered for nitrogen fertilizers, with prices of urea up by more than three times the levels in early 2021. Prices of phosphorus fertilizers followed the same trend during this period (Figure 9). The record high international prices came on backdrop time of a strong depreciation of the Sri Lanka rupee and shortages of foreign currency reserves, which together severely constrained the country's capacity to import sufficient amounts of agrochemicals.

A persisting tight supply of chemical fertilizers led to a surge in domestic prices, further constraining access to these products, particularly affecting small-scale farmers. Domestic prices of a 50-kg bag of urea during the 2021/22 "Maha" season were between LKR 40 000 (USD 111) to 50 000 (USD 140), up from a subsidized price, prior to the ban, of LKR 1 500 (USD 7.5). Previously to the ban, the government subsidized fertilizers, the farmer would pay the full market price (LKR 2 500/50 kg) and received a cash hand-out of LKR 5 000 per 1 acre (maximum amount is LKR 25 000 for 5 acres) on purchase.



Figure 10: International prices of fertilizers, 2020–2022

Source: Commodity Markets (World Bank), accessed July 2022.

During the current 2022 "Yala" season, prices of urea have remained within the same range. Prices of triple superphosphate (TSP) and muriate of potash (MOP) increased from LKR 1 000 to 1 500 in 2021 to LKR 27 500 (USD 77) and 35 000 (USD 97) in 2022, respectively. Under these market conditions, several farmers reported that they were only able to apply 10 to 20 percent of the nitrogen required for the 2022 crops.

Supplies of pesticides and weedicides also remained low, while prices increased significantly and, in June 2022, were well above their levels in 2021, severely constraining farmers' access and use of these products. For instance, prices of most weedicides in 2022 doubled the levels in 2021. As a result, many farmers resorted to buy ineffective or hazardous products available in the black market.

Crop pests and diseases

Above-average pest attacks and fungal diseases on vegetables, fruits and rubber crops were reported by farmers and district authorities, with a significant impact on yields, due to the low application of pesticides. Regarding paddy, both the 2021/22 "Maha" and the 2022 "Yala" paddy crops were severely affected by widespread presence of weeds.

During the field visits, the mission observed that a large share of paddy fields was severely infested by weeds, competing with crops for water, nutrients and sunlight. In the case of maize crops, the shortages of pesticides led to a sharp decrease in plantings as farmers refrained from planting given that the crops increased susceptibility to uncontrolled weeds, insects and diseases.

Fuel, planting and harvesting operations

Fuel supply deficits grew sharply since March 2022, caused by low levels of foreign currency reserves that limited imports. The severe shortages caused surges in domestic prices and in June 2022, prices of fuel were on average 2.5 times higher than a year before (Figure 11). This situation had a severe negative effect on agricultural operations and across the whole supply chain, resulting in lower sales, reduced famers' income and increased post-harvest losses.

Land preparation and harvesting activities of paddy crops are mostly mechanized. Land preparation is normally carried out using two-wheel or four-wheel tractors, while harvesting is mostly carried out by using combine harvesters. Overall, machinery and



Figure 11: Sri Lanka – Domestic fuel prices, 2021-2022

Figure 12: Sri Lanka – Aggregate average paddy production costs per hectare, 2019–2022





fuel availability were adequate for land preparation, planting and harvesting of the 2021/22 "Maha" and the planting of 2022 "Yala" crops. However, at the time of the field visits, farmers informed the mission about current constraints to access fuel and hire combined harvesters for the harvesting of the "Yala" crops, amid severe financial difficulties. In general, machinery operation costs have increased significantly in 2022, nearly doubling their year-earlier levels, supported by increased fuel prices and logistical bottlenecks.

Overall, the aggregate production costs of crops have increased sharply, underpinned by higher prices of fertilizers and agrochemicals, seeds, labour and mechanized operations. In the case of paddy, production costs doubled in 2022 to LKR 200 000, up from LKR 100 000 in 2021 (Figure 12).

Production of cereals and other crops in 2022

Paddy production

Estimated production of the 2021/22 "Maha" paddy crops

- The total area harvested of the 2021/22 "Maha" paddy crops is officially estimated at 760 000 hectares, close to the 2020/21 above-average level (Table 2). The high level of plantings was supported by the government's commitment to supply adequate quantities of organic fertilizers as a substitute of banned chemical fertilizers and the official announcement, in October 2021, that farmers would be compensated for yield losses associated with the shift to the EOA. In addition, high prices of paddy at planting time supported farmers' planting intentions.
- Yields of the 2021/22 "Maha" paddy crops were severely affected by the low application of fertilizers and agrochemicals associated to the EOA transition as well as by unfavourable weather conditions in parts of the country. The national average yield for the "Maha" season is estimated at 2.47 tonnes/hectare, the lowest level since 1975/76 and 40 percent lower compared to the previous year.
- The districts of Jaffna, Vavuniya and Mullaitivu (North Province), Batticaloa and Trincomalee (East Province), Anuradhapura (North Central Province) and Nuwara Eliya (Central Province), mostly located in the country's DZ, were the areas that registered the highest declines in yields, ranging from 50 to 60 percent down year on year (Figure 13). This is associated to the poor economic conditions of farmers, which further constrained their access to



Figure 13: Sri Lanka - Yield reduction of 2021/22 "Maha" paddy crops compared with 2020/21, by districts

Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Source: Department of Census and Statistics, 2022. [Cited August 2022], complies with UN. 2022. <u>Map of the World</u> [online].

		Area harvested (000 hectares)	ted es)		Change	(t	Yields (tonnes/hectare)	(e)	Averado	Change		Production (000 tonnes)		Averade	Change
Provine/District	2021/22	2020/21	Change 21/22 over 20/21	2019-2021	three-year average	2021/22	2020/21	Change 21/22 over 20/21	2019-2021	three-year average	2021/22	2020/21	Change 21/22 over 20/21	2019-2021	three-year average
West															
Colombo	3.8	3.9	. .	3.3	15	2.1	3.2	-34	3.6	-41	8,0	12.2	-34	10.1	-21
Gampaha	11.2	12.4	6-	10.7	IJ	2.4	3.2	-25	3.9	-39	27.1	39.4	-31	35.2	-23
Kalutara	11.6	12.9	-10	10.9	9	2.4	3.1	-23	3.5	-32	27.1	40	-32	35.5	-24
Central															
Kandy	12.2	12.2	0	11.4	7	2.6	3.7	-30	4.5	-42	31.1	45.5	-32	40.5	-23
Matale	19.9	18.9	9	18.7	9	3.0	5.1	-41	5.4	-45	59.0	96.3	-39	91.1	-35
Nuwaraeliya	4.6	4.9	9-	3.8	23	2.1	2.8	-25	4.5	-54	6.2	13.8	-55	10.1	-39
South															
Galle	10.9	13.4	-18	9.9	11	2.0	2.7	-26	3.5	-44	20.2	35.5	-43	27.1	-26
Matara	13.2	13.9	Ч	12.8	m	2.2	2.8	-21	3.9	-43	28.6	39.4	-27	39.0	-27
Hambantota	36.0	34.9	m	34.7	4	3.5	5.1	-31	6.3	-44	124.9	179.3	-30	189.7	-34
North															
Jaffna	7.8	8.6	-10	9.7	-20	1.2	2.3	-48	3.5	-65	12.0	19.5	-38	30.3	-60
Mannar	20.2	20.1	0	19.6	ω	2.5	5.0	-50	5.1	-51	51.3	100.6	-49	94.6	-46
Vavuniya	18.9	19.3	-2	18.9	0	1.9	4.0	-53	4.9	-61	35.2	77.3	-54	87.7	-60
Mulativu	19.8	22.7	-13	17.3	14	2.2	4.0	-45	4.6	-52	43.1	91.5	-53	74.2	-42
Killinochchi	27.4	27.4	0	26.9	2	2.2	3.1	-29	3.8	-41	60.4	85.0	-29	89.6	-33
East															
Batticaloa	66.5	65.6	1	64.7	ω	1.4	3.4	-59	3.6	-61	96.3	220.6	-56	205.1	-53
Ampara	81.2	79.9	2	77.7	Ð	2.7	4.6	-41	4.9	-44	221.5	365.1	-39	360.6	-39
Trincomalee	39.6	39.8	-	38.9	2	1.9	3.9	-51	4.3	-56	74.8	157.3	-52	154.8	-52
North Western															
Kurunegala	76.0	75.6	1	79.2	-4	3.4	3.8	-11	4.4	-23	260.3	285.5	6-	350.2	-26
Puttalam	19.5	19.2	1	19.7	-	2.1	3.2	-34	4.3	-51	40.0	61.2	-35	72.7	-45
North Central															
Anuradhapura	115.9	112.4	m	113.3	2	2.2	4.1	-46	5.4	-59	260.4	460.6	-43	488.9	-47
Polonnaruwa	66.5	66.5	0	66.1	. 	2.7	4.6	-41	5.2	-48	182.6	307.2	-41	306.1	-40
UVA															
Badulla	23.5	23.6	<u>,</u>	24.9	-9	2.6	4.1	-37	4.7	-44	58.0	97.3	-40	98.6	-41
Monaragala	34.2	34.2	0	31.3	6	2.9	4.5	-36	4.8	-39	98.4	154.2	-36	146.1	-33
Sabaragamuwa															
Ratnapura	13.0	13.4	-2	11.7	11	2.5	3.8	-34	4.8	-47	32.2	50.7	-36	47.2	-32
Kegalle	6.3	6.8	<i>L-</i>	6.0	5	3.3	3.9	-15	4.5	-26	20.0	26.3	-24	25.1	-20
TOTAL	759.7	762.4	0	742.1	2	2.5	4.0	-38	4.5	-45	1 878.7	3 061.4	-39	3 110.2	-40

