

First Draft of ERF Research Project

The Impact of COVID-19 on Households and Firms in the MENA Region: the case of Sudan

The ERF Research Project: ‘The Impact of COVID-19 on Households and Firms in the MENA Region’

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Dedication

To the Soul of my beloved kind mother Alawya,

On Thursday 8th of April 2021, she passed away due to coronavirus (COVID-19) and broke my heart,

*No words are ever sufficient to express my sadness and my sorrowfulness and to measure the immeasurable
impact of coronavirus (COVID-19) that has caused the death of my beloved kind mother*

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List of abbreviations

CBS	Central Bureau of Statistic
CMMHH	COVID-19 MENA Monitor Household Survey
GDP	Gross Domestic Product
ILO	International Labour Organization
IMF	International Monetary Fund
MENA	Middle East and North Africa
MSME	Micro, Small and Medium Enterprises
OxCGRT	Oxford COVID-19 Government Response Tracker
SHO	Sudan Health Observatory
WB	World Bank
WHO	World Health Organization

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Abstract

This paper discusses the impacts of COVID-19 on households and firms in Sudan as a case study of the MENA countries. The research uses the descriptive and comparative approaches and uses new primary data obtained from the ERF COVID MENA Monitor Household Survey (2021) and from the World Bank and Sudan Central Bureau of Statistic High Frequency Survey on COVID-19 (2020). Our results from the World Bank Survey on COVID-19 (2020) show the impact of COVID-19 on employment status that appears from the loss of jobs for the majority and nearly two thirds of households during June – July 2020. We explain that the main reason for the households’ loss of job, unemployment and even changing jobs was because of business / gov’t close due to coronavirus legal restrictions. The impact of COVID-19 also appears from the loss of payment for nearly fifth of households, partial payment for nearly half of households, and loss and reduction of households’ means of livelihood or source of income since mid-March 2020 from non-farm family business, income from properties, investments or savings, and income from family farming, livestock or fishing. The impact of COVID-19 on micro, small and medium size enterprises appears from temporary or permanently close of establishments, substantial decrease in sales or stagnation in sales. Our results from ERF COVID MENA Monitor Survey data (2021) show the impacts of COVID-19 on labour market and working conditions that appears from the increase in temporary or permanent layoff/suspension of workers, reduced hours, reduced wages, and delays in wage payment for workers in Sudan between April 2021 and August 2021, these results are consistent with the results in the MENA countries. Between April 2021 and August 2021 the delay in wage payment is more than doubled, the temporary layoff/suspension of workers increased from nearly tenth in April 2021 to nearly fifth in August 2021. In August 2021 the status of workers in business indicates temporary layoff/suspension for nearly fifth of workers, permanent layoff/suspension for nearly tenth of workers, and delay and change in wage payment for nearly a quarter of workers. Attainment of social insurance decreased from nearly third of all households in April 2021 compared to nearly a quarter of all households in August 2021. Our results concerning the temporarily or permanently close of business due to factors related to COVID-19, reduction in business working hours, and the challenge facing businesses due to loss in demand, and access to customers due to mobility restrictions in Sudan are consistent with the results across MENA countries. From policy perspectives our findings that the most common types of support needed included business loans, salary subsidies and reduced/delayed taxes in Sudan are consistent with the results in the MENA countries. Our findings regarding limited provision of social protection (social insurance) and the importance of supporting social protection for workers in Sudan are consistent with the findings in the MENA countries. The major policy recommendation is increasing government support to manage COVID-19 economic and social impacts on workers in Sudan.

Key words: COVID-19 pandemic, economic impacts, labour market, households, firms, Sudan.

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Executive Summary

The rapid spread of the coronavirus (COVID-19) throughout the world and the declaration of the coronavirus (COVID-19) as a global pandemic caused critical consequences in all world countries. This confirms the importance of comprehensive investigation of the economic and social impacts of the COVID-19 crisis in the global economy.

This paper discusses the impacts of COVID-19 on households and firms in Sudan as a case study of the MENA countries. The research uses the descriptive and comparative approaches and uses new primary data obtained from the ERF COVID MENA Monitor Household Survey (2021) and from the World Bank and Sudan Central Bureau of Statistic High Frequency Survey on COVID-19 (2020).

One merit of this research is that it provides a more comprehensive and in-depth investigation and it fills the gap in the literature and provides important contribution by discussing the COVID-19 economic impacts on household (labour market status, employment, unemployment, income, and working conditions), and COVID-19 economic impact on micro, small and medium size enterprises’ current status of work and business operations in Sudan as a case study of the MENA region. Another advantage of this research is that it also fills the gap in the literature and provides an extremely valuable contribution by investigating the impacts of COVID-19 in Sudan, mainly on households defined by household characteristics (gender, education, and family size), across regions/states and on firms defined by firms’ characteristics (defined by firm size). Another merit of this research and a novel element of our analysis is that we use a new primary data obtained from the first and second waves of the ERF COVID-19 MENA Monitor Data to discuss and compare the impact of the COVID-19 pandemic on households and firms in Sudan (April-August 2021) and from the World Bank and Sudan Central Bureau of Statistic High Frequency Survey on COVID-19 (2020). Another merit is that from policy perspective this research provides useful policy recommendations to implement a more comprehensive and coherent strategy to adopt effective and preventive policy measures including sound economic and social measures to curb the further spread of the COVID-19 pandemic in Sudan, and to increase government support to manage the economic and social impacts on households, workers, and firms in Sudan.

Our results from the World Bank Survey on COVID-19 (2020) show the impact of COVID-19 on employment status that appears from the loss of jobs for the majority and nearly two thirds of households during June – July 2020. We explain that the main reason for the households’ loss of job, unemployment and even changing jobs was because of business / gov’t close due to coronavirus legal restrictions. The impact of COVID-19 also appears from the loss of payment for nearly fifth of households, partial payment for nearly half of households, and loss and reduction of households’ means of livelihood or source of income since mid-March 2020 from non-farm family business, income from properties, investments or savings, and income from family farming, livestock or fishing. The impact of COVID-19 on micro, small and medium size enterprises appears from temporary or permanently close of establishments, substantial decrease in sales or stagnation in sales. Our results from ERF COVID MENA Monitor

Survey data (2021) show the impacts of COVID-19 on labour market and working conditions that appears from the increase in temporary or permanent layoff/suspension of workers, reduced hours, reduced wages, and delays in wage payment for workers in Sudan between April 2021 and August 2021, these results are consistent with the results in the MENA countries. Between April 2021 and August 2021 the delay in wage payment is more than doubled, the temporary layoff/suspension of workers increased from nearly tenth in April 2021 to nearly fifth in August 2021. In August 2021 the status of workers in business indicates temporary layoff/suspension for nearly fifth of workers, permanent layoff/suspension for nearly tenth of workers, and delay and change in wage payment for nearly a quarter of workers. Attainment of social insurance decreased from nearly third of all households in April 2021 compared to nearly a quarter of all households in August 2021. Our results concerning the temporarily or permanently close of business due to factors related to COVID-19, reduction in business working hours, and the challenge facing businesses due to loss in demand, and access to customers due to mobility restrictions in Sudan are consistent with the results across MENA countries. From policy perspectives our findings that the most common types of support needed included business loans, salary subsidies and reduced/delayed taxes in Sudan are consistent with the results in the MENA countries. Our findings regarding limited provision of social protection (social insurance) and the importance of supporting social protection for workers in Sudan are consistent with the findings in the MENA countries.

From policy perspective, the findings from the ERF COVID MENA Monitor Sudan Survey data (2021) indicate the most needed policies to support business over COVID-19 crisis includes subsidized provision of specific products, inputs or services, business loans, rental or utilities subsidies or deferrals, reduction or delay in taxes, cash transfers or unemployment benefits and partial or total salary subsidies. From policy perspective, the results from the World Bank Survey on COVID-19 (2020) shows that from the establishments' perspective the most needed government policies to support the business over the COVID-19 crisis are subsidized provision of products and services by suppliers, cash transfer and unemployment benefits, deferral of rent, mortgage, or utilities, fiscal exemptions or reductions, tax deferral, access to new credit, wage subsidies, salary subsidies, loans with subsidized interest rates, deferral of credit payments and suspension of interest payments.

Finally, we recommend the implementation of more comprehensive and coherent and sound strategy to increase government support to manage the economic and social impacts on households, workers, and firms in Sudan and MENA countries.

Key words: COVID-19 pandemic, economic impacts, labour market, households, firms, Sudan.

The Impact of COVID-19 on Households and Firms in the MENA Region: the case of Sudan

1.1. Introduction: Statement of the research problem and value added

The rapid spread of the coronavirus (COVID-19) throughout the world and the declaration of the coronavirus (COVID-19) as a global pandemic caused critical consequences in all world countries. This confirms the importance of comprehensive investigation of the economic and social impacts of the COVID-19 crisis in the global economy. Several studies in the international literature discuss the impact of COVID-19 in the global economy, indicating that the world is facing the worst public health and economic crisis in a century. The economic ramifications could rival those of the Great Depression in the 1930s (IMF, 2020). The implications of the pandemic encompass public health, economics, social stability, politics, and geopolitics. The necessary measures taken to respond to the immediate threat of Covid-19, including the shutdown of many economic activities for weeks, have led to a global economic crisis with massive job losses and major impacts especially on poor and vulnerable groups, rising and compounding existing extreme poverty, and inequalities within and among many countries, increasing food insecurity and malnutrition, especially for low-income people, increasing people's anxiety and worry, personal insecurity and financial insecurity. From economic perspective, the economic impacts of the COVID-19 crisis appears from the serious slowdown and diminishing in economic growth (GDP growth rate) for all world economies, an unprecedented shock to labour markets with the worst global crisis and biggest employment decline since the Second World War, caused increase in underemployment and unemployment rates, for instance, according to ILO (2020), partial lockdown measures have affected almost 2.7 billion workers, representing around 81% of the world's workforce. On the social side, there was a shocking loss of employment – a decline of almost 10.5% in total working hours, the equivalent of 305 million full-time workers. Some 1.6 billion students have been affected by school closures and the crisis will push an additional 40 – 60 million people into extreme poverty. In addition, the critical impacts of COVID-19 appear from the potential increase in extreme poverty, potential negative impact threatening the achievement of Sustainable Development Goals (SDGs) in poor regions. The ILO Monitor (2020) discusses the interaction between COVID-19 and the world of work and estimates the labour income losses due to COVID-19. According to the ILO Monitor (2020), working-hour losses translate into a substantial loss of income for workers around the world. The ILO Monitor estimates the loss of labour income resulting from working-hour, and indicates that the global labour income is estimated to have declined by 10.7 per cent during the first three quarters of 2020 compared with the corresponding period in 2019. The estimates show that the loss in labour income reaches 15.1 per cent in lower-middle-income countries, 11.4 per cent in upper-middle-income countries and 10.1 per cent in low-income countries. By contrast, workers in high-income countries experience a labour income loss of 9.0 per cent. Moreover, drops in income in these countries are more frequently offset by income replacement schemes. Across geographical regions, income losses are highest in the Americas, followed by Africa. In total, the global loss in labour income during the first three quarters of 2020 amounts to US\$3.5 trillion (using 2019 market exchange rates), which is equivalent to 5.5 per cent of global GDP for the first three quarters of 2019. When those significant losses are not mitigated by other sources of income, such as social protection transfers, they can push households into poverty while reducing aggregate demand. If households deplete their savings over time and stimulus packages are

phased out, the fall in aggregate demand could steepen, reducing incomes further and rendering a job recovery even more difficult. The aggregate figures of labour income loss hide considerable differences among workers. Formal employees are the most likely to benefit from social security benefits or other public sector measures that cushion the blow of labour income losses. The net income loss for this group will therefore be smaller. In contrast, the 60 per cent of global workers who are informal and thus unlikely to be protected by social protection schemes are particularly vulnerable to income loss and poverty during the COVID-19 crisis, as emphasized in the third edition of the ILO Monitor. It is also worth noting that as the estimates do not include capital income for the self-employed, the actual income loss for the 1.4 billion own-account and contributing family workers around the world will be larger than estimated.¹

According to ILO Monitor (2020) in light of the rapidly evolving situation in recent months, the projections for the fourth quarter of 2020 under the baseline scenario, implies that the global working-hour losses are expected to amount to 8.6 per cent in the fourth quarter of 2020, equivalent to 245 million full-time jobs. Labour income losses, and working-hour losses and fiscal stimulus during the first three quarters of 2020, shows substantial variation across regions and sub regions. The latest ILO estimates indicate a considerably greater decline in global working hours during the first three quarters of 2020 than was previously estimated. In response to the massive labour market disruptions, governments have launched fiscal stimulus programmes of an unprecedented scale, particularly in high-income countries. To assess the initial impact of these policy responses, the ILO Monitor (2020) examines the extent to which fiscal policy has helped to mitigate working-hour losses during the second quarter of 2020 in countries for which data are available. Although expansionary fiscal policy has played a significant role in supporting economic activity and preventing working hours from falling further, global fiscal stimulus has been concentrated in high-income countries.² In addition to the impact of the lack of access to the Internet that implies that during the lockdown only minority of students unable to go to school have been able to study online. Also, COVID-19 created challenges for universities and students to facilitate and accelerate regular access to quality education from home. The insufficient access to ICT infrastructure caused critical challenges enlarging digital disparities. (See CCSA, 2020; ILO, 2020, FAO, 2020; UNESCO, 2020 Sachs, 2020; Schmidhuber, 2020; OECD, 2020a; b; c)

COVID-19 pandemic is the biggest challenge facing humanity after the 1918 Flu pandemic. The pandemic also poses a massive challenge to the achievement of Sustainable Development Goals (SDGs), meeting this challenge requires a comprehensive investigation of the impact of the pandemic on sustainability (Wang and Huang, 2021). The coronavirus disease 2019 (COVID-19) pandemic has overshadowed developmental activities across the world, the global political, financial and technical resources have been mobilized to contain COVID-19 pandemic, impact of this pandemic shall be long-lasting, influencing all spheres of human lives and slowing all developmental activities including ambitious and aspirational Sustainable Development Goals (SDGs) (Khetrapal and Bhatia, 2020). Combating COVID-19 pandemic is highest on the global agenda at present, achievement of SDGs within the stipulated time frame of 2030 has become secondary, the duration of the on-going pandemic cannot be predicted, the outcome and end point of pandemic remain uncertain, all SDGs are being impacted (Khetrapal and Bhatia, 2020). The global onslaught of COVID-19 pandemic continues as uncertainty swirls around the global economy signalling

¹ See ILO Monitor (2020): COVID-19 and the world of work. Sixth edition, pp. 9, 11.

² See ILO Monitor (2020): COVID-19 and the world of work. Sixth edition.

a slowdown. It is still uncertain how long it will take to arrest the spread of the pandemic and normalcy to be restored. Under the prevailing situation, health has rightly been on the top of the agenda of all the countries which would require scaling up the available health facilities for a robust response, the health issues will remain the top priority for the governments. Primarily a health crisis is now rapidly turning into an economic crisis due to the unprecedented restrictions on the movement of people as well as economic activities in the form of worldwide lockdown. As a result we have seen worldwide lockdown and naturally, it is having serious negative impact on the economic activities worldwide. A parallel debate is, therefore, on: How to 'cure' the world economy that has already been 'infected' by COVID-19 (Mukarram, 2020).

During this first half of 2020, the COVID-19 pandemic has emerged as a poverty-related neglected disease on at least two fronts, first, is its significant impact in low-income neighborhoods in the USA, the epicenter of the pandemic, second, is its emergence in poor urban areas of South America, and now in Asia and Africa (Mejia, Hotez and Bottazzi, 2020).. In both fronts, the pandemic is contributing heavily towards the loss of public health gains that we managed to achieve globally during the last two decades, specifically, any advances made as part of the United Nations Millennium Development Goals (United Nations, 2020) is eroding, and for the first time, the number of people entering extreme poverty is increasing (Mejia, Hotez and Bottazzi, 2020).

The novel corona virus has inflicted havoc across the globe for lives and livelihoods, the impact of the pandemic on human lives is severe, but the effects on the global economy and on sustainable development's future are also a concern (Srivastava, Sharma and Suresh, 2020).

The COVID-19 pandemic has resulted in immediate, serious, and worldwide human health issues, necessary counter measures to the virus, e.g. quarantines and other restrictions will remain in place for many months and have uncertain end dates. International efforts to control the virus by limiting human movement is inevitably causing economic shocks and social costs that will affect the functioning of agricultural and food systems worldwide (Editorial, 2020).

The coronavirus disease 2019 (COVID-19) pandemic has overshadowed developmental activities across the world, the global political, financial and technical resources have been mobilized to contain COVID-19 pandemic, impact of this pandemic shall be long-lasting, influencing all spheres of human lives and slowing all developmental activities including ambitious and aspirational Sustainable Development Goals (SDGs) that were adopted by the global community in 2015¹ to improve the quality of life of all citizens and to carry forward unfinished agenda of the Millennium Development Goals (MDGs). Of the 17 SDGs², SDG 3 focuses on health (Ensure Healthy Lives and Promote Well-being for All at All Ages) (Khetrapal and Bhatia, 2020). Recently, the world is witnessing a severe global health issue owing to the COVID 19 pandemic, initially encountered in the city of Wuhan in Hubei province in China, it spread rapidly, so does the fatality ratio, this pandemic has jeopardized the sustainable development goals at large, still, the future is uncertain, the future of the world after the 2019-COVID is more challenging and vital for humanity in terms of business, economic and social perspective, social structures will change the current situation is showing based on literature and reports, the economic recession will be prolonged if the researchers cannot find the solution for the Coronavirus (Hishan, et. al., 2020).

Based on the above, in view of the rapid spread and the uncertainty regarding the trajectory of the COVID-19 pandemic that put a tremendous pressure in all world countries, MENA countries and Sudan, it would be important to examine the economic and social impacts of COVID-19 in Sudan. This paper aims to discuss the status of households and firms in Sudan as a case study of the MENA region during the COVID-19 pandemic. In particular, this paper aims to discuss the COVID-19 economic impacts (on income, labour market status, employment benefits, working conditions, and unemployment), and social impacts (on social protection to workers) on households in Sudan defined by household characteristics (gender, education, and family size). The study aims to explain the impact of COVID-19 on household and individual source of income, changes in source of income, and the effects on the loss of households' means of livelihood or source of income in Sudan. The study also aims to examine the impact of COVID-19 on household enterprises, the impact on workers livelihoods, income, labour market status, employment, and working conditions and policy measures to manage the impacts on workers in Sudan. The study also aims to investigate the impact of COVID-19 on firms' current status of work and business operations, sales, revenue, workers, and access to inputs in Sudan defined by firms' characteristics (defined by firm size). The study aims to discuss the main challenges facing firms due to COVID-19, the effects on firms' expectations for the future, the effects of lockdowns, policy measures, and the policy response and government support for firms in Sudan. To discuss the impact of COVID-19 on food security, intensifying the incidence and severity of food insecurity, and the effective policy responses to eliminate food insecurity in Sudan..

One merit of this research is that it provides a more comprehensive and in-depth investigation and it fills the gap in the literature and provides important contribution by discussing the COVID-19 economic impacts on household (labour market status, employment, unemployment, income, and working conditions), and COVID-19 economic impact on micro, small and medium size enterprises' current status of work and business operations in Sudan as a case study of the MENA region. Another advantage of this research is that it also fills the gap in the literature and provides an extremely valuable contribution by investigating the impacts of COVID-19 in Sudan, mainly on households defined by household characteristics (gender, education, and family size), and across regions/states and on firms defined by firms' characteristics (defined by firm size). Another merit of this research and a novel element of our analysis is that we use a new primary data obtained from the first and second waves of the ERF COVID-19 MENA Monitor Data to discuss and compare the impact of the COVID-19 pandemic on households and firms in Sudan (April-August 2021) and from the World Bank and Sudan Central Bureau of Statistic High Frequency Survey on COVID-19 (2020). Another merit is that from policy perspective this research provides useful policy recommendations to implement a more comprehensive and coherent strategy to adopt effective and preventive policy measures including sound economic and social measures to curb the further spread of the COVID-19 pandemic in Sudan, and to increase government support to manage the economic and social impacts on households, workers, and firms in Sudan.

1.2. Specific Research Questions:

The proposed research will discuss the following questions on the impact of COVID-19 on households and firms in Sudan:

1. How has COVID-19 affected household and individual income, source of income and loss of source of income, labour market status, employment benefits, working conditions, unemployment, social protection and wages and income in Sudan? How the effects of COVID-19 on households in Sudan vary according to household characteristics (gender, education, and family size) and across regions/states?
2. How has COVID-19 affected household enterprises, workers in the formal and informal economies, workers' livelihoods, income, labour market status, employment, and working conditions in Sudan? How have policy measures for workers been applied in Sudan?
3. How has COVID-19 affected firms' current status of work and business operations, sales, revenue, workers, and access to inputs in Sudan? How the effects of COVID-19 on firms differ according to firms' characteristics (defined by firm size) in Sudan?
4. What are the main challenges facing firms due to COVID-19 in Sudan? How has COVID-19 affected firms' expectations for the future in Sudan? How have lockdowns or the stringency of policy measures affected firms in Sudan? What are the main policy response and government support for firms in Sudan?
5. What has the impact of COVID-19 been on gender inequality and women in Sudan?

1.3. Data

This research uses new primary data obtained from the first wave and second wave of the Economic Research Forum (ERF) COVID-19 MENA Monitor Household Survey Data including firms' data and household data for the case of Sudan and from the first round of the World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020).

This research uses the first wave (the base wave) of the dataset that was collected in April 2021 and published in June 2021, and the second wave of the dataset that was collected in August 2021 and published in November 2021 as part of the ERF COVID-19 MENA Monitor Household Survey (CMMHH) (April-August 2021). The sample of household survey covering 2400 (April 2021) and 2001 (August 2021) covering households and individuals mobile phone users (aged 18-64) in the first wave and in the second wave respectively. CMMHH Survey includes a panel data set for Sudan that integrates and harmonizes data and variables from two rounds across 2021.

The first and second waves of the COVID-19 MENA Monitor Survey provide data on the socio-economic and labour market impact of the global COVID-19 pandemic on households. The ERF COVID-19 MENA Monitor Household Survey includes a questionnaire that covers the demographic and household characteristics, education and children, labour market status, food security, income, social safety net, employment and unemployment detection. Additionally, it includes: A worker module (on occupation, job formality, impact of COVID-19 on employment, work from home), a farmer module (on crops, inputs, harvest, prices, markets ...etc.), a household enterprise module (on industry, employment, sales/revenue, impact of COVID-19 on business, policy response, plans for future...etc.), and a women module (on caregiving time for children and housework, and activities that

spent time doing for her household). In addition the survey's data includes comparable data that permits the study of various phenomena over time and permits comparison across Arab countries (Egypt, Tunisia, Jordan, Morocco and Sudan). All COVID-19 MENA Monitor surveys incorporate similar survey designs, with data on households and individuals within those households.

The World Bank Household survey was implemented jointly by the Central Bureau of Statistics (CBS) and the World Bank. As face-to-face surveys were not feasible, the survey was conducted using mobile phones and covers all 18 states of Sudan. The World Bank Household survey aims to monitor the impact of coronavirus on the daily lives of Sudanese, who are being interviewed, with a panel of 4,032 households, representative at the national level. Round 1 of data collection was conducted during June 16–July 5, 2020 (about three months after the declaration of the outbreak in Sudan and lockdown).³ This sample allows to draw statistically inferences of the Sudanese population at the national and rural/urban levels. Several questions were asked in Round 1 regarding different topics: knowledge of COVID-19 and social behaviour, access to goods and services, food security, and jobs.⁴

The data from the ERF COVID-19 MENA Monitor Household Survey (CMMHH) (April 2021) and from the World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020) the household questionnaire provides useful and suitable information to discuss the impact of COVID-19 pandemic on households in Sudan. It provides background information: mainly, demographics information and information about households' characteristics, labour market status, household and individual income, wage, and social protection. It focuses on work, activities, workers, and wage workers and the changes and challenges due to COVID-19. It focuses on farmers' activities and impact of COVID-19 on farming activities: ability to perform the normal activities on the farm, raising livestock, or fishing, ability to sell products from farm, and the effects on prices of farm products in Sudan. It focuses on household enterprises and business: (formal and informal economic activities, operations in February 2020, COVID-19 impact on operations, revenue, employment, policy response/government support, and expectations for the future). It focuses on women (employment, income, source of income and changes in employment, working condition, job loss and loss in income sources due to COVID-19).

This research uses new primary data obtained from the first round (Round (1)) of the World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020). The Central Bureau of Statistics (CBS) in Sudan conducted a High Frequency Survey in partnership with the World Bank to assess the impact of COVID-19 on Sudanese households and enterprises. The survey aims to inform policymaking, strategic planning, and government responses to contain the impact of the pandemic to its lower possible level in Sudan. This research uses the data from the first round of the Sudan High Frequency Survey on COVID-19, collected during August 2020. The panel survey is implemented jointly by the Central Bureau of Statistics (CBS) and the World Bank. The objective of the Sudan Enterprise High Frequency Survey on COVID-19 is to quickly collect enterprise-level information, using phones, to monitor the crisis and assess the dynamics of the impacts of COVID-19 on Micro, Small, and Medium Enterprises (MSMEs) in Sudan. The survey is expected to help inform dialogue and mitigation measures. The

³ The first round of the survey was fielded towards the end of the lockdown period. For some outcomes, such as food consumption, the survey arguably captures the worst of the short-term/immediate impact of the crisis.

⁴ See The World Bank and the Central Bureau of Statistics (CBS) (2020) 'Effects of COVID-19 on Sudanese Enterprises,' p.1. See also The World Bank and the Central Bureau of Statistics (CBS) (2020) 'Socioeconomic Impact of COVID-19 on Sudanese Households,' p. 1.

survey focuses on the impacts of COVID-19 on MSMEs' performance and provides near real-time data, supporting an evidence-based response to the crisis. It should be noted that the MSMEs' performance is not only affected by COVID-19 but also other constraints that have adversely affected enterprises. The survey is implemented jointly by the Central Bureau of Statistics (CBS) and the World Bank. As face-to-face surveys were not feasible, the survey was conducted using mobile phones and covers Khartoum State, where most of the Sudanese enterprises are located. The survey aims to monitor the impact of coronavirus on the operation of enterprises that are being interviewed, with a panel of nearly 500 formal enterprises. The survey sample frame was derived from eligible enterprises obtained from the Central Bureau of Statistics, Sudanese Businessmen and Employers Federation and marketing databases. The sampling methodology for the survey was stratified random sampling and the strata for the survey are enterprise size and business sector, consistent with the International Standard Industrial Classification (ISIC). Round 1 of data collection was conducted during August 2020.

The data from the World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020) the enterprises' questionnaire provides useful and suitable information to discuss the impact of COVID-19 pandemic on micro, small and medium enterprises in Sudan. It provides background information: mainly, basic information about firms' characteristics (firm size, activities and industry) in Sudan. The firm samples defined by size categories (0-5, 6-49 and 50-199 workers) (February 2020) and broad industry sectors to ensure a sufficient sample of micro, small and medium enterprises across industries. The firm questionnaire covers the impact of COVID-19 on firms' current status of work and business operations, sales, revenue, workers, imports, and access to inputs in Sudan. It also explains the main challenges facing firms due to COVID-19 in Sudan, the impact of COVID-19 on firms' expectations for the future, the effects of lockdowns or the stringency of policy measures on firms, the potential opportunities for using ICT and digital solutions to manage the effects of COVID-19 on firms and the main policy response and government support for firms in Sudan.

Regarding the organization and structure, this research is organized in six sections.

Section 1 provides introduction, including the statement of the research problem and value added; the research questions and data, methodology and structure of the research. Section 2 presents the literature review. Section 3 shows background about Sudan economy and COVID-19 pandemic in Sudan, mainly, shows an overview of the incidence and spread of Corona Virus Pandemic (COVID-19) in Sudan. Section 4 discusses the impact of COVID-19 on households in Sudan (using Household Survey). The impact of COVID-19 on households in Sudan (using Household Survey), before discusses the impacts of COVID-19 on the status of employment of households, this section begin by explaining the general demographic and household characteristics, then discusses the labour market status in Sudan during the COVID-19 pandemic period, structure of labour market, structure of employment, the status of employment and unemployment, the working conditions, status in business and working status in business, wages, income and revenue, income, households' mean of livelihood and source of income, employers' provision and contribution to social protection of workers, government support and social support over COVID-19 crisis and finally explains the most needed policies to support business over COVID-19 crisis in Sudan. Section 5 discusses the impact of COVID-19 on micro, small and medium size enterprises (MSME) in Sudan (using Enterprises Survey). Finally, section 6 provides the conclusion.

1. 4. Research Methodology:

The research uses the descriptive and comparative approaches, uses qualitative and quantitative analysis and uses the new primary data obtained from the first round of the World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020) and the first wave of the ERF COVID-19 MENA Monitor Household Survey (CMMHH) (April 2021). To answer Question (1): the impact of COVID-19 on households we use the results obtained from the ERF CMMHH and the World Bank households questionnaire and use the indicators (household and individual income and income source, labour market status, employment benefits, working conditions, unemployment, social protection (social insurance and social safety net), wages and income and households characteristics (gender, education, and family size) and across regions/states. To answer Question (2): the impact of COVID-19 on household enterprises, we use the indicators (workers in the establishments, workers' livelihoods, income, labour market status, employment benefits, and working conditions and applied policy measures for workers). To answer Question (3): the effects of COVID-19 on firms, we use the results from the firms' questionnaire and we use the indicators (firms' current status of work and business operations, sales, revenue, workers, and firms' characteristics (defined by firm size). To answer Question (4): the main challenges facing firms due to COVID-19, the effects of COVID-19 on firms' expectations for the future, the effects of the lockdowns and policy measures on firms and the main policy response and government support for firms we use the results obtained from the firms' questionnaire To answer Question (6): the impact of COVID-19 on food security, and on intensifying the incidence and severity of food insecurity in Sudan, we use the results from ERF CMMHH and the World Bank households' questionnaire. To answer Question (8): the impact of COVID-19 on farming activities, we use the results obtained from the ERF CMMHH and the World Bank questionnaire. To answer Question (9): the impact of COVID-19 on gender inequality and women in Sudan, we use the results obtained from the ERF CMMHH and the World Bank households' questionnaire..

2. Literature Review

Many studies in the international literature explain the impact of COVID-19 in the global economy, arguing that the world is facing the worst public health and economic crisis in a century. The economic ramifications could rival those of the Great Depression in the 1930s (IMF, 2020). As COVID-19 (coronavirus) has spread across the world, the World Bank has projected extreme poverty to increase for the first time since the Asian crisis in 1998, putting at risk the global goal of reducing extreme poverty to 3% of the world's population by 2030. The duration and scale of impacts are highly uncertain and expected to vary widely within and across countries and over time, which makes it really important to closely monitor the impacts of the crisis on households and firms for designing policy responses.⁵ Since early 2020 COVID-19 has led to severe and acute losses in many economies around the world due to illness and government-mandated social distancing orders. The impact and duration of the economic crisis on individual households, resulting from the pandemic, is difficult to predict as many uncertainties surround the crisis duration, i.e. length of "stay-at-home" orders, as well as impacted industries and the post-crisis consumption and recovery. There is a growing concern in the international literature to investigate the economic impact of COVID-19, in both

⁵ See Carolina Sánchez-Páramo and Ambar Narayan (2020).

emerging and developed countries. Due to widespread business closures, especially in lower income populations, national economies are expected to contract, leading to a dramatic rise in unemployment and poverty rates. A report from the World Bank estimated that 11 million people could fall into poverty across East Asia and the Pacific (World Bank 2020). Analysing the effect of the pandemic on poor communities across four continents, (Buheji et al. 2020) estimates that 49 million individuals will be driven into extreme poverty in 2020 (living on less than \$1.90 per day). Some studies investigate the socio-economic impacts of COVID-19 on household consumption and poverty (Martin, Markhvida, Hallegatte, and Walsh, 2020).

Several studies in the international literature discuss the impacts of COVID-19 on household in different world countries and regions. For instance some studies investigate the impact of COVID-19 on households on ASEAN countries, mainly on households in eight countries: Cambodia, the Lao People's Democratic Republic, Indonesia, Malaysia, Myanmar, the Philippines, Thailand, and Viet Nam, (Morgan and Trinh, 2021). Some studies investigate the impact of COVID-19 on East Asia and the Pacific (World Bank 2020). Other studies examine the impacts of COVID-19 on households across America and show that the coronavirus pandemic has had unprecedented, widespread impacts on households across America, raising concerns about the ability to weather long-term health and financial harms.⁶

Several recent studies in the MENA countries based on the Economic Research Forum (ERF) COVID-19 MENA Monitor Data (2020-2021) explain the economic impact of COVID-19 in households and firms in the MENA countries labour markets (e.g. Jordan, Egypt, Morocco and Tunisia) (cf. Krafft, Assaad, and Marouani, 2021a; b; c). Several studies discuss the impact of COVID-19 on Middle Eastern and North African (MENA) (cf. Krafft, Assaad, and Marouani, 2021a; b; c). The results of these studies show that the impact of COVID-19 on MENA Labour Markets is demonstrated from the fact that wage workers in Egypt, Jordan, Morocco, and Tunisia, particularly informal workers, have experienced layoffs and reduced hours and earnings due to COVID-19 (cf. Krafft, Assaad, and Marouani, 2021a). The effects of COVID-19 appears from the fact that although the majority of employers and the self-employed report their businesses are open and operating, hours are reduced and the majority report lower revenues compared to 2019, the effects of COVID-19 also appears from the fact that almost half of households reported their income had decreased compared to February 2020, and in most countries the poor experienced the largest income losses (cf. Krafft, Assaad, and Marouani, 2021a). The Impact of COVID-19 on Middle Eastern and North African Labour Markets, mainly in the vulnerable workers, small entrepreneurs, and farmers in Morocco and Tunisia the effects of COVID-19 is demonstrated from the temporarily laid off, experienced reduced hours, reduced wages, and delays in pay (Krafft, Assaad, and Marouani, 2021b). The impact of COVID-19 on wage workers has been minimal for public sector workers, but substantial in the private sector, and especially for informal workers, irregular workers, and those working outside establishments, farmers, the self-employed, and employers have experienced particularly sharp decreases in their revenues (cf. Krafft, Assaad, and Marouani, 2021b).

Some studies investigate the Impact of COVID-19 on MENA labour markets, with particular focus on micro, small, and medium enterprises (cf. Krafft, Assaad, and Marouani, 2021c). among the four MENA countries (Egypt,

⁶ See the Impact of Coronavirus on Households across America: (<https://www.rwjf.org/en/library/research/2020/09/the-impact-of-coronavirus-on-households-across-america.html>) (Accessed 30 April 2021)

Tunisia, Morocco and Jordan), the economic contraction in 2020 ranged from 8.8% in Tunisia and 6.3% in Morocco to 1.6% in Jordan, only Egypt managed to maintain a positive growth rate of 1.5% in 2020 (cf. Krafft, Assaad, and Marouani, 2021c). In the contracting countries, the lockdown resulted in large losses in the second quarter of 2020, with varying degrees of recovery in the third and fourth quarters, the tourist and transport industries were the hardest hit. The tourism-related industries were the most negatively affected with regards to closures, reduced hours, and income losses. Microenterprises were the most likely to be closed due to COVID-19. If open, micro and small firms were more likely to have reduced hours than medium firms. Small enterprises were more affected by revenue losses than either micro or medium enterprises, with the exception of Tunisia where microenterprises were more affected. The most important challenge facing businesses across countries was the loss in demand, followed by access to customers due to mobility restrictions. From over half (Tunisia) to three quarters (Morocco) of firms reported not applying for nor receiving any government assistance, although less than a tenth (Tunisia) to a third (Egypt) said no government support was needed. Business loans were the most common types of support received and needed, but salary subsidies were also commonly received in Tunisia and mentioned as needed in both Morocco and Tunisia. Reduced/delayed taxes were the next most commonly mentioned needed measure in all four countries. (cf. Krafft, Assaad, and Marouani, 2021c).

