

# Conflicts and Food Security: The Effects of The Russia and Ukraine War on Global Food Prices and The Probable Effects on Food Security

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## Abstract

Conflicts have adverse effects on food security. It is the major driver of food insecurity. In different regions of conflicts, the causal effects of conflict and food security may be different but there are some common effects on the ability to produce, trade, and access food. Conflicts may destroy resources, damage infrastructure, and ruin markets. The immediate effect of conflict is disruption of assets like land and livestock, this may result in to increase in the prices of food grain which further makes food unavailable to the conflict-affected regions and the globe.

The present study wants to find out the effects of the Russia and Ukraine war on global food supply and prices. Russia started the war against Ukraine in February 2022. Both Russia and Ukraine are the world's key breadbaskets. From February 2022 until Monday 1<sup>st</sup> August 2022, Russia blocked Ukraine ports. Since then, there was no trade between Ukraine and the rest of the world. This might have created a food crisis due to food shortage.

The study uses secondary data to support the theory. It has been observed that Russia and Ukraine war has affected the availability of food and food prices. After Russia's invasion, global prices of food grains and wheat increased. This might have caused food insecurity.

Key Words: War, Food Security, Food Prices, Russia, Ukraine

## Introduction

Conflicts in the form of war always adversely affect the supply and production of food grains. It is one of the important causes of food insecurity in the affected regions. History of conflicts informs that there is a close link between conflicts and food insecurity. A Report by Food and Agricultural Organization and World Food Programme published in January 2019 indicates a persistent link between war and hunger among eight countries or regions engaged in conflicts.<sup>1</sup>

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<sup>1</sup> The countries under study were Afghanistan, Central African Republic, Democratic Republic of the Congo, Lake Chad Basin, Somalia, South Sudan, Syrian Arab Republic, and Yemen.

Food security<sup>2</sup> has become a global concern in the recent past. Along with climate change conflicts, riots and wars contribute to the problem of food insecurity in the world. War affects food security in two ways. 1) It affects the supply of food grains 2) It affects the prices of food grains making food grains non-affordable to the poor. It has been identified by scholars that hunger is used as a weapon in the war for many years. There are instances in history that military tactics are used to starve the enemies by attacking the food supplies. Evidence indicates that wars push people into acute food shortages, malnutrition, and deaths. (Olivia Giovetti 2021)

The relationship between war and hunger was recognized by United Nations Security Council in 2018. A resolution was passed to prohibit the use of hunger as a weapon of war. The World Food Programme- WFP, a humanitarian organization that works to deliver food assistance in emergencies, has been working actively to prevent the use of hunger as a weapon of war. For this work, WFP was awarded the Nobel Peace Prize in 2020. (See The Conversation, Oct. 9, 2020)

Russia invaded Ukraine on 24<sup>th</sup> Feb.2022. Top exports of Ukraine include food items like oil seeds, wheat, and Corn. Top exports of Russia include wheat, fertilizers, cereals, and wood. This suggests that Russia and Ukraine are key agricultural producers and exporters of agricultural products. The war between the two countries might have disrupted the international trade of agricultural products and food grain prices.

This study wants to identify the effect of the Russia and Ukraine war on the production and prices of food grains. The objective is to estimate the changes in food grain prices. It also aims to understand whether Russia and Ukraine war has affected food security. The paper is organized as section second reviews the opinion of experts regarding the effect of war on food supply and food prices. Section three examines the dependency of the countries in the world in terms of food grain on Russia and Ukraine. Section Four focuses on the food prices in selected regions and forecasts food insecurity. Section five presents the discussion and suggestions.

### **Relationship Between War and Food Security- A review**

The Global report on food crisis 2022 emphasizes the increasing food insecurity in the world. The report explains that 193 million people in 53

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Food security is when the entire population has access to enough, safe, and nutritious food. United Nations' Committee on World Food Security defines food security as "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life".

countries or territories experienced acute food insecurity during the crisis. The number is higher by 40 million people over the last year. It has been described that Conflict has been the main driver of food insecurity in the world. The report further mentions that Russia's invasion of Ukraine has exposed the global food systems, with food and nutrition security. (FSIN, Global Report on Food Crises, 2022)