agricultural inputs, and to the predominant cultivation of short-cycle varieties of paddy that require adequate and timely application of fertilizers. Additional crop losses in some of these provinces were caused by localized floods triggered by heavy rains in October and November 2021 and rainfall deficits between December 2021 and February 2022 in parts of Northern and Southern provinces.

Reflecting the sharp decline in yields, paddy production of the 2021/22 "Maha" crops is estimated at 1.88 million tonnes, almost 40 percent down year on year and the lowest level since the drought-affected 2016/17 "Maha" season. With the aim of supporting the livelihoods and productive capacities of about 490 000 paddy farmers that opted to cultivate organic crops, the government planned to allocate LKR 40 billion (USD 108.8 million) to compensate for the economic losses experienced during the 2021/22 "Maha" season. However, at the time of the mission, farmers reported they have not yet received any compensation.

Forecast production of the 2022 "Yala" paddy crops

 \geq Production prospects of the 2022 secondary "Yala" paddy crops, to be harvested between August and September 2022, are unfavourable. The area planted is estimated at 466 000 hectares, about 6 percent below last year's high level, but still above the three-year average (Table 3). A large share of farmers decided to reduce sowings of the "Yala" paddy crops, reflecting their eroded financial resources due to the failure of the "Maha" crop and the extremely high production costs. In order to induce farmers to plant, the MoA announced, in mid-June 2022, that uncultivated or abandoned paddy lands would be acquired by the government for a period of five years and handed to landless people to be planted. Furthermore, the government announced the availability of urea fertilizers through the Indian credit

line for paddy farmers. This prompted many farmers to increase late plantings, with many of them engaging in negative livelihood coping strategies, including pawning or selling valuable goods and productive assets, as well as borrowing money from banks or informal lenders, incurring in high debt costs.

- The mission assumed that most of the planted areas will be harvested. However, high prices and low availability of fuel are likely to result in logistical bottlenecks of harvesting operations. Combine harvester owners are requesting farmers to provide fuel and most vulnerable farmers are unable to comply. If mechanized harvesting operations are not completed by the end of September 2022, when the onset of the rainy season is expected, harvest and post-harvest losses are likely to increase. High losses are also expected if farmers opt to conduct the harvest manually, which could be difficult amid shortages and high costs of labour.
- Yields of the "Yala" paddy crops are expected to decrease sharply. The mission observed widespread stunted growth of crops across the country, with paddy plants having a reduced number of tillers and panicles with empty grains as well as yellowed paddy fields due to nitrogen deficiency. In addition, rainfall deficits and drainage problems, due to the lack of fuel for pumping irrigation waters when needed, constrained the "Yala" paddy crop yields. As a result, the average yield of "Yala" paddy crops was forecasted at a well below-average level of 2.4 tonne/hectare, a 43 percent decline from their year-earlier levels.
- The 2022 "Yala" paddy production was forecasted by the mission at 1.12 million tonnes, 46 percent below last year's level and considerably below the average level. Large yield reductions are expected especially in northern dry areas (Figure 14) which already experienced the failure of the "Maha" crops, with severe implications for farmers' income generation and food security.

Table 3: Sri Lanka – Comparison between "Yala" 202	Lanka –	Compa	rison be	tween "Y	'ala" 202	1/22,	020/21 a	2020/21 and three-year average	-year av	erage a	rea, yie	ld and p	area, yield and production of paddy	n of pac	ldy
Provine/District	2021/22	Area harvested (000 hectares) 2020/21 2	ed ss) Change 21/22 over 20/21	Average 2019-2021	Change 21/22 over three-year average	(tc 2021/22	Yields (tonnes/hectare) 2020/21 2	re) Change 21/22 over 20/21	Average 2019-2021	Change 21/22 over five-year average	2021/22	Production (000 tonnes) 2020/21) Change 21/22 over 20/21	Average 2019-2021	Change 21/22 over three-year average
West															
Colombo	2.3	2.3	0	2.1	6	1.8	2.1	-14	2.9	-39	4.1	4.9	-16	5.3	-22
Gampaha	8.5	8.5	0	7.6	12	1.9	2.5	-24	3.2	-41	16.2	21.6	-25	20.8	-22
Kalutara	9.3	9.4	-1	8.6	8	1.9	2.8	-32	3.1	-39	17.7	26.5	-33	25.1	-29
Central															
Kandy	9.1	9.3	-2	8.0	14	1.6	2.3	-30	3.5	-54	14.6	21.6	-33	21.9	-34
Matale	11.8	12.3	4-	8.3	41	2.3	4.2	-45	5.0	-54	27.1	51.4	-47	36.6	-26
Nuwaraeliya	2.5	2.6	-4	2.8	-11	1.8	2.2	-18	3.7	-52	4.5	5.7	-21	6.4	-30
South															
Galle	7.8	8.3	9-	7.3	7	1.8	2.3	-22	2.9	-38	14.0	18.9	-26	16.5	-15
Matara	12.5	13.9	-10	12.0	4	1.8	2.9	-38	3.5	-49	22.5	40.8	-45	33.8	-33
Hambantota	31.3	34.5	6-	33.6	-7	3.1	5.1	-39	5.8	-47	97.0	175.2	-45	171.6	-43
North															
Jaffna	,	ı	ı	ı	ı	ı	ı	ı		,	ı	ı	ı	ı	ı
Mannar	2.7	2.7	0	1.8	54	3.2	4.7	-32	5.3	-39	8.6	12.9	-33	8.6	0
Vavuniya	5.1	5	2	2.9	74	1.4	5.3	-74	5.5	-75	7.1	26.6	-73	15.3	-53
Mulativu	7.4	7.4	0	6.0	23	3.0	5.0	-40	5.2	-42	22.2	36.8	-40	29.5	-25
Killinochchi	10.1	10.1	0	9.9	2	2.8	4.1	-32	5.0	-44	28.3	41.3	-32	44.0	-36
East															
Batticaloa	28.0	28.5	-2	27.3	m	2.5	4.1	-39	4.3	-42	70.0	117.4	-40	104.7	-33
Ampara	62.5	62.8	0	59.5	ъ	3.0	5.0	-40	5.2	-42	187.5	313.7	-40	295.7	-37
Trincomalee	24.1	25.2	-4	21.8	10	2.0	4.9	-59	5.2	-61	48.2	123.5	-61	105.1	-54
North Western															
Kurunegala	55.1	68.0	-19	51.8	9	2.2	4	-45	4.1	-47	121.2	273.6	-56	215.2	-44
Puttalam	13.0	17.5	-26	13.0	0	2	3.4	-41	4.3	-53	26.0	58.7	-56	46.2	-44
North Central															
Anuradhapura	62.0	62.0	0	44.5	39	2.1	8. 8.	-45	4.9	-57	130.2	233.9	-44	174.0	-25
Polonnaruwa	58.9	62.4	9-	62.0	Ϋ́	2.6	4.8	-46	5.4	-52	153.1	300.3	-49	296.0	-48
UVA															
Badulla	11.8	12.1	-2	11.6	2	2.4	4.3	-44	5.1	-53	28.3	52.3	-46	49.8	-43
Monaragala	15.0	15.8	ή	14.4	4	2.7	4.9	-45	5.0	-46	40.5	77.8	-48	70.8	-43
Sabaragamuwa															
Ratnapura	10.0	10.7	-7	9.8	M	2.1	3.5	-40	4.5	-53	21.0	37.6	-44	36.5	-42
Kegalle	5.0	5.5	6-	4.7	7	1.7	2.8	-39	3.2	-47	8.5	15.3	-44	14.4	-41
TOTAL	465.8	496.8	-9	431.2	∞	2.4	4.2	-43	4.3	44	1 118.6	2 088.3	-46	1 843.9	-39