Some studies explain the social protection measures related to COVID-19 in the MENA countries (cf. Krafft, Assaad, and Marouani, 2021a; b). The results of these studies indicate that in most countries, social protection measures have reached only a small fraction of the population, a declining share from November 2020 to February 2021, and social protection systems remain poorly targeted (cf. Krafft, Assaad, and Marouani, 2021a). Although some workers and families are receiving government support, many in MENA are falling through a sparse safety net and experiencing large decreases in their income (cf. Krafft, Assaad, and Marouani, 2021b). Additional social protection, as well as better targeting of support, will be needed to cushion the economic impacts of the pandemic and ensuing economic challenges, social protection that is carefully targeted to those low-income households experiencing job and income losses is much needed (cf. Krafft, Assaad, and Marouani, 2021b, a).

Due to the impact of COVID-19, economic growth in Jordan potentially will come to a halt this year. This comes as a result of the COVID-19 pandemic outbreak. Government imposed an economic lockdown which restricted non-essential economic activities and people's movement in order to contain the virus. A SAM multiplier model was used to estimate the economic impact of the lockdown and to explore potential recovery pathways for the Jordanian economy. Some of the key findings from this modelling exercise are: National GDP is estimated to have fallen by 23 per cent during the lockdown period. The services sector was hardest hit, seeing an estimated drop in output of almost 30 per cent. Food systems in Jordan are estimated to have experienced a reduction in output by almost 40 per cent. Employment losses during the lockdown were estimated at over 20 per cent, mainly driven by job losses in services, followed by agriculture. Household income fell on average by around one-fifth due to the lockdown, mainly driven by contraction in service sector activities, by slowdown in manufacturing activity, and by lower remittances from abroad. GDP growth rates for Jordan's economy will continue to be negative through 2020, ranging from -5.7 to -7.4 per cent, depending on the speed of economic recovery. A slow pace of recovery is expected. This economic recovery offers opportunities for fostering sustainable economic transformation and

structural change. Economic policies and incentives should be directed towards more economic diversification, greater resilience to withstand economic shocks, and job creation.⁷ The impact of COVID-19 on the Egyptian economy appears from the effects on economic sectors, jobs, and households. For instance, the COVID-19 crisis may lead to a 1.1 per cent decline in Egypt's GDP during the 4th quarter (April to June) of the 2019/20 fiscal year, compared to the same quarter in 2018/19. Without the Government of Egypt's COVID-19 emergency response package, GDP.⁸ The impact of COVID-19 on Tunisia's economy, Agri-food system, and households: The COVID-19 crisis is expected to lead to a 46.4 per cent decline in Tunisia's GDP during the 2nd quarter of 2020 (April to June). The industrial sector will be hit hardest, with output falling by 52.7 per cent, followed closely by services (-49.0 per cent).⁹

3. Background about Sudan economy and COVID-19 Pandemic in Sudan

Before discussing the impacts of COVID-19 in Sudan, it will be useful to show some stylized facts about Sudan economy and to explain some stylized fact about the incidence of COVID-19 in Sudan.

3.1. Background about Sudan economy

Since its independence and over the past decades, Sudan suffered from the prevailing conditions that characterized by the political and economic instability and uncertainty conditions in Sudan. According to the World Bank (2021) for most of its independent history, the country has been beset by internal conflicts that weakened its ability to sustain economic growth. Under the terms of a comprehensive peace agreement in 2005, South Sudan seceded in 2011 and became the 54th independent State of Africa. The secession of South Sudan induced multiple economic shocks. In particular, the loss of the oil revenue that accounted for more than half of Sudan's government revenue and 95% of its exports. This has reduced economic growth, and resulted in double-digit consumer price inflation, which, together with increased fuel prices, triggered violent protests in September 2013. The outbreak of civil war in South Sudan damaged both economies depriving Sudan of much needed pipeline revenues, the war damaged oil infrastructure, further eroding revenue availability to Sudan.¹⁰ Sudan economy overview implies that Sudan has experienced protracted social conflict, civil war, and, in July 2011, the loss of three-quarters of its oil production due to the secession of South Sudan. The oil sector had driven much of Sudan's GDP growth since 1999. For nearly a decade, the economy boomed on the back of rising oil production, high oil prices, and significant inflows of foreign direct investment. Since the economic shock of South Sudan's secession, Sudan has struggled to stabilize its economy and make up for the loss of foreign exchange earnings. The interruption of oil production in South Sudan in 2012 for over a year and the consequent loss of oil transit fees further exacerbated the fragile state of Sudan's economy. On-going conflicts in Southern Kordofan, Darfur, and the Blue Nile states, lack of basic infrastructure in large areas, and reliance by much of the population on subsistence agriculture, keep close to half of the population at or below the poverty line. Sudan was subject to comprehensive US sanctions, which were lifted in October 2017.

⁷ See Raouf, Elsabbagh, and Wiebelt (2020).

⁸ See Breisinger, Raouf, Wiebelt, Kamaly, and Karara (2020).

⁹ See ElKadhi, Elsabbagh, Frija, Lakoud, Wiebelt, and Breisinger (2020).

¹⁰ See <https://www.worldbank.org/en/country/sudan/overview#1> (Last Updated: Sep 29, 2021) (Accessed 16 October 2021).

Sudan also faces high inflation, which reached 47% on an annual basis in November 2012 but fell to about 35% per year in 2017.¹¹

Consumer prices continue to rise in Sudan, rising consumer prices and the depreciating pound will have a serious impact on Sudan's economic recovery. Rising fuel prices will place further upward pressure on inflation, stoking public frustration. Continuous food price hikes led to the December 2018 demonstrations which resulted in the removal of previous government from power in April 2019. This led to the formation of a Transition Government in September 2019, and the power-sharing agreement between the military and civilian forces expected to last 39 months. In addition to the political and economic uncertainty, Sudan, like the rest of the world, has been experiencing the unprecedented social and economic impact of the COVID-19 (coronavirus) pandemic. The COVID-19 shock is expected to be transitory with potential recovery possible in 2021 but the overall adverse economic impact on Sudan will be substantial. The economic impact of COVID-19 includes the increased price of basic foods, rising unemployment, and falling exports. Restrictions on movement are making the economic situation worse, with commodity prices soaring across the country. According to the International Monetary Fund the economic situation has already forecasted an overall economic stagnation in 2020 in Sudan.¹² The Transitional government is planned to govern the country during a 39-month transitional period. Social tensions will remain high, as the public remains wary about political and economic uncertainty during the transitional period. The coronavirus (Covid-19) pandemic has deepened economic woes, but prospects will improve in 2021 as US sanctions are removed.¹³

According to Sudan Economic Outlook (2021) the recent macroeconomic and financial developments indicate that real GDP was estimated to have shrunk by 8.4% in 2020 after shrinking by 2.5% in 2019. The COVID-19 pandemic's effect on commodity prices, trade, travel, and financial flows contributed to subdued economic activity. Reduced private consumption and investment as well as disruptions in value and supply chains also affected growth. Containment measures such as lockdowns took their toll on the service sector, with 58% of GDP, and the industrial sector, with 22%. Inflation escalated to an estimated 124.9% in 2020, compared with 82.4% in 2019, mainly due to a 118% currency depreciation and monetization of the fiscal deficit. Public revenues decreased by 35% in 2020, while the pandemic spurred a big increase in spending, worsening the fiscal deficit to 12.4% in 2020, compared with 11.3% in 2019. The fiscal deficit, which accounted for 40% of government revenues in 2019, has primarily been financed by advances from the central bank. Reduced demand among Sudan's major trading partners in the Persian Gulf lowered exports, but imports also declined. As a result, the current account deficit narrowed to 12.6% of GDP from 15.1% in 2019. Private sector credit as a percentage of GDP dropped by 4 percentage points during the first half of 2020, reflecting the pandemic-related economic slowdown. In July 2020, the government adopted an accommodative monetary policy by reducing the cash reserve ratio, boosting credit to private sector to an estimated 12% of GDP at the end of 2020, still below the 14% of GDP it reached in 2019. While non-performing loans decreased from 3.5% in 2019 to 3% in 2020, returns on assets decreased to 1% from 1.8%, reflecting reduced profitability due to the sharp economic contraction. Subdued economic activity increased poverty from 48.3% in

¹¹ Source: See <https://www.economy.com/sudan/indicators#ECONOMY> (accessed on 16 October 2021)

¹² Source: See <https://www.worldbank.org/en/country/sudan/overview#1> (Last Updated: Sep 29, 2021) (Accessed 16 October 2021).

¹³ Source: See <https://country.eiu.com/sudan> (Accessed on 16 October 2021)

2019 to an estimated 56% in 2020. Sudan's economy is projected to remain in recession in 2021, with a return to modest growth expected in 2022.¹⁴

3.2. The incidence and spread of Corona Virus Pandemic (COVID-19) in Sudan

Sudan, like the rest of the world, has been experiencing the unprecedented social and economic impact of the COVID-19 pandemic. The Sudanese authorities attempted to act quickly in the face of the spreading virus. In March 2020 the Government established a high-level emergency committee to oversee the operations to deal with the COVID-19 pandemic. Sudanese authorities attempted to act quickly in the face of the spreading virus. With the confirmation of the first COVID-19 case in Sudan on March 13, the Government of Sudan declared a 'state of emergency'. On March 14, 2020, the Government announced closure of schools and prohibition of mass gatherings. Two days later, it closed airports, ports, and land crossings; banned travel between states; and required one-month quarantine for incoming travelers. A partial lockdown was imposed in Khartoum State in mid-March 2020. In April 2020 the government launched a social assistance program to provide in cash and in-kind support to households in Khartoum State. Restrictions on movement are expected to make the economic situation worse, with commodity prices soaring across the country. The lockdown was further extended until July 7. Starting July 8, 2020, Sudan began loosening the lockdown measures in and around the capital Khartoum after three months of tight restrictions. The airport began opening on July 12. The rapid spread of COVID-19 in Sudan and the Government's containment measures could negatively affect household welfare including loss of employment and income, decreased access to basic commodities and services, and food security. The COVID-19 pandemic will likely worsen living conditions, particularly among the poor and vulnerable Sudanese. Despite the significant efforts made by the Government and other key partners, progress has been relatively slow due to the lack of funding and the delayed procurement of required supplies. A revised draft federal budget for 2020 includes a major emergency allocation of resources for COVID-19-related expenditures. Despite the containment measures, the COVID-19 transmission in Sudan evolved quickly. The second wave has led to an increase in the number of cases and deaths. Sudan has limited capacity to control the transmission and contain the COVID-19 pandemic and is among the most affected African countries in terms of absolute numbers of confirmed cases and death ratio. The crisis has brought to the fore systemic weaknesses in Sudan's health system. The COVID-19 pandemic threatens to disrupt the provision of essential health care services due to barriers to the supply and demand for services. COVID-19 will lead to increased prices of basic foods, rising unemployment, slower growth, higher deficits, and falling exports. Restrictions on movement are making the economic situation worse, with commodity prices soaring across the country. According to the International Monetary Fund (IMF) projections, consumer prices are expected to increase by 81.3 per cent in 2020. The World Bank projects gross domestic product (GDP) to decrease 4–10 per cent in 2020 due to the combined impact of the economic crisis exacerbated by the social distancing measures to curb the spread of COVID-19.

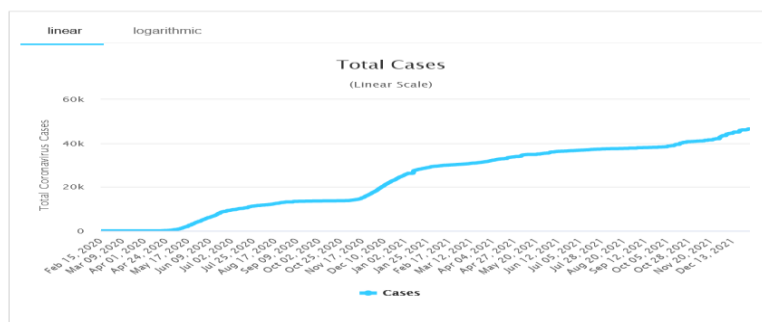
¹⁴ Source: See <https://www.afdb.org/en/countries/east-africa/sudan/sudan-economic-outlook> (Accessed on 16 October 2021).

Slowing growth and COVID-19 policy responses will have a significant negative impact on government revenue. Slowing activity translates into lower levels of tax and other government revenue collection.¹⁵

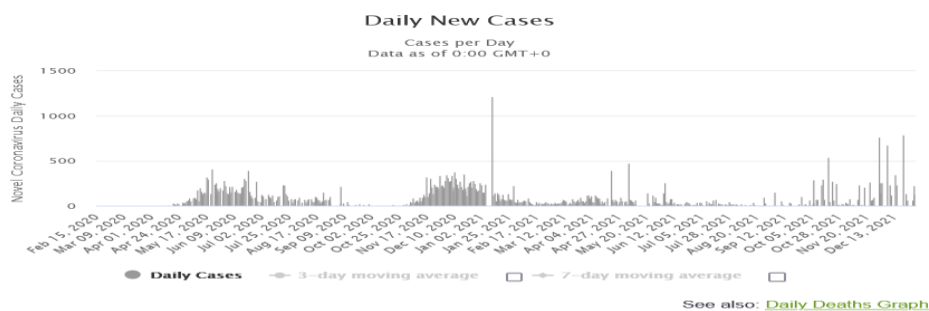
The data from the Worldmeters shows the incidence and spread of Corona Virus Pandemic (COVID-19) in Sudan and implies that COVID-19 has rapidly spread in Sudan during the period (2020-2021). For instance, according to data obtained from Worldmeters (2021) Sudan is reporting significant fluctuations and fast increasing trends in the number of cases and number of deaths during the period (March 2020 – December 2021) (see Figure 1).¹⁶ According to data obtained from Reuters (2021) Sudan is reporting 68 new infections on average each day, 21% of the peak — the highest daily average reported on December 16, 2020- infections per 100K people reported last 7 days. There have been 46,518 infections and 3,331 coronavirus-related deaths reported in the country since the pandemic began. The figure shows the infections and deaths in Sudan compared to Africa region and the global world. Lockdown as COVID-19 infections began to be reported around the world, many countries responded by shutting down places like schools, workplaces and international borders in order to contain the spread of the virus. This Figure shows how different lockdown measures were implemented in Sudan during the course of the pandemic (see Figure 2)¹⁷

Figures 1- Total cases, daily new cases, total deaths and daily new deaths in Sudan (March 2020-December 2021)

Total Coronavirus Cases in Sudan



Daily New Cases in Sudan

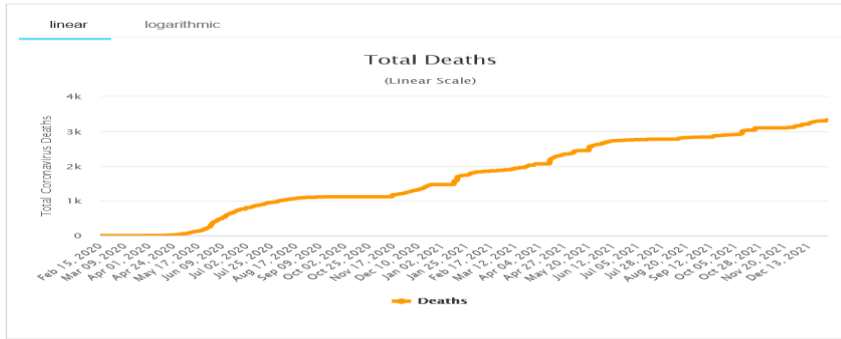


¹⁵ See The World Bank and the Central Bureau of Statistics (CBS) (2020) ‘Socioeconomic Impact of COVID-19 on Sudanese Households,’ the World Bank office in Khartoum, Sudan, December 2020, pp. 1, 5.

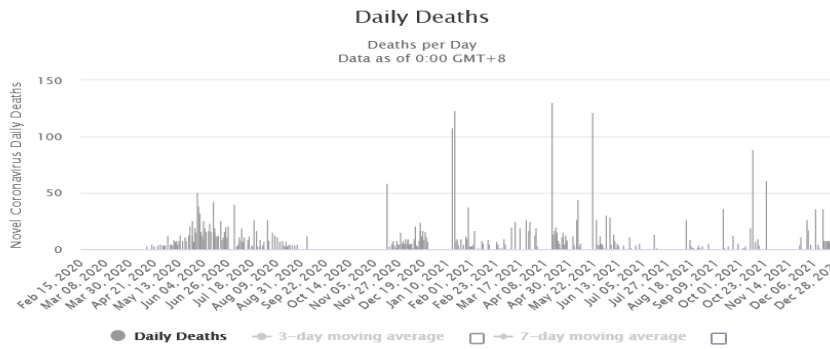
¹⁶ See Worldmeters (2021): <https://www.worldometers.info/coronavirus/country/sudan/> (Accessed on 13 December 2021)

¹⁷ See Reuters (2021): <https://graphics.reuters.com/world-coronavirus-tracker-and-maps/countries-and-territories/sudan/> (Accessed 13 December 2021).

Total Coronavirus Deaths in Sudan



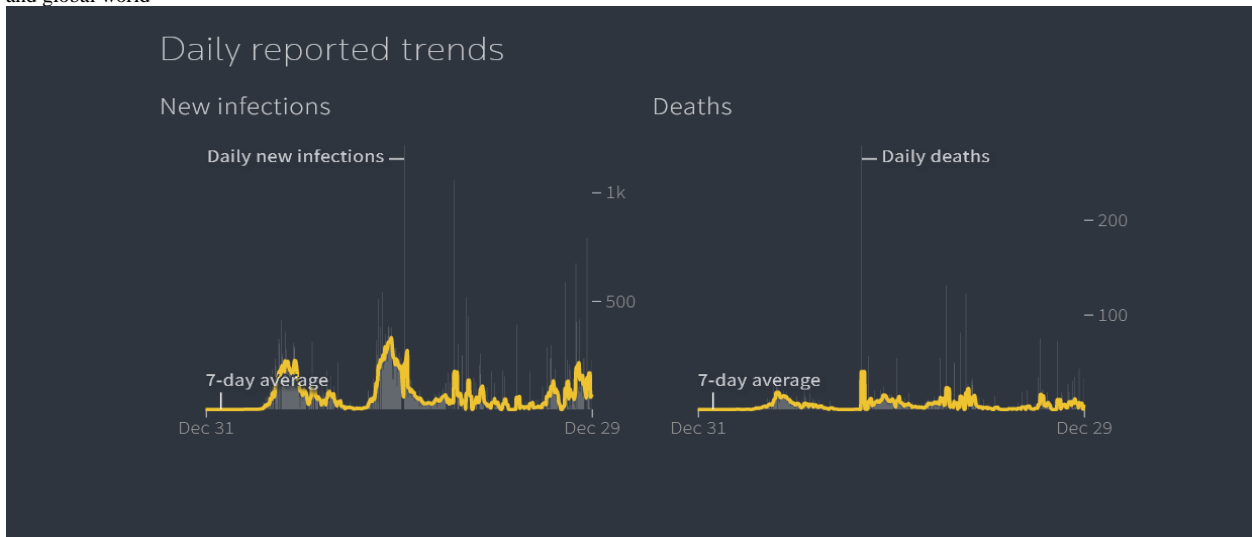
Daily New Deaths in Sudan

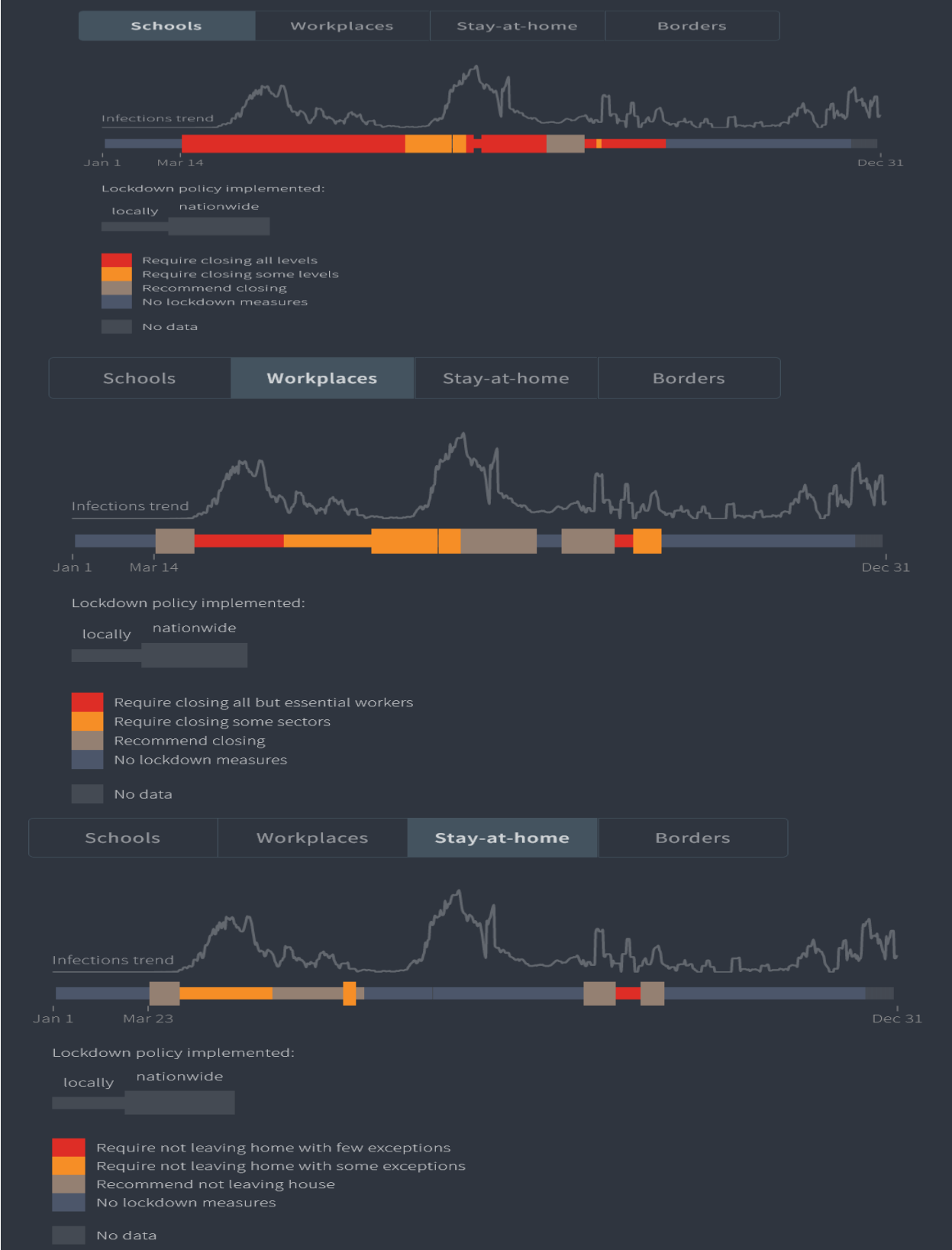


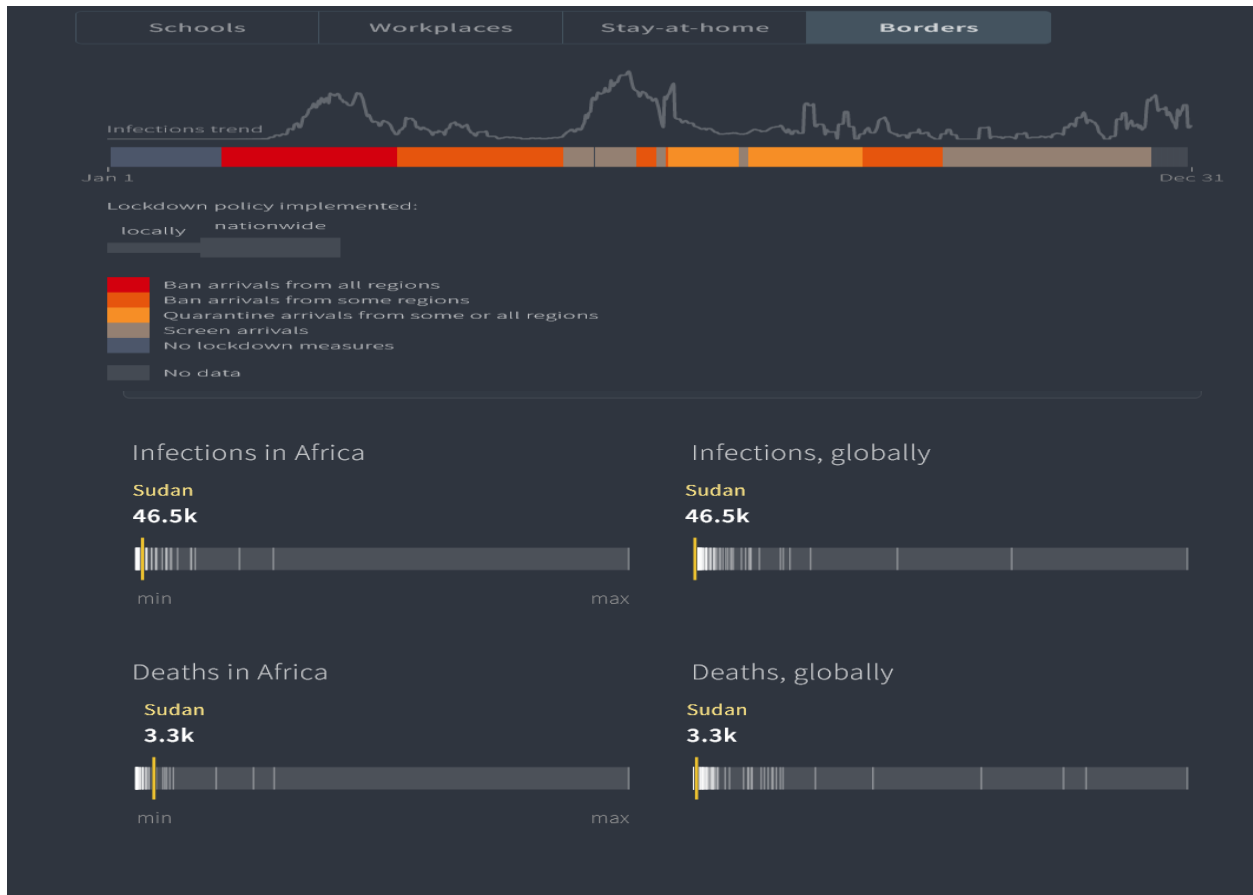
See also: [Daily Cases Graph](#)

Source: Worldmeters (2021): <https://www.worldometers.info/coronavirus/country/sudan/> (Accessed on 31 December 2021)

Figure 2– Daily reported trends of new infections and daily deaths, COVID-19 lockdown and infections and deaths in Sudan compared to Africa and global world



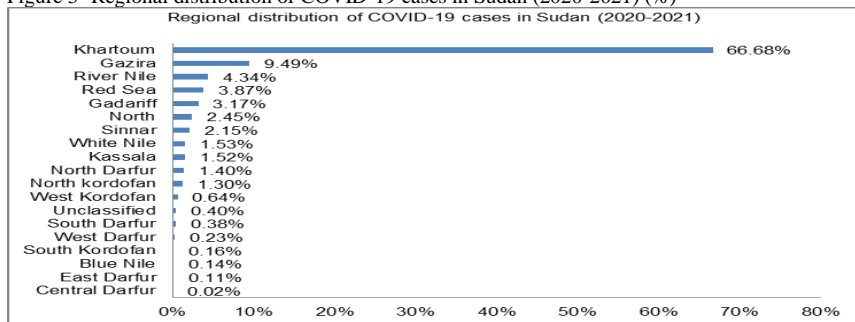




Source: Reuters (2021): <https://graphics.reuters.com/world-coronavirus-tracker-and-maps/countries-and-territories/sudan/> (Accessed 31 December 2021).

The regional distribution of the spread of Corona Virus Pandemic (COVID-19) defined by the share in total cases implies the high concentration of the spread and the reported incidence of nearly two thirds of confirmed cases in Khartoum (66.68%), followed by nearly tenth of cases in Gazer (9.49%), River Nile (4.34%), Red Sea (3.87%), Gad riff (3.17%), North (2.45%), Sinner (2.15%), White Nile (1.53%), Kassel (1.52%), North Darfur (1.4%), North Kordofan (1.30%), West Kordofan (0.64%), Unclassified (0.4%), South Darfur (0.38%), West Darfur (0.23%), South Kordofan (0.16%), Blue Nile (0.14%), East Darfur (0.11%), and Central Darfur (0.02%) respectively. (See Figure 3)

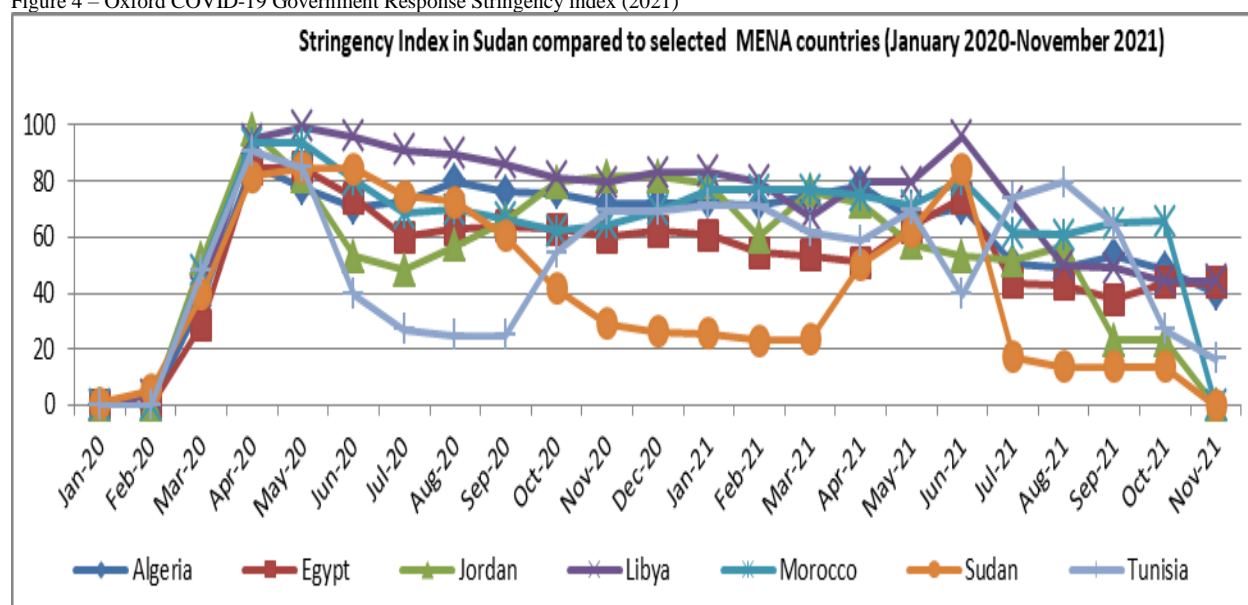
Figure 3- Regional distribution of COVID-19 cases in Sudan (2020-2021) (%)



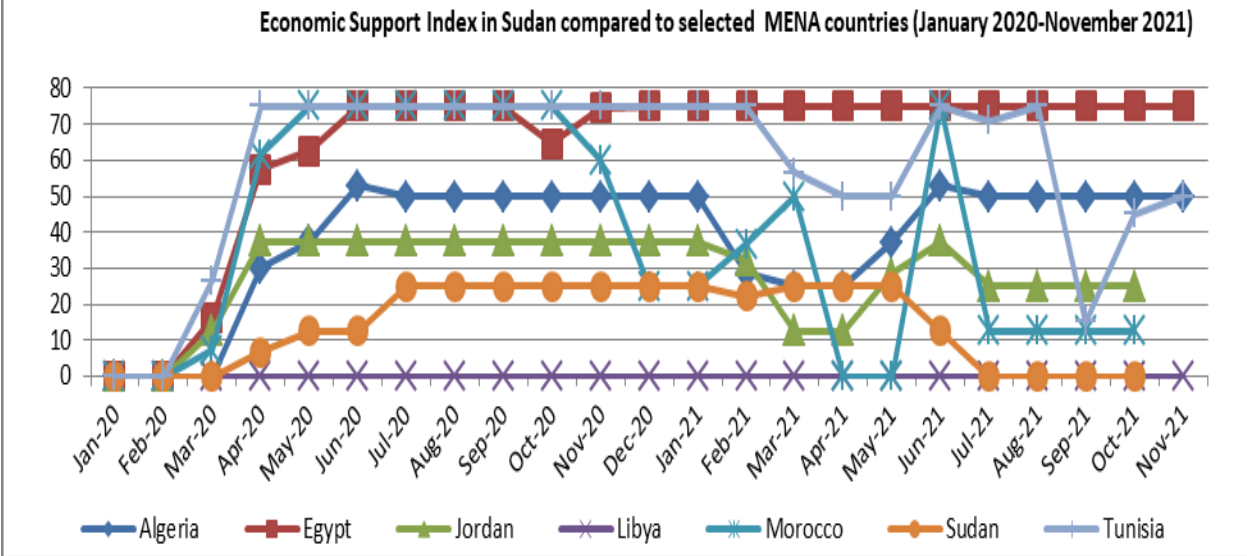
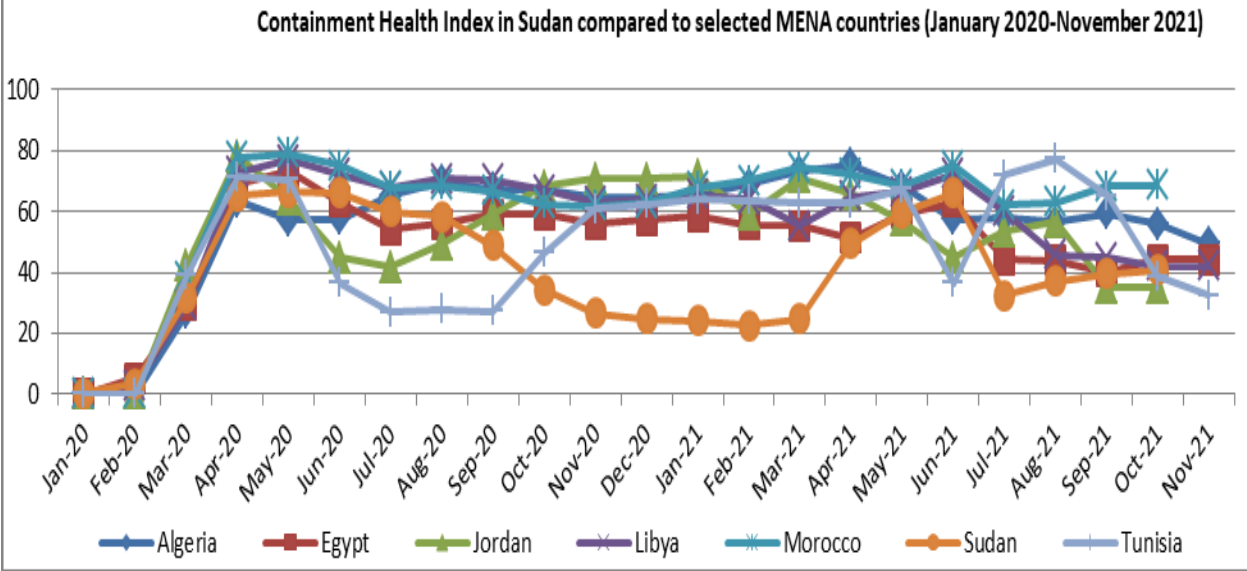
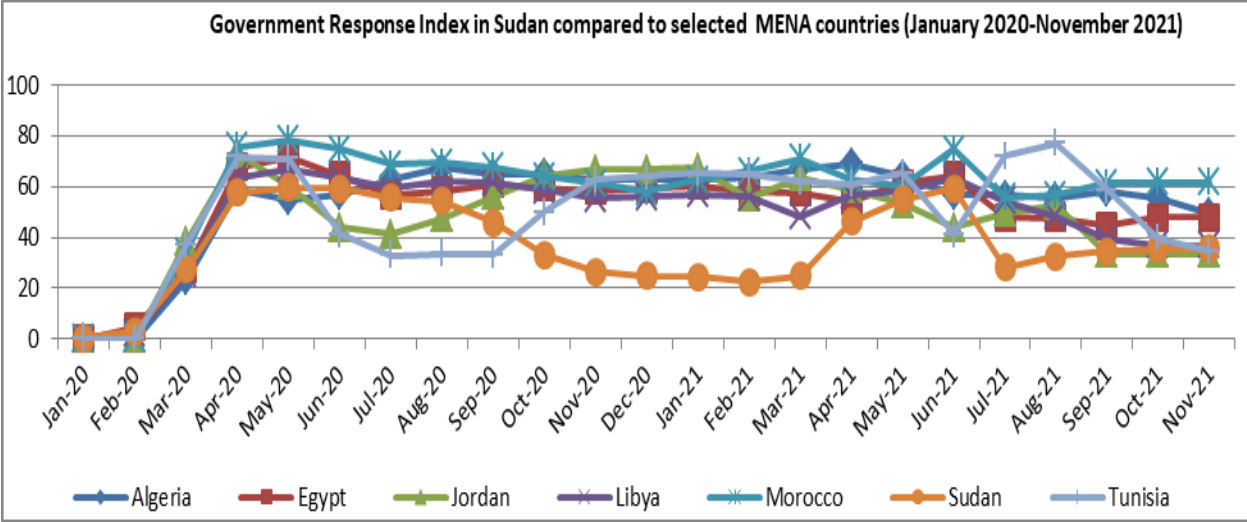
Source: Sudan Ministry of Health – Sudan Health Observatory (SHO) - COVID-19 Pandemic – Access 13 July 2021 (<http://www.sho.gov.sd/corona/>, <http://www.sho.gov.sd/corona/uploads/7b03e-4.jpg>)

The Oxford COVID-19 Government Response Stringency index (2021) dataset is part of COVID-19 Pandemic includes four policy indices that shows that the world governments are taking a wide range of measures in response to the COVID-19 outbreak.¹⁸ According to the Oxford COVID-19 Government Response Stringency index (2021) dataset Sudan like many other world governments implemented a wide range of measures in response to the COVID-19 outbreak. The data from the Oxford COVID-19 Government Response Tracker (OxCGRT) track and compare government responses to the coronavirus outbreak worldwide. The score of the Stringency index, the Government Index, the Containment and Health Index, the Economic Support Index in Sudan were lower than some selected MENA countries. The indices score value reflects the intensifying strictness of Sudan government policies that show significant fluctuation and show increasing strictness in the period (April – August 2020), then a decreasing strictness in the period (September 2020- March 2021), then increasing strictness in the period (April – (June 2021) and then a falling strictness in the period (July-November 2021). (See Figure 4)

Figure 4 – Oxford COVID-19 Government Response Stringency index (2021)



¹⁸ The Oxford COVID-19 Government Response Stringency index (2021) dataset is part of COVID-19 Pandemic includes four policy indices that shows that the world governments are taking a wide range of measures in response to the COVID-19 outbreak. The Oxford COVID-19 Government Response Tracker (OxCGRT) aims track and compare government responses to the coronavirus outbreak worldwide rigorously and consistently. The OxCGRT systematically collects information on several different common policy responses governments have taken, scores the stringency of such measures, and aggregates these scores into a common Stringency Index (see <https://www.bsg.ox.ac.uk/research/research-projects/oxford-covid-19-government-response-tracker>) (see also Oxford COVID-19 Government Response Stringency index (<https://data.humdata.org/dataset/oxford-covid-19-government-response-tracker>) (Access 10 November 2021)). The data includes four policy indices that aggregate the data into a single number from 0-100. This is a measure of how many of the relevant indicators a government has acted upon, and to what degree. The index cannot say whether a government's policy has been implemented effectively. The index includes the overall government response index, the index records how the response of governments has varied over all indicators in the database, becoming stronger or weaker over the course of the outbreak. The containment and health index is the index that combines 'lockdown' restrictions and closures with measures such as testing policy and contact tracing, short term investment in healthcare, as well investments in vaccines. It is calculated using all ordinal containment and closure policy indicators and health system policy indicators. Stringency index, the index records the strictness of 'lockdown style' policies that primarily restrict people's behaviour. It is calculated using all ordinal containment and closure policy indicators, plus an indicator recording public information campaigns. The Economic support index records measures such as income support and debt relief. It is calculated using all ordinal economic policies indicators. Risk of openness index the index is based on the recommendations set out by the World Health Organization (WHO) of the measures that should be put in place before Covid-19 response policies can be safely relaxed. Read more about the details, visualisations, and methodology. Read the dedicated Risk of openness working paper. Note that these indices simply record the number and strictness of government policies, and should not be interpreted as 'scoring' the appropriateness or effectiveness of a country's response. A higher position in an index does not necessarily mean that a country's response is 'better' than others lower on the index.