Tilman Brook and Macro D'Errico (2019) identified that diversity related to food security and conflict makes the identification of causal relationships complicated. Also, the impacts of conflicts are different for different people. It has been pointed out that war or conflicts have an impact on food security through a) destruction; b) conflict-induced displacement; c) food security as a weapon of war. Birgit Kemmerling Conrad Schetter Lars Wilken (2022). According to a study by Slobodanka B. Teodosijevic (2003) The destruction of rural infrastructure, the loss of livestock, deforestation, the widespread use of landmines as well as population movements lead to long-term food security problems, due to conflicts. Food crises also may lead to long-term. The relationship between war or conflict and food security is a two-way relationship, but evidence-based studies have established a relationship between conflict and food insecurity. A study by Stijn Van Weezel (2022) for the data for 1961 to 2011 identified a negative correlation between conflicts and food security by using country-level data for 106 countries.

Liadze I. et.al. (2022) Used Global Econometric Model, NiGEM, and estimated that the conflict in Ukraine could reduce the level of global GDP by 1 % and could increase global inflation by 3% in 2022 and by about 2 % points in 2023.

Ben Hassen, T., & El Bilali, H. (2022) estimate an acute food crisis due to Russia and Ukraine war. It affected the short-and long-term ability of Ukraine to export agricultural products. The war prevented farmers from working their fields, population displacement caused labour shortages and limited access to crucial agricultural inputs like fertilizers.

Jagtapand others (2022) Highlighted factors affecting the supply chain for food grains like (a) Food production, processing, and storage, (b) Food transport logistics, (c) Food market, (d) Consumers, (e) Food dependent services, and (f) Food quality. They further identified that although this conflict will affect the global economy, the most affected economies will be from Europe and Africa. The studies informed that the relationship between conflict and food security is well established. It also suggests the possibility of a Russia and Ukraine war on food prices and food security.

# Russia, Ukraine, and World Trade

Both Russia and Ukraine have a prominent position in world trade. The role of both nations in global agriculture can be evident from the international trade perspective. Since 2012 contribution of Russia and Ukraine is growing. But according to a forecast by WTO in 2022 due to war, the growth of merchandise exports may fall from 4.7% to 3%. Halted grain shipments through Black Sea ports could create food security problems in poor countries. (WTO Press Release 12th April 2022) War affected exports of both countries. Figure 1 indicates that there is a drop in exports from both countries after January 2022.

Figure 1 Exports of Russia and Ukraine (January 2020 to January 2022)



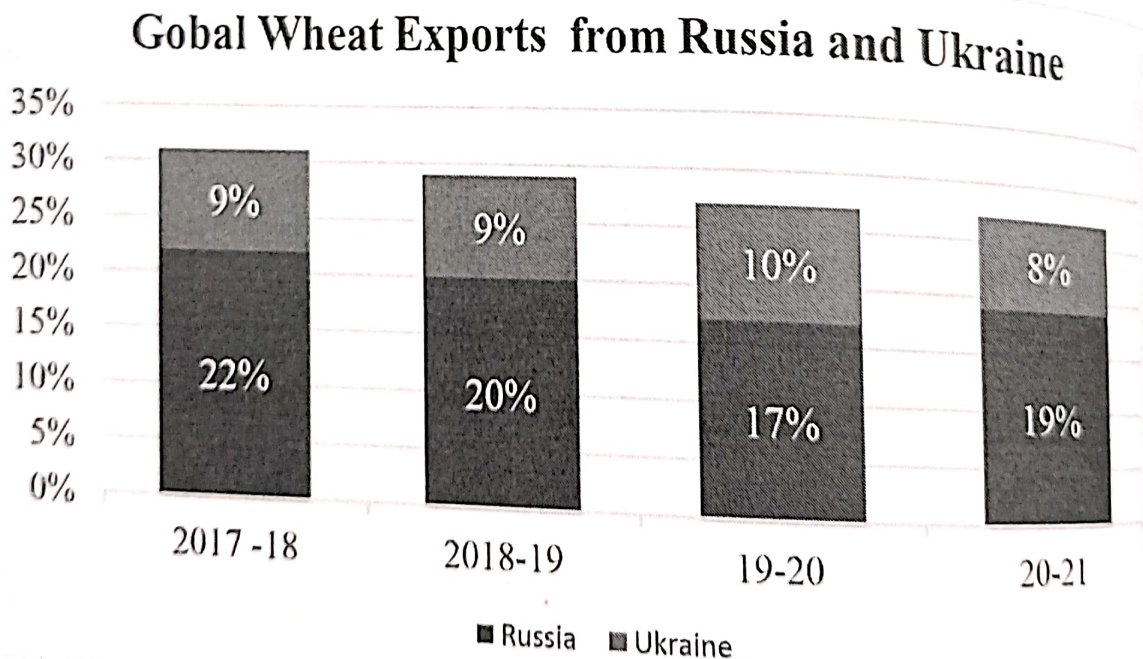
Source: Calculations based on WTO data <https://stats.wto.org/inventory/en>  
 Russia and Ukraine are the major suppliers of food and energy. The major food items produced and exported by them are wheat, corn, barley, and sunflower oil. In 2019, Russia and Ukraine together contributed 23% of the world's exports of wheat. The contribution of food grains from Russia and Ukraine for major food items is indicated in figure 2. Both countries contributed 64% of total exports of sunflower oil in 2019.