Source: Department of Census and Statistics (2018/19 to 2020/21) and CFSAM forecast (2021/22), 2022.

Figure 14: Sri Lanka - Yield reduction of 2021/22 "Yala" paddy crops compared with 2020/21, by districts



Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Source: Department of Census and Statistics, 2022. [Cited August 2022], complies with UN. 2022. <u>Map of the World</u> [online].

Aggregate paddy production in 2022

National paddy production in 2022, including a forecast for the 2022 "Yala" crops, is estimated by the mission at 3 million tonnes, 42 percent below last year's above-average level and the lowest level since the 2017 drought-affected production (tables 2 and 3). Concerns remain about the harvesting of the "Yala" crops as the acute shortages of fuel could constrain timely harvesting operations and is likely to increase the harvest and post-harvest losses.

Concerns for the upcoming 2022/23 "Maha" crop

Additional concerns arise about the upcoming 2022/23 "Maha" season as many small-scale and commercial farmers expressed intention to significantly reduce the area planted with paddy crops if the elevated costs of agricultural inputs prevailed or increased further and limit production to cover only their household consumption needs. During the 2022 "Yala" season, some paddy farmers started to cultivate vegetable crops as they were providing higher profit margins. This shift towards alternative crops might intensify during the upcoming "Maha" 2022/23 season, leading to a decline of paddy plantings. A reduced availability, lower quality and higher costs of paddy seeds might also contribute to further reductions of the planted area, while fertilizer requirements for the 2022/23 "Maha" (Table 4), might not be met due to lingering constraints to pay for imports.

Product	Extent (hectares)	Urea (tonnes)	TSP (tonnes)	MOP (kg)
Paddy	817 000	186 483	19 071	30 652
Maize	110 000	36 187	11 135	5 567
Chilli	11 100	5 309	1 118	1 118
Green gram	8 173	531	817	613
Finger millet	4 055	791	223	335
Groundnut	14 860	966	1 486	1 115
Cowpea	9 972	648	997	748
Red onion	3 111	607	311	264
Black gram	14 950	972	1 495	1 121
Soybean	907	91	136	68
Big onion	25	29	15	11
Ginjelly	3 180	350	382	191
Vegetable	60 000	9 790	9 071	6 366
Fruit	128 000	48 400	35 353	80 067
Total	1 185 333	291 154	81 610	128 236

Table 4: Sri Lanka - Total chemical fertilizer Requirements, 2022/23 "Maha" season, paddy, vegetables and other field crops

Notes: Calculated amount based on recommendation and annual need as fruits are mostly perennial. However the total usage is very low. Fertilizer requirement was calculated based on blanket recommendation of Department of Agriculture for other field crop. Vegetables and Fruit crops For paddy soil test-based fertilizer recommendation in ASC Region was followed.

Sources: Department of Agriculture of Sri Lanka, calculation made by FAO, 2022.

Maize production

Production of maize increased steadily between 2017 and 2021, mostly reflecting a sustained expansion of the planted area driven by the growing demand for feed and the government support as part of an import substitution programme (Table 5). Farmers mainly cultivate imported high-yielding hybrid varieties that require a substantial application of chemical fertilizers and pesticides.

Production of maize, which mostly takes place during the "Maha" season, was severely affected by the low availability and high prices of agricultural inputs in 2022. The planted area is officially estimated at 73 000 hectares, 30 percent below the previous year's level, and yields declined by about 45 percent on a yearly basis. Overall, the 2022 aggregate maize output is estimated at about 187 000 tonnes, over 60 percent below the 2021 level and 40 percent below the previous five-year average. The sharp decline in domestic production and the country's inability to import to fill the gap, had a severe negative impact on the poultry and livestock industries.

Vegetables, fruits and other crops

The prevailing adverse effects of the unsuccessful transition to organic agriculture, compounded by the high prices and shortages of fuel and electricity cuts, are expected to have a negative impact also on production of vegetables, annual fruits and other cash crops, including key export-oriented tea, coconut and rubber. The planted and harvested area of these crops is expected to decline in 2022, mostly due to high production costs and market disruptions underpinned by the shortages of fuel. According to farmers interviewed during the field visits, these factors are steadily reducing profit margins and increasing post-harvest losses. Yields of these crops are expected to register

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Change 2021/22 compared with 2020/21 (%)	Five-year average	Change 2021/22 compared with five-year average (%)
Area ('000 hectares)	53	71	63	78	108	73	-32	75	-2
Production ('000 tonnes)	197	270	246	314	475	187	-61	300	-38
Yield (tonne/hectare)	3.7	3.8	3.9	4.0	4.4	2.6	-42	4.0	-35

Table 5: Sri Lanka – Aggregate maize production, 2016/17–2021/22

Sources: Department of Census and Statistics, FAO/WFP Crop and Food Security Assessment Mission (CFSAM) to Sri Lanka forecast, 2022.

a sharp decline, due to nutrient deficiency and increased losses as a result of pests and diseases. District authorities reported stunting vegetables, such as eggplants and peppers, fruits and tea. Rubber has been affected by a fungal disease, which was already detected in the country over three years ago, but had spread exponentially after the limited application of fertilizers and pesticides, compromising the 2022 production. Other export-oriented spices and coffee crops, which have acquired growing importance in recent years, are also expected to be affected by the severe disruptions across the supply chain. In addition, post-harvest losses have been increasing in the vegetable and fruit sectors as farmers struggle to take their produce out of the fields, while electricity cuts increased cold chain disruptions.

Livestock production

Livestock is produced across all 25 districts of the country and is the livelihood of about 165 000 farmers. In the past five years (2017-2021), the livestock population has increased by an average rate of 5 percent per year. In 2021, the livestock population was estimated at about 26.3 million heads, comprising 24.3 million chickens, 1.1 million cattle, 333 000 buffalos, 362 000 goats, 100 000 pigs, 20 000 ducks and 12 000 sheep (Table 6).

In the past five years, an average of 160 000 cattle, 40 000 goats and sheep, and 22 000 pigs were slaughtered per year. Over this period, the slaughtering rate of cattle was overall stable, while more pigs and less goats and sheep were slaughtered. Although production of milk has

	2017	2018	2019	2020	2021
Cattle	1 001	1 1 1 1	1 086	1 104	1 131
Buffalo	284	309	298	323	333
Goats	287	315	314	334	362
Pigs	95	98	91	93	99
Sheep	10	11	12	11	12
Ducks	11	12	12	14	20
Chicken ^{1/}	21 276	20 531	20 411	24 278	24 311
Total	22 964	22 388	22 223	26 157	26 268

Table 6: Sri Lanka - Livestock population, 2017–2021 ('000 heads)

^{1/} Includes: Cock birds, hens and chicks.