Source: Adapted from Oxford COVID-19 Government Response Stringency index (2021) (<https://data.humdata.org/dataset/oxford-covid-19-government-response-tracker>) (Access 10 November 2021).

4. The impact of COVID-19 on households in Sudan (using Household Survey)

This Section discusses the impact of COVID-19 on households in Sudan (using Household Survey). Before discussing the impacts of COVID-19 on the status of employment of households, this section begins by explaining the general demographic and household characteristics, then discussing the labour market status in Sudan during the COVID-19 pandemic period, structure of labour market, structure of employment, the status of employment and unemployment, the working conditions, status in business and working status in business, wages, income and revenue, income, households' mean of livelihood and source of income, employers' provision and contribution to social protection of workers, government support and social support over COVID-19 crisis and finally explains the most needed policies to support business over COVID-19 crisis in Sudan.

4.1. General demographic and household characteristics

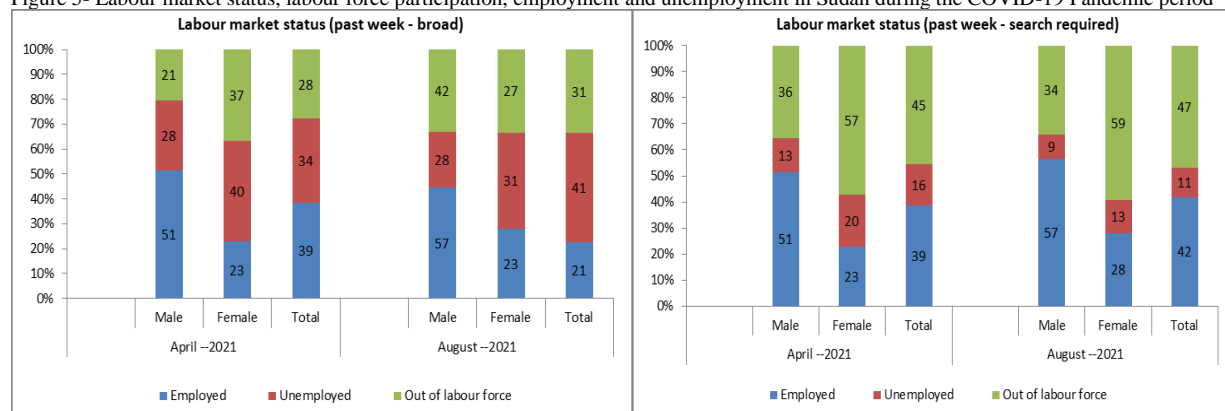
We use the ERF COVID MENA Monitor Survey data (ERF CMM data), mainly, COVID-19 Monitor Sudan Household Survey (April –August 2021). The general demographic and household characteristics of the survey defined by gender/sex implies that the majority and more than half of households are males (55%), and less than half are females (45%) in August compared to males (49%) and females (51) in April. The classification according to age implies that in April 2021 the majority and more than third of households are (25—39 years old) (43%), followed by more than third are (18—24 years old) (37%), and more than fifth are (40-64 years old) (20%) respectively, while, in August 2021 the majority and more than third of households are (18—24 years old) (42%), followed by more than third are (25—39 years old) (39%), and nearly fifth are (40-64 years old) (19%) respectively. The classification defined by households family size implies that the majority and nearly two thirds of households family are medium size family (5-10) (66%; 64%), followed by more than a quarter are small size family (1-4) (27%; 31%), and less than tenth are large size family (11-35) (8%; 5%) in April and August respectively. The distribution according to location of residence (urban/rural) in February 2020 implies that the majority of households are resident in urban area (83%), and few are resident in rural area (17%) in April and August. The distribution according to administrative geographical regions and States in February 2020 implies that the majority and nearly two thirds of households are located in Khartoum State (65%, 62%), followed by Al Jazirah State (9%, 9%), White Nile State (4%, 4%), River Nile State (3%, 3%), Sennar State (3%, 3%), Gedaref State (2%, 3%), Red Sea State (2%, 2%), North Kordofan State (2%, 2%), Northern State (2%, 2%), Kassala State (2%, 2%), South Darfur State (1%, 1%), Blue Nile State (1%, 1%), North Darfur State (1%, 1%), West Kordofan State (1%, 1%), South Kordofan State (1%, 0.9%), East Darfur State (0.6%, 0.4%), West Darfur State (0.3%, 0.6%), and Central Darfur State (0.1%, 0.3%) in April and August respectively. The classification according to the highest level of education completed implies that the majority and more than third of households obtained higher education (41%, 34%), followed by more than third obtained secondary education (37%, 46%), followed by less than basic education (11%, 10%) and basic education (11%, 10%) in April and August respectively. The classification according to personally have any other functional mobile numbers implies that nearly half of households indicate that they personally have any other functional mobile numbers (44%), males (51%) are higher than females (37%) in April compared to nearly two third (63%) males (50%) and females (74%) in August. (See Appendix 1 – Figure 28)

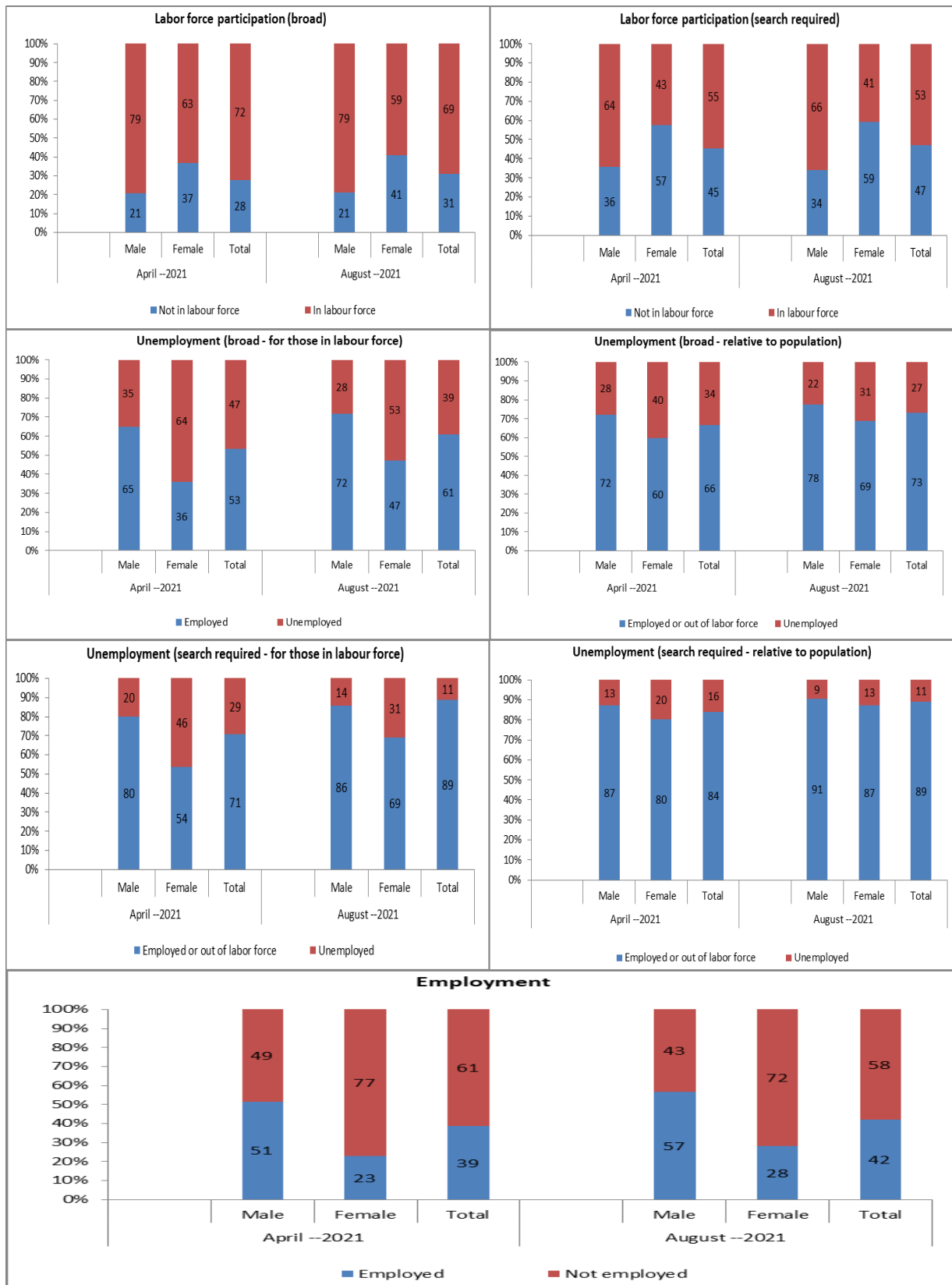
4.2. Labour market status in Sudan during the COVID-19 Pandemic period

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) and when using the broad definition of the labour market status implies that during the COVID-19 pandemic period the employment decreased from 39% in April 2021 to 21% in August 2021, while unemployment increased from 28% in April 2021 to 41% in August 2021 and the share of individuals out of the labour force increased from 28% in April 2021 to 31% in August 2021. By contrast when using the standard definition of the labour market status implies that during the COVID-19 pandemic period the employment increased from 39% in April 2021 to 42% in August 2021, while unemployment decreased from 16% in April 2021 to 11% in August 2021 and the share of individuals out of the labour force increased from 45% in April 2021 to 47% in August 2021.

The labour market status defined by the labour force participation implies that the participation in the labour force decreased from 72% in April 2021 to 69% in August 2021 (according to the broad definition) and decreased from 55% in April 2021 to 53% in August 2021 (according to the standard definition), but the share of those who are not in the labour force increased from 28% in April 2021 to 31% in August 2021 (according to the broad definition) and increased from 45% in April 2021 to 47% in August 2021 (according to the standard definition). Labour market status defined by the (past week - broad) status of employment implies that although the majority of all households are employed (39%), but more than third are unemployed (34%), and nearly third are out of the labour force (28%). Between April 2021 and August 2021 employment increased from 39% to 42% for all, from 51% to 57% for male and from 23% to 28% for female (see Figure 5). The labour market status defined by the unemployment implies that the from April 2021 to August 2021 the unemployment decreased from 47% to 39% for all, from 35% to 28% for male, and from 64% to 53% for female (according to the broad definition) and decreased from 29% to 11% for all, from 20% to 14% for male, and from 46% to 31% for female (according to the standard definition) (see Figure 5). The labour market status vary according to gender, for instance, according to the standard definition the participation in the labour force participation between April 2021 and August 2021 for males (64%, 66%) is higher than females (43%, 41%), the participation in the labour force increased for male from 64% to 66% and decreased for female from 43% to 41%. moreover, more than half of females are out of the labour force (57%, 59%) compared to more than third of males (36%, 34%) (See Figure 5), in addition, unemployment for females is higher than males, the majority and nearly third of females are unemployed (31%) (See Figure 5).

Figure 5- Labour market status, labour force participation, employment and unemployment in Sudan during the COVID-19 Pandemic period

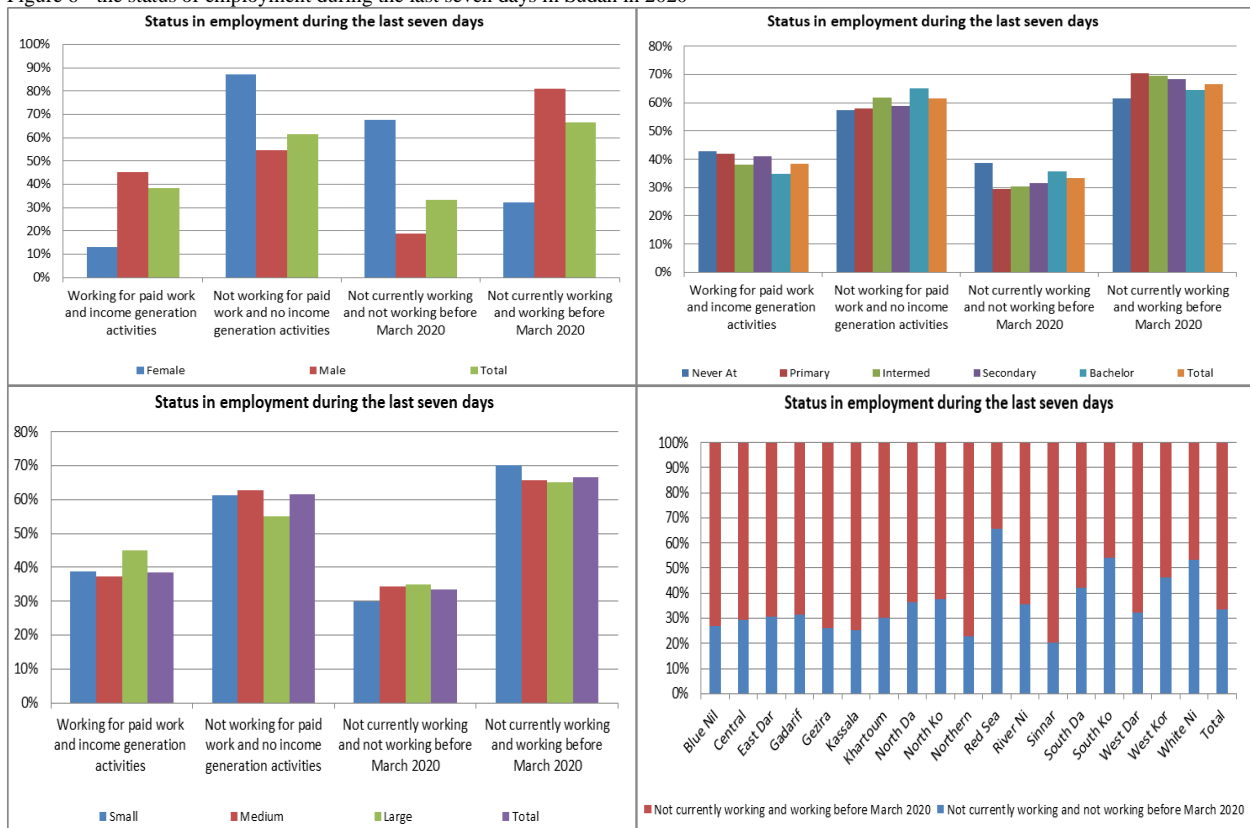


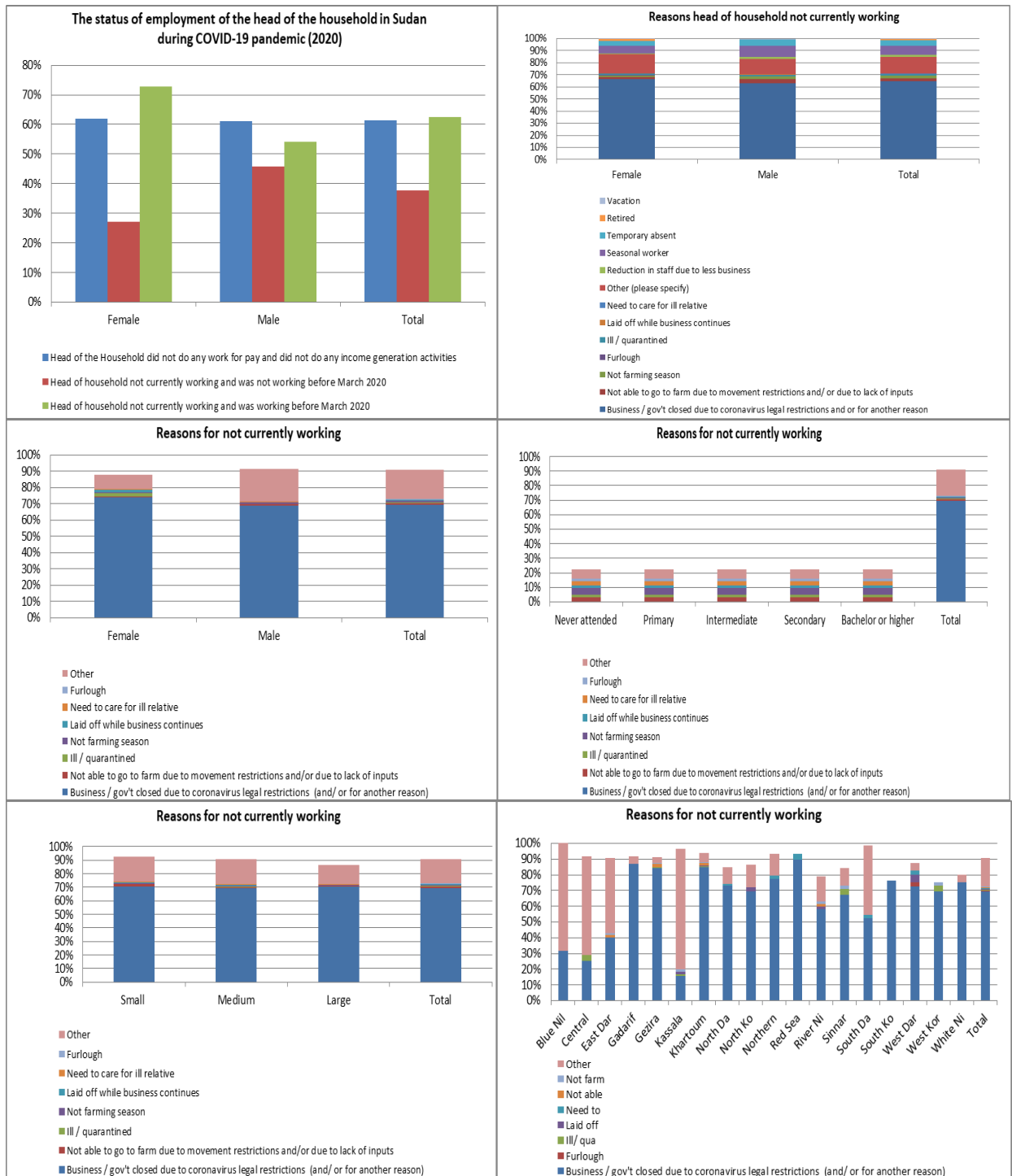


Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show the status of employment of households during the COVID-19 period (see Figure 6). For instance, even though during the last seven days more than third of households (38%) and head of household (39%) were working for paid job and income generation activities however, the majority and nearly two third of households (62%) and head of household (61%) were not working (see Figure 6). The status of employment varies according to gender, household educational level, household family size, and across regions/states. For instance, the status of employment implies that the probability of households were not working for paid work and income generation activities during the last seven days is higher for females (87%) compared to males (55%) and for females head of household (62%) is higher than males head of household (61%), the probability of households were not currently working and not working before March is higher for females (68%) compared to males (19%), and the probability of households were not currently working and working before March is higher for males (81%) compared to females (32%). The main reason the households and the head of household not currently working for the majority and more than two third of households because business / gov't closed due to coronavirus legal restrictions (and/ or for another reason) reported by households (70%) and head of household (65%), respectively. Other reasons are that households not able to go to farm due to movement restrictions and/or due to lack of inputs, ill / quarantined, not farming season, laid off while business continues, need to care for ill relative, furlough, and other, reduction in staff due to less business, retired, seasonal worker, temporarily absent, vacation and other reasons (including curfew, fuel Issues, and low income). (See Figure 6)

Figure 6 - the status of employment during the last seven days in Sudan in 2020





Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

4.3. Structure of labour market

The analysis using the first wave ERF COVID MENA Monitor Sudan Survey data (2021) show the structure of employment and distribution of employment by sector of employment and economic activity (April 2021) that implies that the majority of all households are working on Retail or Wholesale (16%), followed by other services

(14%), Education (12%), Health (10%), Financial activities or real estate (10%), Transportation and storage (9%), Construction or utilities (8%), Agriculture, fishing or mining (6%), Manufacturing (6%), Information and communication (5%), and Accommodation and food services (4%) respectively. The structure of employment and distribution of employment by sector of employment vary according to gender, for instance on the one hand, the distribution implies that the majority of males are working on Retail or Wholesale (17%), followed by other services (16%), Transportation and storage (11%), Construction or utilities (10%), Health (9%), Agriculture, fishing or mining (7%), Manufacturing (7%), Financial activities or real estate (7%), Information and communication (6%), Education (6%), and Accommodation and food services (5%) respectively. While, on the other hand, the distribution implies that the majority of females are working on Education (29%), followed by Financial activities or real estate (18%), Retail or Wholesale (14%), Health (13%), other services (10%), Transportation and storage (4%), Agriculture, fishing or mining (4%), Information and communication (4%), Manufacturing (3%), and Accommodation and food services (3%), and Construction or utilities (1%) respectively. (See Figure 7)

The analysis using the second wave ERF COVID MENA Monitor Sudan Survey data (2021) show the structure of employment and distribution of employment by sector of employment and economic activity (August 2021) implies that the majority of all households are working on Education (20%), followed by other services (19%), Retail or Wholesale (13%), Transportation and storage (13%), Construction or utilities (8%), Health (6%), Financial activities or real estate (6%), Agriculture, fishing or mining (6%), Manufacturing (5%), Information and communication (4%), and Accommodation and food services (1%) respectively. The structure of employment and distribution of employment by sector of employment vary according to gender, for instance on the one hand, the distribution implies that the majority of males are working on other services (24%), followed by Transportation and storage (17%), Retail or Wholesale (12%), Construction or utilities (10%), Education (10%), Agriculture, fishing or mining (7%), Manufacturing (6%), Financial activities or real estate (6%), Health (5%), and Information and communication (2%) respectively. While, on the other hand, the distribution implies that the majority of females are working on Education (59%), followed by Retail or Wholesale (14%), Health (9%), Information and communication (9%), financial activities or real estate (5%), and Accommodation and food services (5%), respectively. (See Figure 7)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the structure of labour market according to the main occupation (April 2021) implies that the majority and nearly third of all households indicates that they are working as manager/professional (31%), and working as technicians/associate professionals (31%), followed by clerks/service workers (29%), and Blue collar, skilled agricultural, production and transport (9%) respectively. The majority and nearly third (31%) of males indicates that they are working as clerks/service workers (32%), followed by manager/professional (30%) and working as technicians/associate professionals (28%), Blue collar, skilled agricultural, production and transport (11%) respectively, The majority and more than third of females indicates that they are working as technicians/associate professionals (39%), followed by working as manager/professional (34%), followed by clerks/service workers (24%), and blue collar, skilled agricultural, production and transport (4%) respectively. (See Figure 7)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the structure of labour market according to the main occupation (August 2021) implies that the majority and nearly third of all households indicates that they are working as manager/professional (35%), followed by technicians/associate professionals (27%), clerks/service workers (23%), and Blue collar, skilled agricultural, production and transport (15%) respectively. The majority and nearly third of males indicates that they are working as manager/professional (33%) followed by technicians/associate professionals (30%), clerks/service workers (21%), and Blue collar, skilled agricultural, production and transport (16%) respectively. The majority and more than third of female indicate that they are working as manager/professional (41%), followed by clerks/service workers (32%), technicians/associate professionals (14%), and blue collar, skilled agricultural, production and transport (14%) respectively (see Figure 7). From April 2021 to August 2021 employment in main occupation as manager/professional and as Blue collar, skilled agricultural, production and transport increased for both male and female, while employment in technicians/associate professionals occupation increased for male and decreased for females, and employment in clerks/service workers occupation increased for females and decreased for male (see Figure 7).

The structure of labour market according to the main job/activity as of the end of February 2020, implies that the majority and more than fifth of all households are unemployed and looking for work (21%), followed by nearly fifth full time student (19%), followed by business owner/self-employed (but not a farmer) (17%), housewife (12%), wage worker for a private sector /NGO (7%), wage worker for government / public sector (5%) and farmer (owns a farm/self-employed on a farm) (4%) respectively. For the majority and more than a quarter of males the main job/activity are business owner/self-employed (but not a farmer) (29%), followed by unemployed and looking for work (17%), followed by full time student (15%), wage worker for a private sector /NGO (10%), wage worker for government / public sector (6%), farmer (owns a farm/self-employed on a farm) (6%) respectively. For the majority and more than a quarter of females the main job/activity are housewife (26%), followed by full time student (25%), unemployed and looking for work (24%), wage worker for a private sector /NGO (4%), wage worker for government / public sector (3%), business owner/self-employed (but not a farmer) (2%), very few are farmer (owns a farm/self-employed on a farm) (0.37%) respectively. The main job/activity as of the end of February 2020 vary according to gender, for instance, the gender gap and discrepancy is demonstrated from the fact that the percentage of males compared to females in the main job/activity is more than seventeen times in farmer (owns a farm/self-employed on a farm), more than sixteen times in business owner/self-employed (but not a farmer), more than twice in wage worker for a private sector /NGO and nearly twice in wage worker for government / public sector. (See Figure 7)

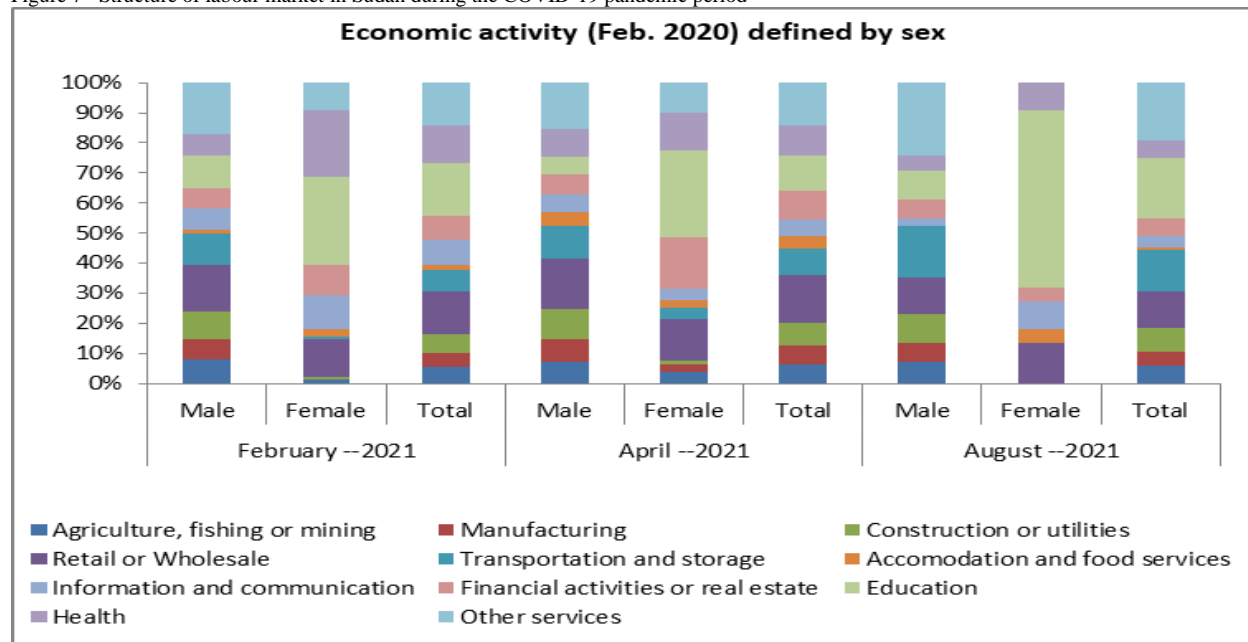
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the structure of labour market according to the main job/activity (August 2021) indicates that the main job/activity for the majority and more than fifth of all households are full time student (20%), followed by nearly fifth other, not employed and not looking for work (e.g. taking care of family members (19%), business owner/self-employed (but not a farmer) (15%), followed by less than fifth unemployed and looking for work (17%), housewife (11%), wage worker for a private sector /NGO (7%), wage worker for government / public sector (6%), and farmer (owns a farm/self-employed on a farm) (4%), unpaid family worker (but not a farmer) (1%), and unpaid family worker on a farm (1%) respectively. For the

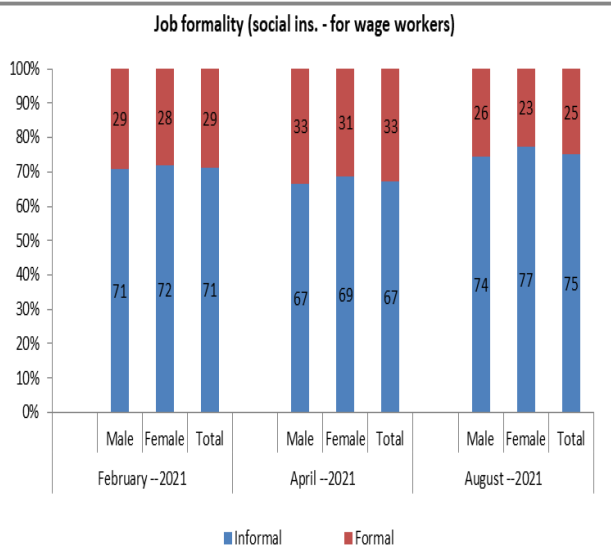
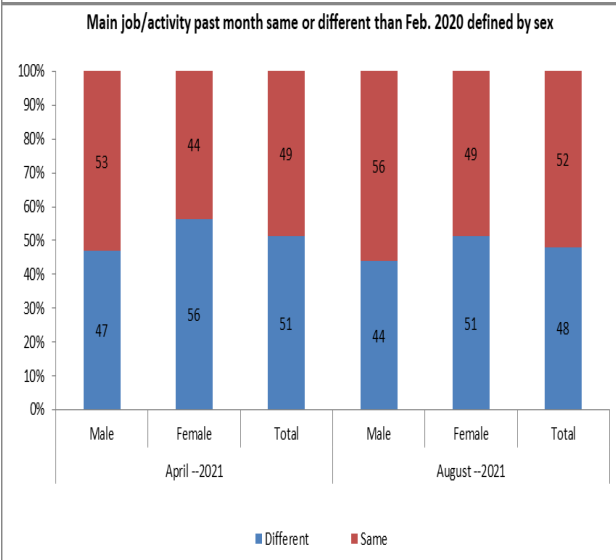
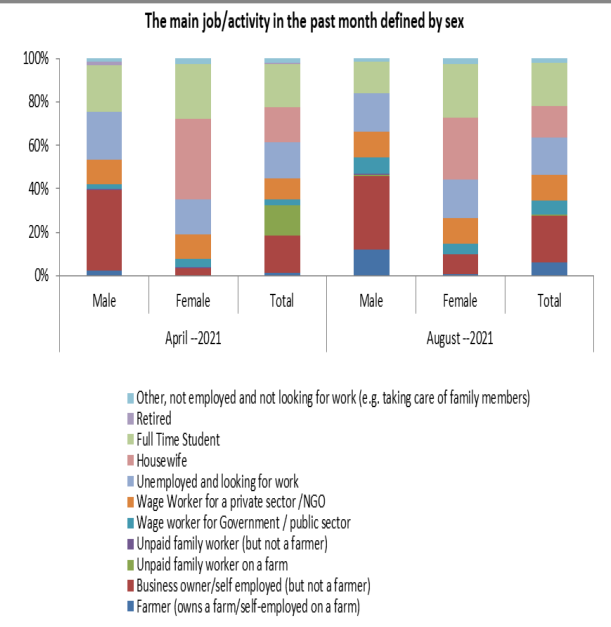
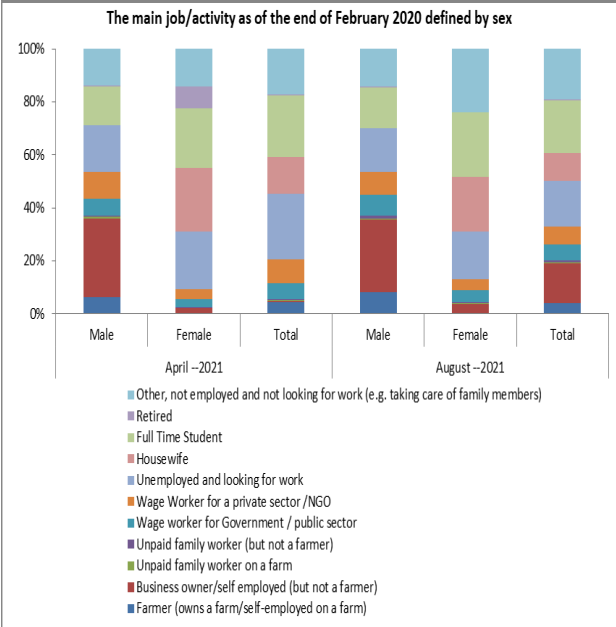
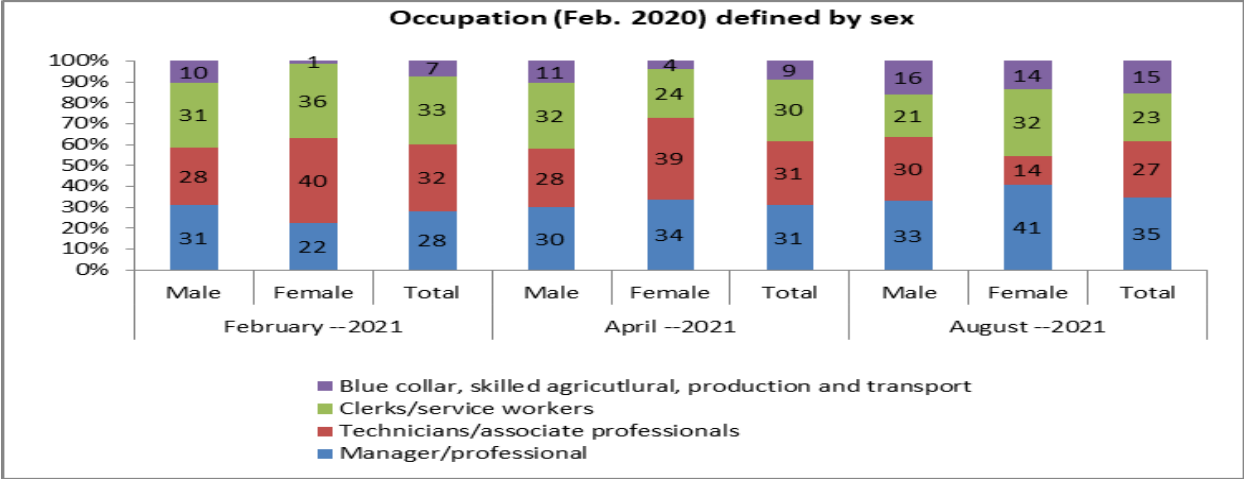
majority and more than a quarter of males the main job/activity are business owner/self-employed (but not a farmer) (27%), followed by full time student (15%), other, not employed and not looking for work (e.g. taking care of family members) (14%), wage worker for a private sector /NGO (9%), wage worker for government / public sector (8%), farmer (owns a farm/self-employed on a farm) (8%), unpaid family worker (but not a farmer) (1%), and unpaid family worker on a farm (1%) respectively. For the majority and a quarter of females the main job/activity are full time student (25%), followed by other, not employed and not looking for work (e.g. taking care of family members) (24%), housewife (21%), wage worker for a private sector /NGO (4%), wage worker for government / public sector (4%), business owner/self-employed (but not a farmer) (3%), and unpaid family worker (but not a farmer) (1%) respectively, none of the females reported working as farmer (owns a farm/self-employed on a farm). (See Figure 7)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the majority and nearly half of all households (51%, 48%), nearly half of males (47%, 44%) and more than half of females (56%, 51%) indicate that the main job/activity in the past month is different than February 2020, while nearly half of all households (49%, 52%), more than half of males (53%, 56%), and nearly half of females (44%, 49%) indicate that the main job/activity in the past month is the same as that of February 2020 as indicated by the respondents to the first wave (April 2021) and second wave (August 2021) respectively. (See Figure 7)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the structure of labour market according to job formality defined according to social insurance for wage workers in February 2020 that implies that the majority and more than two thirds of all households (67%, 75%), males (67%, 74%) and females (69%, 77%) are working in informal jobs, compared to less than third of all households (33, 25%), males (33%, 26%), and females (31%, 23%) working in formal job, working in informal jobs for females are higher than males, between April 2021 and August 2021 the work in the increase in informal job increased for female is higher than male, as indicated by the respondents to the first wave (April 2021) and second wave (August 2021) respectively. (See Figure 7)

