



Food and Agriculture Organization
of the United Nations

**ADDRESSING
FOOD SECURITY CHALLENGES
FACED BY NEAR EAST AND
NORTH AFRICA REGION DUE TO
THE UKRAINE CRISIS**

REGIONAL OVERVIEW

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Food and Agriculture Organization of the United Nations

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CONTENTS

Acknowledgements	viii
Executive summary	x
i. Market structure, trade profiles and recent price trends	x
ii. Risk analysis	x
iii. Policy recommendations	xii
1. Market structure and trade profiles	1
1.1 Market shares	1
1.2 Trade profiles	2
1.3 Recent trends in prices of basic foodstuffs and agricultural inputs for the Arab region	5
2. Risk Analysis: Assessing the risks emanating from the conflict	9
2.1 Trade risks	9
2.2 Price risks	10
2.3 Logistical risks	12
2.4 Production risks	13
2.5 Humanitarian risks	13
2.6 Energy risks	14
2.7 Exchange rate, debt, and growth risks	15
3. Policy recommendations	17
3.1 In the short term	17
3.2 In the longer term	18

TABLES

Table 1: Food import bills, in 2021, in USD per capita for the NENA Region	5
Table 2: Percent change (2021 over 2019) in food import bills of countries in NENA region	6
Table 3: Number of people undernourished (millions)	13

FIGURES

Figure 1: Share in global production of selected crops (2016/17–2020/21 Average)	1
Figure 2: Top 10 exporters of wheat	2
Figure 3: Top 10 exporters of barley	2
Figure 4: Top 10 exporters of maize	2
Figure 5: Top 10 exporters of rape seed	3
Figure 6: Top 10 exporters of sunflowerseed oil	3
Figure 7: Wheat Import Dependency, net importers, 2021 (%)	4
Figure 8: Percentage of the Russian Federation and Belarus in nitrogen fertilizer imports by country (2018–2020 avg)	4
Figure 9: Percentage of the Russian Federation and Belarus in potassium fertilizer imports by country (2018–2020 avg)	5
Figure 10: High and rising grain prices in Arab region (index)	6
Figure 11: High and rising fertilizer prices, Arab region (2014–2016 = 100)	7
Figure 12: High and rising energy prices, Arab region (2014–16 = 100)	7
Figure 13: Wheat imports forecasts for 2021/22 in MMT	9
Figure 14: Net exports per capita, food vs energy, Arab region, 2021 (bubble size=population size)	11

Figure 15: Net exports per capita, food vs fertilizers, Arab region, 2021 (bubble size=population size)	11
Figure 16: Net exports per capita, seeds vs pesticides, Arab region, 2021 (bubble size=population size)	12
Figure 17: Number of undernourished in Arab region (millions)	14

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The following link provides all of the information and analysis, by the FAO, on the Ukraine crisis.

<https://www.fao.org/in-focus/en/>

The following link contains seven policy proposals, by the FAO, in this regard.

<https://www.fao.org/in-focus/policy-proposals/en>

EXECUTIVE SUMMARY

i. Market structure, trade profiles and recent price trends

Market shares

- » The Russian Federation and Ukraine are among the most important producers of agricultural commodities in the world. Both countries are net exporters of agricultural products, and they both play leading supply roles in global markets of foodstuffs and fertilizers, where exportable supplies are often concentrated in a handful of countries. This concentration could expose these markets to increased vulnerability to shocks and volatility.
- » In 2021, either the Russian Federation or Ukraine (or both) ranked amongst the top three global exporters of wheat, maize, rapeseed, sunflower seeds and sunflower oil, while the Russian Federation also stood as the world's top exporter of nitrogen fertilizers, the second leading supplier of potassium fertilizers and the third largest exporter of phosphorous fertilizers.

Trade profiles

- » Many countries of the Near East and North Africa (NENA) region are heavily dependent on imported foodstuff and fertilizers from Russia and Ukraine including wheat as a staple food. Even prior to the conflict, most countries in the region had shown an increasing food import trend to meet domestic consumption needs.

Recent trends in price

- » The NENA region had already been grappling with the negative effects of high international food and fertilizer prices before the conflict. The Region is particularly vulnerable to rise in food prices due to reliance on imported food and subsidization of basic foodstuff.

ii. Risk analysis

Trade risks

- » In Ukraine, the escalation of the conflict raises on both production and export capacity. Much uncertainty also surrounds Russian export prospects. The potential supply gaps would impose risks to meet food demands on the NENA region countries whose imports are highly dependent on the two countries.

Price risks

- » The resulting global supply gap could raise international food and feed prices by 8 to 22 percent above their already elevated baseline levels (2021). As most of the NENA countries are net food importers, their situation may be significantly affected by the anticipated food price increase.

Logistical risks

- » In Ukraine, there are also concerns that the conflict may result in damages to inland transport infrastructure and seaports as well as storage and processing infrastructure. The disruption may impact largely the NENA region as the reliance of these countries on grains originating in the Russian Federation and Ukraine is also associated to the lower shipping costs entailed by their physical proximity to the Black Sea basin.