Sources: Department of Census and Statistics, FAO/WFP Crop and Food Security Assessment Mission (CFSAM) to Sri Lanka forecast, 2022.

steadily increased in recent years, it covered only about 40 percent of the national requirement in 2021, with imports of powdered milk covering the gap. The dairy sector is mostly made up by small-scale farmers, with an average production of only 2-3 litres per day.

The production of chicken meat and eggs, the main protein staples, has been severely affected by increased costs of production and limited availability of inputs, including animal feed (mostly maize), have prompted many poultry and egg farms to cease operations. In several districts, up to 80 percent of farms have closed, resulting in high unemployment.

Similarly, production of beef and mutton meat as well and cattle and buffalo milk in 2022 is expected to decline sharply due to the constrained availability of inputs (including veterinary drugs and feed), fuel and electric power, which are compounding structural challenges of the milk (including milk transportation) and meat industries. At the time of the mission, the provision of veterinary extension services were interrupted due to lack of fuel, leading to limited vaccinations, treatments and consequent deterioration of animal health conditions. Difficulties in animal transportation and milk collection, coupled with power cuts, are resulting in increased product losses of perishable food items and low-income of farmers.

Fisheries production

The fisheries industry is key for agricultural production and food security as it covers an important share of nutritional intake and constitutes the livelihood of about 300 000 households. Marine fish production, which comprises coastal and off-shore/deep sea subsectors and accounting for about 80 percent of total fish production, declined significantly in 2020 and 2021 (Table 7). The inland and aquaculture sector, accounting for the remaining 20 percent of production, has grown steadily in recent years following the implementation of government support programmes as a response to the increasing demand for inland fish and prawns.

In 2022, fish production, particularly in the marine sector, has been severely affected. Shortages of fuel, together with increased costs of labour, inputs and equipment, such as ice, packages, containers and fishing gears, severely curtailed the capacity of fishing communities to reach deep waters, secure profitable catch amounts and avoid significant losses and waste along the supply chain. Many fishermen have opted to use old non-mechanized boats for fishing activities. This situation has resulted in a reduction of output for domestic consumption and exports, high market prices and increased unemployment in the fishing communities.

	rish production,				
	2017	2018	2019	2020	2021
Marine	449	439	415	327	332
Coastal	260	249	243	183	178
Off shore/Deep sea	190	190	173	144	153
Inland and Aquacultur	e 82	88	90	102	104
Total	531	527	506	429	436

Table 7: Sri Lanka - Fish production, 2017–2021 ('000 tonnes)

Sources: Department of Census and Statistics, Central Bank of Sri Lanka, 2022.

FOOD SUPPLY AND DEMAND SITUATION

Cereal markets

Prices of food commodities have been on a steady increase since the last quarter of 2021 and reached record or near-record highs in July 2022, with the food inflation rate reaching over 90 percent year on year (Figure 15). The increases in prices have been mostly underpinned by the widespread production shortfall of cereals, vegetable crops, livestock and fisheries products. The consumer price index (CPI) was estimated at 60.8 percent, while the non-food component at 46.5 percent higher compared with last year's level. The depreciation of the national currency has resulted in high domestic prices for imported foodstuffs, while rising fuel prices have increased transportation and marketing costs, adding inflationary pressure.

Prices of domestic rice have been increasing since October 2021 and more than doubled their year-earlier levels in July 2022, from LKR 111.77/kg in June 2021 to LKR 245.73/kg in



July 2022. The price spikes are associated with tight market availability, due to the sharply reduced 2022 main "Maha" production. Prices of wheat flour, totally imported, increased since October 2021 and more than tripled their year-earlier levels in July 2022, from LKR 95.53/kg to LKR 293.31/kg reflecting the depreciation of the national currency and increasing



Figure 15: Sri Lanka – Movement of Climate Change Performance Index (CCPI) based inflation (year-on-year change)

Source: Department of Census and Statistics, 2022.

Food

2022

Non-Food

2021

Headline

trends in the international markets (Figure 16). Similarly, prices of a wide range of imported basic food items, including sugar, powdered milk, dhal (lentils), onions, dry chilli powder and locally-produced chicken meat and coconut oil have increased since October 2021 and reached, in many cases, record or near-record levels in July 2022. Prices of chicken fresh meat per kg increased steadily since the last quarter of 2021 and in July 2022 was nearly 90 percent higher year on year (Figure 17). Prices of milk powder Latogen-1, highly consumed in the country, increased since November 2021, with sharp spikes between May and July 2022 (Figure 18). In July 2022, milk powder (Lactogen-1) prices were more than 200 percent compared to same month a year earlier.

Amid the escalating economic crisis, the acute fuel shortages are hampering physical access to markets as well as curbing income activities, sharply limiting household purchasing power and driving the deterioration of food security conditions.



Figure 16: Sri Lanka – Rice (white) retail prices (nominal terms) in Colombo, January 2021–July 2022

Source: Department of Census and Statistics, 2022.





Source: Department of Census and Statistics, 2022.


Figure 18: Sri Lanka – Milk powder (Lactogen-1) price in Colombo, January 2021–July 2022



Since June 2021, the government has put in place several measures to improve the availability of basic foods, mainly rice and sugar, in domestic markets and limit their price increases (Annex 1). These measures include regulation on stockholding, implementation of an Emergency Regulation to control the domestic supply of rice and sugar, increased sales at subsidized prices, reductions in charges levied on imports. However, considering the reduced domestic production and the country's low capacity to import, including by the private sector, the impact of these policies has been limited or short-lived.

Cereal supply and demand balance for 2022 (January/December)

The national food crop supply/demand balance for the 2022 marketing year (January/December) is summarized below. It considers rice (in milled terms), maize and wheat. In drawing up the national food crop balance, the following assumptions were made:

Population

The total national population in 2022 is estimated by United Nations Department of Economic and Social Affairs (UN DESA) at 21.6 million. This figure is used as the mid-year population of the 2022 marketing year (January/December).

Stock variation

The mission estimates a 250 000 tonnes drawdown of national rice stocks in 2022 as a response to compensate for the reduced 2022 paddy output. Although official data on stocks is limited, particularly from the private sector, households' paddy stocks are expected to be at below-average levels in 2022. No changes are envisaged for wheat and maize stocks in 2022.

Total food production

Using a milling rate of 68 percent, rice production in 2022, including the mission's forecast for the secondary "Yala" crop, is forecast at about 2.04 million tonnes in milled terms. Maize production in 2022 is estimated at 187 000 tonnes. Wheat is not produced in the country and its availability is fully sourced by commercial imports.

Food use

Cereal consumption in 2022 is estimated at 3.75 million tonnes, based on an annual per capita average consumption of cereals of 174 kg. According to the 2019 Household Income and Expenditure Survey, HIES (Department of Census and Statistics),^{viii} the average per capita consumption of rice per year was estimated at 106.97 kg. However, these estimates do not include rice consumption in hotels and hospitals, gifts or other non-paid receipts. To account for these amounts, the mission estimates an annual per capita consumption of 125 kg per person per year. Rice consumption represents the largest share of total food use, followed by wheat at 45 kg and maize at 4 kg. The consumption of rice, maize and wheat supply about 950 calories per day per person, while the rest of the calories are provided by vegetable oils, pulses, sugars and animal products.

Feed use

Maize feed requirements are officially forecast at 500 000 tonnes of maize.

Seed use

The seed requirements for 2023 plantings are estimated at 81 000 tonnes for rice (in milled basis for the purpose of the balance sheet) and 2 000 tonnes for maize based on the country's recommended seed rates and expectations that the planted area in 2023 will be similar to 2022. The following seed rates have been used: 103 kg per hectare for paddy and 15 kg per hectare for maize.