Figure 7 –Structure of labour market in Sudan during the COVID-19 pandemic period



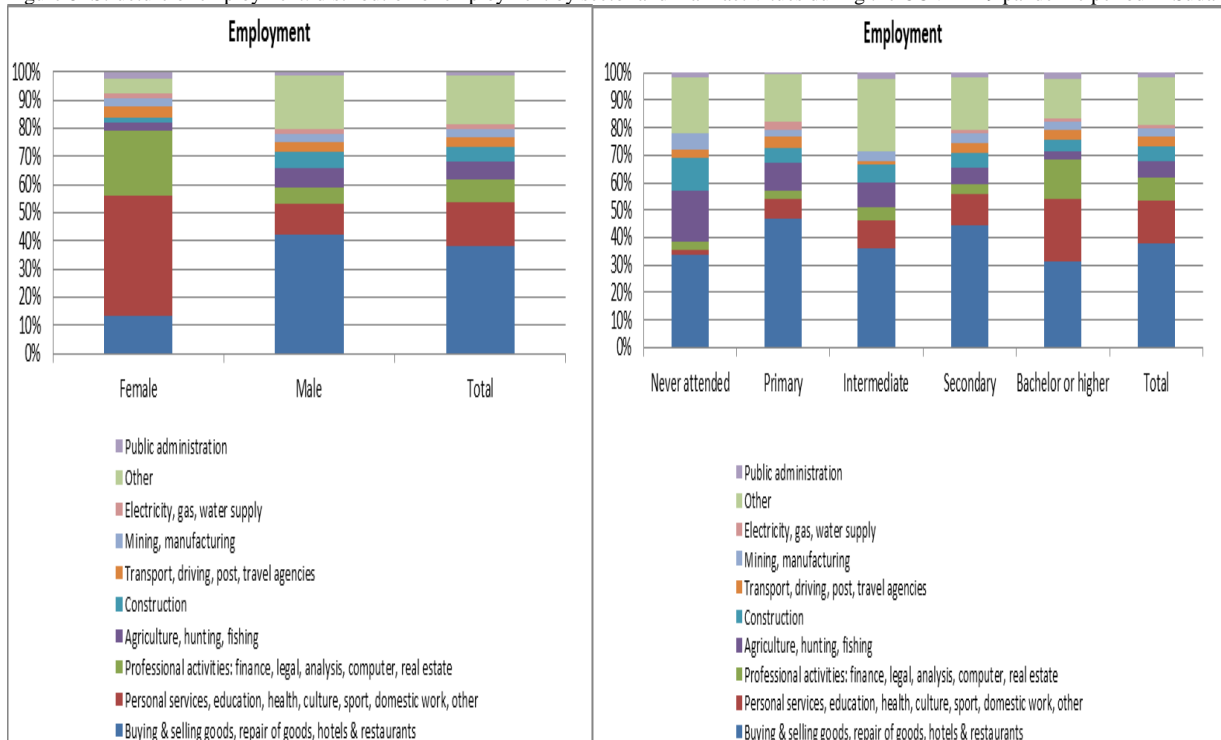


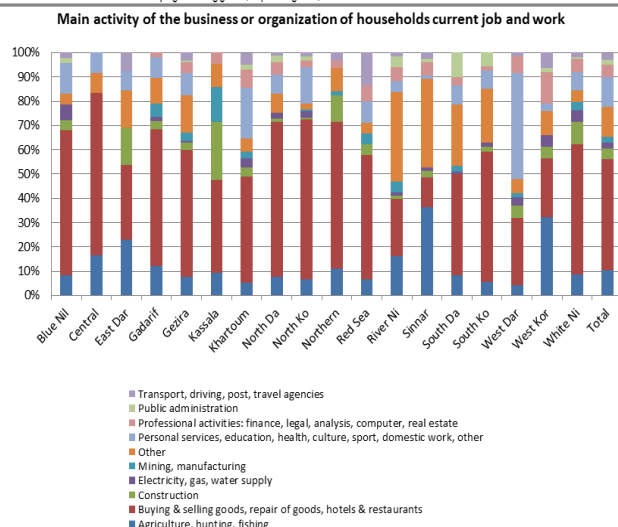
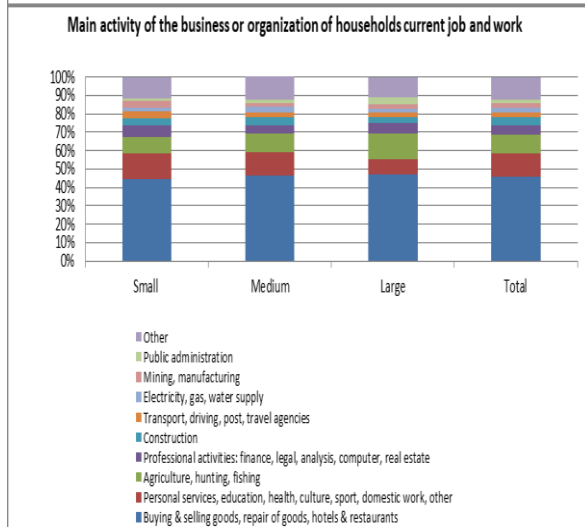
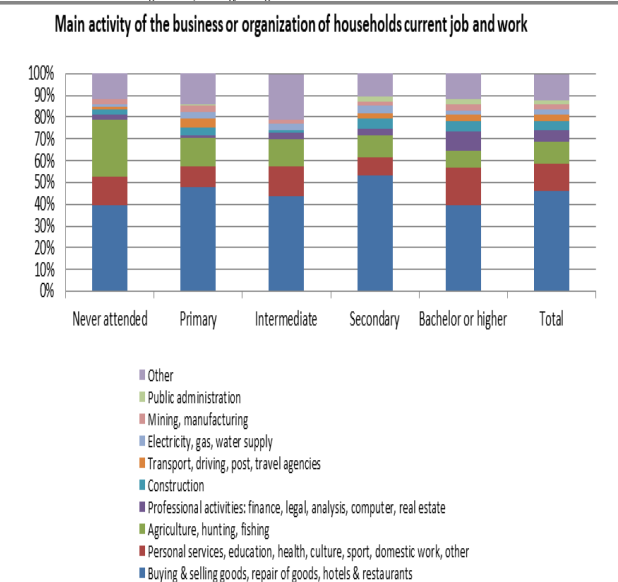
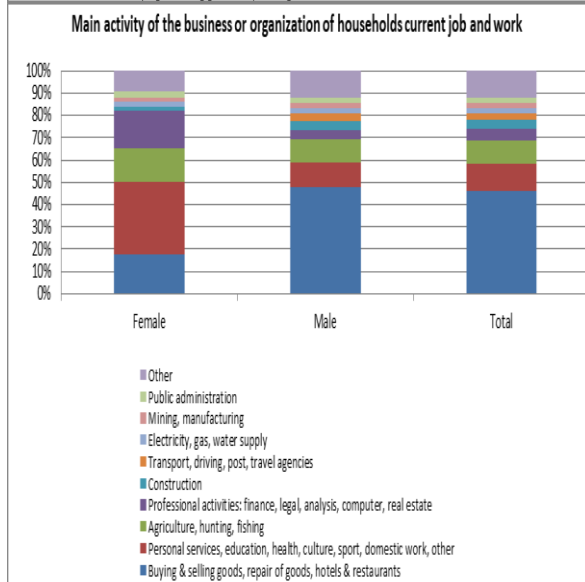
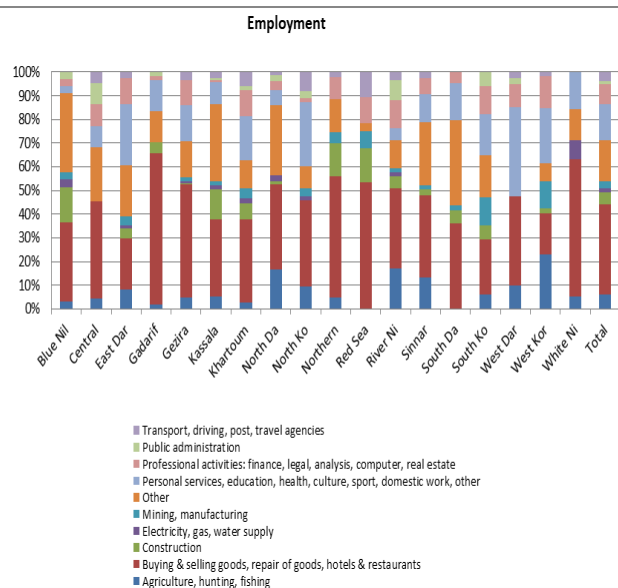
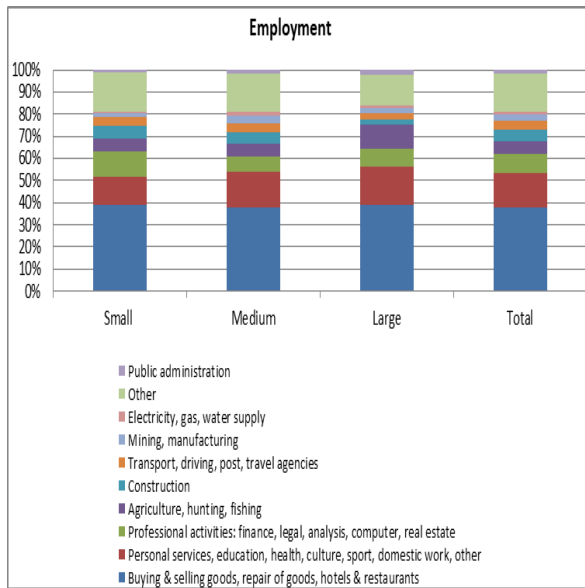
Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

4.4. Structure of employment

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show that regarding the structure of employment and distribution of employment by sector of employment, the majority and more than third of households were employed at the buying and selling goods sector repair of goods, hotels & restaurants (38%), followed by personal services, education, health, culture, sport, domestic work, and other (16%), professional activities: finance, legal, analysis, computer, real estate (8%). The structure of employment and distribution of employment by sector of employment implies that few and less than tenth of households are working in agriculture, hunting, fishing (6%), and construction (5%), transport, driving, post, travel agencies, mining, manufacturing electricity, gas, water supply, public administration, and other. The structure of employment and distribution of employment vary and across regions/states. The structure of employment and distribution of employment by sector of employment vary according to gender, for instance on the one hand, the distribution implies that the majority and nearly half of males are working in the buying and selling goods sector repair of goods, hotels & restaurants (42%), followed by personal services, education, health, culture, sport, domestic work, and other (11%), agriculture, hunting, fishing (7%), professional activities: finance, legal, analysis, computer, real estate (6%) and construction (6%), transport, driving, post, travel agencies (4%), and mining and manufacturing (3%). While, on the other hand, the distribution implies that the majority and nearly half of females are working in personal services, education, health, culture, sport, domestic work, and other (43%), followed by professional activities: finance, legal, analysis, computer, real estate (23%), buying and selling goods sector repair of goods, hotels & restaurants (13%), transport, driving, post, travel agencies (4%), agriculture, hunting, fishing (3%), and mining and manufacturing (3%). (See Figure 8)

Figure 8- Structure of employment: distribution of employment by sector and main activities during the COVID-19 pandemic period in Sudan



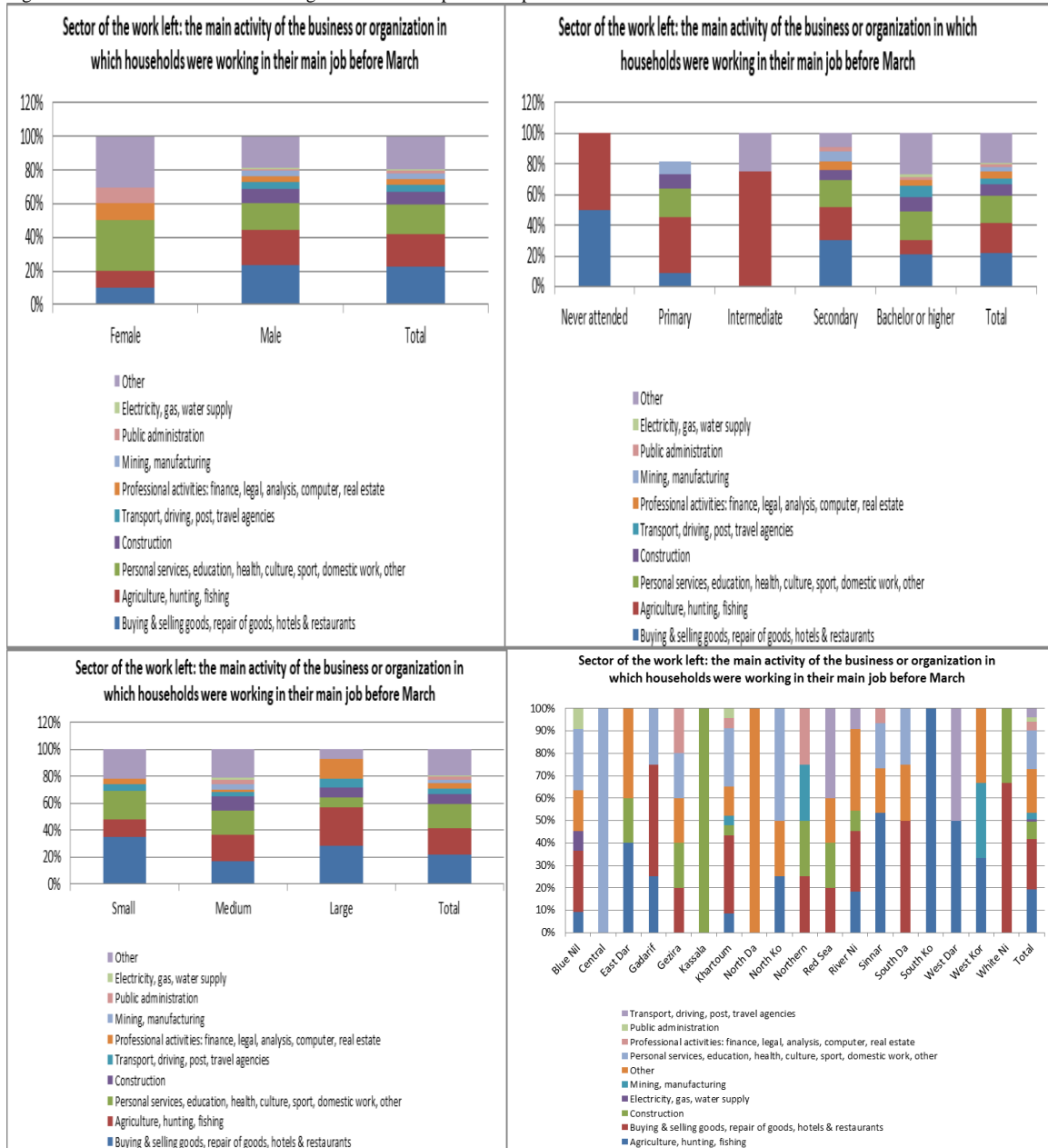


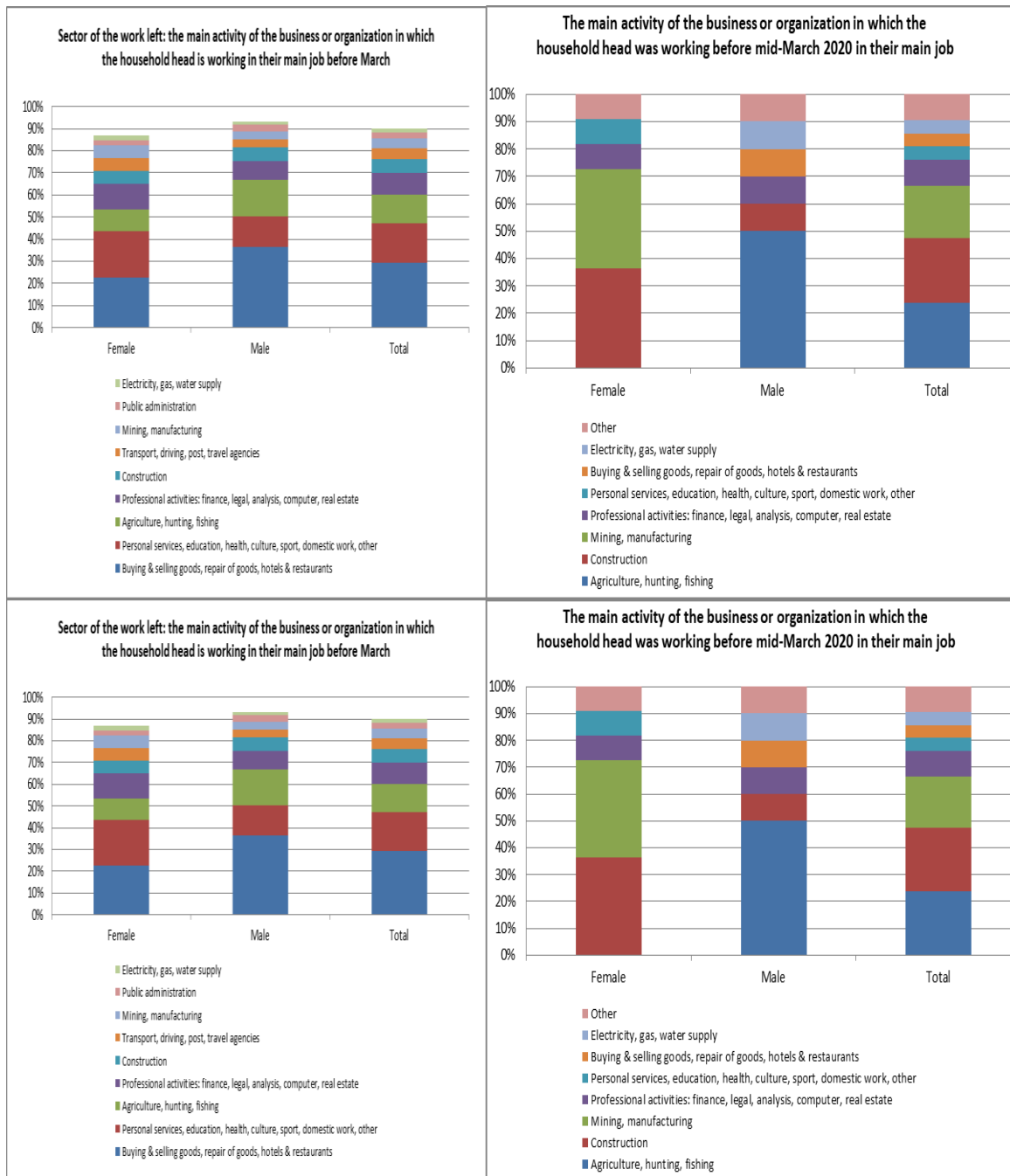
Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show the sector of the work left (the main activity of the business or organization in which households were working in their main job before March 2020 (i.e. before the COVID-19 pandemic period). The majority and nearly a quarter of households left the work at the buying and selling goods sector repair of goods, hotels & restaurants (23%), while nearly fifth of household left the work at the agriculture, hunting, fishing (19%), personal services, education, health, culture, sport, domestic work, and other (18%). Whereas, few and less than tenth of household left the work at construction (8%), professional activities: finance, legal, analysis, computer, real estate (4%), transport, driving, post, travel agencies (4%), mining, manufacturing (3%), public administration (2%), electricity, gas, water supply (1%), and other. For the majority and nearly third of the household head the sector of the work left and the main activity of the business or organization in which the household head is working in their main job before March 2020, is buying & selling goods, repair of goods, hotels & restaurants (29%), followed by personal services, education, health, culture, sport, domestic work, and other (18%), agriculture, hunting, fishing (13%), professional activities: finance, legal, analysis, computer, real estate (10%), construction (6%), transport, driving, post, travel agencies (5%), mining, manufacturing (5%), public administration (3%), and electricity, gas, and water supply (2%) respectively (see Figure). The sector of the work left vary across regions/states. The sector of the work left vary according to gender, for instance the majority and nearly a quarter of males left the work at the buying and selling goods sector repair of goods, hotels & restaurants (24%), while nearly fifth of males left working in agriculture, hunting, fishing (20%), personal services, education, health, culture, sport, domestic work, and other (16%). Whereas, less than tenth of males left working in construction (7%), transport, driving, post, travel agencies (4%), professional activities: finance, legal, analysis, computer, real estate (4%), mining, manufacturing (3%), and public administration (1%) respectively. The majority and nearly third of females left working in personal services, education, health, culture, sport, domestic work, and other (30%), and other sectors (30%), while tenth of females left working in the buying and selling goods sector repair of goods, hotels & restaurants (10%), agriculture, hunting, fishing (10%), professional activities: finance, legal, analysis, computer, and real estate (10%). (See Figure 9).

The main activity of the business or organization in which nearly a quarter of the household head was working before mid-March 2020 in their main job was agriculture, hunting, fishing (24%), construction (24%), mining, manufacturing (19%), professional activities: finance, legal, analysis, computer, real estate (10%), personal services, education, health, culture, sport, domestic work, and other (5%), buying & selling goods, repair of goods, hotels & restaurants (5%), electricity, gas, water supply (5%) and other (10%), respectively. (See Figure 9)

Figure 9– Sector of the work left during the COVID-19 pandemic period in Sudan





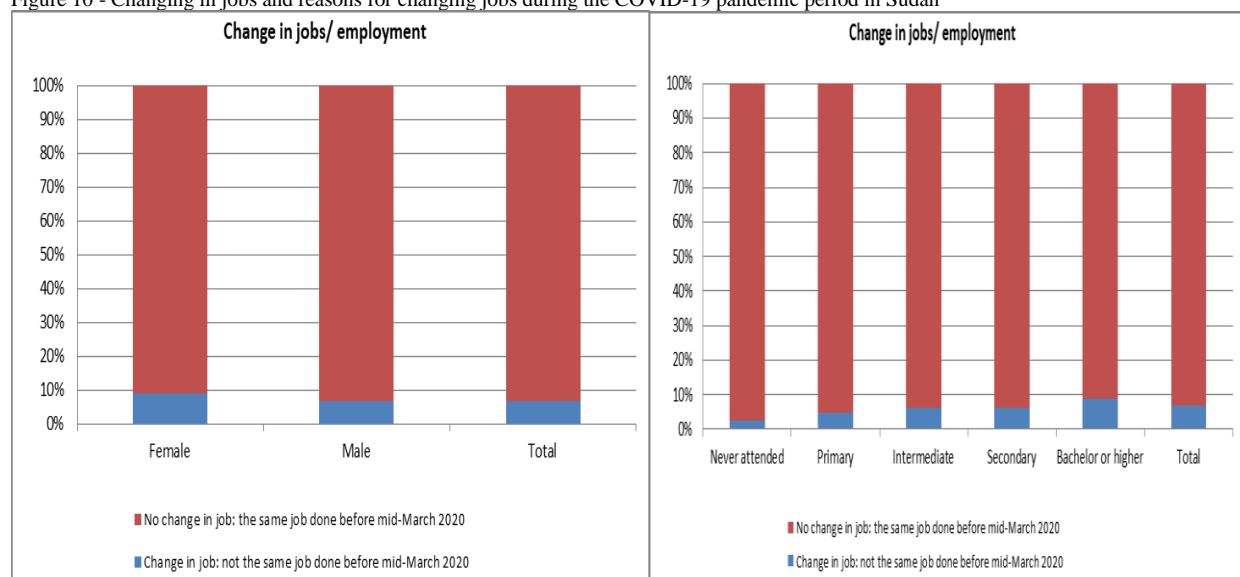
Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

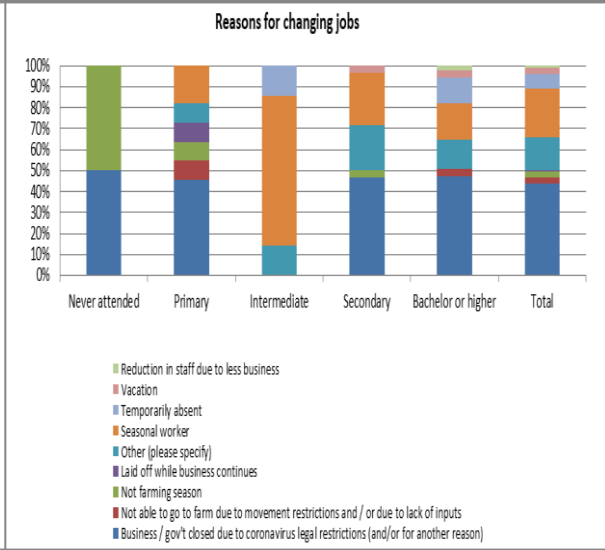
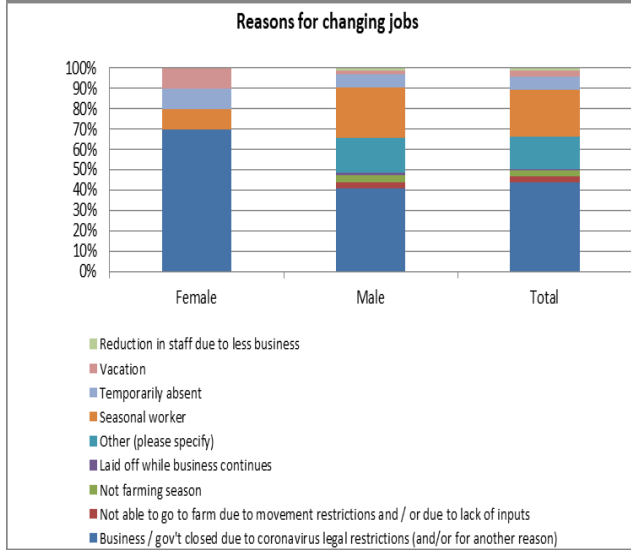
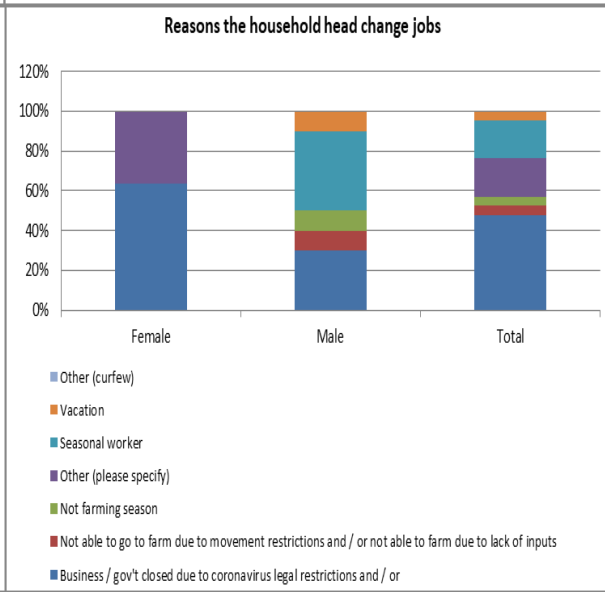
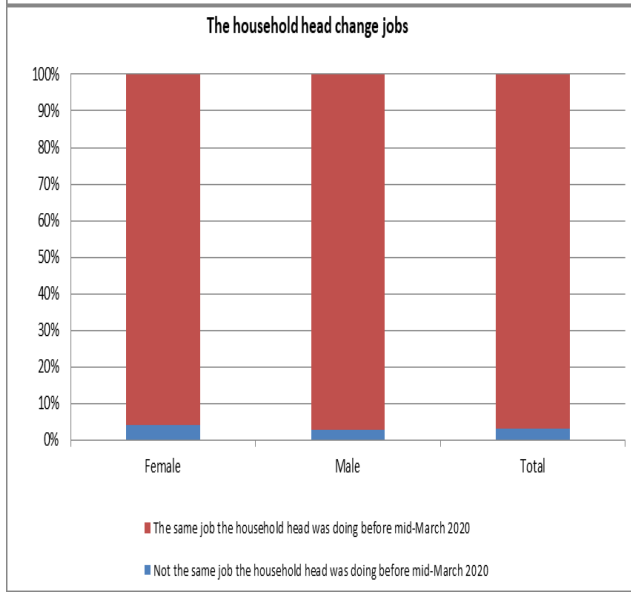
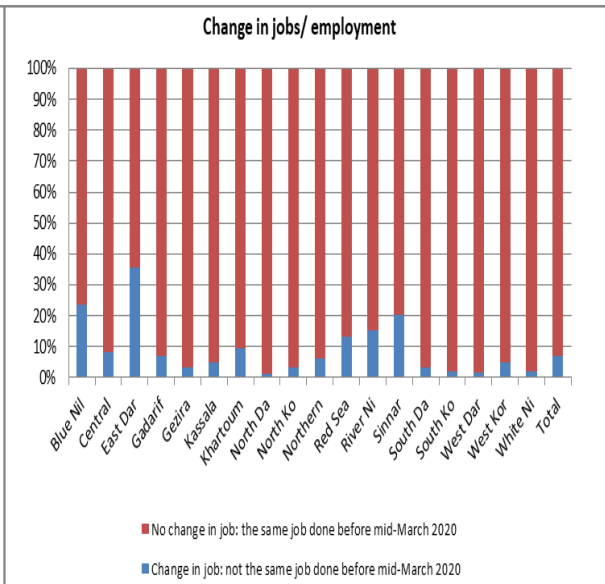
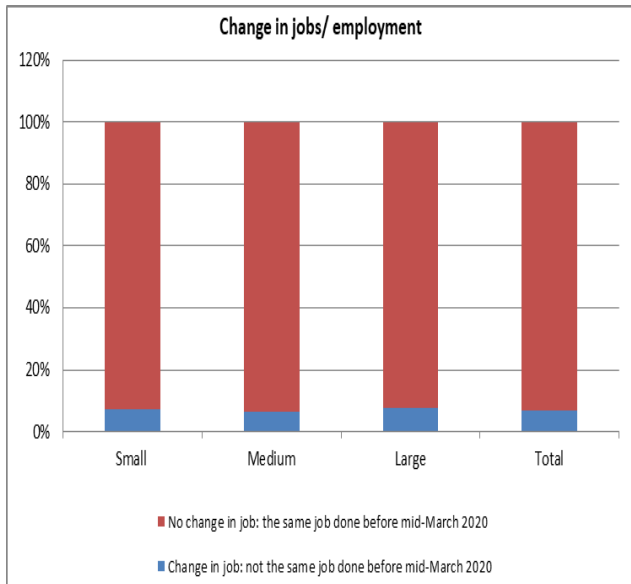
The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show the change of jobs during the COVID-19 pandemic period (see Figure 8). For instance, although the majority of households (93%), households head (97%), males (93%) and females (91%), indicate no change in job: that they are working in the same job done before mid-March 2020, however, few households (7%), household head (3%), males (7%) and females (9%) indicate change in job, as they are working in different and not the same job done before mid-March 2020. Females changed their jobs more than males. (See Figure 10)

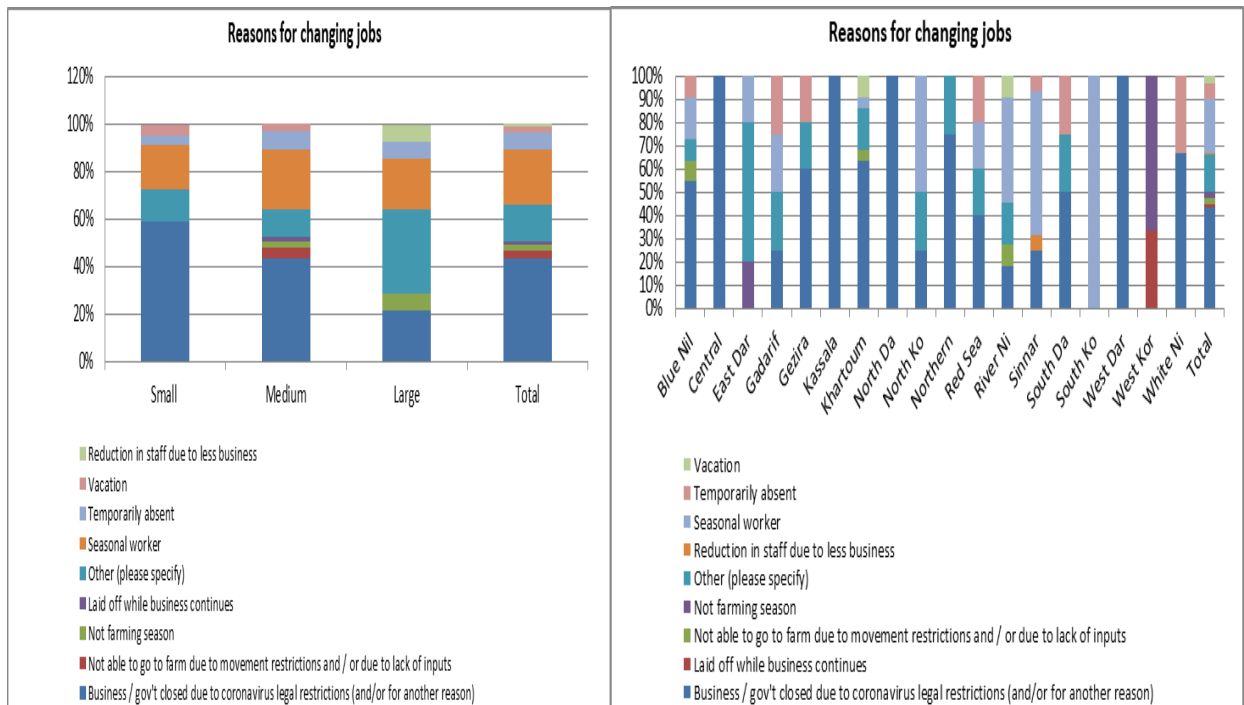
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the majority and nearly half of all households (51%, 48%), nearly half of males (47%, 44%) and more than half of females (56%, 51%) indicate that the main job/activity in the past month is different than February 2020, while nearly half of all households (49%, 52%), more than half of males (53%, 56%), and nearly half of females (44%, 49%) indicate that the main job/activity in the past month is the same as that of February 2020 as indicated by the respondents to the first wave (April 2021) and second wave (August 2021) respectively. (See Figure 7)

The main reasons for changing jobs for the majority and nearly half of households and the household head because business/ gov't closed due to coronavirus legal restrictions (and/or for another reason) for households (44%) and household head (48%), followed by not able to go to farm due to movement restrictions and/ or due to lack of inputs for household (3%) and household head (5%), not farming season for household (1%) and household head (5%). laid off while business continues (1%), other for household (16%) and household head (19%), seasonal worker for household (23%) and household head (19%), temporarily absent (7%), vacation for household (3%) and household head (5%), and reduction in staff due to less business (1%) respectively. The main reasons for changing job varies according to gender, for instance, for males the main reasons for changing jobs for the majority and nearly half of males because business/ gov't closed due to coronavirus legal restrictions (and/or for another reason) (41%), followed by not able to go to farm due to movement restrictions and/ or due to lack of inputs (3%), not farming season (3%), laid off while business continues (1%), other (17%), seasonal worker (25%), temporarily absent (7%), vacation (2%), and reduction in staff due to less business (2%) respectively. while, for females the main reasons for changing jobs for the majority and nearly three quarter of females because business/ gov't closed due to coronavirus legal restrictions (and/or for another reason) (70%), followed by seasonal worker (10%), temporarily absent (10%), and vacation (10%) respectively (see Figures 10-11). The Change in jobs and reasons for changing jobs during the COVID-19 pandemic period for household and household head vary across regions/states in Sudan (see Figures 10-11).