Figure 2: Global Food Exports from Russia and Ukraine  
Global Food Exports From Ukraine And Russia, 2019



Source: calculations based on our world data <https://ourworldindata.org/blog>  
 In 2021 the top seven exporter countries of wheat accounted for 89% of the world exports. Russia was the second largest exporter of wheat and Ukraine was the 6<sup>th</sup> largest exporter. (FAO, June 2022) Both Russia and Ukraine together contributed to 27% of the total wheat exports of the world in the year 2021. Figure 3 denotes the contribution of Russia and Ukraine to global wheat exports.

Figure 3: Global Exports of wheat from Russia and Ukraine



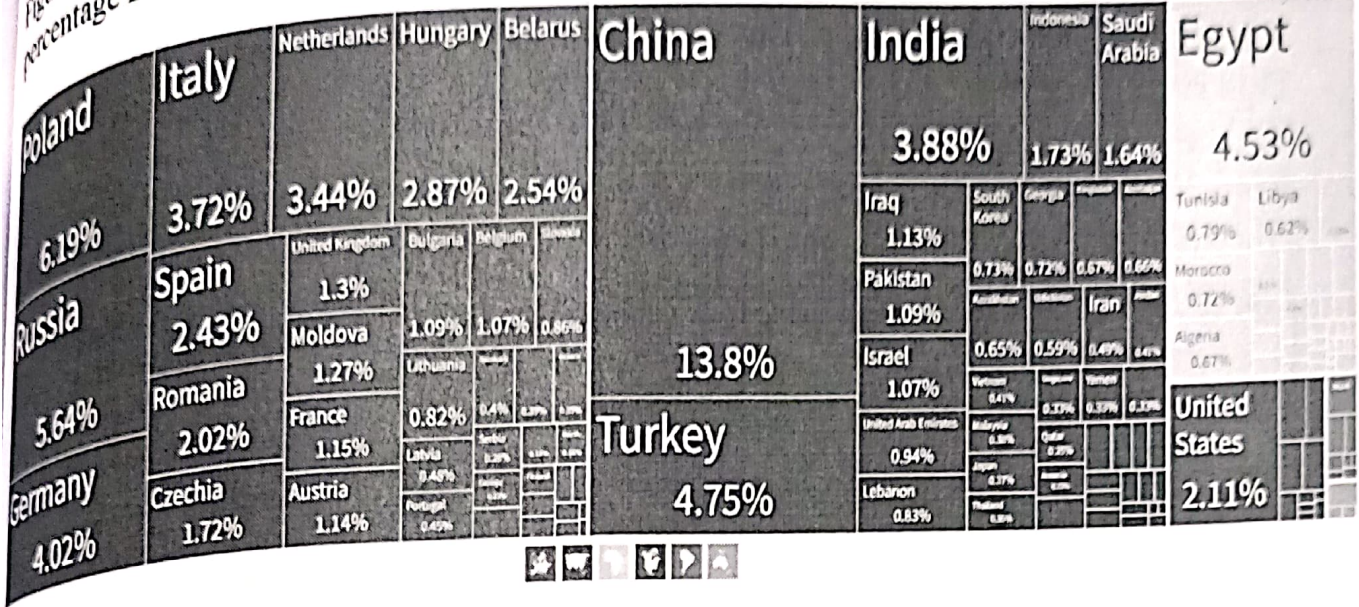
Source: Calculations based on USDA Reports

Many countries in the world depend on Russia and Ukraine for food grains. Countries like Eritrea, Armenia, Mongolia, Azerbaijan, Georgia, Belarus, etc.