Post-harvest losses

The post-harvest losses (from harvesting to processing and during storage) are estimated at 336 000 tonnes, with rates at 12 percent for rice, 8 percent for maize and 5 percent for imported wheat (storage losses). Losses for rice are expected to be higher than usual as acute shortages of fuel are likely to compromise the timely harvesting of 2022 "Yala" paddy crops. In addition, electricity cuts are expected to negatively affect the transport and processing of crops (threshing). Storage losses for wheat and maize are also expected to be higher compared with average levels, as ventilation is severely constrained by the erratic supply of electricity.

Estimated import requirements

The total cereal import requirement in 2022 is \geq estimated at 2.2 million tonnes. In the first six months of 2022, a total of 932 000 tonnes of cereals (427 000 tonnes of rice, 425 000 tonnes of wheat and 35 000 tonnes of maize) have been imported, well above the average levels (Table 8), mostly reflecting increased imports of rice due to the sharply reduced output. In addition, about 45 000 tonnes of rice have been provided in the form of food aid. This leaves an outstanding cereal import requirement for 2022 of about 1.27 million tonnes, including 594 000 tonnes of wheat, 381 000 tonnes of maize and 292 000 tonnes of rice. Although, the country was able to import large quantities of cereals during the first part of the year, given the persisting macroeconomic challenges, particularly the low level of foreign reserves to finance imports, there is a serious risk that the outstanding import requirement will not be met.

			., (
	Rice (milled) ^{1/}	Maize	Wheat	Total
Domestic availability	2 288	187	0	2 475
Production	2 038	187	0	2 225
Stock drawdown	250	0	0	250
Total utilization	3 052	603	1 019	4 675
Food use	2 697	86	971	3 754
Feed use	0	500	0	500
Seed requirement	81	2	0	82
Post harvest losses	275	15	49	338
Import requirements	764	416	1 019	2 199
Imported quantities January-June	2022 472	35	425	932
Remaining import requirement	nts 292	381	594	1 267

Table 8: Sri Lanka - Cereal supply and demand balance sheet, 2022 ('000 tonnes)

Note: Figures may not add up due to rounding.

¹⁷ Paddy to rice milling rate of 68 percent.

Source: FAO/WFP Crop and Food Security Assessment Mission (CFSAM) to Sri Lanka, 2022.

HOUSEHOLD FOOD AND NUTRITION SECURITY SITUATION

Background information and food security

The mission assessed the household food and nutrition security situation to understand the various ways the economic crisis impacted food availability and access. The food and nutrition security of households deteriorated in the first six months of 2022, underpinned by a range of converging factors, including poor harvests, rising food prices, reduced income opportunities as well as market and food supply chain disruptions. Moreover, the food and nutrition security situation in Sri Lanka continues to deteriorate by the day as households exhaust their coping strategies. The situation is expected to worsen further driven by import shortages, increased prices and livelihoods disruption in addition to the upcoming lean season, between October 2021 and February 2022. The immediate scale up of food and livelihood assistance is critical to mitigate the impacts, especially on the most vulnerable, as well as ensuring the country is able to import adequate amounts of rice and other food products to cover the existing food deficit.

To estimate the number, location and characteristics of acutely food insecure households, a F2F household food security assessment of 2 970 households was conducted between 31 May and 17 June 2022, generating representative findings for each of the nine provinces of Sri Lanka as well as urban, rural and estate populations.⁴ Based on the assessment, over 6.2 million people (28 percent of the



population) were estimated to be moderately acute food insecure and about 66 000 people were estimated to be severely acute food insecure (including 18 600 people in the estate sector such as tea plantations) at the time of the mission.⁵ The highest levels of acute food insecurity were found in the estate sector (57.1 percent) and in Central Province (41.6 percent). Figure 19 presents the acute food insecurity findings from the household assessment.

The household characteristics most strongly associated with acute food insecurity (in addition to living in the estate sector) included: female-headed (39.8 percent), head of household with no education (43.1 percent), Indian Tamil ethnicity (50.3 percent) and beneficiaries of the Samurdi programme (41.3 percent). A slightly different set of characteristics were associated with severe acute food insecurity: estate sector (2 percent), high dependency ratio (2.3 percent),⁶ "Assistance"

⁴ The sample size was set to allow provincial-level estimates with a precision of 7 percent and confidence intervals equal to: estimate ± 1.96 * SE (standard error).

⁵ This estimate of acute food insecurity is based upon WFP's standard corporate definition using the CARI methodology, whereby "moderately acute food insecurity" is an approximation of the Integrated Food Security Phase Classification (IPC) Phase 3 (Crisis), while "severely acute food insecurity" is an approximation of the IPC Phase 4 (Emergency) or above.



Figure 19: Sri Lanka – Acute food insecurity by province and sector

Source: FAO/WFP CFSAM Food Security Survey, 2022.

as main source of income (1.4 percent) and having at least one member living in the household with a disability (1.2 percent).⁷

Access and coping mechanisms

Food consumption

According to the food security assessment, approximately 8.7 million people (39.1 percent) were not consuming an adequate diet at the time of the mission.⁸ This represents a dramatic deterioration compared to the third quarter of 2021, when a survey conducted by the Medical Research Institute (MRI)^{ix} estimated only 3.4 percent of the households had inadequate food consumption. In that survey, only the Estate sector stood out, with 19.8 percent of respondents consuming an inadequate diet. Figure 20 presents the food consumption findings from the assessment. In June 2022, meals predominantly consisted of rice, vegetables, oil and sugar, whilst consumption of fish, an important source of protein in the Sri Lankan diet, averaged just 0.8 days per week. By comparison, in late 2021, MRI research found that households were consuming fish between 2.5–4.5 days per week, depending on the province. Consumption of dairy products, including powdered milk, another important food product in the Sri Lankan diet, also decreased substantially compared with late 2021. A comparison of the mean number of days per week that main food groups were consumed in each survey is presented in Figure 21.

Female-headed households, small households (with one to two members) and households receiving benefits from the Samurdi programme were all strongly associated with having inadequate food consumption during the week prior to the survey.

⁶ Dependency ratio defined as the number of non-working age members to working-age members.

⁷ Disability defined as any member having "A lot of difficulty" or "Cannot do at all" for at least one of six different activities (vision, hearing, mobility, cognition, self-care and communication).

⁸ This estimate is based on the Food Consumption Score (FCS) indicator which measures dietary diversity and food frequency. A household food consumption score is calculated according to the types of foods consumed during the previous seven days, the frequencies with which they are consumed and the relative nutritional weight of the different food groups.



Figure 20: Sri Lanka – Food consumption by province and sector, 2022

Figure 21: Sri Lanka – Number of days per week (mean) of consumption of different food groups



Source: FAO/WFP CFSAM Food Security Survey, 2022.

According to the mission, the nutritional content of diets consumed by households was poor. For the poorest households, diets were particularly lacking protein and iron-rich foods: 12.9 percent and 69.9 percent of the households in the lowest expenditure quintile had not consumed any protein or iron-containing foods in the past seven days, respectively (figures 22 and 23).⁹

As shown in Figure 24, dairy consumption – a proxy for powdered milk which is mostly imported, purchased in the markets, and whose price has increased dramatically over the past six months – is much lower for the households which do not have steady sources of income.



Figure 22: Sri Lanka – Protein consumption by expenditure quintile



Figure 23: Sri Lanka – Iron consumption by expenditure quintile

⁹ Protein-containing foods include: pulses, dairy, flesh meats (chicken, pork, etc.), organ meats, fish and eggs. Iron-containing foods include: flesh meats (chicken, pork, etc.), organ meats and fish.