Figure 10 - Changing in jobs and reasons for changing jobs during the COVID-19 pandemic period in Sudan



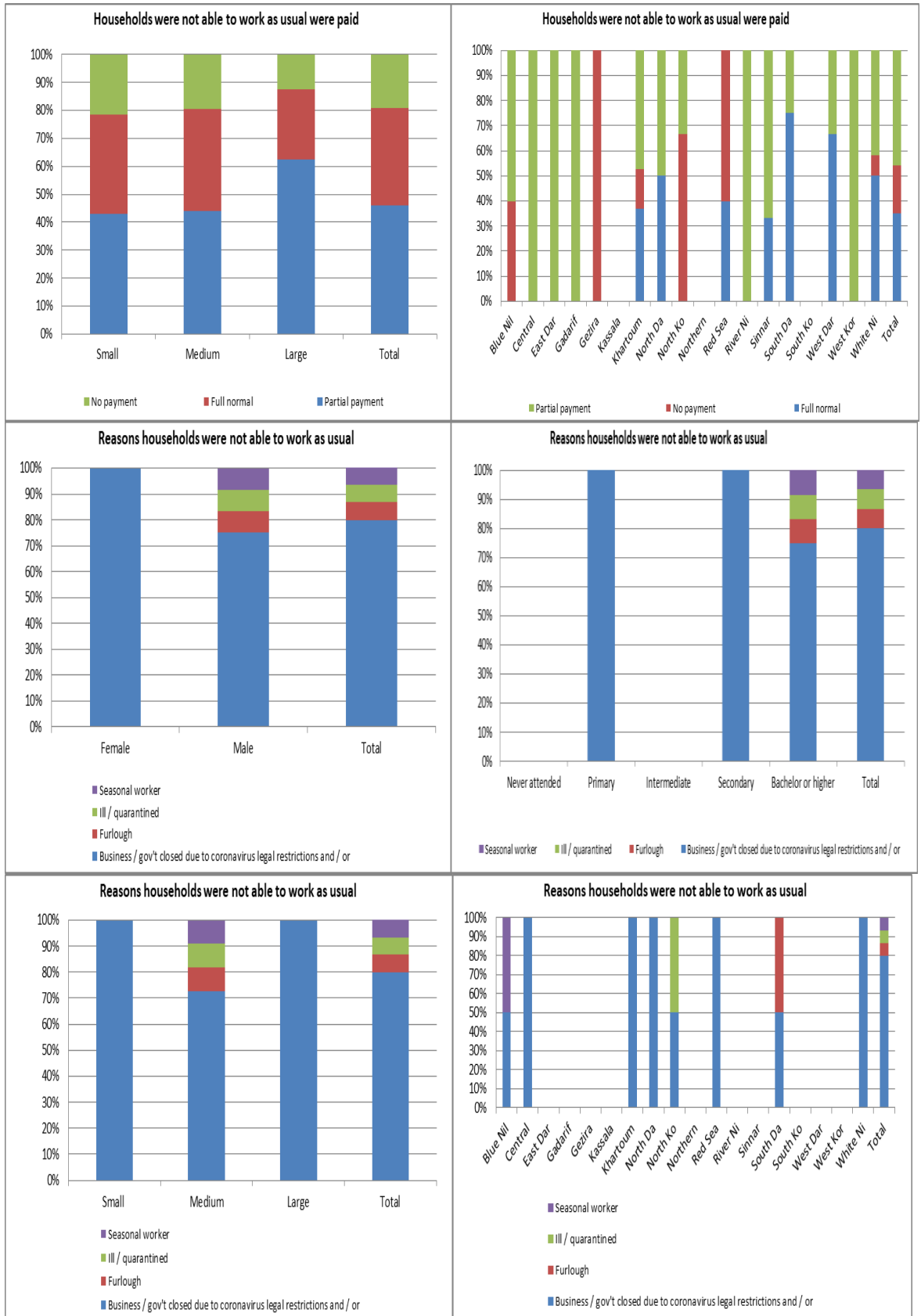




Sources: (1) Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021) and (2) Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

Figure 11– Unemployment in Sudan during the COVID-19 pandemic period in Sudan

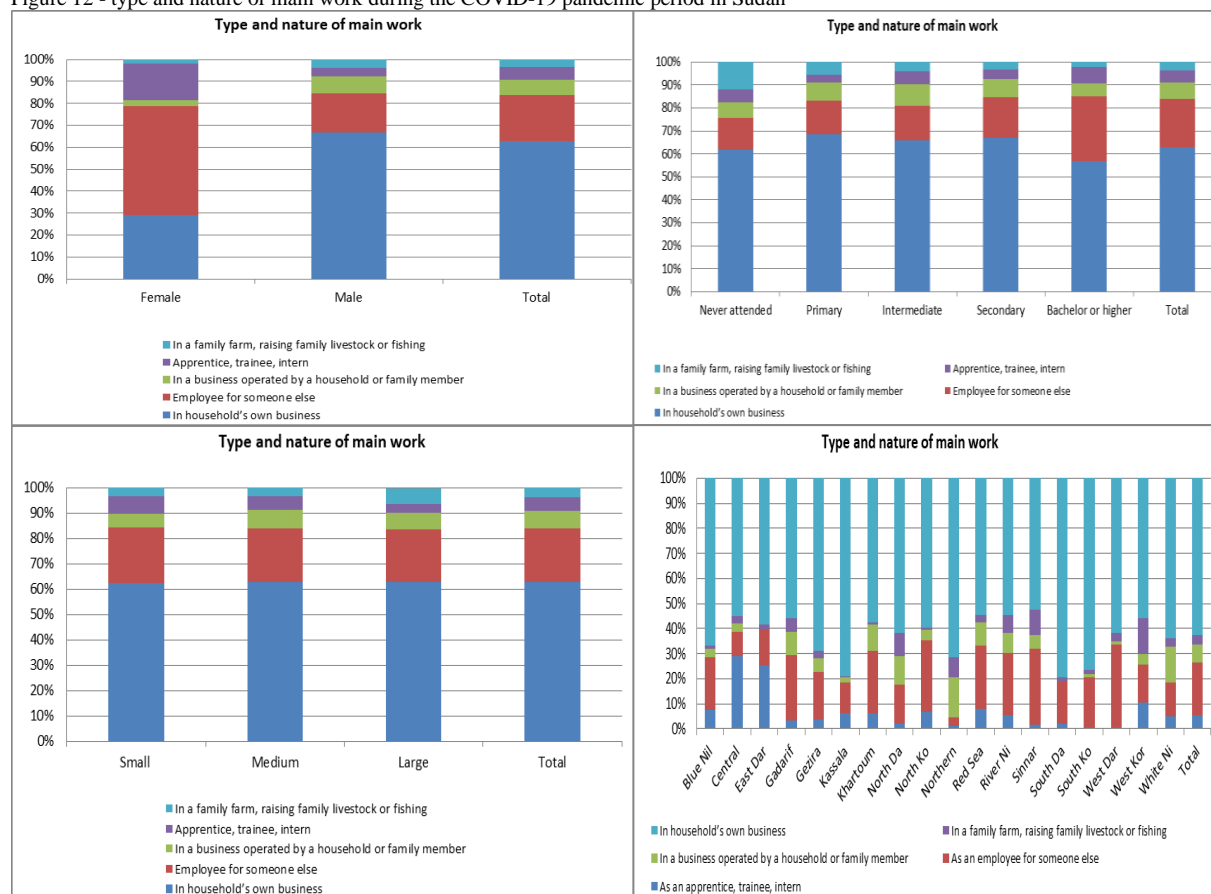




Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) indicate that the COVID-19 is expected to have important impact on employment in view of the fact that the structure of employment implies that the type and nature of main work is basically concentrated in household's own business (63%), followed by employee for someone else (21%), in a business operated by a household or family member (7%), apprentice, trainee, intern (6%), in a family farm, raising family livestock or fishing (4%) (See Figure 12). The type and nature of main work vary according to gender and across regions/states in Sudan (see Figure 12).

Figure 12 - type and nature of main work during the COVID-19 pandemic period in Sudan



Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

4.5. The status of employment and unemployment

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) indicates that although more than third of all households (34%) indicates that they are doing work in the month of February 2020, however, the majority and nearly two thirds of all households (66%) indicate that they are not doing any work. More than half of males (53%) compared to tenth of females (10%) indicates that they are doing work, however, nearly half of males (47%) and the majority and more than half of females (90%) indicate that they are not doing any work. The probability of doing work in the month of February 2020 for males is more than five times higher than females, the probability of not doing any work for females is nearly twice times higher than males (see Figure 13).

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the main reasons for not working in February 2020 for the majority and nearly third of all households because of unemployment (31%), followed by studying full time (29%), taking care of household, children or elderly relatives (18%), and other (22%) respectively. The main reasons for the majority and more than third of males because of unemployment (38%), followed by studying full time (32%) and other (30%) respectively. The main reasons for the majority and less than third of females because of taking care of household, children or elderly relatives (29%), followed by studying full time (28%), unemployment (27%) and other (17%) respectively. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that although more than third (36%) of all households indicates that they did anything to find a paid job/start business in the month of February 2020, however, the majority and nearly two thirds of all households (64%) indicate that they did not do anything to find a paid job/start business in the month of February 2020. More than third of males (39%) compared to less than third of females (33%) indicates that they did anything to find a paid job/start business in the month of February 2020, however, nearly two thirds of males (61%) and the majority and more than two thirds of females (67%) indicate that they did not do anything to find a paid job/start business in the month of February 2020. The possibility of doing anything to find a paid job/start business for males is higher than females. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the employment status defined by employment stability defined by having regular (permanent or temporary) employment in the month of February 2020 was reported by the majority and more than two thirds of all households (72, 77%), males (71%, 77%) and females (75%, 77%) in April 2021 and August 2021 respectively. While, the lack of employment stability defined by having irregular (casual, seasonal, or intermittent) employment in the month of February 2020 was reported by less than third of all households (28%, 33%), males (29%, 33%) and females (25%, 33%) in April 2021 and August 2021 respectively. The employment stability improved between April 2021 and August 2021, the possibility of employment stability and having regular (permanent or temporary) employment for females is higher than males in April 2021. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of doing any kind of business to generate income last week that implies that less than a quarter of all households (11%), males (15%) and females (8%) did any kind of business to generate income last week. While the majority and more than half of all households (89%), males (85%) and females (92%) did not do any kind of business to generate income last week. The possibility of doing any kind of business to generate income last week for males is more than twice higher than females. In addition, only less than tenth of all households (3%), males (4%), and females (2%) helped in a family business or farm last week. The possibility of helping in a family business or farm last week for males is nearly twice higher than females. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of being able to do more work from home since February 2020 that implies that few and less than third of all households (20%), males (18%), and females (26%) have been able to do more work from home since February 2020. While the majority and more than half of all households (80%), males (82%), and

females (74%) have not been able to do more work from home since February 2020. The possibility of being able to do more work from home since February 2020 for females is higher than males. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of being attached to a job in the past seven days but were temporarily absent from work that implies that few and less than a quarter of all households (9%), females (4%) and males (15%) have been attached to a job in the past seven days but were temporarily absent from work. While the majority and more than half of all households (91%), males (85%), and females (96%) have not been attached to a job in the past seven days. The possibility of being attached to a job in the past seven days but were temporarily absent from work for males is nearly four times higher than females. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of being wanting, willing and available to work in the past seven days that implies that the majority and more than half of all households (55%), males (58%), and females (52%) indicates that they are wanting, willing and available to work in the past seven days. While less than half of all households (45%), males (42%), and females (48%) indicate that they are not wanting, willing and available to work in the past seven days. The possibility of wanting, willing and available to work in the past seven days for male is higher than female. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of being wanting to work at present that implies that the majority and more than half of all households (58%), males (60%), and females (57%) indicate that they are wanting to work at present. While less than half of all household (42%), males (40%), and females (43%) indicate that they do not want to work at present. The possibility of wanting to work at present for males is higher than females. (See Figure 13)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of being able to start working in the next two weeks if an opportunity became available that implies that the majority and more than half of all households (94%), males (96%), and females (92%) indicate that they could start working in the next two weeks if an opportunity became available. While less than tenth of all households (6%), males (4%), and females (8%) did not indicate that they could start working in the next two weeks if an opportunity became available. The possibility of being able to start working in the next two weeks if an opportunity became available for males is higher than females. (See Figure 13)

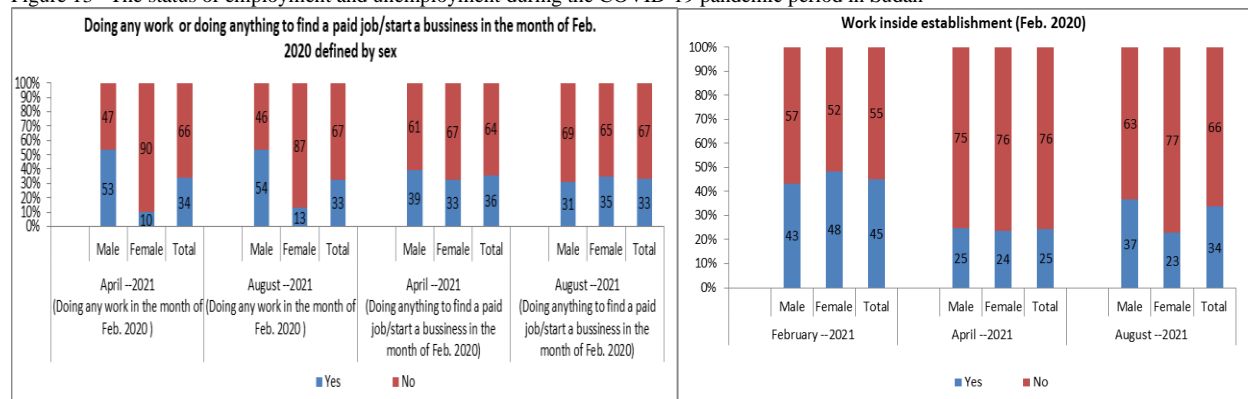
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of employment defined by the possibility of actively searched for work in the past four weeks that implies that the majority and less than half of all households (48%), males (46%), and females (49%) indicate that they are actively searched for work in the past four weeks. While more than half of all households (52%), males (54%), and females (51%) indicate that they did not actively searched for work in the past four weeks. The possibility of actively searched for work in the past four weeks for females is higher than males. (See Figure 13)

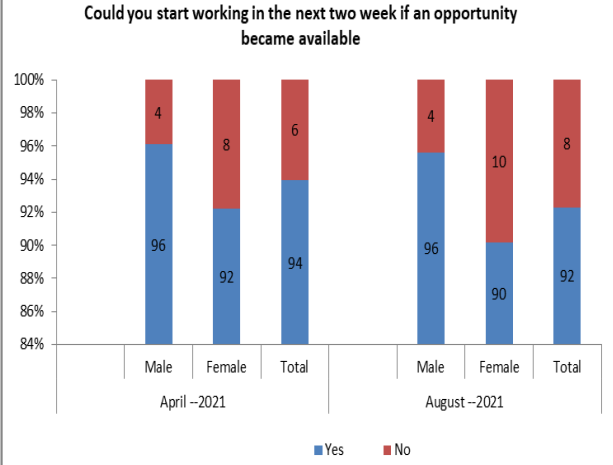
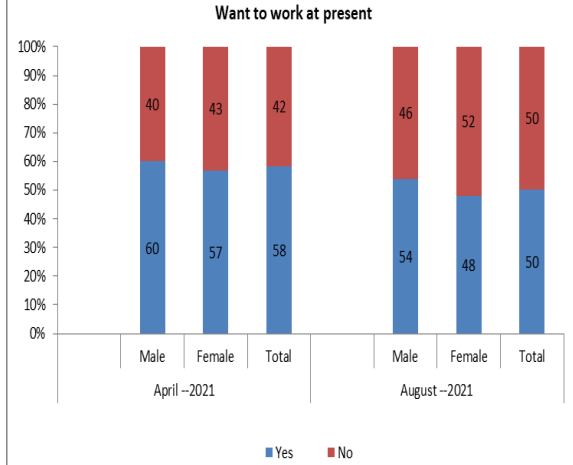
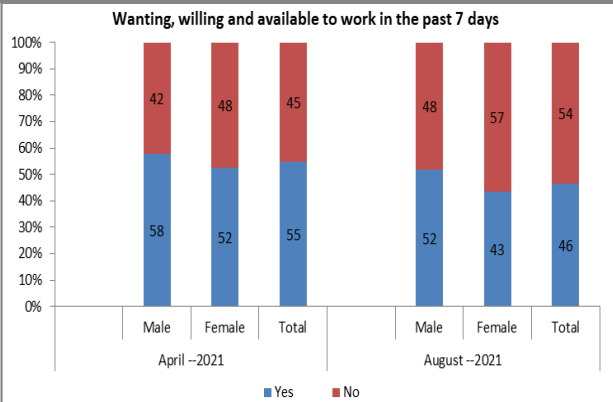
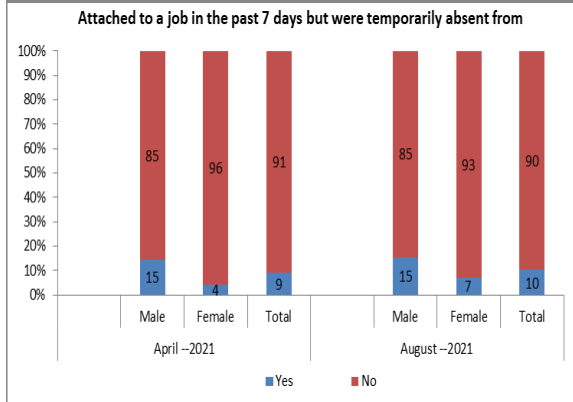
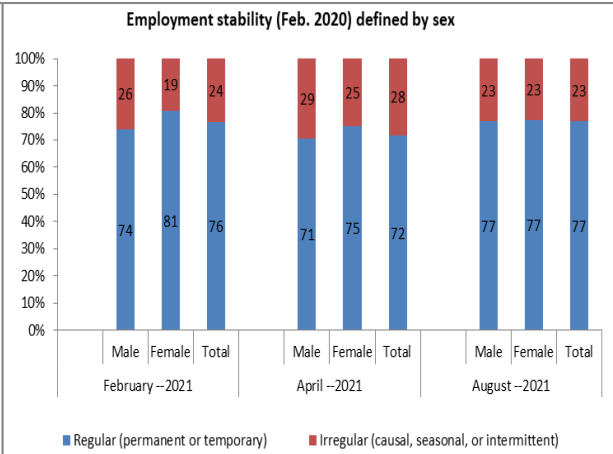
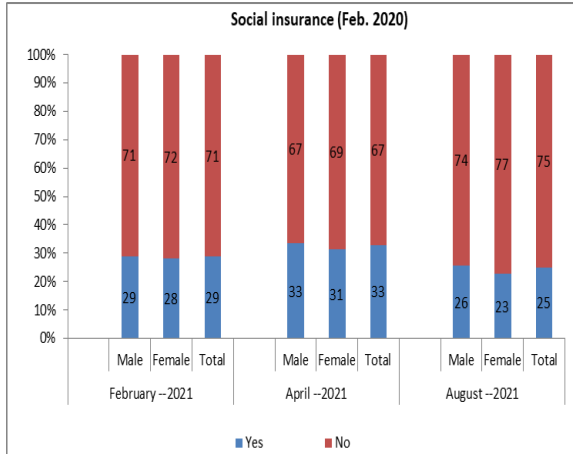
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the main reasons for did not work in the past seven days for the majority and more than a quarter of all households because of being studying full time (27%), followed by housewife (24%), feeling normal with their job (22%), unemployed, and looking for

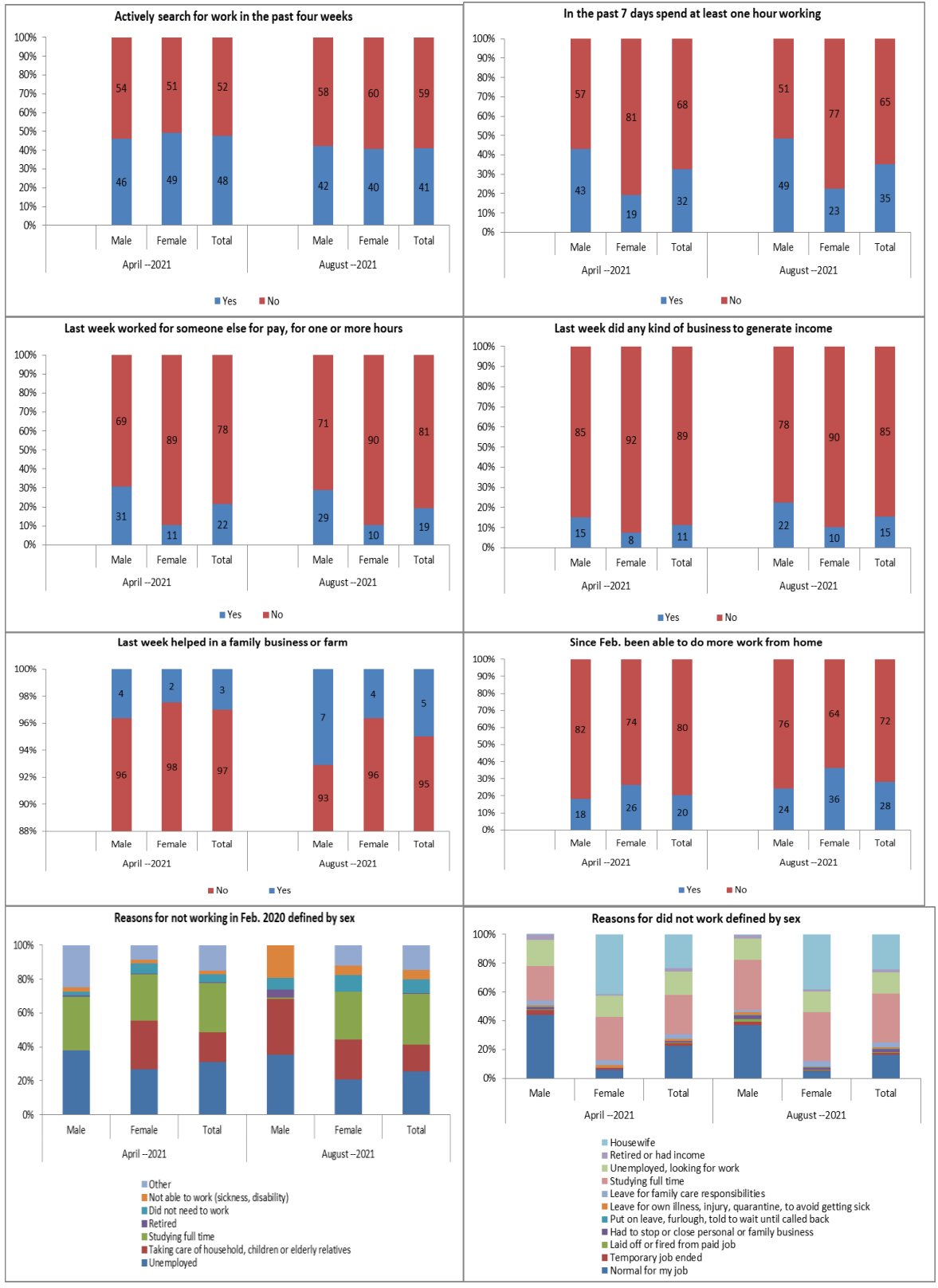
work (16%), leave for family care responsibilities (3%), temporary job ended (2%), retired or had income (2%), leave for own illness, injury, quarantine, to avoid getting sick (2%), had to stop or close personal or family business (0.88%), laid off or fired from paid job (0.27%), and put on leave, furlough, told to wait until called back (0.07%) respectively. The main reasons for the majority and more than third of males because of feeling normal with their job (44%), followed by studying full time (24%), unemployed, and looking for work (18%), retired or had income (4%), temporary job ended (3%), leave for family care responsibilities (3%), leave for own illness, injury, quarantine, to avoid getting sick (1%), had to stop or close personal or family business (1%), laid off or fired from paid job (0.47%), put on leave, furlough, told to wait until called back (0.16%) and the status of being a housewife (0.16%) respectively, The main reasons for the majority and more than third of females because of being a housewife (41%), followed by studying full time (30%), unemployed, and looking for work (15%), feeling normal with their job (6%), leave for family care responsibilities (3%), to avoid getting sick (2%), temporary job ended (1%), retired or had income (1%), leave for own illness, injury, quarantine, had to stop or close personal or family business (0.48%), and laid off or fired from paid job (0.12%) respectively, (see Figure 13)

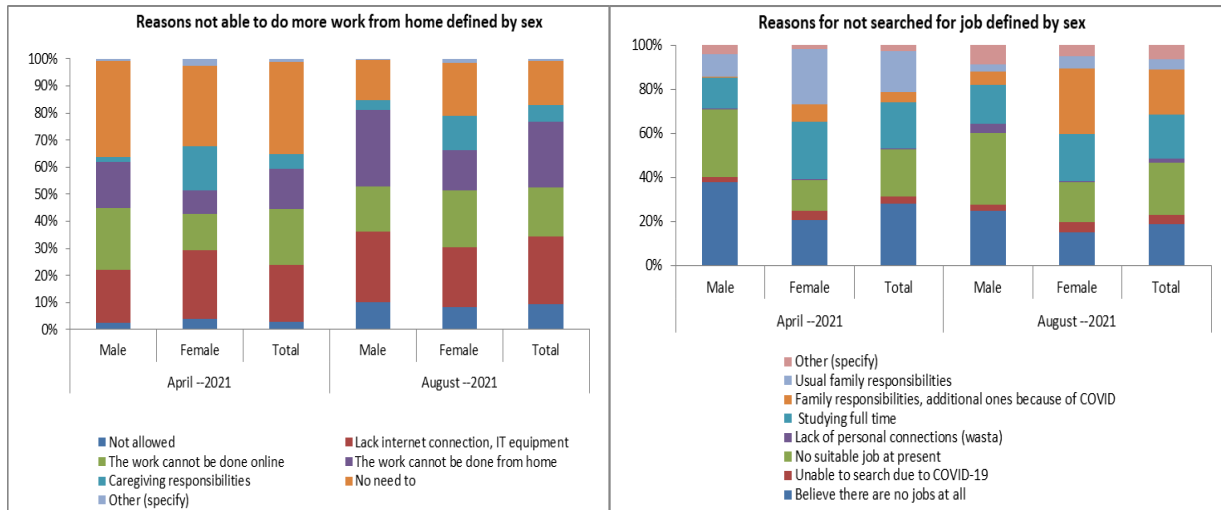
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the reasons for did not actively search for work in the past four weeks for the majority and more than a quarter of all households because of the believe there are no jobs at all (28%), followed by family responsibilities (23%), no suitable job (21%), because of studying (21%), unable to search due to COVID-19 (3%), and lack of personal connections (wasta) (1%) respectively. The reasons for did not actively search for work in the past four weeks for the majority and more than third of males because of the believe there are no jobs at all (38%), followed by no suitable job (31%), because of studying (14%), family responsibilities (11%), unable to search due to COVID-19 (2%), and lack of personal connections (wasta) (1%), respectively. The reasons for did not actively search for work in the past four weeks for the majority and nearly third of females because of family responsibilities (33%), followed by because of studying (26%), because of the believe there are no jobs at all (20%), no suitable job (14%), unable to search due to COVID-19 (4%), and lack of personal connections (wasta) (1%) respectively. The possibility of did not actively search for work in the past four weeks due to COVID-19 for females is twice higher than males. (See Figure 13)

Figure 13– The status of employment and unemployment during the COVID-19 pandemic period in Sudan









Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

4.6. The working conditions

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the working conditions defined by the number of working hours in the past seven days, that implies that less than third of all households (32%), less than half of males (43%) and less than fifth of females (19%) spend at least one hour working in the past seven days. While the majority and more than two third of all households (68%), more than half of males (57%) and more than half of females (81%) did not spend at least one hour working in the past seven days. Less than a quarter of all households (22%) and females (11%) and less than third of males (31%) worked for someone else for pay, for one or more hours last week. While the majority and more than half of all households (78%), females (89%) and males (69%) did not work for someone else for pay, for one or more hours last week. The possibility of spending at least one hour working in the past seven days, and the possibility of worked for someone else for pay, for one or more hours last week for males are more than twice higher than females. (See Figure 14)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that the working conditions defined by the usual number of hours of work per week (as of February 2020), for the majority and more than half of all households the usual number of hours of work per week is (30 - less than 60 hours) (53%), followed by (less than 30 hours) (31%), (60 and less than 90 hours) (13%), and (90 or more hours) (3%) respectively. For the majority and more than half of males the usual number of hours of work per week is (30 - less than 60 hours) (54%), followed by (less than 30 hours) (28%), (60 and less than 90 hours) (15%), and (90 or more hours) (3%) respectively. For the majority and half of females the usual number of hours of work per week is (30 - less than 60 hours) (50%), followed by (less than 30 hours) (39%), (60 and less than 90 hours) (9%), and (90 or more hours) (3%) respectively.