Turkey depend upon Russia and Ukraine for more than 80% of imports of wheat. (FAO, June 2022)

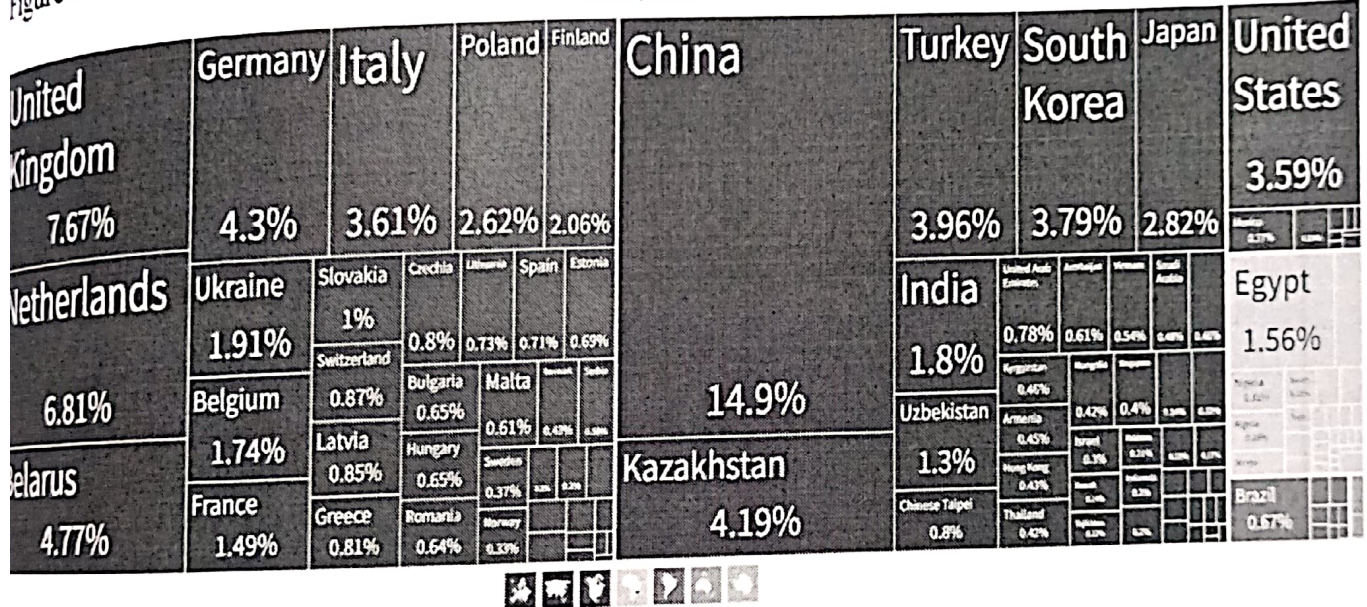
Figure 4: Ukrainian Exports of food grains to countries in the world by percentage 2020

Total: \$52.7B



Source: OEC Trade data  
Figure 5: Russian Export Partners of food Grains by value 2020