Figure 24: Sri Lanka – Protein consumption by expenditure quintile

Food-based coping strategies

Households were using a variety of strategies to cope with reduced access to and availability of food resulting from the current economic crisis. The majority of households (61.1 percent) reported regularly using food-based coping strategies because they did not have enough food or money to buy food.¹⁰ This includes about one in every four households (24.2 percent) reporting that they had been reducing the number of meals consumed in a day and nearly half (46.2 percent) reporting that they had been limiting portion sizes. Nearly four in every five households (79.1 percent) in the estate sector were regularly using food-based coping strategies.¹¹ Large households (with more than seven members), those with a member having a disability, as well as those whose main source of income was unskilled labour, were using food-based coping strategies at a similar rate.¹² Of particular concern is the finding that households with pregnant and lactating women were much more likely to use various food-based coping strategies than those without these women (23.6 percent vs. 16.8 percent, respectively). Figures 25 and 26 present the food-based coping findings.

[■] Dairy ■ Eggs Source: FAO/WFP CFSAM Food Security Survey, 2022.

¹⁰ As a point of reference, the level of "high coping" seen in the estate sector is comparable to that observed in the 2021 Seasonal Food Security Assessment in rural Afghanistan.

¹¹ "Regularly" defined as using one or more of five separate food-based coping strategies at least four times in the past seven days.

¹² In at least one FGD, respondents noted that the suspension of the school meal programme in some districts and/or the limited funds to provide adequate school meals, combined with the reduction of school days as a result of lack of fuel and transport, is leading to a reduction in school attendance. The reduction in number of meals/skipping meals at household level exacerbates this situation.



Figure 25: Sri Lanka – Food-based coping by province and sector

Figure 26: Sri Lanka – Food-based coping strategies by province and sector

	Ate less preferred food	Borrowed food	Limited portion sizes	Reduced adult consumption	Reduced number of meals
Total	71	20	46	26	24
Estate	82	32	66	38	46
Rural	71	19	45	25	23
Urban	67	19	45	27	25
Central	73	20	47	27	27
Eastern	75	16	49	22	20
North Central	51	20	37	26	19
North Western	61	12	46	13	18
Northern	75	40	43	26	29
Sabaragamuwa	84	17	68	40	34
Southern	74	17	44	20	14
Uva	73	26	57	35	49
Western	71	20	39	27	23

Source: FAO/WFP CFSAM Food Security Survey, 2022.

Livelihood-based coping strategies

In addition to adjusting their food consumption patterns, households resorted to various livelihood-based coping strategies to cope with insufficient food access and availability, some of which may have a negative impact on their ability to generate income or respond to future shocks. The mission found that nearly half the households across the country (47.7 percent) had applied at least one livelihood-based coping strategy to cope with the lack of food or money to buy it. This share was higher in the estate sector, reaching 73.2 percent of households. The livelihood-based coping strategies households were resorting included spending savings, buying food on credit, borrowing money or pawning jewels. Once these least severe strategies were exhausted, households normally resorted to strategies with higher negative impact on their medium long-term capacity to generate income and their food security. By June 2022, about 23 percent of the households were applying crisis or emergency strategies, including selling productive assets (e.g., farming equipment or vehicles), reducing essential healthcare expenses and withdrawing children from school. About 200 000 households (3.7 percent) were using emergency livelihood coping strategies. The types of livelihood-based coping strategies that the households resorted to depend on their livelihood profiles and underlying demographic characteristics (Figure 27). In the case of the estate sector, more than half the households (52.1 percent) reported purchasing food and/or non-food items on credit in the previous 30 days. By contrast, the livelihood strategy most employed by urban the households was spending their savings (37.6 percent).

Large households, with more than seven members, were also frequently resorting to livelihood-based coping strategies. Normally, large households are buffered from the impacts of shocks since they usually contain more working-age members whose income serves to smooth out economic hardships. However, with food prices rising dramatically at the same time as work opportunities decline, especially those in unskilled agriculture, transportation, construction and other informal sectors, large households are increasingly struggling to respond to the current food shock.

Focus group discussions (FGDs) conducted with households during the mission revealed the challenges many are experiencing as a result of increased levels of debt and their inability to repay due to lack of income-generating activities and the erosion of their resources. As households progressively exhaust their savings and borrowed money, more are expected to engage in further severe coping strategies which will have negative knock-on effects on food security in the medium term.



Figure 27: Sri Lanka – Food-based coping by province and sector

Figure 28 Sri Lanka – Food-based coping strategies by province and sector

Severity	Strategy	Total	Agriculture	e As	ssistance	None		Other	Pension	Salaried	Skilled labour	Small/Med Busines	s Unskilled I	labour
	Sold HH assets	14	12	2	13		14	17	8	1	2 17	, <u> </u>	3	19
Stress	Spent savings	27	2	3	25		31	28	12	2	42	2	3	33
Stress	Purchase on credit	23	19	Э	25		20	30	4	1	5 25	; 1	.7	36
	Borrow from formal lender	13	1	3	7		7	13	3	1	L 14	t 📕 ۱	.2	18
	Sold productive assets	3	:	2	2		7	5	1	:	3 2	2	3	5
Crisis	Reduced essential health/education expenses	19	1	5	28		15	18	7	1	3 18	3 2	20	30
	Withdrew children from school	2		D	0		0	0	0	:	L 4	1	1	3
	Entire HH migrated	1	:	1	1		0	4	0		ι ο		1	2
Emergency	Begged from strangers	2	:	1	7		13	4	0	:	۱ 1		1	3
	Sold house or land	1	:	1	2		0	0	0		ι ο		2	2

Source: FAO/WFP CFSAM Food Security Survey, 2022.

Food expenditure share

The inflation rate in June 2022 was 54.6 percent year on year, with food prices increasing at a faster rate of 80.1 percent year on year. The mission collected detailed expenditure household data to understand the extent to which increasing prices were impacting their spending habits and purchasing power. According to the food security survey, the ratio of food expenditure to total household monthly spending was 62.7 percent. This indicator was estimated in the 2019 HIES at 35.1 percent.¹³ More than two in every five households (41.8 percent) reported using more than 75 percent of their total monthly expenses in food in June 2022, compromising their capacity to cover other essential needs. Households with high proportion of expenditure on food are exceedingly susceptible to shocks such as price fluctuations or loss of livelihoods/reduced income earning opportunities.

High shares of expenditure in food were especially pronounced in the estate sector (60.3 percent) as well as Eastern (64 percent) and Northern (66.2 percent) provinces. These findings indicate that households' budgets are under considerable stress as compared to conditions before the current economic crisis. Findings from FGDs revealed high levels of concern about the inability of households to cover the costs of education.

Factors constraining food availability

Reduced market supplies of food products

Domestic food production has been severely affected in 2022, including important foods as rice and vegetables, resulting in lower market supplies and high prices. Market supplies of other important food items, including chicken meat, eggs, coconut oil, onion and milk, have decreased considerably. In Dambulla, a key district for the vegetable supply chain in the country, the total daily vegetable volume was between 250 and 300 tonnes per day at the time of the mission, significantly lower if compared to previous years, when the volume averaged between 600 and 700 tonnes



Figure 29: Sri Lanka – Food expenditure share by province and sector

¹³ It is important to note that the 2019 HIES collected expenditure data on a more comprehensive set of food and non-food items; additionally, the 2019 HIES used a food diary data collection method whereas the 2022 CFSAM survey asked respondents to recall from the past week or month. As a result of these methodological differences, the food expenditure ratio data are not directly comparable between the two surveys. Nevertheless, the CFSAM survey data are also consistent with qualitative information collected during in-country visits with households and retailers which indicate that the food price inflation is pushing households to direct more of their income to purchase essential food items such as rice.

per day. During high season volumes in February and March and between August to September, overlapping with the harvesting period of the "Maha" and "Yala" crops, the volume of vegetables ranged between 2 500 and 3 000 tonnes per day. The supply of protein products have also declined sharply, reflecting the closure of poultry and egg farms, and fishermen hampered ability to reach deep waters.