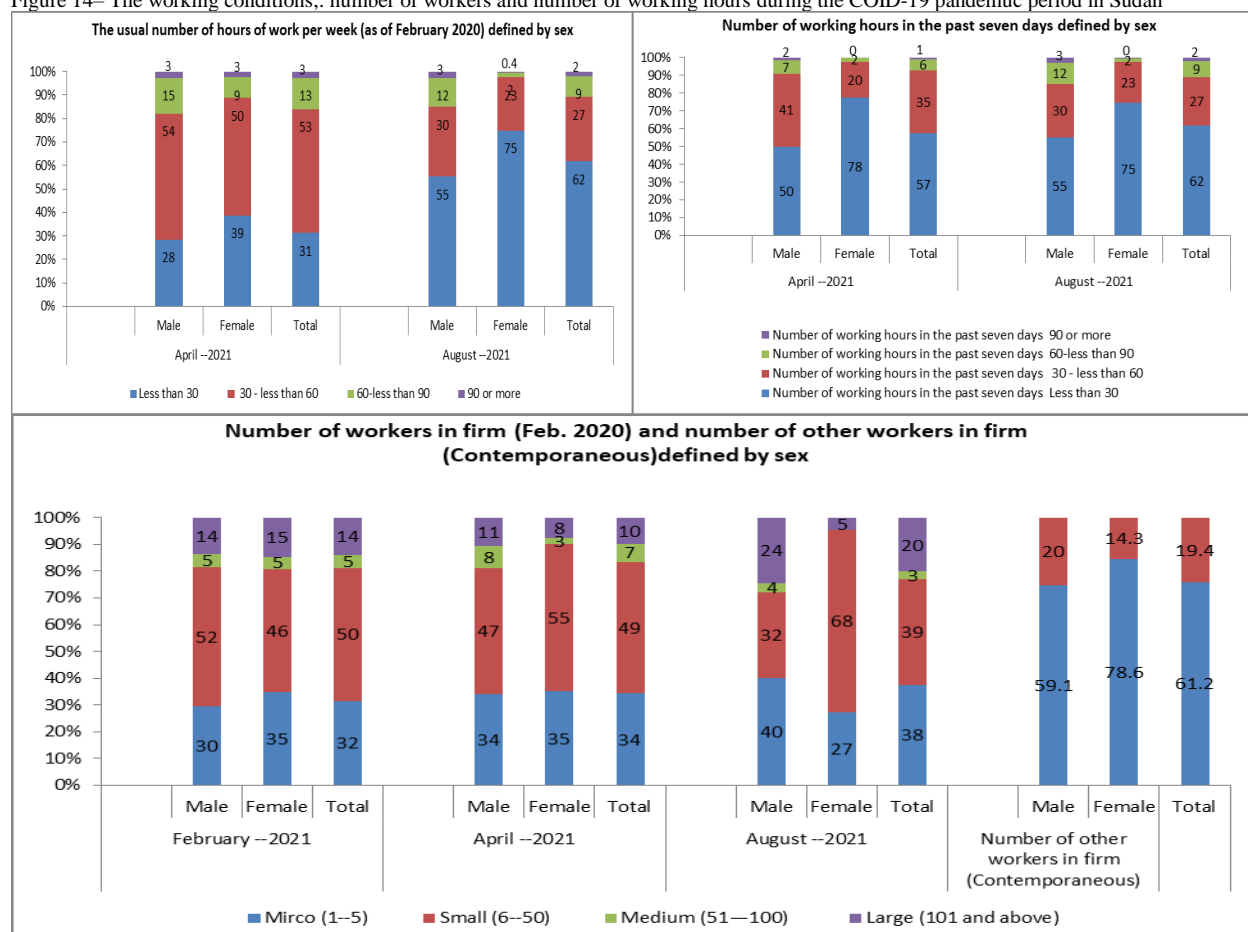
The working conditions defined by the work inside the establishment in February 2020, indicates that the majority and more than three quarter of all households (76%), males (75%), and females (76%) did not do work inside the establishment, while less than a quarter of all households (24%), males (25%), and females (24%) indicate that they are working inside the establishment. (See Figure 14)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the working conditions defined by the social safety net defined by having social insurance as the end of February 2020, that implies that the

majority and nearly two thirds of all households (67%, 75%), males (67%, 74%), and females (69%, 77%) did not have social insurance in April 2021 and August 2021. Attainment of social insurance and social safety net decreased between April 2021 and August 2021, as nearly third of all households (33%), males (33%), and females (31%) indicate that they are having social insurance in April 2021 compared to nearly a quarter of all households (25%), males (26%), and females (23%) indicate that they are having social insurance in August 2021. (See Figure 14)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the working conditions defined by the number of workers in the firm in February 2020, that implies that the majority and nearly half of all households (49%), males (47%), and more than half of females (55%) indicates that the number of workers are small size (6-50 workers), followed by micro size (1-5 workers) reported by more than third of all households (34%) males (34%), and females (35%), followed by large size (101 workers and above) reported by nearly tenth of all households (10%), males (11%), and females (8%), followed by medium size (51-100 workers), reported by less than tenth of all households (7%), males (8%), and females (3%) respectively. (See Figure 14)

Figure 14– The working conditions.: number of workers and number of working hours during the COVID-19 pandemic period in Sudan



Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

4.7. Status in business and working status in business

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of workers in business that indicates that in the past 60 days, only few and less than tenth of all households (9%), males (9%), and

females (5%) reported limited hiring of workers (1-200 workers). The status of workers in business also indicates layoff/suspension of workers, delay and change in pay in the past 60 days. For instance, the status of workers indicates temporary layoff/suspension (without pay) increased between April 2021 and August 2021, for more than tenth of all households (17%), males (15%), and females (21%) in August 2021, compared to nearly tenth of all households (9%), males (11%), and females (5%) in April 2021 fifth, the temporary layoff/suspension (without pay) for males is more than twice higher than females in April 2021, while the temporary layoff/suspension (without pay) for females is higher than males in August 2021. More than tenth of all households (14%), males (14%), and females (11%) indicates the temporary layoff/suspension (without pay) of (1-25) workers. The reported temporary layoff/suspension (without pay) for males is higher than females, The status of workers in business also indicates permanent layoff/suspension for less than tenth of all households (7%, 9%), males (9%, 9%), and females (3%, 7%) in April 2021 and August 2021 respectively, permanent layoff/suspension increased between April 2021 and August 2021 in April 2021 the permanent layoff/suspension for males is more than three times higher than females. While more than tenth of all households (14%), and males (14%) indicates the permanent layoff/suspension of (1-150) workers. (See Figure 15)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of workers in business that also indicates delay in wage payment for more than tenth of all households (12%, 25%), males (10%, 24%), and females (16%, 27%) in April 2021 and August 2021 respectively. Between April 2021 and August 2021 the delay in wage payment is more than doubled for all households and males, the delay in wage payment for females is higher than males. Whereas, nearly tenth of all households (9%), males (9%), and females (11%) indicate reduced earnings or delayed payment for (1-25) workers, the reported reduced earnings or delayed payment for females is higher than males. The status of workers in business also indicates change in personal net monthly wage in February 2020 for less than tenth of all households (5%), males (6%), and females (1%), the change of personal net monthly wage in February 2020 for males is nearly six times higher than females. (See Figure 15)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status of workers in business that also indicates change in more than third of all households (38%), males (38%), and females (38%). For instance, the status of working conditions in business indicates changed hours, although the majority of all households (88%), males (91%), females (79%) indicate no change as the hours stayed the same, but nearly tenth of all households (9%), less than tenth of males (6%), and more than tenth of females (18%) indicate decrease in hours, the reported decrease in hours for females is nearly three times higher than males. The status of workers in business also indicates change in pay, although the majority of all households (91%), males (93%), females (88%) indicate no change as the pay stayed the same, but less than tenth of all households (3%), males (4%), and females (3%) indicate decrease in pay, the reported decrease in pay for males is higher than females. (See Figure 15)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the status in business defined by change in revenues in the last 60 days compared to the same period in 2019 that implies that although more than third of all households (38%, 12%), males (38%, 12%), and females (37%, 15%) indicate no change in revenues, however, more than third of all households (36%, 58%), males (36%, 58%), and females (42%, 58%) indicate

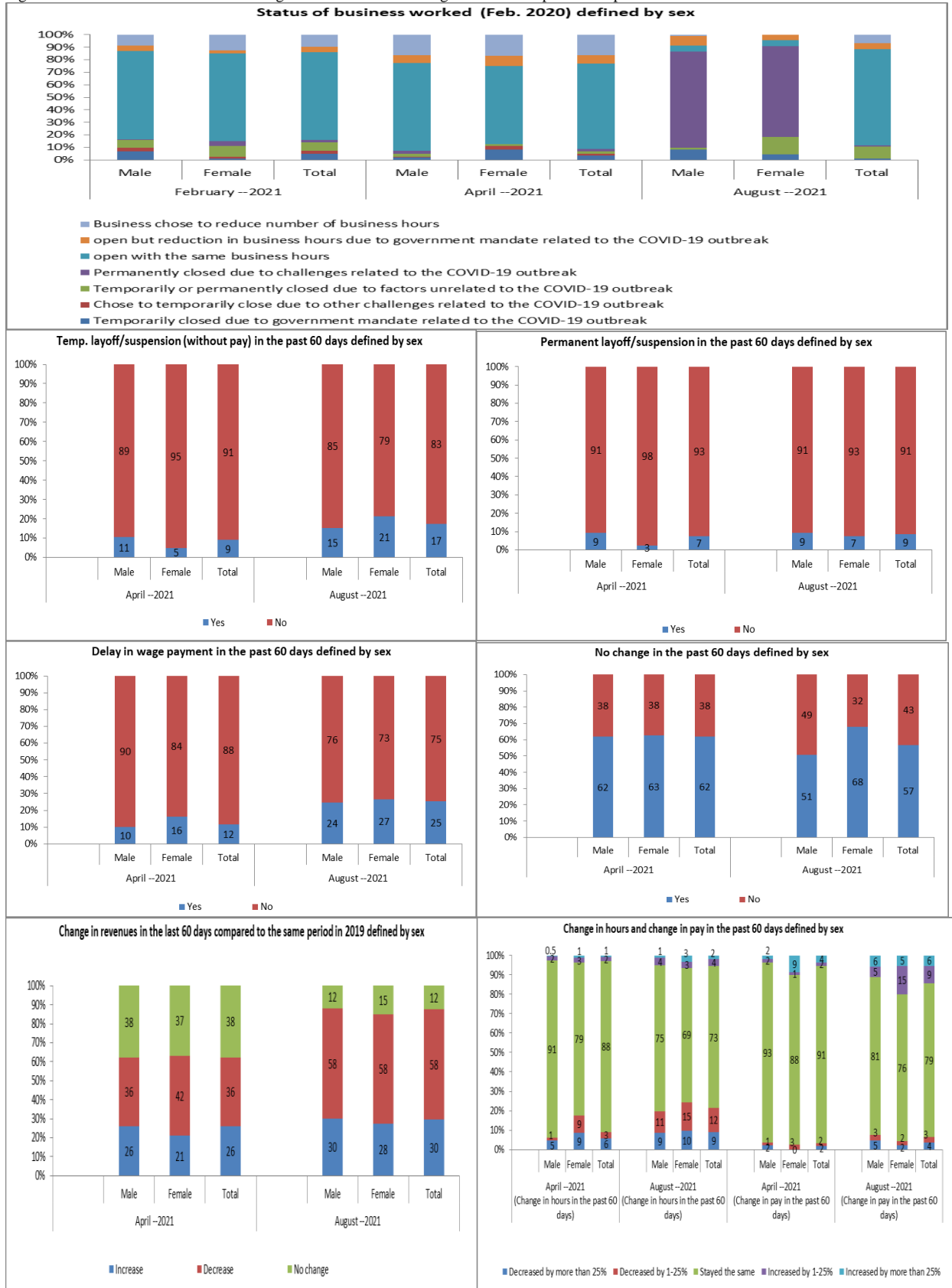
decrease in revenues in the last 60 days compared to the same period in 2019 respectively as indicated by the respondents in April 2021 and August 2021 respectively. (See Figure 15)

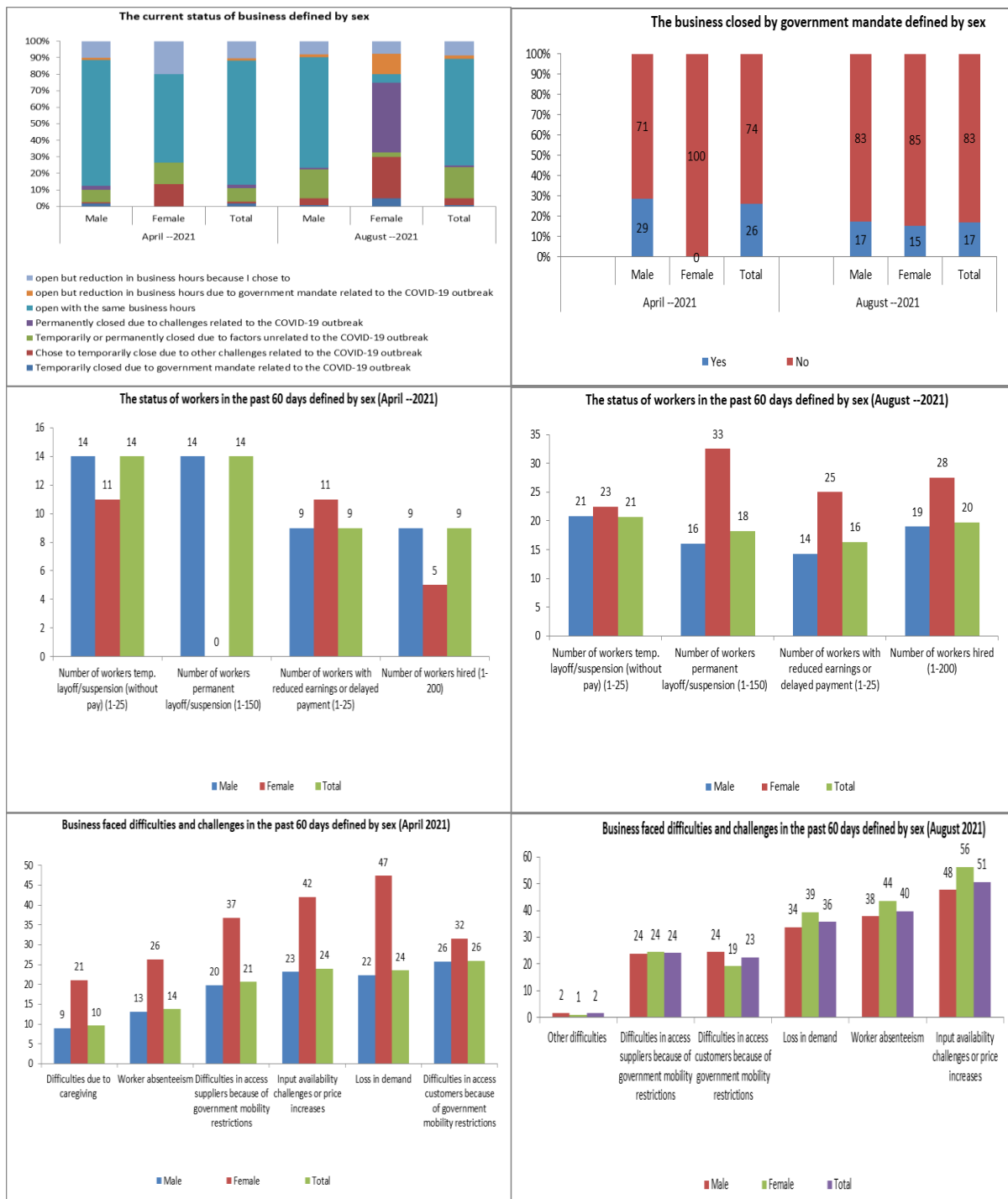
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the current status of business that implies that although the majority of all households (75%, 64%), males (76%, 67%), and females (53%, 5%) reported that the business are open with the same business hours, however, less than tenth of all households (5%, 5%), males (5%, 5%), and females (13%, 73%) reported that the business are temporarily or permanently closed due to factors related to the COVID-19 outbreak or experienced reduction in business hours due to government mandate related to the COVID-19 outbreak in April 2021 and August 2021 respectively. The business reported that they are temporarily or permanently closed due to factors related to the COVID-19 outbreak for females are more than twice higher than males. More than a quarter of all households (26%), and of males (29%) reported that the business closed by government mandate in April 2021, while more than tenth of all households (17%), males (17%) and female (15%) reported that the business closed by government mandate in August 2021. (See Figure 15)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that in April 2021 the business faced difficulties and challenges in the past 60 days including difficulties in access customers because of government mobility restrictions as indicated by more than a quarter of all households (26%), males (26%), and females (32%). In addition to difficulties in input availability challenges or price increases as indicated by nearly a quarter of all households (24%), males (23%), and nearly half of females (42%). Further to challenge of loss in demand as indicated by nearly quarter of all households (24%), and males (22%), and nearly half of females (47%). In addition to difficulties in access suppliers because of government mobility restrictions as indicated by more than fifth of all households (21%), and males (20%), and more than third of females (37%). In addition to difficulties related to workers absenteeism as indicated by more than tenth of all households (14%), males (13%), and females (26%). In addition to difficulties due to caregiving as indicated by less than a quarter of all households (10%), males (9%), and females (21%). The reported business difficulties and challenges for females are higher than males. (See Figure 15)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show that in August 2021 the business faced difficulties and challenges in the past 60 days including difficulties in input availability challenges or price increases as indicated by more than half of all households (51%), males (48%), and more than half of females (56%). In addition to difficulties related to workers absenteeism as indicated by more than third of all households (40%), males (38%), and females (44%). Further to challenge of loss in demand as indicated by more than third of all households (36%), and males (34%), and nearly half of females (39%). In addition to difficulties in access customers because of government mobility restrictions as indicated by more than a quarter of all households (23%), males (24%), and females (19%). In addition to difficulties in access suppliers because of government mobility restrictions as indicated by nearly a quarter of all households (24%), and males (24%), and females (24%). In addition to other difficulties as indicated by less than tenth of all households (2%), males (2%), and females (1%). The reported business difficulties and challenges for females are higher than males. (See Figure 15)

Figure 15 - Status in business and working status in business during the COVID-19 pandemic period in Sudan





Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

4.8. Wages, income and revenue

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show the effects on wages during the COVID-19 pandemic period. For instance, although the majority of households indicate that they were able to go to the place of work or work from home as usual for their paid job (82%), however, nearly fifth of households indicate that they were not able to go to the place of work or work from home as usual for their paid job

(18%) (See Figure 16). The households' ability to go to the place of work or work from home as usual for their paid job vary according to gender, household educational level and household family size. For instance, the ability to go to the place of work or work from home as usual for paid job for males (84%) is higher than females (77%), the inability to go to the place of work or work from home for females (23%) is higher than males (16%). The households' ability to go to the place of work or work from home increases with the decrease of households' family size, i.e. the households' inability to go to the place of work or work from home increases with the increase of households' family size (see Figure 16).

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) indicate the effects on the received payment during the COVID-19 pandemic period. For instance, although more than third of households who were not able to work as usual were paid full normal wage (35%), however, the majority and nearly half of households received partial payment (46%), while, nearly fifth of households did not receive payment (19%) (See Figure 16). The majority and more than third of males who were not able to work as usual received full payment (42%), compared to more than tenth of females (13%); this implies that full payment for males is more than three times higher than females. The majority of females who were not able to work as usual received partial payment (73%), this implies that the partial payment received by females is nearly twice higher than males (38%). More than fifth of males who were not able to work as usual did not receive any payment (21%), which is higher than females (13%) (See Figure 16). Partial payment increases with the increase of households' family size, no payment increases with the decrease of household's family size (see Figure 16). The reasons households were not able to work as usual for the majority of households because of business / gov't closed due to coronavirus legal restrictions and/ or for another reason (80%), followed by furlough (7%), ill / quarantined (7%), and seasonal worker (7%). The reasons households were not able to work as usual vary according to gender, household educational level and household family size, and vary across regions (see Figure 16). For instance, for females the only reason was only because of business / gov't closed due to coronavirus legal restrictions and / or for another reason (100%). While, for males, the reasons was because of business / gov't closed due to coronavirus legal restrictions and / or for another reason (75%), followed by furlough (8%), ill / quarantined (8%), and seasonal worker (8%). In addition, for all small size family and large size family the only reason was only because of business / gov't closed due to coronavirus legal restrictions and / or for another reason (100%). While, for medium size family the reasons was because of business / gov't closed due to coronavirus legal restrictions and / or for another reason (72%), followed by furlough (9%), ill / quarantined (9%), and seasonal worker (9%). (See Figure 16)

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) indicate the declining or stagnating revenues from business sales. For instance, for the majority and more than half of the households the reported revenue from the business sales is less compared to [last month] (53%), while, more than a quarter of households reported same revenue from the business sales (25%), while, more than tenth of households reported no revenue from the business sales (16%), and less than tenth of households reported higher revenues from the business sales (6%) compared to [last month]. The change in revenues from business sales vary according to gender and household family size. The majority of households (69%), females (54%), males (70%), small size family (71%), medium size family (69%), and large size family (63%) reported either no revenue or less revenue from the business

sales compared to [last month]. The main reasons for getting no revenue or less revenues from sales than in [last month] for households because usual place of business closed due to coronavirus legal restrictions (41%), while, other reasons because of no customers/ fewer customers (30%), other (14%), can't get inputs (6%), can't travel / transport goods for trade (6%), seasonal closure (2%), vacation (0.3%) and other (no fuel (8%)). The main reason for females because usual place of business closed due to coronavirus legal restrictions (65%), and no customers / fewer customers (35%). The main reason for males because usual place of business closed due to coronavirus legal restrictions (44%), no customers/ fewer customers (29%), other (15%), can't travel/ transport goods for trade (5%), seasonal closure (7%), and other (no fuel (17%)). (See Figure 16)

4.9. Income

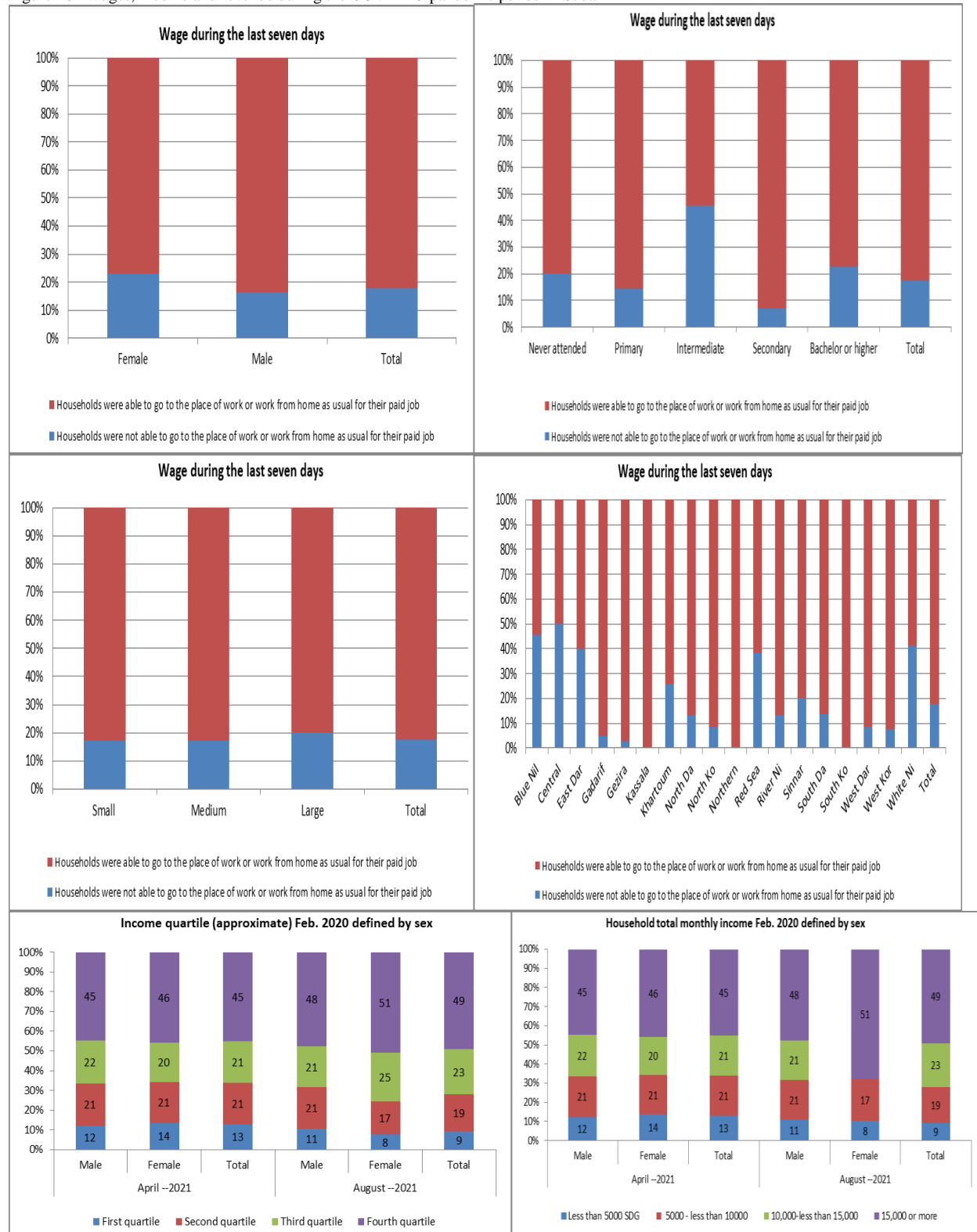
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the distribution of personal net monthly wage in February 2020 that implies that the majority and nearly half of all households classified among high wage group (15,000 or more) (46%), followed by lower middle wage group (5000 - less than 10000) (20%), low monthly wage group (less than 5000 SDG) (20%), and upper middle wage group (10,000-less than 15,000) (15%) respectively. The majority and more than half of males classified among high wage group (15,000 or more) (51%), followed by lower middle wage group (5000 - less than 10000) (19%), low wage group (less than 5000 SDG) (14%), and upper middle wage group (10,000-less than 15,000) (15%) respectively. The majority and nearly third of females classified among high wage group (15,000 or more) (33%), followed by low wage group (less than 5000 SDG) (29%), lower middle wage group ((5000 - less than 10000) (24%), and upper middle wage group (10,000-less than 15,000) (15%) respectively. (See Figure 1)

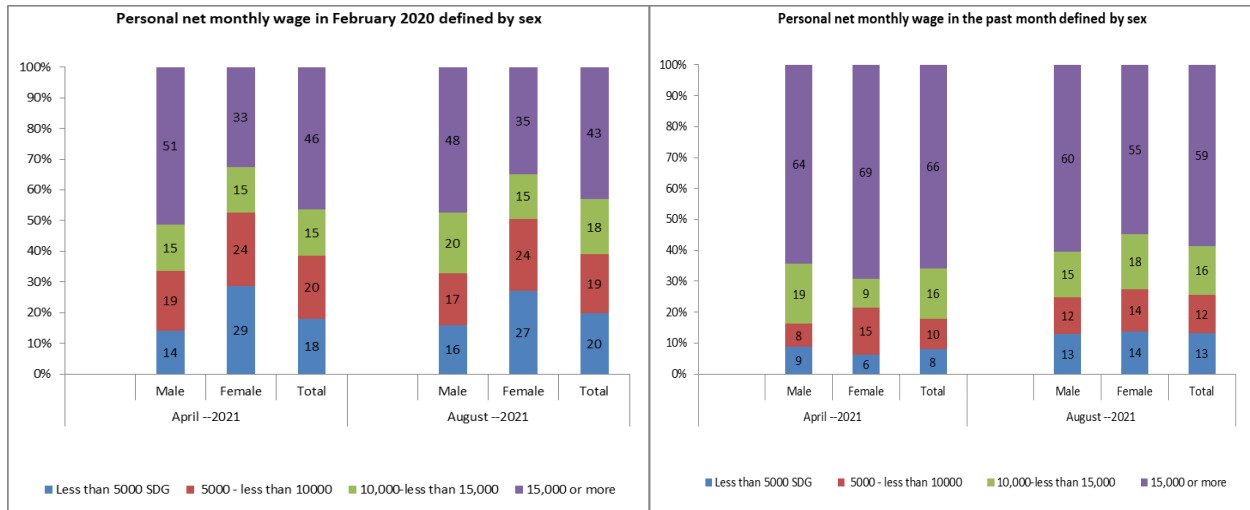
The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the distribution of personal net monthly wage in the past month that implies that the majority and nearly two thirds of all households classified among high wage group (15,000 or more) (66%), followed by upper middle wage group (10,000-less than 15,000) (16%), lower middle wage group (5000 - less than 10000) (10%), and low wage group (less than 5000 SDG) (8%) respectively. The majority and nearly two thirds of males classified among high wage group (15,000 or more) (64%), followed by upper middle wage group (10,000-less than 15,000) (19%), lower middle wage group (5000 - less than 10000) (8%). and low wage group (less than 5000 SDG) (9%), respectively, The majority and more than two thirds of females classified among high personal net monthly wage group (15,000 or more) (69%), followed by lower middle wage group (5000 - less than 10000) (15%), upper middle group (10,000-less than 15,000) (9%), and low middle wage group (less than 5000 SDG) (6%) respectively. (See Figure 16)

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show the distribution of household by income quartile (approximate) in February 2020 that implies that the majority and nearly half of all households (45%), males (45%), and females (46%) are classified in the fourth quartile, followed by less than a quarter of all households (21%), males (22%), and females (20%) classified in the third quartile, followed by less than a quarter of all households (21%), males (21%), and females (20%) classified in the second quartile, followed by less than a quarter of all households (13%), males (12%), and females (14%) classified in the first quartile respectively. (See Figure 16)

The majority and more than half of all households (78%), males (78%), and females (79%) reported worse ability to pay goods/service in February 2020 compared to last month respectively. (See Figure 16)

Figure 16– Wages, income and revenue during the COVID-19 pandemic period in Sudan





Source: (1) Author’s calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020) and (2) Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

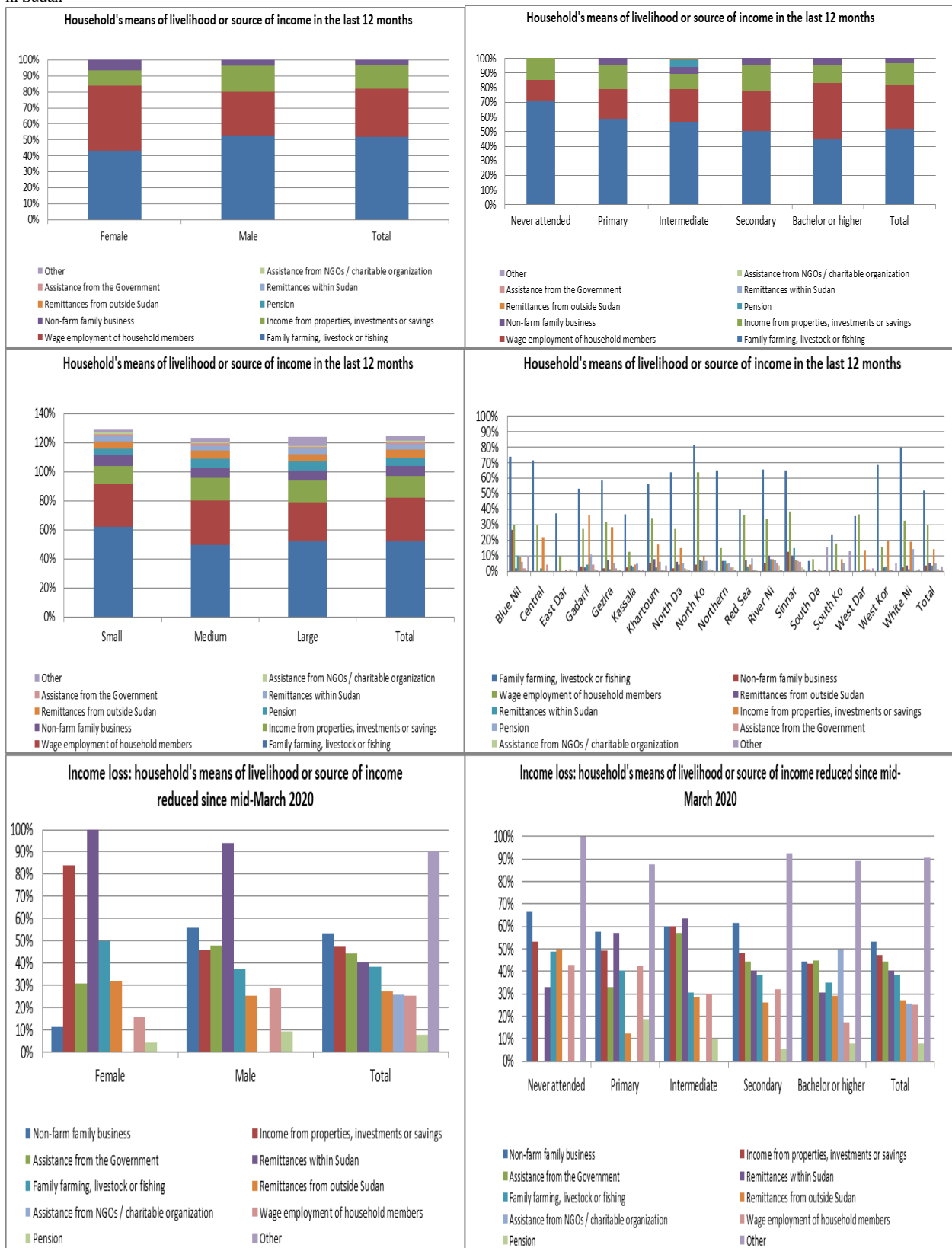
4.10. Households’ mean of livelihood and source of income

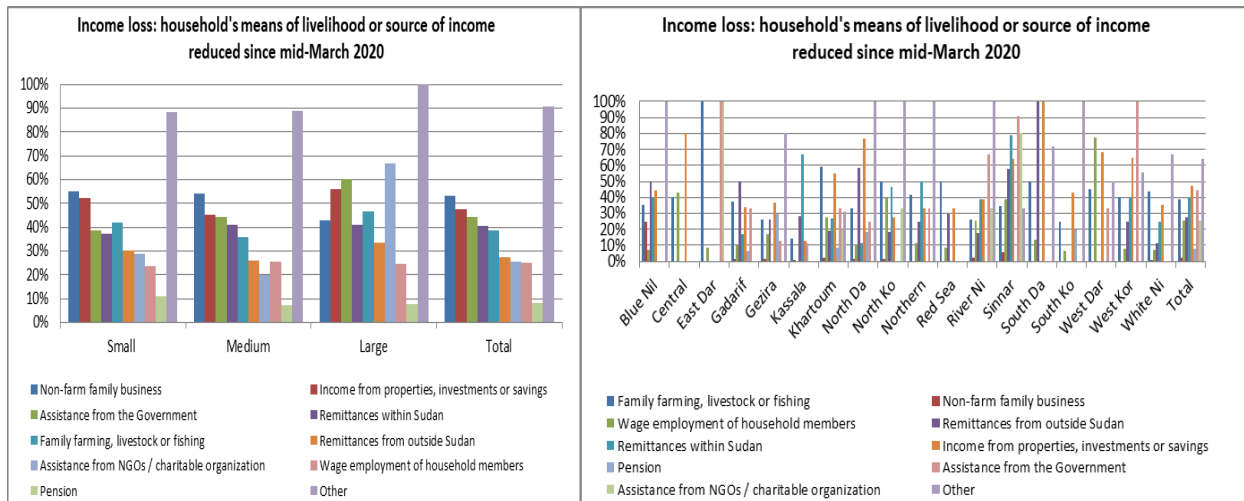
The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show the effects on households’ means of livelihood or source of income during the COVID-19 pandemic period. The majority and more than half of households indicate that the means of livelihood or source of income in the last 12 months are family farming, livestock or fishing (52%), while, nearly third of households depend on wage employment of household members (30%), and less than fifth of households depend on income from properties, investments or savings (15%). Whereas, less than tenth of households depend on non-farm family business (7%), pension (6%), remittances from outside Sudan (6%), and remittances within Sudan (4%), while, few households depend on assistance from the government (1.5%), assistance from NGOs/ charitable organization (1%), and other (3%) (See Figure 17). The means of livelihood or source of income in the last 12 months vary across regions/states. The means of livelihood or source of income in the last 12 months vary according to gender, educational level and family size, and vary across regions/states. For instance, the reported dependency on family farming, livestock or fishing and income from properties, investments or savings for males are higher than females, while, the reported dependency on wage employment of household members, non-farm family business, pension, and remittances from outside Sudan and remittances within Sudan for females are higher than males. Moreover, the reported dependency on family farming, livestock or fishing decreases with the increase of households’ educational level. The reported dependency on family farming, livestock or fishing is high for small size family, followed by large size family and medium size family respectively (see Figure 17).