Total: \$330B



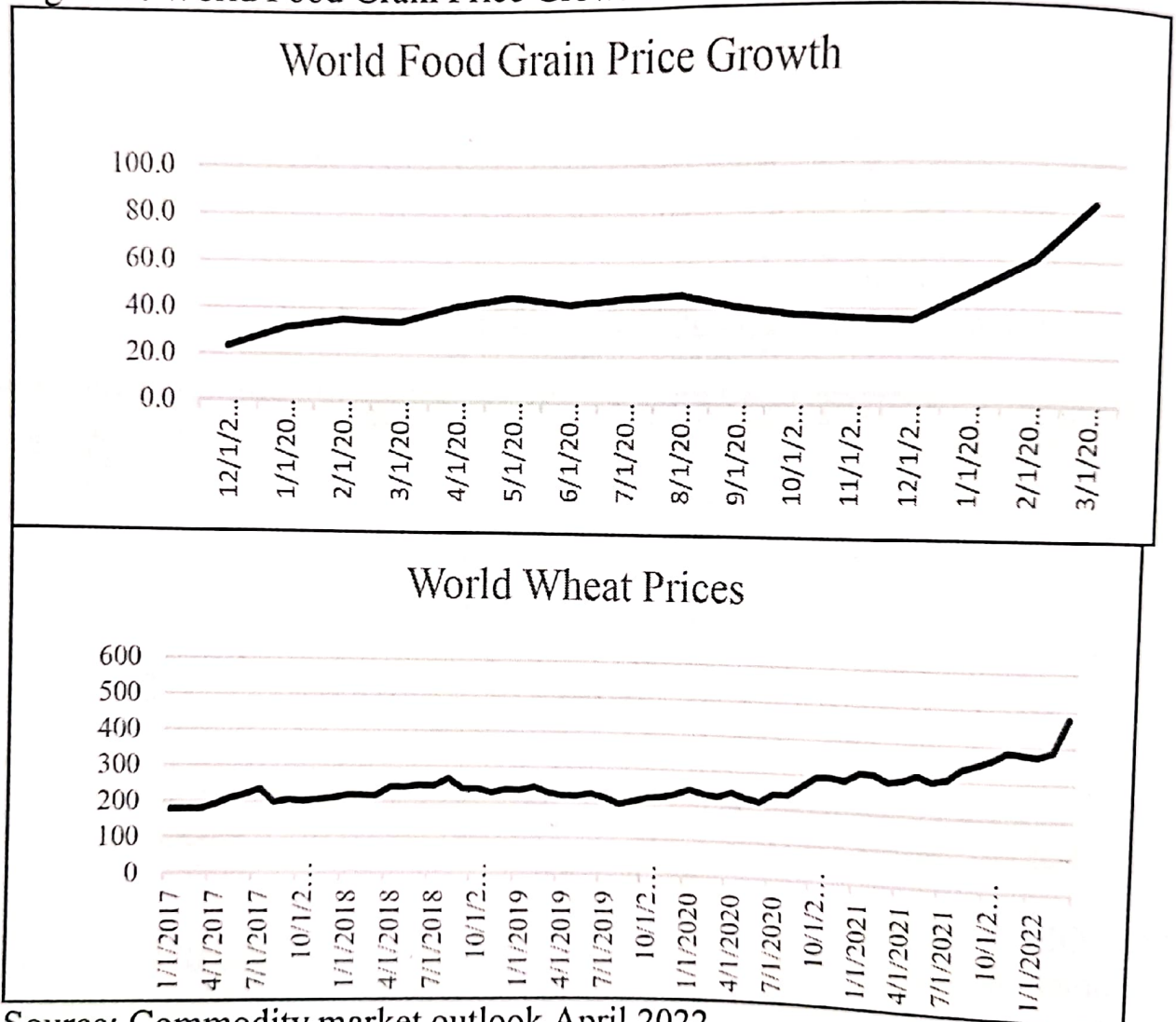
Source: OEC Trade data  
As denoted in Figures 4 and 5, European countries, the United Kingdom, Poland, Netherlands, Belarus, Italy, Asian countries like China, Turkey, Kazakhstan, South Korea, India, African countries like Egypt, Morocco, Tunisia, Nigeria, and United States depend on Ukraine and Russia for imports of food grains.

After the war, Russia prohibited exports of wheat from Ukraine. Many grain storage and processing facilities were destroyed. This affected the food grain exports of Ukraine.<sup>3</sup> The majority of farmland in Ukraine is inaccessible to the farmers, which has affected the next season of agriculture creating a shortage of food grain in the long term. The most vulnerable countries with wheat shortages are Somalia, Benin, Laos, Egypt, Sudan, DR Congo, Senegal, and Tanzania (World Economic Forum, April 12, 2022)

#### 4 Food Grain Prices and Food Insecurity Forecasts

This section studies changes in food grain prices due to the Russia Ukraine war. In fact, before the war prices of food grains had inflated. Figure 6 suggests that from January 2020 to January 2021 food grain prices were growing steadily. But after that, there was a sharp increase in food grain prices.