Limited ability to import

The country is dependent on imported food items, including wheat flour, powdered milk, canned fish, sugar, potatoes, onions and lentils as well as animal feed, including maize and soy cake. Due to the extreme low levels of foreign exchange, imports have been decreasing drastically throughout 2022, resulting in shortages of these food and feed items.

Acute shortages and elevated prices of fuel

Shortages and increased fuel prices have translated into logistical bottlenecks and higher transportation costs, leading to market disruptions and lower food availability in markets. One vegetable trader in Dambulla noted that, in June 2022, it would cost LKR 600 to send a 50-kg bag of vegetables to Jaffna whereas one year before it costed LKR 150. As a result, local wholesalers and retailers are spreading out their delivery requests to ensure full truck loads.

Farmer behaviour

Microeconomic-level decisions by paddy and vegetable farmers are also impacting the amounts of food available in the markets. Several wholesalers and collectors indicated that large and medium-scale farmers cut plantings of crops owing to increased production costs and lower profit margins. In the case of small-scale farmers, they have maintained the cropped areas with the aim to retain the harvests for local and household consumption. In some districts, as the production costs of local rice varieties soared, paddy was being traded between households as their actual prices surpassed the market price ceilings currently imposed by the government.

Unfavourable outlook

Most the traders interviewed by the mission indicated expectations of a further deterioration of the food supply situation in the second half of 2022 due to unfavourable prospects for the 2022 "Yala" crops. In addition, a prompt solution to the economic crisis, particularly an increase of United States dollars available for paying food imports, does not appear to be forthcoming. Traders anticipate a significant shortage of rice supplies due to reduced domestic production and imported stocks may soon be exhausted. Most traders forecasted further price increases and shortages of imported food as a result of a continued deterioration in the exchange rate of the Sri Lanka rupee.

Factors constraining food access

Amid the escalating economic crisis, compounded by acute fuel shortages, a sharp decline of income activities is severely limiting household purchasing power and contributing to the deterioration of households' food security conditions.

Change in income

Income opportunities have declined for many unskilled day labourers and those dependent on the informal and tourism sector. High prices and shortages of fuel and other imported goods, including agricultural inputs, animal feed, construction materials and cooking gas, are limiting a wide range of livelihoods, including for farmers, traders, fishing communities, manufacture and construction industry and transport workers, among others. The mission found that two in every five households (40.1 percent) reported that their income had decreased by more than 50 percent compared to the same three-month period in 2021. Among those reporting the most dramatic reductions of income were households whose livelihood is based on agriculture and unskilled labour.¹⁴ Figure 30 presents the change in incomes from the assessment.

¹⁴ Additional findings from the FDGs revealed increase community concern with an increase in anti-social behaviour and illegal activities resulting from the loss of income and livelihood sources.



Figure 30: Sri Lanka – Change in income by province and sector

Reduced income-generating opportunities and high food prices

Reduced income-generating opportunities and surging food prices have contributed to constrain households' access to food. A large number of unskilled agricultural daily wage labourers are needed every year to ensure that production, especially on small holdings that are not well-suited for mechanization, remains high. With many farmers reporting that they have dramatically scaled back the area planted for the maize and other crops, many of these jobs are not currently available. Similarly, high fuel prices and material costs have dramatically curbed activity in the construction sector. The household food security assessment found that incomes dependent on unskilled daily labour were among the most affected and their income had decreased by more than 50 percent compared to the same three-month period a year prior (Figure 31). Households with at least one person having a disability were also more likely to report large reductions in their income (55.7 percent vs. 38.2 percent) according to the same metric.



Figure 31: Sri Lanka – Change in income by main source of income

Incomes not keeping pace with food inflation

Further constraining access is that incomes, for those who do have jobs, are not keeping pace with inflation. One vegetable wholesaler the mission spoke with in Dambulla noted that he was unable to raise wages for his daily labourers since fuel, transport and farmgate prices had all increased, compressing his margins close to zero. Labour costs were the one thing which he had control over.

Limited purchasing power constraining access to wide variety of nutritious foods

The reduced purchasing power for many households in Sri Lanka resulting from reduced

incomes and higher food prices has translated into higher levels of inadequate consumption. A retailer in Polonnaruwa noted that customers were buying fewer vegetables than before because higher rice prices are garnering a larger share of households' budgets. Additionally, retailers reported that customer behaviour has changed towards buying smaller quantities of rice and all other commodities at a time in more frequent visits (compared to larger, more irregular purchases in the past).

Market sales for many retailers have decreased between 50 and 75 percent compared to normal times. The sales of chicken or fish in retail markets have decreased to just one-fourth as a result of the economic crisis.



RECOMMENDATIONS

The mission concluded that high levels of acute food insecurity were of great concern in the first half of 2022 and are expected to continue deteriorating, driven by import shortages, surging prices and livelihood disruptions, exacerbated by the upcoming lean season. The immediate scale-up of food and livelihood assistance is critical to mitigate the impacts of the economic crisis, especially on the most vulnerable. A humanitarian intervention is also required to mitigate the food production shortfall. improve household purchasing power and meet current food consumption gaps. The 2022/23 main "Maha" season is set to start in October 2022, and it is crucial to provide urgent support to farmers to safeguard the main harvest and protect food production.

The following immediate actions are recommended:

Agriculture

- Provide chemical fertilizers, agro-chemicals, along with locally produced organic fertilizers, and agricultural supplies to all farmers and target the most vulnerable smallholder farmers, to strengthen productive capacity for the 2022/23 "Maha" season. Improvements in domestic agricultural production will help reduce import requirements amid lingering shortages of foreign exchange reserves and improve food security outcomes.
- Provide financial support to allow small-scale farmers to purchase high quality and high-yielding seeds.
- Scale up production of certified seeds for registered seed producers as well as for farmers who are not registered as seed producers but have high quality and clean seeds for sale.



- Support the recovery of the poultry and livestock sectors, through the provision of seeds, especially hybrid seeds, and other agricultural inputs to maize farmers to safeguard the upcoming 2022/23 main "Maha" season production.
- Support local seed production and facilitate imports of hybrid seeds in order to improve the availability of seeds and other inputs.
- Provide support to households for the establishment of home gardens and backyard gardening, with the aim to increase food production and household nutritional levels.
- Promote the diversification of agricultural and farming systems in order to strengthen the resilience of the agricultural sector to extreme weather events.
- Provide timely and adequate amounts of fuel, gasoline and kerosene to ensure normal planting, harvesting, transportation and processing of food crops.

- Scale up training and technical support for land preparation and the efficient use of chemical fertilizers, with the right mix of organic and chemical fertilizers.
- Promote the implementation of integrated plant nutrient management systems (IPNS) and integrated pest management (IPM) to all farms and crops.
- Follow the technical recommendations by the Department of Agriculture of Sri Lanka on the implementation of an integrated fertilizer production management scheme. Based on experiment-tested paddy crops during 22 cropping seasons, the best performing output was achieved with a ratio of about 70 percent synthetic fertilizer and 30 percent organic.
- Provide high-nutrient animal feed, vaccines and veterinary health kits at subsidized prices to livestock owners, especially of dairy and poultry, to mitigate the impacts of the feed shortages.

Food security

Government and humanitarian and \geq development partners should provide coordinated support for the 6.3 million people estimated to be moderately or severely acute food insecure through existing social assistance mechanisms and expanded food assistance and livelihood programmes for the most vulnerable. Support should be prioritized for the estate sector and female-headed households, as well as for households with pregnant or lactating women, children under five, Samurdhi beneficiary households, households with members having a disability, and urban poor households dependent on the informal sector for income generation.