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) show the effects on the loss of households’ means of livelihood or source of income during the COVID-19 pandemic period. For instance, the majority and more than half of households indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from non-farm family business (53%) and other (91%), while, nearly half of households indicate loss and reduction in income from properties, investments or savings (48%), and assistance from the government (44%). More than third of households indicate loss and reduction in the means of livelihood or

source of income since mid-March 2020 from remittances within Sudan (40%), and from family farming, livestock or fishing (39%). While, more than a quarter of households indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from remittances from outside Sudan (27%), assistance from NGOs / charitable organization (26%), and wage employment of household members (25%). Few and less than tenth of household indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from pension (8%) (See Figure 17). The loss and reduction in income and means of livelihood or source of income since mid-March 2020 vary according to gender, household educational level and household family size. For instance, all females indicate loss and reduction in the means of livelihood or source of income, since mid-March 2020 from remittances within Sudan (100%). The majority and more than half of females indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from income from properties, investments or savings (84%), family farming, livestock or fishing (50%). While, nearly third of females indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from remittances from outside Sudan (32%), and assistance from the government (31%). While, less than fifth of females indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from wage employment of household members (16%), non-farm family business (11%), pension (5%), assistance from NGOs / charitable organization (0.1%), and other (0.2%) respectively. The majority and more than half of males indicate the loss and reduction in the means of livelihood or source of income since mid-March 2020 from remittances within Sudan (94%), and non-farm family business (56%). While, nearly half of males indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from assistance from the government (48%), and income from properties, investments or savings (46%). While, more than third of males indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from family farming, livestock or fishing (37%), whereas, more than a quarter of males indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from wage employment of household members (29%), and remittances from outside Sudan (26%). While, less than tenth of males indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from pension (9%), assistance from NGOs / charitable organization (0.1%), and other (0.2%) respectively, (see Figure). The majority and more than half of the large size family indicate loss and reduction in the means of livelihood or source of income since mid-March 2020 from assistance from NGOs / charitable organization (67%), assistance from the government (60%) and from properties, investments or savings (56%) respectively. The majority of the medium size family indicates loss and reduction in the means of livelihood or source of income since mid-March 2020 from non-farm family business (54%), from properties, investments or savings (45%), and assistance from the government (44%) respectively. The majority of the small size family indicates loss and reduction in the means of livelihood or source of income since mid-March 2020 from non-farm family business (55%), from properties, investments or savings (52%), and from family farming, livestock or fishing (42%) respectively. (See Figure 17)

Figure 17- Household's means of livelihood or source of income in the last 12 months and loss of income during the COVID-19 pandemic period in Sudan

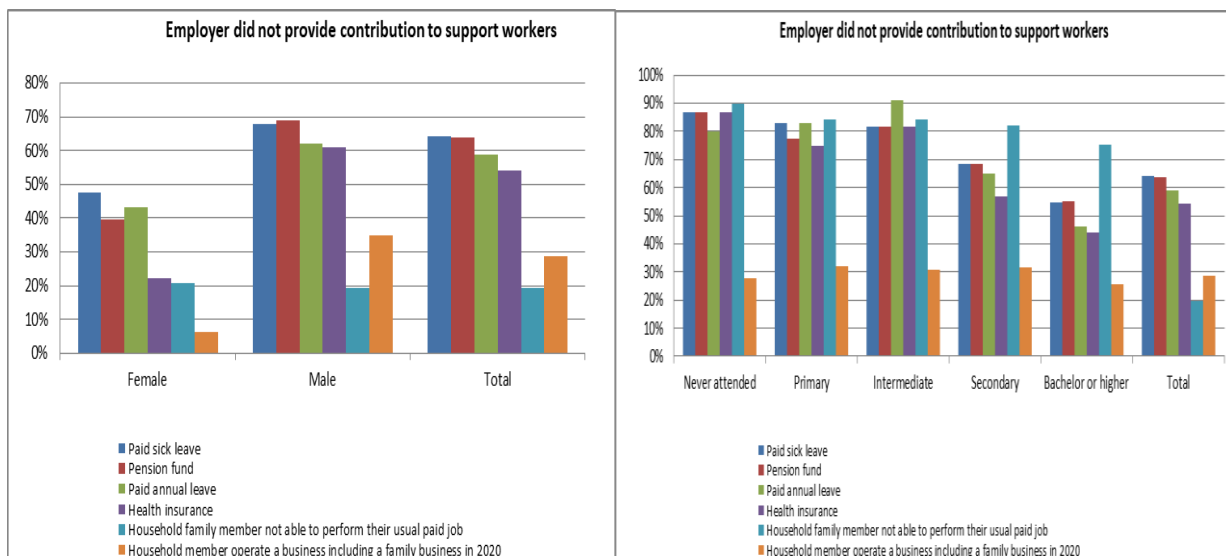


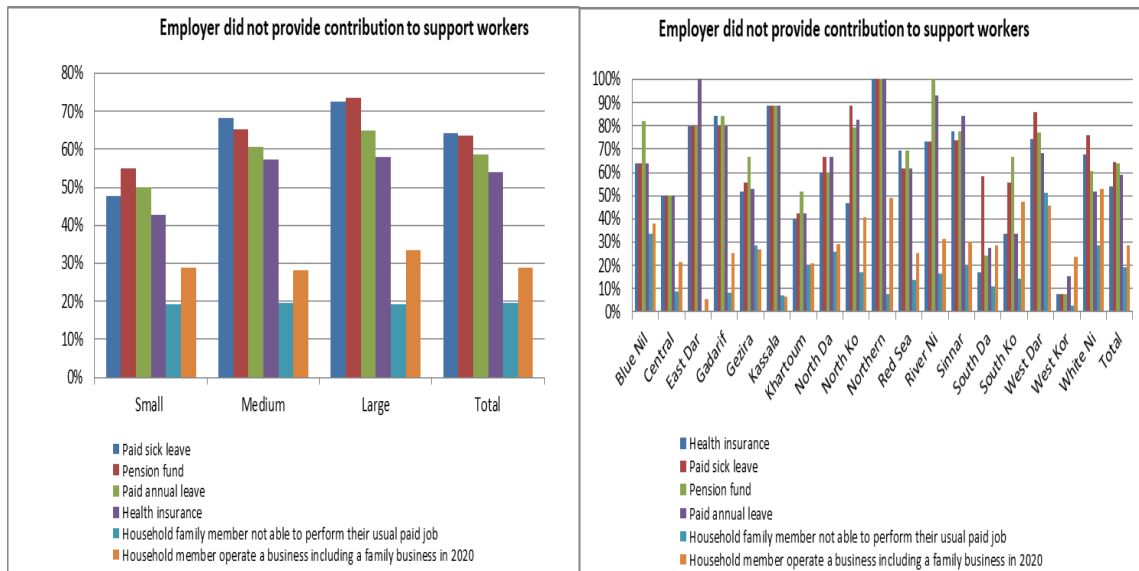


4.11. Employers' provision and contribution to social protection of workers

The analysis using the World Bank and Sudan households COVID-19 Survey data (2020) indicate the weak employers' provision and contribution to social protection of workers during the COVID-19 pandemic period. For instance, the majority and more than half of households indicate that employer did not provide contribution to paid sick leave (64%), pension fund (64%), paid annual leave (59%), and health insurance (54%). Moreover, nearly fifth of the households indicate that employer did not provide contribution to household family member not able to perform their usual paid job (20%), and more than a quarter of household member operate a business including a family business in 2020 (29%). (See Figure 18)

Figure 18- Employers' provision and contribution to social protection of workers during COVID-19 pandemic period in Sudan



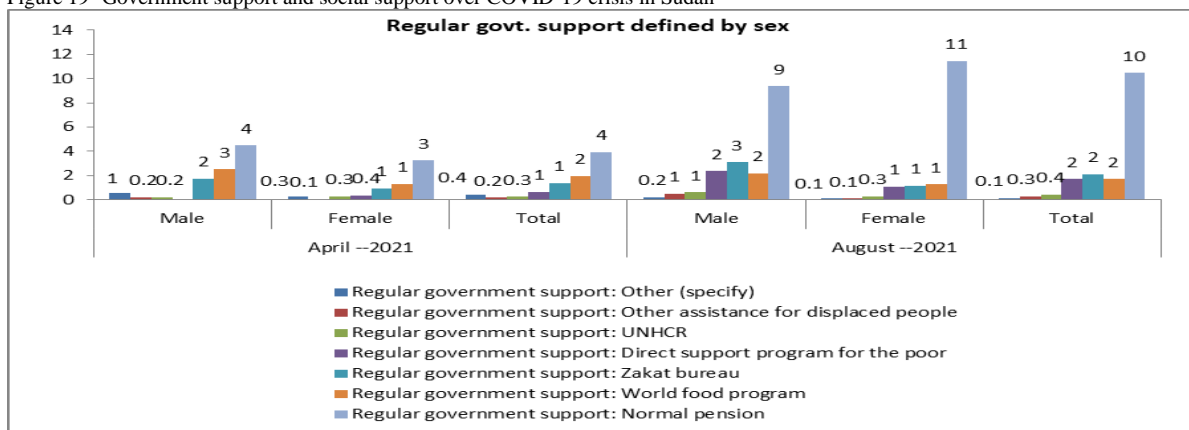


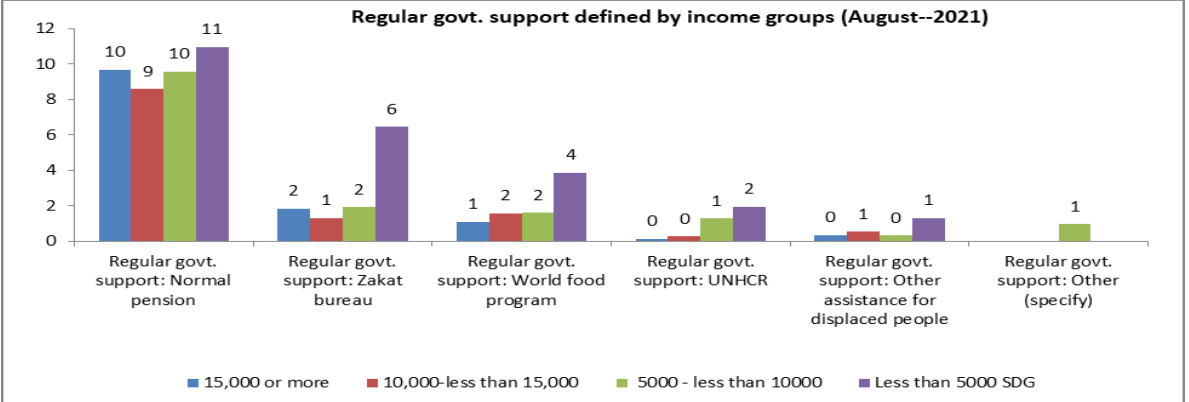
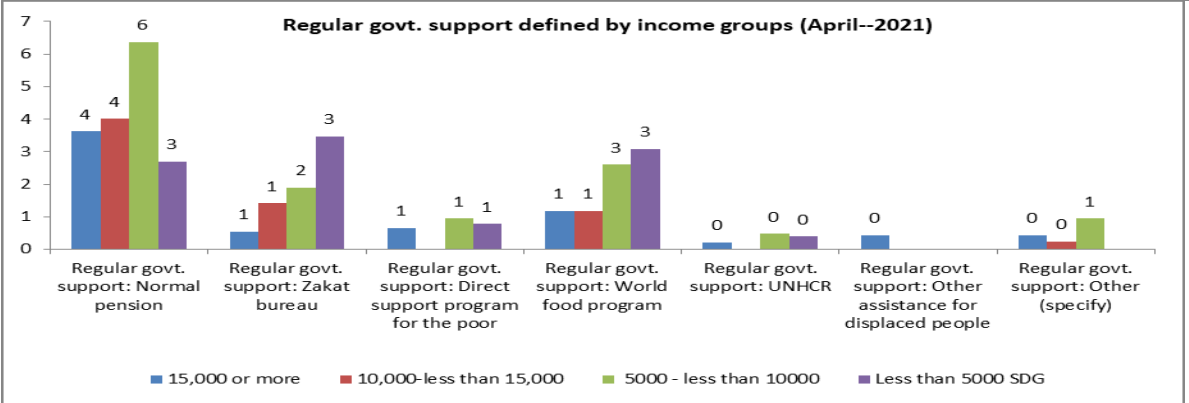
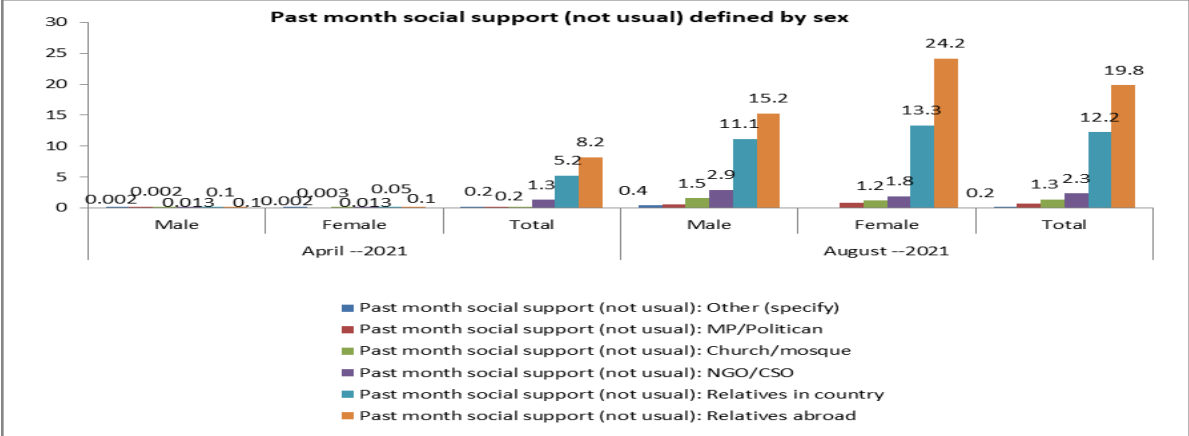
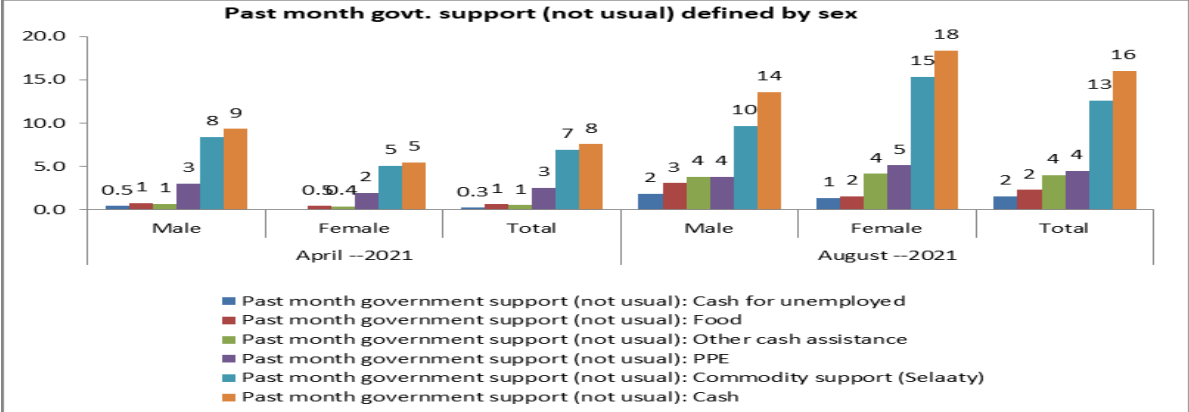
Source: Author’s calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

4.12. Government support and social support over COVID-19 Crisis

The analysis using the ERF COVID MENA Monitor Sudan Survey data (2021) show regular government support that includes other assistance for displaced people, UNHCR, direct support program for the poor, Zakat bureau, World food program, normal pension and other respectively. Past month (not usual) government support includes food, cash, commodity support (Selaaty), other cash assistance, and cash for unemployed respectively. Past month (not usual) social support includes limited support from relatives abroad, relatives in country, NGO/CSO, church/mosque and other respectively (see Figure 19). Regular government support varies according to income level, for instance, the highest regular government support provided to the very low income and low income groups compared to medium income group and high income groups in April 2021 and in August 2021. (See Figure 19)

Figure 19- Government support and social support over COVID-19 crisis in Sudan





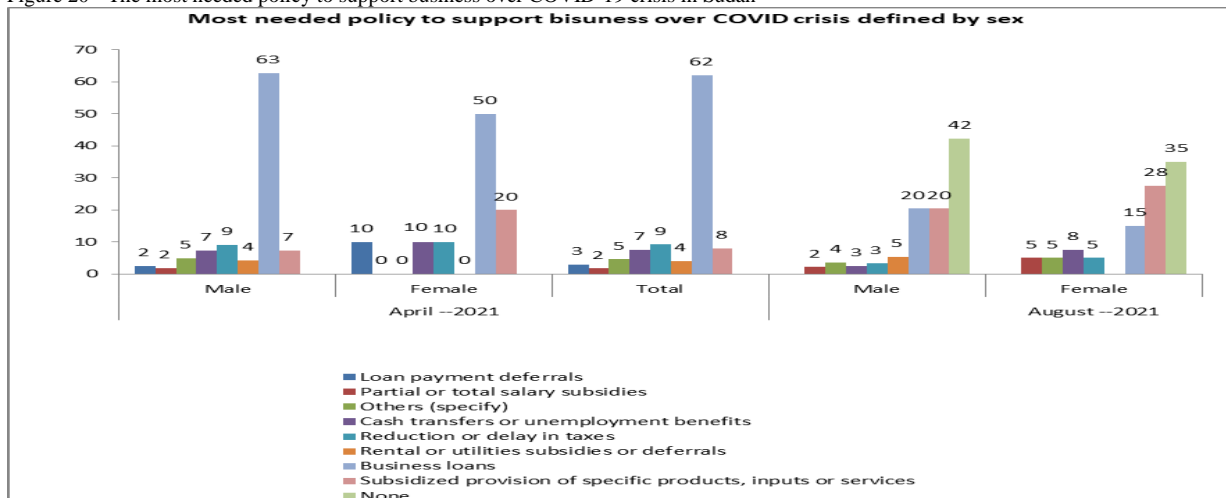
Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

4.13. The most needed policy to support business over COVID-19 crisis in Sudan

The analysis using the first wave (April 2021) ERF COVID MENA Monitor Sudan Survey data (2021) indicate the most needed policy to support business over COVID-19 crisis, that implies that for the majority and nearly two thirds of all households the most needed policy to support business is business loans (62%), reduction or delay in taxes (9%), subsidized provision of specific products, inputs or services (8%), cash transfers or unemployment benefits (7%), rental or utilities subsidies or deferrals (4%), loan payment deferrals (3%), partial or total salary subsidies (2%), and others (5%) respectively. For the majority and nearly two thirds of males the most needed policy to support business is business loans (63%), reduction or delay in taxes (9%), cash transfers or unemployment benefits (7%), subsidized provision of specific products, inputs or services (7%), rental or utilities subsidies or deferrals (4%), loan payment deferrals (2%), partial or total salary subsidies (2%), and others (5%) respectively. For the majority and half of females the most needed policy to support business is business loans (50%), subsidized provision of specific products, inputs or services (20%), reduction or delay in taxes (10%), cash transfers or unemployment benefits (10%), and loan payment deferrals (10%) respectively. (See Figure 20)

The analysis using the second wave (August 2021) ERF COVID MENA Monitor Sudan Survey data (2021) indicate the most needed policies to support business over COVID-19 crisis, that implies that for the majority and more than fifth of all households the most needed policy to support business is subsidized provision of specific products, inputs or services (21%), followed by business loans (20%), rental or utilities subsidies or deferrals (5%), others (4%), reduction or delay in taxes (3%), cash transfers or unemployment benefits (3%), and partial or total salary subsidies (3%) respectively. For the majority and fifth of males the most needed policy to support business is subsidized provision of specific products, inputs or services (20%), followed by business loans (20%), rental or utilities subsidies or deferrals (5%), others (4%), reduction or delay in taxes (3%), cash transfers or unemployment benefits (3%), and partial or total salary subsidies (2%) respectively. For the majority and more than fifth of females the most needed policy to support business is subsidized provision of specific products, inputs or services (28%), followed by business loans (15%), cash transfers or unemployment benefits (8%), others (5%), reduction or delay in taxes (5%), and partial or total salary subsidies (5%) respectively. (See Figure 20)

Figure 20 - The most needed policy to support business over COVID-19 crisis in Sudan



Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)

Therefore, the results in this section provide answer to Q1, Q2, and Q5 and fulfil part of the research objectives in section 1 above. Mainly, this section discusses the COVID-19 economic impacts (on income, labour market status, employment benefits, working conditions, and unemployment), and social impacts (on social protection to workers) on households in Sudan defined by household characteristics (gender, education, and family size) and across regions/ states. This section also fulfils the research objective to explain the impact of COVID-19 on household and individual source of income, changes in source of income, and the effects on the loss of households' means of livelihood or source of income in Sudan, the impact of COVID-19 on household enterprises, workers livelihoods, income, labour market status, employment, and working conditions and policy measures to manage the impacts on workers in Sudan. This section also fulfils the research objective to show the differences in the effects of COVID-19 on households in Sudan according to household characteristics (gender, education, and family size) and across regions/ states in Sudan.

5. The impact of COVID-19 on micro, small and medium size enterprises (MSME) (Firms survey)¹⁹

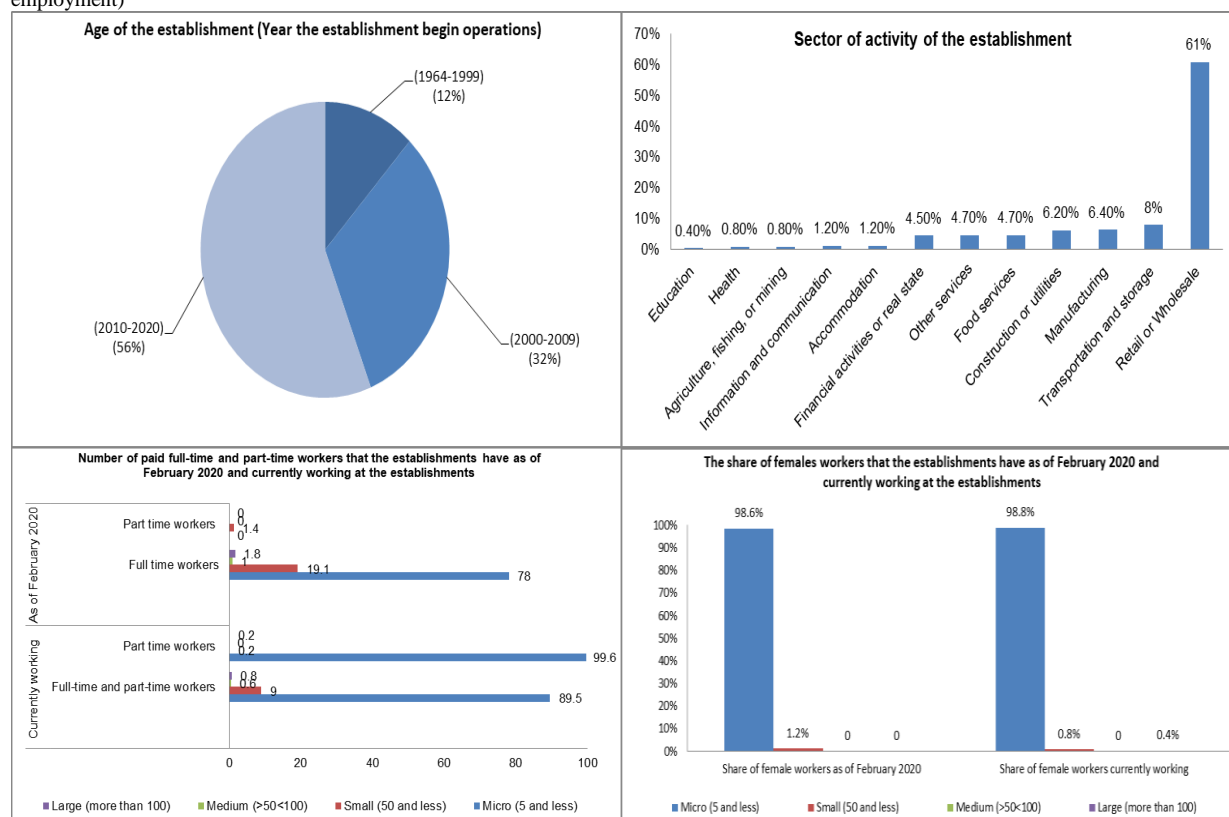
The basic information from the firm survey indicates that the majority of the respondents are males (99%), and very few are females (1%). Regarding the location, the majority and nearly half of the establishments are located in Khartoum (45%), while the other half are located in Omdurman (29%) and Bahri (25%) respectively. Concerning the sector of main activities, the majority and more than half of the establishments are working in retail or wholesale sector (61%), followed by transportation and storage (8%), manufacturing (6%), construction or utilities (6%), food services (5%), other services (5%), financial activities or real state (5%), accommodation (1%), information and communication (1%), agriculture, fishing, or mining (1%), health (1%) and education (0.4%) respectively. Regarding, the age of establishments, defined by the year the establishment begin operations, the majority and more than half of the establishments started working in recent time during the past ten years in the period (2010-2020) (56%), while, nearly third of the establishments begin operations in the period (2000-2009) (32%), and nearly tenth of the establishments begin operations in the period (1964-1999) (12%). (See Figure 21)

Regarding the size of the establishments defined by the number of workers (number of full-time and part-time paid workers) hired by the establishments as of February 2020, the majority of full time workers are hired by micro size establishments (78%), this implies that the majority of the establishments are micro size establishments (78%), followed by small size establishments (19%), large size establishments (2%), and medium size establishments (1%) respectively. Moreover, regarding part time workers, the majority of part time workers are hired by micro size establishments (98%), followed by small size establishments (1%), and large size establishments (0.4%) respectively. Regarding paid full-time and part-time workers currently working in the establishments the majority, of paid full-time and part-time workers currently working in the establishments are employed in micro size establishments (90%), followed by small size establishments (9%), large size establishments (0.8%), and medium size establishments (1%) respectively. The majority of part time workers are currently employed in micro size establishments (99.6%), followed by small size and large size establishments respectively. Concerning, female

¹⁹ The analysis in this section uses the World Bank and Sudan households COVID-19 Survey data (2020).

workers as of February 2020, the majority of females workers are employed at micro size establishments (99%), followed by small size establishments and medium size establishments respectively. The share of females workers currently working implies that the majority of women are currently employed in micro size establishment (99%), followed by small size establishments and large size establishments respectively.²⁰ (See Figure 21)

Figure 21-General characteristics of micro, medium and large size establishments (gender, location, age, sector of main activities and employment)



Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The impact of COVID-19 on the operation and current status of the establishments is demonstrated from the fact that although few of the establishments are opened (6%), and the majority and nearly two third of the establishments are only partially opened (64%) (Cannot operate normally due to government regulations), but nearly fifth of the establishments are temporary closed (either mandated by government or closed by own choice) (21%), and nearly tenth of the establishments are permanently closed (8%) (See Figure 22). The impact of COVID-19 on the operation and current status of the establishments also appears from the duration of lockdown period as measured by the number of weeks that the establishment has been closed. For instance, the majority and nearly half of the establishments have been closed for 10-12 weeks (47%), while, more than a quarter of the establishments have been closed for 13-20 weeks (27%), and more than a quarter of the establishments have been closed for 3-8 weeks (27%). Despite the impacts of COVID-19 on the operation status and current status of the establishment, however, the

²⁰ For the purpose of this research we use the definition and classification of firms by the number of workers that indicate that the micro size establishments hired 5 and less workers, small size establishments hired 50 and less workers, medium size establishments hired between 50 and 100 workers, and large size establishments hired more than 100 workers.

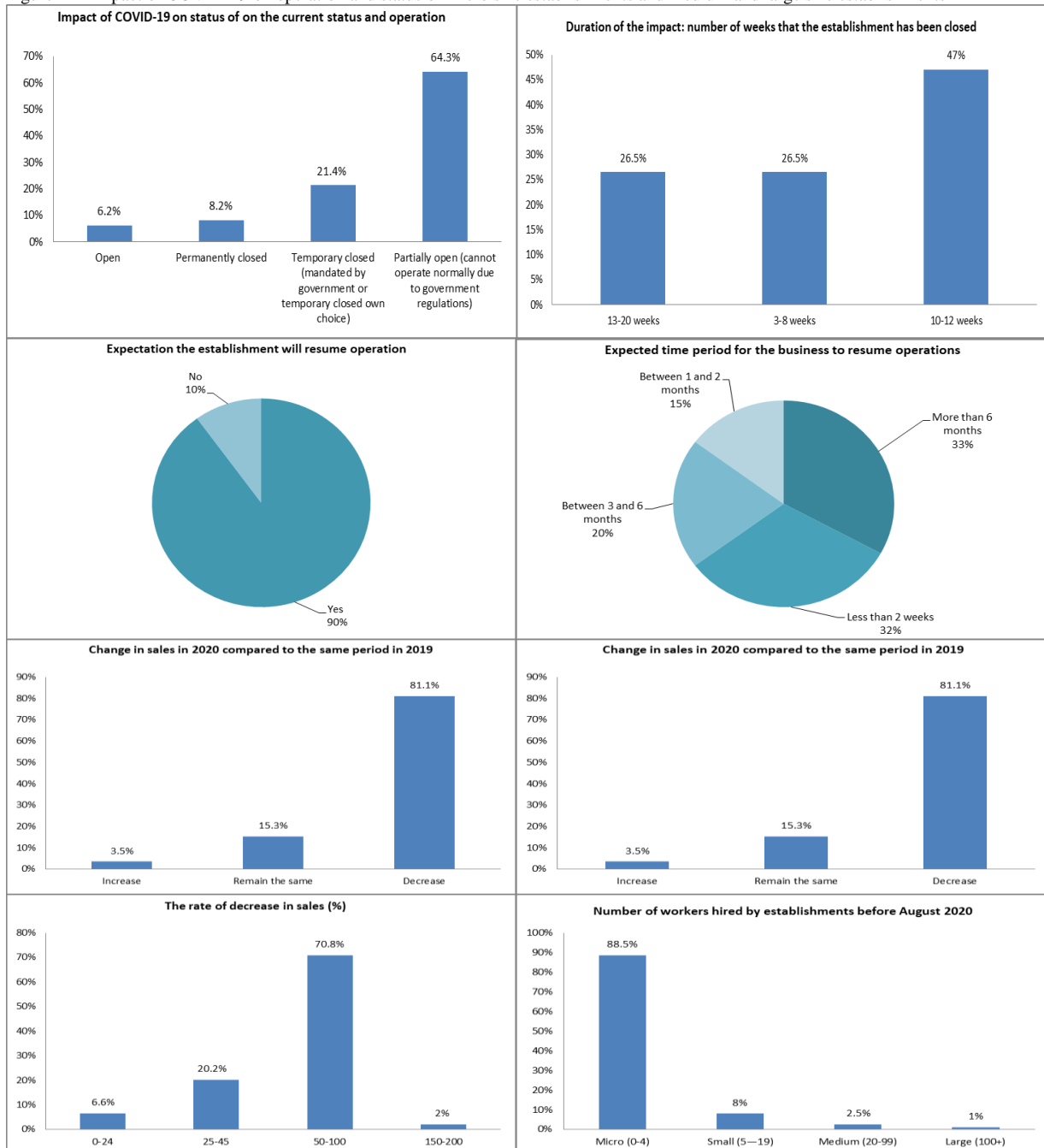
majority of the establishments indicate optimistic expectations that the establishments will resume operation (90%). For instance, the expected time period for the business to resume operations implies that the majority and nearly third of the establishments expected to resume operations in more than 6 months (33%), while, nearly third of the establishments expected to resume operations in less than 2 weeks (32%), whereas, nearly fifth of the establishments expected to resume operations between 3 and 6 months (20%), some of the establishments expected to resume operations between 1 and 2 months (15%), and finally, few of the establishments expected to resume operations between 2 and 4 weeks (1%). (See Figure 22)

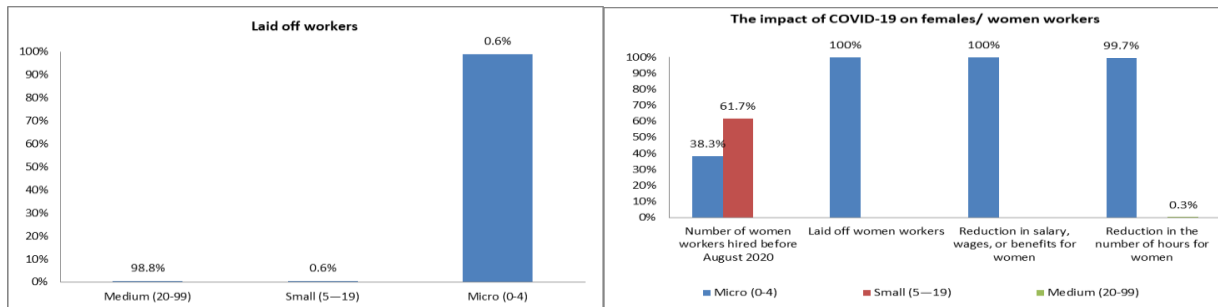
The impact of COVID-19 on the operation and current status and the sales of the establishments also appear from comparison of the establishment sales for the last 3 months (before August 2020) with the same period in 2019. For instance, the majority of the establishments reported decrease in sales (81%), some of the establishments indicated that the sales remain the same (15%), and few of the establishments indicated increase in sales (4%). The majority of the establishments indicate high rate of decrease in sales (88%). The majority of the establishments indicated substantial rate of decrease (by 50%-100%) (70.8%), some of the establishments indicated moderate rate of decrease (by 25%-45%) (20%), few of the establishments indicated small rate of decrease (by 5%-20%) (7%), and few of the establishments showed serious substantial rate of decrease (by 150%-200%) (2%) (See Figure 22).

The impact of COVID-19 on the operation and current status and employment of the establishments also appears from the distribution of employment in the last 3 months (before August 2020), for instance, the majority of full time and part time workers were hired by micro size establishments (0-4) (89%), few were hired by small size establishments (5-19) (8%), by medium size establishments (20-99) (3%) and by the large size establishments (100+) (1%) (See Figure 4). In addition, the majority and nearly two third of women were hired by medium size establishments (20-99) (62%), while more than third of women were hired by micro size establishments (0-4) (38%). The impacts of COVID-19 on the operation and current status and employment of the establishments appears from the laid off workers. For instance, the majority of laid off workers were hired by micro size establishments (0-4) (99%), very few were hired by small size establishments (5—19) (1%), and were hired by medium size establishments (20-99) (1%). All laid off women were hired by micro size establishments (0-4) ((100%) see Figure 6). The impact of COVID-19 on the operation and current status, salary, wages, and benefits in the establishments is demonstrated from the reduction in salary, wages, or benefits. For instance, the highest reduction in salary, wages, or benefits is reported at the micro size establishments (0-4) (99%), while, minor reduction reported at the small size establishments (5-19) (1%) and at the large size establishments (100+) (1%). For all women all the reduction in salary, wages, or benefits were reported at the micro size establishments (0-4) (100%) (See Figure 6). The impact of COVID-19 on the operation and current status, salary, wages, and benefits in the establishments is demonstrated from the reduction in the number of hours. For instance, the substantial reduction in the number of hours was reported at the micro size establishments (0-4) (99%), while, minor reduction in the number of hours was reported at the small size establishments (5—19) (1%) and the medium size establishments (20-99) (1%) respectively. For the majority of women the reduction in the number of hours was reported at the micro size establishments (0-4) (99.7%), and minor reduction in the number of hours was reported at the medium size establishments (20-99) (0.3%) (See Figure 22).

The results in this section provide answer to Q5 regarding the effective and impacts of firms commitment of firms to lockdown in Sudan and the differences according to firms characteristics (firms size). The survey provide no information regarding firms commitment to social distance and physical distancing measures in Sudan and also no information on other suggested public health measures to enhance commitment to social distance and physical distancing measures in Sudan.

Figure 22 - Impact of COVID-19 on operation and status of micro size establishments and medium and large size establishments

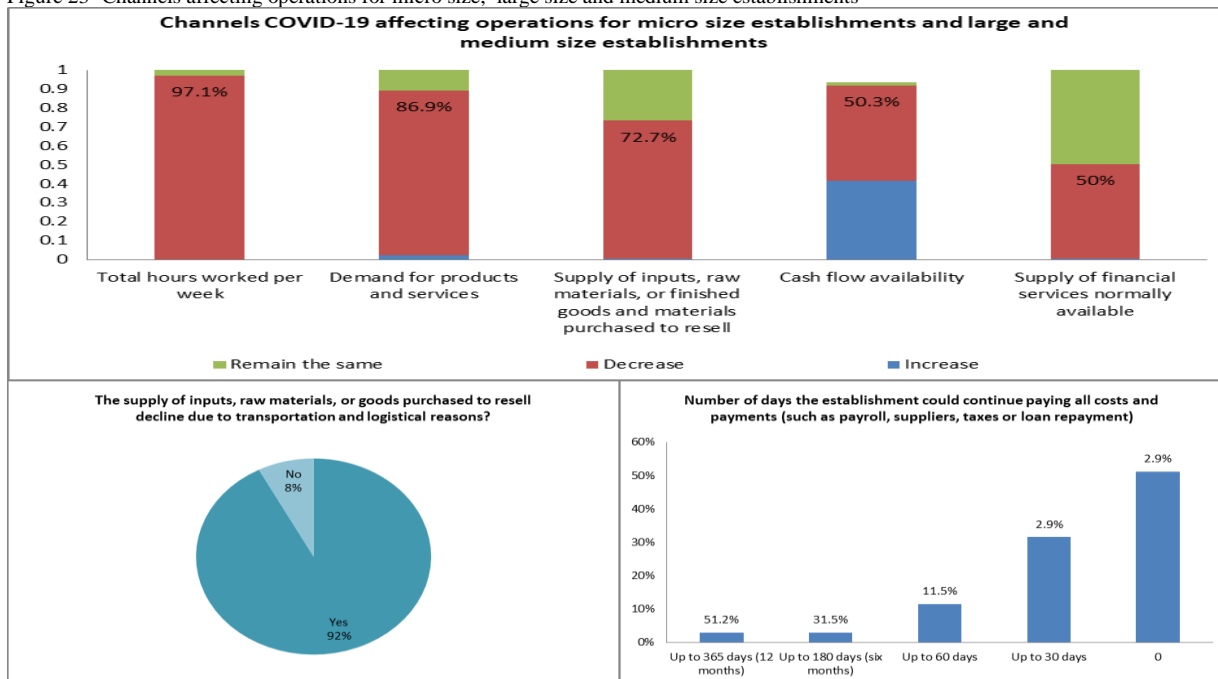




Source: Author’s calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The impact of COVID-19 also appears from the impacts on the channels affecting operations in the establishments with respect to the change in total hours worked per week, demand for products and services, and supply of inputs and raw materials. For instance, in the last three months (April to July 2020) [before August 2020] , the majority of the establishments indicate decrease in total hours worked per week (97%), decrease in the demand for products and services (87%), decrease in the supply of inputs, raw materials, or finished goods and materials purchased to resell (73%), of the establishments indicate decrease in cash flow availability (50%), and decrease in the supply of financial services normally available (50%). In addition, the majority of the establishments indicate decline in the supply of inputs, raw materials, or goods purchased to resell due to transportation and logistical reasons (92%). The impact of COVID-19 also appears from the impacts on the number of days the establishment could continue paying all costs and payments (such as payroll, suppliers, taxes or loan repayment), for instance, less than third of the establishments indicate up to 30 days (one month) (32%), while, few of the establishments indicate up to 60 days (two months) (12%), few of the establishments indicate up to 180 days (six months) (3%) and few of the establishments indicate up to 365 days (12 months) (one year) (2.9%) (See Figure 23).