Figure 6: World Food Grain Price Growth and World Wheat Prices



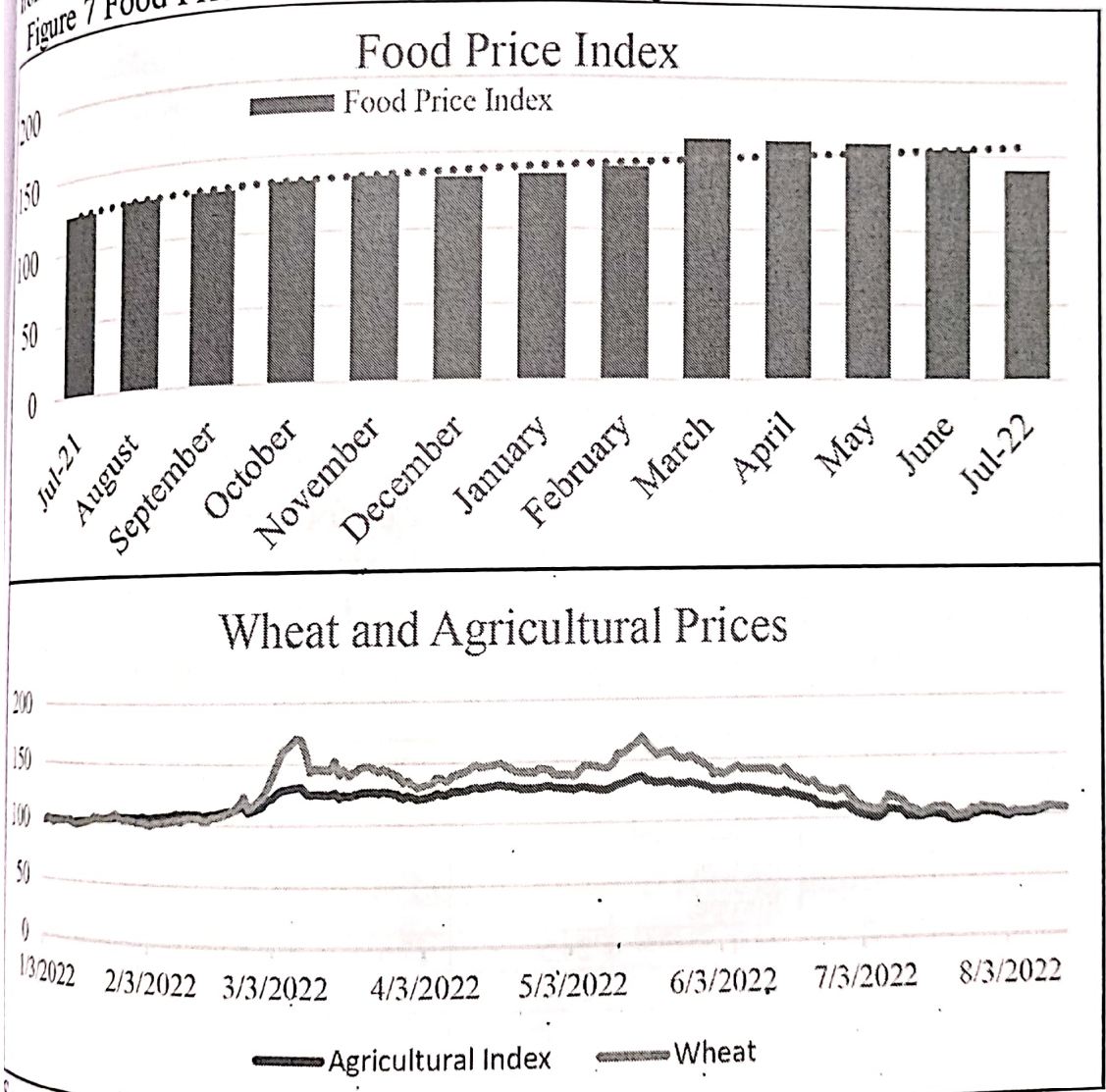
Source: Commodity market outlook April 2022

<sup>3</sup> Harvest Holding is largest agricultural firms in Ukraine. More than 30000 acres of land has been occupied by Russian forces. (See Phil McCausland, May 2022)

The figure shows that there is a sharp increase in prices of Wheat after January 2021, even before the war. As Russia invaded Ukraine, it could export just 1.5 million to 2 million tonnes of grain in a month after the commencement of the war. Russia has been accused to provoke a global food crisis by blocking Ukrainian exports. Also, for destroying agricultural infrastructure. The European Council President and US Secretary of State agreed that Russia is weaponizing food. (Aleksandar Brezar, 2022)

The food Price Index of FAO for March 2022 mentions that from February 2022 food price Index made a giant leap to a new height up by 12.6%. The Cereals Price Index was up over 17%. Vegetable Oil Price Index was up by 23% and the Meat Price Index was up by 5% since February. World food price index from June 2021 to July 2022.