- Continuation of programmes for the treatment of severe acute malnutrition, moderate acute malnutrition, and malnutrition prevention amongst children and pregnant and nursing mothers.
- Safeguard adequate food consumption and nutrition of the most vulnerable by enhancing access to healthy diets and essential nutrition services.
- Protect access to nutritious food for school-aged children through support to the continuation and adequacy of the school meal programme.
- Tailor the modality of assistance (food, cash or a combination) to reflect the local market conditions and population preferences. Activities should aim to improve household incomes and access to cash as declining affordability and reduced purchasing power are driving inadequate food consumption.
- Given that the "Yala" season production prospects are poor and food imports are constrained, additional efforts are required to support the food security of households at least until the next "Maha" season harvest period (first quarter of 2023 included).
- Government and partners are strongly encouraged to establish a food security monitoring system to track the situation as the economic crisis continues into the second half of 2022.
- Provide targeted assistance to the most vulnerable smallholder farmers in the short and middle term in order to restore and strengthen their productive capacity and resilience.
 This should help reduce import needs amid lingering shortages of foreign exchange reserves and improve food security conditions.

ANNEX



Table A1: Sri Lanka - Policy developments

2021	Policy Instrument	Description
June	Stock-holding policy, registration requirements	Stipulated that rice producers, collectors, millers, wholesalers, distributors and store owners could not hold paddy or rice in storage unless they and the warehouse, silo, store or container where the supplies were stored, were registered with the Consumer Affairs Authority, to which they would also have to provide information regarding their stocks of paddy and rice upon request. Paddy producers and the supplies they cultivated would be exempt from these requirements. The decision became effective on 11 June 2021, instructing the various supply chain actors to register and provide information regarding their paddy and rice stocks within seven days of its effect.
July	Government procurement, purchasing prices	Approved the 2021 "Yala" procurement programme, keeping purchase prices for Nadu paddy at LKR 50/kg (USD 247/tonne) and at LKR 52/kg (USD 256/tonne) for Samba paddy. For Keeri Samba, purchase prices were set at LKR 55/kg (USD 271/tonne). An additional LKR 1.5/kg (USD 7/tonne) would be paid on top of these prices to purchase, process and transport quality paddy or to groups purchasing, processing and transporting paddy from farmers in remote areas. On the other hand, if supplies with 14–22 percent moisture content were purchased through paddy mill owners and farmers' organizations with drying facilities, purchase prices would be subject to an LKR 8/kg (USD 39/tonne) reduction, while outlays of LKR 2/kg and LKR 4/kg (USD 10–20/tonne) would be paid to cover transport and drying costs, respectively.
August	Consumer prices, stockholding	Proclaimed Emergency Regulations for the supply of essential foods, with immediate effect, in view of the emergency situation faced by the country in the context of the COVID-19 pandemic crisis. The Emergency (Provision of Essential Food) Regulation that accompanied the proclamation of the state of emergency seeks to avert market irregularities and activities with detrimental effects on consumers, such as withholding, interrupting the distribution of supplies or charging high prices on essential foodstuffs, such as rice and sugar. With this aim, the Regulation deems as essential services those required for the collection, storage, refinement, transport and distribution of essential consumer items, such as paddy, rice and sugar. It sets out actions deemed to be offences in connection with these essential services, such as interrupting, obstructing, delaying or restricting their maintenance, while also calling on the appointment of a Commissioner General of Essential Services to implement and coordinate actions in relation to them. The Regulation also instructs Superintendents of Police to take possession of premises used to store foodstuffs, including paddy, rice and sugar, if these are alleged to have been used for, or in connection with, an offence set out by the Regulation. Among other provisions, the Regulation also authorizes officials to seize supplies of basic foodstuffs, including paddy and rice, as well as vehicles transporting them, if deemed necessary for the purposes of proving said supplies to the public. In such circumstances, officials are instructed to take into account government-certified or customs-specified prices when providing the supplies to the public.
August	Government procurement	Approved a plan whereby it would establish five modern mills in Kurunegala, Anuradhapura, Batticaloa, Hambantota and Ampara districts, under public cooperative partnerships. The mills would assist in containing increases in local rice prices by facilitating purchases from the 2022 "Maha" harvest, to be distributed through the Lanka Sathosa and Cooperative societies.
September	Price controls	Repealed a May 2020 order that set maximum retail prices (MRPs) for various rice qualities and stipulated that the MRP for Keeri Samba would be set at LKR 125/kg (USD 0.62/kg). For steamed Samba (white/red, excepting Suduru Samba), the MRP was set at LKR 103/kg (USD 0.51/kg), for steamed Nadu (white/red, excepting Mottaikarupan and Attakari) at LKR 98/kg (USD 0.48/kg) and for white/red raw rice at LKR 95/kg (USD 0.47/kg). In addition, it barred importers, suppliers, producers, distributors and traders from levying any charge on these rice qualities when selling, other than their price per weight. The decision took immediate effect.

Table A1: Sri Lanka - Policy developments cont.

September		
	Price controls	Rescinded two orders that set maximum retail prices on various qualities, effectively lifting price controls on rice.
September	Government procurement, purchasing prices	Approved a 10 percent increase to the price of Nadu paddy paid by the Paddy Marke-ing Board under the 2021 "Yala" procurement programme to LKR 55/kg (USD 271/tonne). The move was intended to facilitate state purchases of supplies for distribution at accessible prices to consumers through the Sathosa network.
September	Import quota	Decided to import 100 000 tonnes of rice to maintain as a buffer stock and ease reported shortages of rice in the local market.
October	Import tariff	Decided that imports of semi/wholly milled raw, Nadu and Samba rice (whether white or red) would accrue a Special Commodity Levy of LKR 65 per kg (USD 320 per tonne), up from a previously applicable cess of 15 percent or LKR 28 per kg (USD 138 per tonne), whichever is higher. However, volumes imported by the Sri Lanka State Trading (General) Corporation would be levied LKR 0.25 per kg (USD 1.2 per tonne). The order would be valid as of 12 October 2021 for a period of four months.
November	Import tariff	Decided to collect only LKR 250/tonne (USD 0.7/tonne) of the LKR 65 000/tonne (USD 179/tonne) Special Commodity Levy imposed on imports of semi/wholly milled raw, Nadu and Samba rice (whether white or red) in October 2021. The tariff reduction would be valid for six months, effective from 2 November 2021.
2022	Policy Instrument	Description
January	Production support, government procurement, tax policy	Approved a plan seeking to allay the negative impacts of increases in prices of goods and services. Among other measures, the initiative envisages the provision of an LKR 25/kg (USD 69/tonne) outlay to paddy farmers incurring production losses during the 2022 "Maha" crop cycle. This outlay would be extended on top of the LKR 50/kg (USD 138/tonne) certified price for paddy. In addition, it would waive all taxes on essential foods and medicine.
January	Import agreement	Reached a deal with Myanmar under which it would buy 100 000 tonnes of white rice and 50 000 tonnes of parboiled rice between 2022 and 2023.
January January	Import agreement Import plan	
-		and 50 000 tonnes of parboiled rice between 2022 and 2023. Approved a plan whereby it would import 200 000 tonnes of Nadu rice and 100 000 tonnes of GR-11 short-grain rice to ensure sufficient rice supplies in the local
January	Import plan	 and 50 000 tonnes of parboiled rice between 2022 and 2023. Approved a plan whereby it would import 200 000 tonnes of Nadu rice and 100 000 tonnes of GR-11 short-grain rice to ensure sufficient rice supplies in the local market. Lowered the Special Commodity Levy on imports of husked and non-basmati semi/wholly milled rice (whether white or parboiled) to LKR 250/tonne (USD 0.7/tonne), effective for six months from 12 January 2022. The move also repealed previous orders setting an LKR 65 000/tonne (USD 179/tonne) Special Commodity Levy on imports of semi/wholly milled raw, Nadu and Samba rice

Source: FAO/GIEWS' Food Outlook November 2021 and June 2022.

Table A2: CARI/IPC Reference Chart

CARI Classifications	IPC/CH Phases
1 = Food Secure	1 = Minimal
2 = Marginally Food Secure	2 = Stress
3 = Moderately Food Insecure	3 = Crisis
4 = Severely Food Insecure	4 = Emergency
4 - Severely Pool Insecure	5 = Catstrophe/Famine

Source: World Food Programme (WFP), 2022.

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