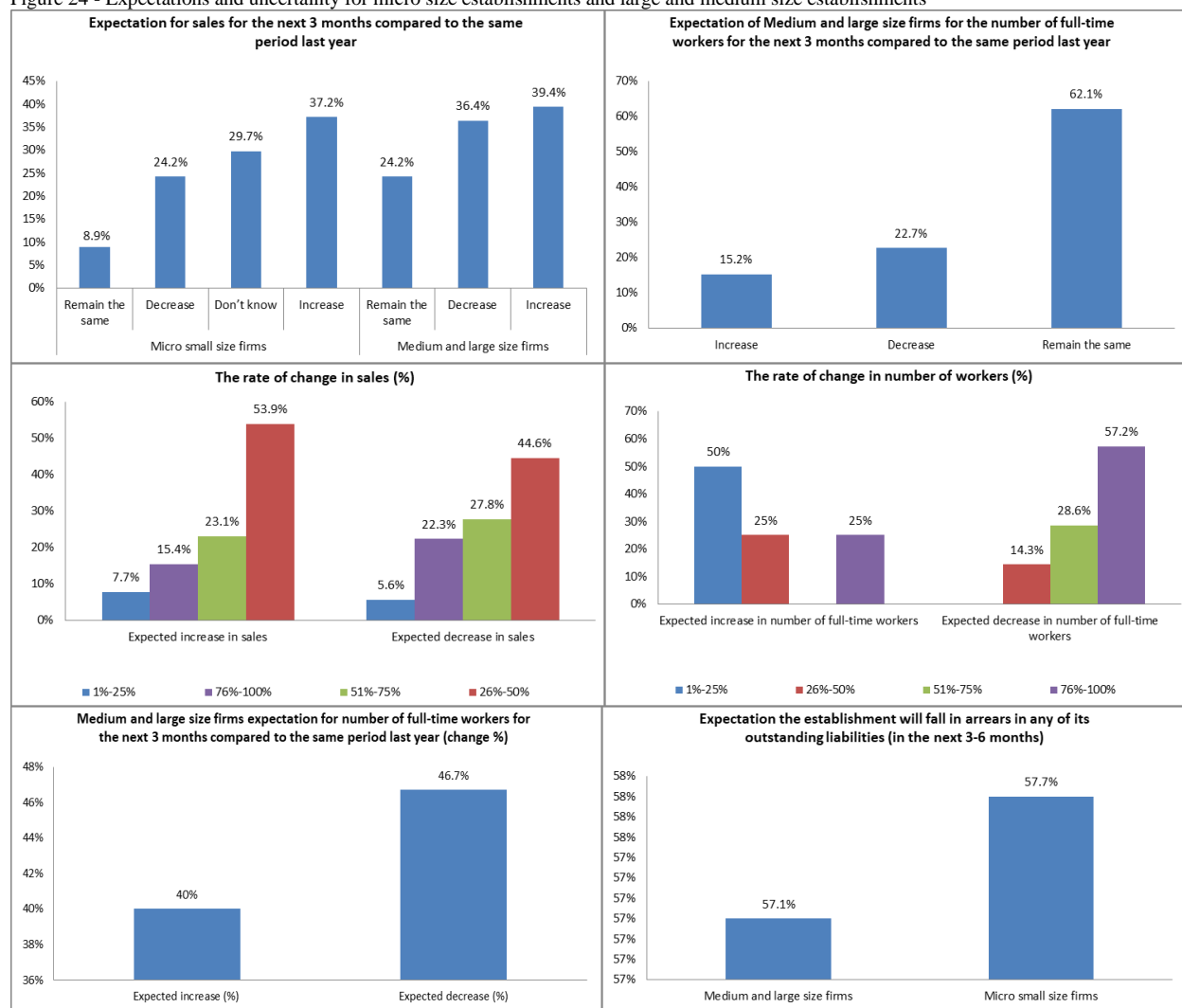
Figure 23- Channels affecting operations for micro size, large size and medium size establishments



Source: Author’s calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The impact of COVID-19 is also demonstrated from the reported expectations and uncertainty in total sales defined by firm size for micro size and medium and large size firms. For instance, for the next 3 months compared to the same period last year the expectation of the decrease in total sales that reported by more than third of the medium and large size establishments (36%) is higher than that reported by nearly a quarter of the micro small size establishments (24%). While, the expectation of the increase in total sales that reported by more than third of the medium and large size establishments (39%) is higher than that reported by more than third of the micro size establishments (37%). Whereas, the expectation that the total sales will remain the same that reported by more than tenth of the medium and large size establishments (24%) is higher than that reported by less than tenth of the micro establishments (9%) (See Figure 24). Moreover, the impact of COVID-19 is also demonstrated from the reported expectations and uncertainty in total number of workers defined by firm size for micro size and large and medium size firms. For instance, the expectation of the decrease in the number of full-time workers is reported by more than fifth of the medium and large size establishments (23%), while the expectation of the increase in the number of full-time workers is reported by more than tenth of the medium and large size establishments (15%), whereas, the expectation that the number of full-time workers will remain the same is reported by nearly two third of the medium and large size establishments (62%). In addition, for the next 3 months compared to the same period last year the expectation for number of full-time workers rate of decrease by (47%) for medium and large size firms. Moreover, the impact of COVID-19 is also demonstrated from the reported expectations and uncertainty in the rate of decrease in sales defined by firm size for micro size and medium and large size firms. For instance, the expectation for the next 3 months compared to the same period last year (%), mainly the expectation of the rate of serious substantial decrease in sales (by 76%-100%) is reported by more than fifth of the medium and large size establishments (22%), and also the rate of substantial decrease in sales by (51%-75%) is reported by more than fifth of the medium and large size establishments (23%), whereas, the moderate rate of decrease in sales (by 26%-50%) is reported by nearly half of medium and large size establishments (45%), and the small rate of decrease in sales (by 1%-25%) is reported by less than tenth of the medium and large size establishments (6%). Furthermore, the impact of COVID-19 is also demonstrated from the reported expectations and uncertainty in the rate of decrease in the number of full-time workers defined by firm size for micro size and medium and large size firms. For instance, the expectation for the next 3 months compared to the same period last year (%), mainly the expectation of the rate of serious substantial decrease in the number of full-time workers (by 76%-100%) is reported by more than half of the medium and large size establishments (57%), while, the rate of substantial decrease in the number of full-time workers (by 51%-75%) is reported by more than a quarter of the medium and large size establishments (29%), whereas, the moderate rate of decrease in the number of full-time workers (by 26%-50%) is reported by more than tenth of medium and large size establishments (14%). In addition, the impact of COVID-19 appears from the expectation that the establishment will fall in arrears in any of its outstanding liabilities in the next 3 months which is expected by more than half of the micro size establishments (58%) compared to the medium and large size establishments (57 %) in the next 6 months (see Figure 24).

Figure 24 - Expectations and uncertainty for micro size establishments and large and medium size establishments



Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

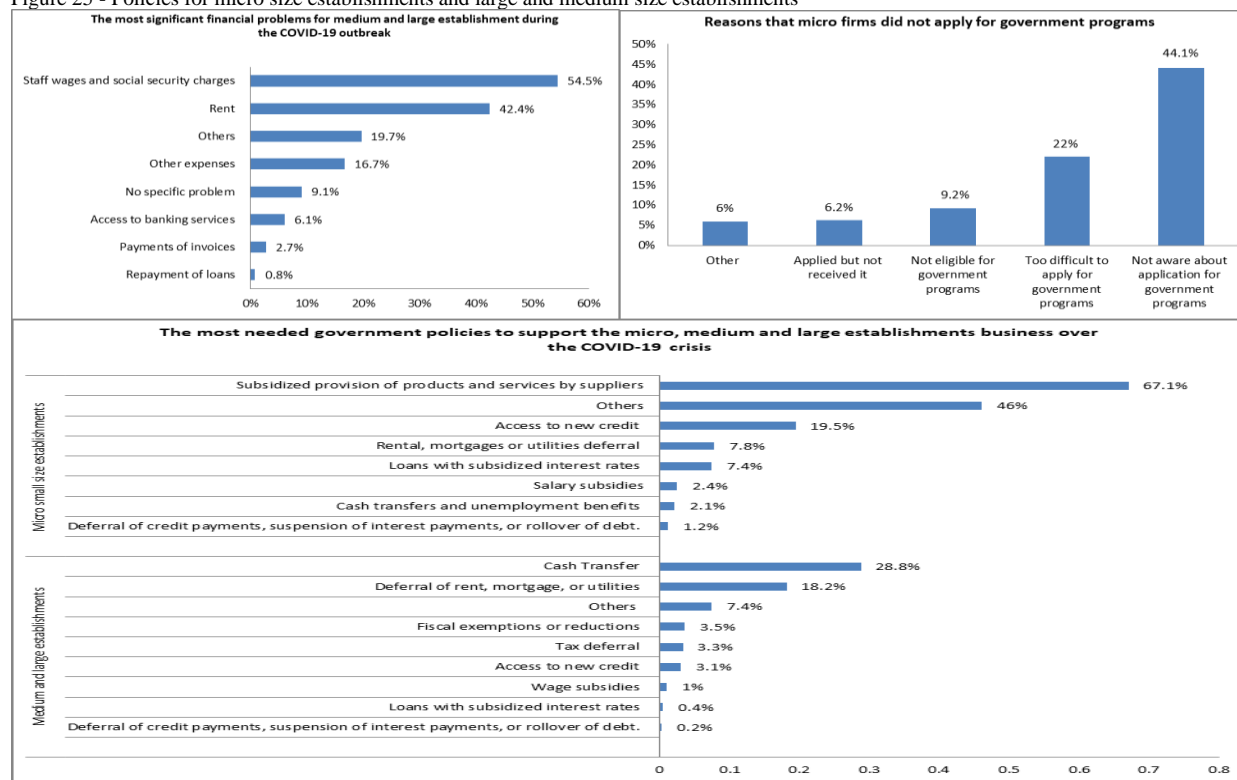
From the perspective of the medium and large size establishments the most significant financial problems confronting the medium and large establishments during the COVID-19 outbreak include staff wages and social security charges (55%), rent (42%), other expenses (16%), banking services (6%), payments of invoices (3%), repayment of loans (1%), and others (20%) respectively. (See Figure 25)

From the perspectives of the medium and large size establishments the most needed government policies to support the business over the COVID-19 crisis are cash transfer (29%), deferral of rent, mortgage, or utilities (18%), fiscal exemptions or reductions (4%), tax deferral (3%), access to new credit (3%), wage subsidies (1%), loans with subsidized interest rates (0.4%), deferral of credit payments, suspension of interest payments, or rollover of debt (0.2%), and others (7%) respectively. From the perspective of the micro size establishments the most needed policies to support the micro size establishments or business over the COVID-19 crisis are subsidized provision of products and services by suppliers (67%), access to new credit (20%), rental, mortgages or utilities deferral (8%), loans with subsidized interest rates (7%), salary subsidies (2%), cash transfers and unemployment benefits (2.1%),

deferral of credit payments, suspension of interest payments, or rollover of debt (1%), and other (46%) respectively. (See Figure 25)

Since the outbreak of COVID-19, none of the medium and large size establishments received any government support measures issued in response to the crisis. None of the medium and large size establishments' reported that they were able to keep workers due to the government support. None of the medium and large size establishments explain the reasons why they did not receive any government support in response to the crisis. None of the micro size establishments applied for any government programs to support establishments in regions/industries that they operate in. The reasons that micro size establishments did not apply for government programs because nearly half of the micro size establishments were not aware about application for government programs (44%), nearly fifth of the micro size establishments find it too difficult to apply for government programs (22%), nearly tenth of the micro size establishments were not eligible for government programs (9%), less than tenth of the micro size establishments have applied but not received government programs supports (6%), and others (6%) respectively. (See Figure 25)

Figure 25 - Policies for micro size establishments and large and medium size establishments



Source: Author's calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The adjustment mechanisms for micro size establishments and medium and large size establishments, implies that nearly tenth of the medium and large size establishments started using or increased the use of internet, online social media, specialized applications, or digital platforms in response to COVID-19 outbreak (11%). In particular, 3% of the medium and large size establishments started using the internet, online social media, specialized applications, or digital platforms in response to COVID-19 outbreak, whereas, 8% of the medium and large size establishments

increased the use of internet, online social media, specialized applications, or digital platforms in response to COVID-19 outbreak (see Figure 26).

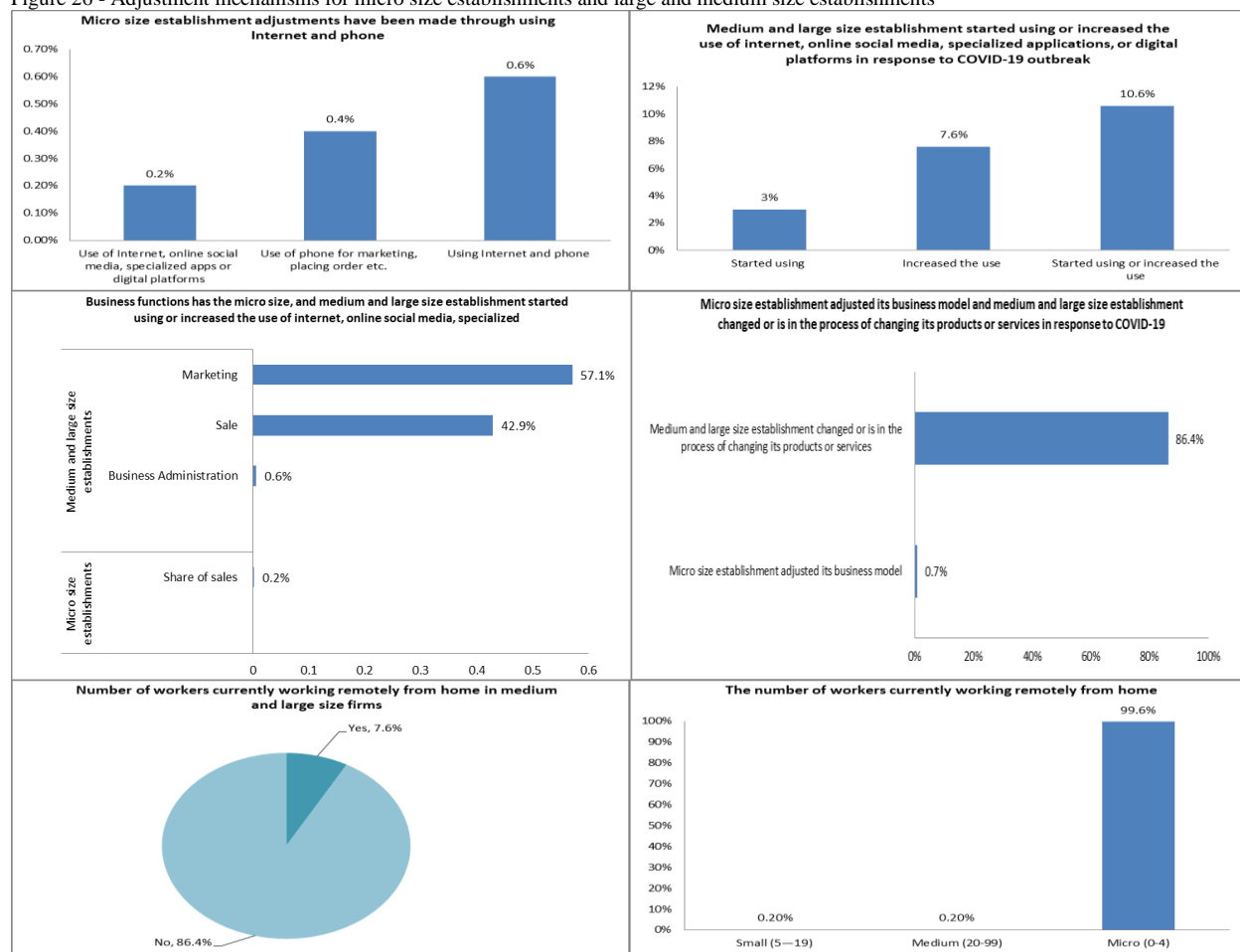
The medium and large size establishments started using or increased the use of internet, online social media, specialized applications or digital platforms in response to COVID-19 outbreak to do some business functions, mainly, nearly half of the medium and large size establishments started using or increased the use of internet, online social media, specialized applications or digital platforms for marketing (57%), sales (43%), and few using for business administration (1%) respectively. None of the medium and large size establishments started using or increased the use of internet, online social media, specialized applications or digital platforms to do production planning, supply chain management, payment methods and service delivery. In the last 3 months the use of digital platforms lead to change in the share of sales of all medium and large size establishments (either increased or decreased) (100%). (See Figure 26)

Only few of the medium and large size establishments invested in any new equipment, software or digital solution in response to COVID-19 (2%). Only few of the workers are currently working remotely from home in medium and large size establishments (8%), while, the majority of the workers are not currently working remotely from home in medium and large size establishments (86%) (See Figure 8). The majority of workers currently working remotely from home are working at the micro size establishments (99.6%), while; only few of workers currently working remotely from home are working in small size establishments (0.2%) and medium size establishments (0.2%). In the last 3 months, none of the medium and large size establishments reported increase or decrease in the share of workers working from home. (See Figure 26)

Few of the medium and large size establishments indicate that they did not changed or are not in the process of changing its products or services in response to COVID-19 (13.6%). None of the medium and large size establishments reported main change in the product or service mix in medium and large size establishments. Only few of the micro size establishments indicate that they adjusted its business model in response to the COVID-19 outbreak (1%). For only few of the micro size establishment adjustments have been made through (1%): the use of phone for marketing, placing order etc. (0.4%), and the use of Internet, online social media, specialized applications or digital platforms (0.2%), for only few of the micro size establishments, in the last 3 months (before August 2020), the share of sales of micro size establishments using phone, email, or online services increased (0.2%). These results imply the incidence of the digital disparity in access to ICT between the micro and small size establishments and the medium and large size establishments in Sudan. (See Figure 26)

The results in this section give answer to Q. 10 regarding the potential opportunities and challenges for the use of ICT and digital solutions in workplace in Sudan to manage the impact of COVID-19. The major policy implication from this result is that although the use of ICT and digital solutions provides potential opportunities to manage the impact of COVID-19 in micro, small, medium and large size establishments in Sudan, but the lack of access to ICT and digital solutions implies potential challenges related not only to the limited use of ICT and digital solutions in micro, small, medium and large size establishments in Sudan, but also possibility of the incidence of the digital disparity and impact on widening digital disparities in access to ICT in workplace between the micro and small size establishments and the medium and large size establishments in Sudan.

Figure 26 - Adjustment mechanisms for micro size establishments and large and medium size establishments

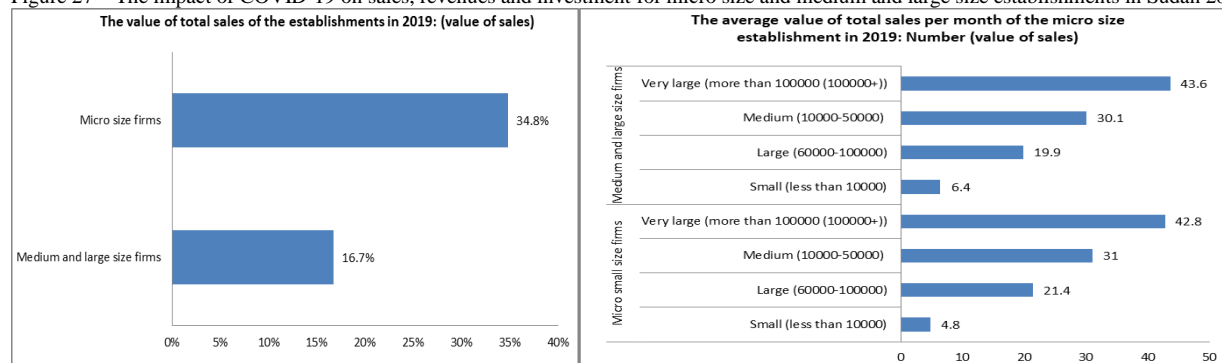


Source: Author own calculation based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

The impact of COVID-19 also appears from the impact on revenue and investment for micro size establishments and large and medium size establishments. For instance, the value of total sales of the establishments in 2019 for micro size firms (35%) is more than twice higher than medium and large size (17%) (See Figure 27).

The average value of total sales per month for the micro size establishments in 2019 implies that the majority and nearly half of the micro size establishments (43%) and medium and large size establishments (44%) reported very large average value of total sales per month. While, less than third of the micro size establishments (31%) and medium and large size establishments (30%) reported medium average values of total sales per month. Whereas, more than fifth of the micro size establishments (21%), and nearly fifth of the medium and large size establishments (20%) reported large average value of total sales per month. And less than tenth of the micro size establishments (5%) and medium and large size establishments (6%) reported small average value of total sales per month (see Figure 27).

Figure 27 – The impact of COVID-19 on sales, revenues and investment for micro size and medium and large size establishments in Sudan 2020



Source: Author’s calculations based on World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020)

Therefore, the results in this section provide answer to Q. 3 concerning the effects of COVID-19 on firms’ current status of work and business operations, sales, revenue, workers, and access to inputs in Sudan, and the differences in the effects of COVID-19 on firms according to firms’ characteristics (firm size) in Sudan. The findings in this section provide answer to Q. 4 regarding the main challenges, mainly financial problems facing firms due to COVID-19 in Sudan. The effects of COVID-19 on firms’ expectations for the future in Sudan, the effects of the lockdowns or the stringency of policy measures on firms in Sudan, and the main policy response and absence of government support for firms in Sudan. The results in this section fulfil part of the research objectives in section 1 above. Mainly this section investigates the impact of COVID-19 on firms’ current status of work and business operations, sales, revenue, workers, and access to inputs in Sudan defined by firms’ characteristics (defined by firm size). This section also fulfils the research objective to show the main challenges facing firms due to COVID-19, the effects on firms’ expectations for the future, the effects of lockdowns, policy measures, and the policy response and government support for firms in Sudan.

Our results in Sections 4-5 regarding the impact of coronavirus (COVID-19) on households and firms are consistent with the findings in the MEAN literature concerning the economic impact of COVID-19 in households and firms in the MENA countries (e.g. Jordan, Egypt, Morocco and Tunisia) (cf. recent studies based on the Economic Research Forum (ERF) COVID-19 MENA Monitor Data, 2020-2021) and in the international literature concerning the impact of coronavirus (COVID-19) on households and firms (cf. Morgan and Trinh, 2021).

6. Conclusion

This paper discusses the impacts of COVID-19 pandemic on households and firms in Sudan as a case study of the MENA region. Mainly, it aims to explain the COVID-19 economic impacts on household (labour market status, employment, unemployment income, and working conditions), and COVID-19 economic impact on micro, small and medium size enterprises’ current status of work and business operations in Sudan.

The research uses the descriptive and comparative approaches, uses qualitative and quantitative analysis and uses new primary data obtained from the first and second waves of the ERF COVID MENA Monitor Household Survey (April-August 2021) and from the first round of the World Bank and Sudan Central Bureau of Statistic Sudan High Frequency Survey on COVID-19 (2020).

One merit of this research is that it provides a more comprehensive and in-depth investigation and it fills the gap in the literature and provides important contribution by discussing the COVID-19 economic impacts on household (labour market status, employment, unemployment, income, and working conditions), and COVID-19 economic impact on micro, small and medium size enterprises' current status of work and business operations in Sudan as a case study of the MENA region. Another advantage of this research is that it also fills the gap in the literature and provides an extremely valuable contribution by investigating the impacts of COVID-19 in Sudan, mainly on households defined by household characteristics (gender, education, and family size), across regions/states and on firms defined by firms' characteristics (defined by firm size). Another merit of this research and a novel element of our analysis is that we use a new primary data obtained from the first and second waves of the ERF COVID-19 MENA Monitor Data to discuss and compare the impact of the COVID-19 pandemic on households and firms in Sudan (April-August 2021) and from the World Bank and Sudan Central Bureau of Statistic High Frequency Survey on COVID-19 (2020). Another merit is that from policy perspective this research provides useful policy recommendations to implement a more comprehensive and coherent strategy to adopt effective and preventive policy measures including sound economic and social measures to curb the further spread of the COVID-19 pandemic in Sudan, and to increase government support to manage the economic and social impacts on households, workers, and firms in Sudan. This research is organized in six sections. Section 1 provides Introduction, including the statement of the research problem and value added; the research questions and data, methodology and structure of the research. Section 2 presents the literature review. Section 3 shows background about Sudan economy and COVID-19 pandemic in Sudan, mainly, shows an overview of the incidence and spread of Corona Virus Pandemic (COVID-19) in Sudan. Section 4 discusses the impact of COVID-19 on households in Sudan (using Household Survey). The impact of COVID-19 on households in Sudan (using Household Survey), before discusses the impacts of COVID-19 on the status of employment of households, this section begin by explaining the general demographic and household characteristics, then discusses the labour market status in Sudan during the COVID-19 pandemic period, structure of labour market, structure of employment, the status of employment and unemployment, the working conditions, status in business and working status in business, wages, income and revenue, income, households' mean of livelihood and source of income, employers' provision and contribution to social protection of workers, government support and social support over COVID-19 crisis and finally explains the most needed policies to support business over COVID-19 crisis in Sudan. Section 5 discusses the impact of COVID-19 on micro, small and medium size enterprises (MSME) in Sudan (using Enterprises Survey). Finally, section 6 provides the conclusion.

We discuss the impact of COVID-19 on employment status, and explain that the loss of jobs for the majority and nearly two third of households who were not working for paid work and income generation activities during the last seven days (62%), and were not currently working and working before March 2020 (67%). The business / gov't closed due to coronavirus legal restrictions was reported as the main reason that the households either not currently working (70%), or did not do any paid work, business, farming or other activity to generate income (61%), and even changing jobs (44%). We show that the impact of COVID-19 on employment also demonstrated from the effects on the received payment. The majority and nearly half of households who were not able to work as usual received

partial payment (46%), while, nearly fifth did not receive payment (19%). We explain that the impact of COVID-19 on employment also demonstrated from the effects on the loss and reduction of households' means of livelihood or source of income since mid-March 2020 from non-farm family business (54%), income from properties, investments or savings (48%), and income from family farming, livestock or fishing (39%). The impact of COVID-19 also appears from declining (53%), or stagnating (25%) revenues from business sales.

We show the differences in the status of employment according to gender, household educational level and household family size and across regions/states. We show the impact of COVID-19 on women and gender inequality that implies large impacts of COVID-19 on females compared to males. The probability of not working for paid work and income generation activities during the last seven days is higher for females (87%) compared to males (55%), the probability of not currently working and not working before March 2020 is higher for females (68%) compared to males (19%), and the probability of not currently working and working before March 2020 is higher for males (81%) compared to females (32%), we find that females changed their jobs more than males. We find that full payment for households who were not able to work as usual for males (42%) is more than three times higher than females (13%).

We find that the impact of COVID-19 on the operation and current status of the micro, small and medium size enterprises (MSME) appears from temporary closed establishments (21%), and permanently closed establishments (8%). And also from the reported decrease in sales (81 %), stagnation in sales (15%), and reported substantial rate of decrease in sales (70.8%).

Our results from the World Bank Survey on COVID-19 (2020) show the impact of COVID-19 on employment status that appears from the loss of jobs for the majority and nearly two thirds of households during June – July 2020. We explain that the main reason for the households' loss of job, unemployment and even changing jobs was because of business / gov't close due to coronavirus legal restrictions. The impact of COVID-19 also appears from the loss of payment for nearly fifth of households, partial payment for nearly half of households, and loss and reduction of households' means of livelihood or source of income since mid-March 2020 from non-farm family business, income from properties, investments or savings, and income from family farming, livestock or fishing. The impact of COVID-19 on micro, small and medium size enterprises appears from temporary or permanently close of establishments, substantial decrease in sales or stagnation in sales. Our results are consistent with the results in the MENA literature concerning the impact of COVID-19 on MENA Labour Markets (e.g. Jordan, Egypt, Morocco and Tunisia) (cf. Krafft, Assaad, and Marouani, 2021a; b; c). Our results from ERF COVID MENA Monitor Survey data (2021) show the impacts of COVID-19 on labour market and working conditions that appears from the increase in temporary or permanent layoff/suspension of workers, reduced hours, reduced wages, and delays in wage payment for workers in Sudan between April 2021 and August 2021, these results are consistent with the results in the MENA countries (cf. Krafft, Assaad, and Marouani, 2021a, b).. Between April 2021 and August 2021 the delay in wage payment is more than doubled, the temporary layoff/suspension of workers increased from nearly tenth in April 2021 to nearly fifth in August 2021. In August 2021 the status of workers in business indicates temporary layoff/suspension for nearly fifth of workers, permanent layoff/suspension for nearly tenth of workers, and delay and change in wage payment for nearly a quarter of workers. Attainment of social insurance decreased from nearly third

of all households in April 2021 compared to nearly a quarter of all households in August 2021. Our results concerning the effects of COVID-19 on employers and the self-employed businesses reduced hours and lower revenues compared to 2019 in Sudan are consistent with the results in the MENA countries (cf. Krafft, Assaad, and Marouani, 2021b). Our results concerning the temporarily or permanently close of business due to factors related to COVID-19, reduction in business working hours, and the challenge facing businesses due to loss in demand, and access to customers due to mobility restrictions in Sudan are consistent with the results across MENA countries. From policy perspectives our findings that the most common types of support needed included business loans, salary subsidies and reduced/delayed taxes in Sudan are consistent with the results in the MENA countries (cf. Krafft, Assaad, and Marouani, 2021c). Our findings regarding limited provision of social protection (social insurance) and the importance of supporting social protection for workers in Sudan are consistent with the findings in the MENA countries (cf. Krafft, Assaad, and Marouani, 2021b, a).. The major policy recommendation is increasing government support to manage COVID-19 economic and social impacts on workers in Sudan.

The results in sections 4-5 show the impact of COVID-19 on MSME defined by firm size and the effects of COVID-19 on household labour market status, employment benefits, working conditions, unemployment, social protection, effects of COVID-19 on household enterprises, workers, workers' livelihoods, income, and differences in the effects of COVID-19 on households in Sudan according to household characteristics (gender, education, and family size).

The results in Section 4 provide answer to Q1, 2, and 5 and fulfil part of the research objectives in section 1 above. Mainly, this section discusses the COVID-19 economic impacts (on income, labour market status, employment benefits, working conditions, and unemployment), and social impacts (on social protection to workers) on households in Sudan defined by household characteristics (gender, education, and family size) and across regions/ states. This section also fulfils the research objective to explain the impact of COVID-19 on household and individual source of income, changes in source of income, and the effects on the loss of households' means of livelihood or source of income in Sudan, the impact of COVID-19 on household enterprises, workers livelihoods, income, labour market status, employment, and working conditions and policy measures to manage the impacts on workers in Sudan. This section also fulfils the research objective to show the differences in the effects of COVID-19 on households in Sudan according to household characteristics (gender, education, and family size) and across regions/ states in Sudan.

The results in Section 5 provide answer Q. 3 and 4 and fulfil part of the research objectives in section 1 above. Mainly this section investigates the impact of COVID-19 on firms' current status of work and business operations, sales, revenue, workers, and access to inputs in Sudan defined by firms' characteristics (defined by firm size). This section also fulfils the research objective to show the main challenges facing firms due to COVID-19, the effects on firms' expectations for the future, the effects of lockdowns, policy measures, and the policy response and government support for firms in Sudan.

Our results in this research regarding the impact of coronavirus (COVID-19) on households and firms are consistent with the findings in the MEAN literature concerning the economic impact of COVID-19 in households and firms in the MENA countries (e.g. Jordan, Egypt, Morocco and Tunisia) (cf. recent studies based on the Economic Research

Forum (ERF) COVID-19 MENA Monitor Data, 2020-2021) and in the international literature concerning the impact of coronavirus (COVID-19) on households and firms (cf. Morgan and Trinh, 2021).

Based on the above results on the impacts of COVID-19 on households, micro, small and medium size enterprises in Sudan, and in view of the limited government support, we recommend the government to provide full support for households and micro, small and medium size enterprises (MSME) to manage the impact of COVID-19 in Sudan.

From policy perspective, the findings from the ERF COVID MENA Monitor Sudan Survey data (2021) indicate the most needed policies to support business over COVID-19 crisis includes subsidized provision of specific products, inputs or services, business loans, rental or utilities subsidies or deferrals, reduction or delay in taxes, cash transfers or unemployment benefits and partial or total salary subsidies. From policy perspective, the results from the World Bank Survey on COVID-19 (2020) shows that from the establishments' perspective the most needed government policies to support the business over the COVID-19 crisis are subsidized provision of products and services by suppliers, cash transfer and unemployment benefits, deferral of rent, mortgage, or utilities, fiscal exemptions or reductions, tax deferral, access to new credit, wage subsidies, salary subsidies, loans with subsidized interest rates, deferral of credit payments and suspension of interest payments.

Finally, we recommend the implementation of more comprehensive and coherent and sound strategy to increase government support to manage the economic and social impacts on households, workers, and firms in Sudan and MENA countries.

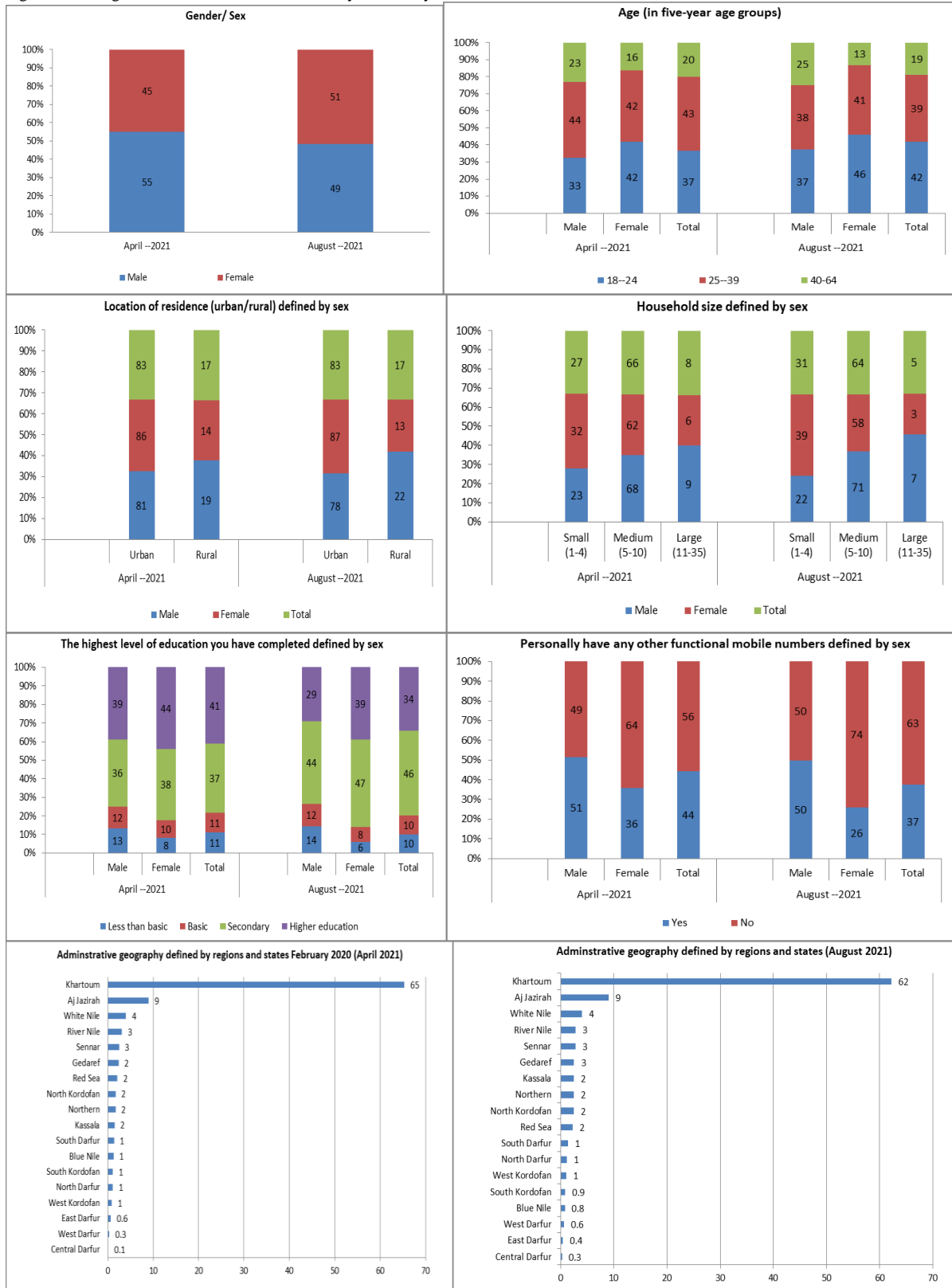
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Appendix 1

Figure 28- The general characteristics of the survey defined by sex



Source: Author own calculation based on ERF COVID MENA Monitor Survey data: COVID-19 Monitor Sudan HH (April 2021-August 2021)