Production risks

- » Current indications are that, as a result of the conflict, between 20 and 30 percent of areas sown to winter crops in Ukraine may remain unharvested during the 2022/23 season, with the yields of these crops also likely to be adversely affected. In Russia, economic sanctions imposed on the country could disrupt its imports of agricultural inputs resulting in less plantings, lower yields and lower qualities, exposing the Russian agricultural sector and global food supplies to non-negligible risks.

Humanitarian risks

- » Prior to the conflict, the NENA region has been already suffering from high prevalence of undernourishment. If the conflict results in a sudden and prolonged reduction in food exports by Ukraine and the Russian Federation, it will exert additional upward pressure on international food commodity prices to the detriment of economically vulnerable countries leading to an increase in food insecurity and malnutrition. FAO anticipates that the number of undernourished people could increase by 7.6 million globally and by 0.4 million in the NENA region in the short term under a moderate shock scenario.

Energy risks

- » Since the Russian Federation is a key player in the global energy market, agriculture, a highly energy-intensive industry, will be affected such as rising prices of inputs due to the conflict. This consequence will result in high production costs and ultimately lower input use and lower production.

Exchange rate, debt and growth risks

- » The surge of international prices has put pressure on the international reserves of food importing countries and by consequences on their exchange rates. As of 29 March 2022, the Egyptian pound has devaluated by 17 percent and the Tunisian dinar by 3 percent against the dollar, while the Lebanese pound has devaluated by 25 percent (Sayrafa rate). The currency depreciation may bring negative impacts on essential food items.

iii. Policy recommendations

- » The situation warrants responses at country, sub-regional and regional levels. Some of these must be taken immediately to respond to the immediate risks associated with the conflict. Others need to be addressed in the longer term to draw lessons from the crisis and provide longer term responses to build more resilient agrifood systems across the region. These are summarized in the table below.

Recommendation	Regional	Sub-Regional	National
Short Term			
Seek to diversify sources of import, in particular for wheat			X
Ensure timely monitoring and well-targeted social protection interventions to alleviate the hardship faced by vulnerable segments of society and foster a fast recovery from it.	X		X
Develop a food/fuel/fertilizer import finance facility for the poorest and most affected countries.	X	X	X
Avoid ad hoc policy reactions, export restrictions, import subsidies, etc. keep trade open	X		X
Establish and use early warning systems to anticipate food crises	X	X	X
Ensure humanitarian intervention where needed, supporting the poorest		X	X

Recommendation	Regional	Sub-Regional	National
Long Term			
Develop strategic reserves, including when possible regional or sub-regional reserves	X	X	X
Develop and commit to implementing national and regional food and nutrition security strategies, building in particular on the Zero Hunger Initiative of the League of Arab States	X		X
Diversify the food supply and import sources in order to have resilient food supply chains.	X	X	X
Reflect upon food subsidies and repurpose these in order to ensure resilience in national food supply chains.			X
Strengthen market transparency and dialogue; provide timely information at regional level in order to keep markets functioning.	X	X	X
Strengthen the regional data, information and early warning systems to monitor food security and manage the challenges through evidence-based decision-making.	X	X	X
Review options and adopt new technologies to enhance agricultural productivity where possible.	X		X
Decide on balance between staple and cash crops as part of overall food security strategy.			X
Promote better regional economic integration, including intra-regional trade in food, fuel and fertilizers.	X	X	X
Develop food supply chains in geographical proximity, wherever practical.	X	X	X
Share knowledge on best practices to tackle food loss and waste specially cereals (harvest, storage, processing, consumption)	X	X	X
Raise awareness to step up sustainable production and consumption patterns	X	X	X



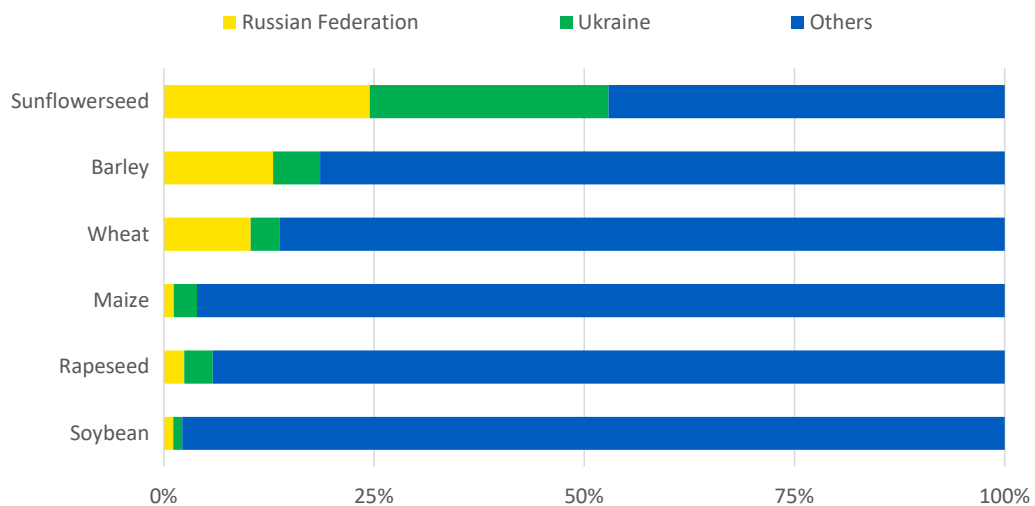
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1