Figure 7 Food Price Index and Wheat and Agricultural Prices



Source: Compiled from World Food Price Index August 2022 and UNCTAD



Figure 7 denotes that there is a strong increase in the price index from February 2022. They reached to peak in March 2022 but dropped marginally in June 2022, prices of wheat were very high even higher than the Agricultural Price Index.

Food becomes unaffordable to poor people with an increase in food prices. This pushes people into food insecurity. The world experienced food insecurity even before the war due to Covid19. Table1 presents the forecasts about food insecurity among countries in 2020.

Table1: Forecast about food insecurity in 2020 (in millions of people)

Country	People Suffered in Million
Democratic Republic of Congo	25.9
Afghanistan	22.8
Nigeria	19.5
Yemen	19
Ethiopia	14.5
South Sudan	7.7
Pakistan	4.7
Haiti	4.5
Niger	4.4
Kenya	3.5

Source: 2022 Global Report on Food Crisis

Crisis or war has been one of the driving factors of food insecurity. The Global Report on Food Crisis, 2021 mentions that for 139 million people in 20 countries, conflict or insecurity is the main driver of food insecurity. Russia and Ukraine's war elevated the possibility of a food crisis and insecurity. Table 1 denotes estimates of food insecurity across a group of countries.

Table 2 Food Insecurity among people (millions) Across Regions and Russia Ukraine War Effect

Year	Asia Pacific	Middle East North Africa and Eastern Europe	Western Africa	Southern Africa	Eastern Africa	Latin America and the Caribbean
February 2020	27.6	34.4	24.5	27.6	30.2	4.3
November 2020	54	42.3	57.4	50.1	49.7	18.4
November 2021	62.1	43	44.8	53.8	51.4	27.9
June 2022	62.2	55.9	46.5	49.5	59.1	24.3
Ukraine War Effects	7.3	6.3	9.7	9.6	10.5	3.6
Total Effect June 22	69.5	62.5	56.2	59.1	69.6	27.9

Source: WFP Global Food Crisis 2022

Least African countries are the most affected, with 10.5 million likely food insecure people, followed by Southern African countries, western Africa, and the Asia Pacific region. The data presented in table 2 suggests that the regions with high food insecurity had food dependency and insecurity before the war.

### Discussion and Suggestions

War has been the prominent cause of food insecurity. This analysis aims to identify and highlight the relationship between war and food insecurity with special reference to Russia and Ukraine war. To identify the relationship, secondary data and reports were analyzed.

Firstly, the dependency of the countries on Russia and Ukraine was studied. It is observed that both the countries are suppliers of food grains to several countries in the world. To study the dependency of countries, exports of Russia and Ukraine to countries in the world were considered. It has been identified that many African, middle east and European countries are dependent either on Russia or Ukraine for foodgrain.

It has been observed that both the countries taken together, provide 64% of the world's oil. They are major suppliers of wheat. In 2019, 23% of the world's oil export came from Russia and Ukraine. But the exports declined after the war. Which created a food grain shortage. Shortage of food grains caused food inflation.

Food inflation is one of the causes of food insecurity. High prices of food grains make food grains unaffordable to people. This study analyzed the prices of food grains and prices of wheat at the global level. It has been observed that food prices were high even before the war. But the war between Russia and Ukraine elevated the prices. This might have caused food insecurity.

Similarly, estimates about food insecurity were studied. It has been found that the regions that are more dependent on Russia for food grain and the countries with conflicts were estimated to be more food insecure regions or countries. Russia has been blamed for destroying agricultural infrastructure in Ukraine. It has been pointed out that Russia blocked the ports in Ukraine which reduced the exports of food grain.

- The supply chains must be continued to resume exports, both countries are suffering from inflation. Opening trade will not only be useful for both nations, but it will help to reduce the problem of food insecurity.
- It is necessary to safeguard productive resources in agriculture. Destruction of resources should not be used as a war strategy.

- The food security problem is more severe in the countries dependent on Russia and Ukraine for food grain. They should find out alternatives to imports from countries engaged in war.
- The use of food grains to produce nonfood products should be avoided
- Steps to control food grain prices should be taken by the affected countries.
- Social protection measures should be taken to help the people that are pushed into poverty and acute food insecurity.

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