MARKET STRUCTURE AND TRADE PROFILES

The Russian Federation and Ukraine are among the most important producers of agricultural commodities in the world. Both countries are net exporters of agricultural products, and they both play leading supply roles in global markets of foodstuffs and fertilizers, where exportable supplies are often concentrated in a handful of countries (Figure 1). This concentration could expose these markets to increased vulnerability to shocks and volatility.

Figure 1: Share in global production of selected crops (2016/17–2020/21 Average)



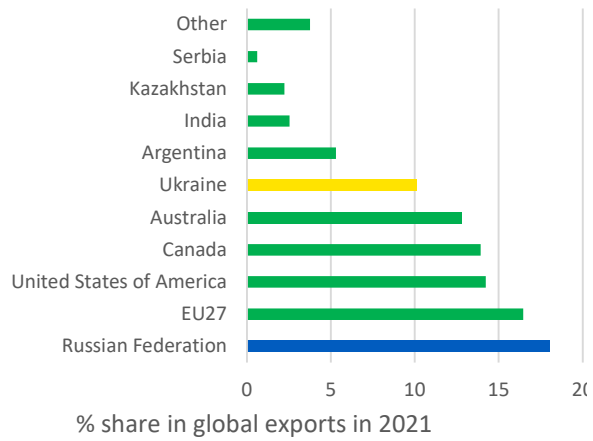
Source: FAO XCBS system

1.1 Market shares

In 2021, either the Russian Federation or Ukraine (or both) ranked amongst the top three global exporters of wheat, maize, rapeseed, sunflower seeds and sunflower oil (Figure 2–6). While the Russian Federation also stood as the world's top exporter of nitrogen fertilizers, the second leading supplier of potassium fertilizers and the third largest exporter of phosphorous fertilizers, Belarus, an ally of Russia already being targeted by economic sanctions, provided 16 percent of international market share of potassium fertilizers¹.

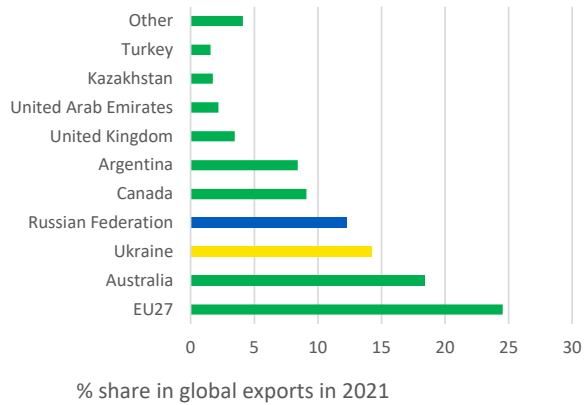
¹ <https://www.ifpri.org/blog/how-will-russias-invasion-ukraine-affect-global-food-security>

Figure 2: Top 10 exporters of wheat



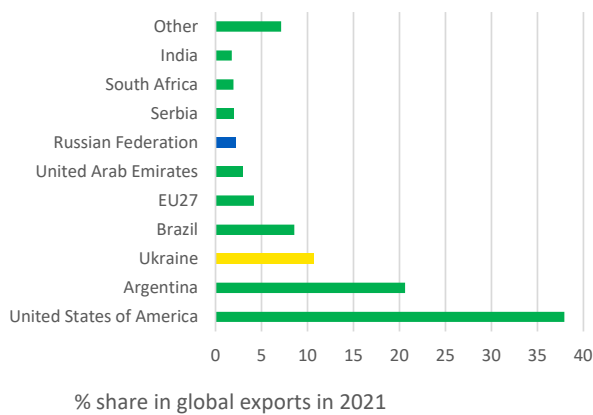
Source: Trade Data Monitor (TDM), FAO calculations

Figure 3: Top 10 exporters of barley



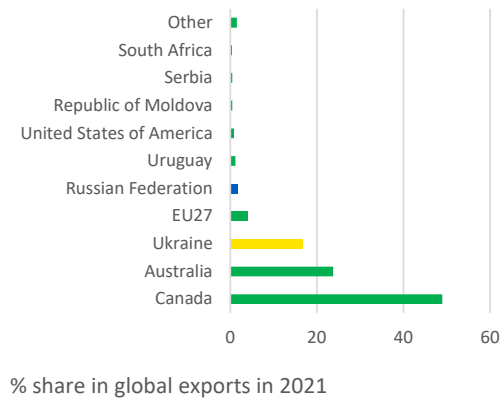
Source: Trade Data Monitor (TDM), FAO calculations

Figure 4: Top 10 exporters of maize



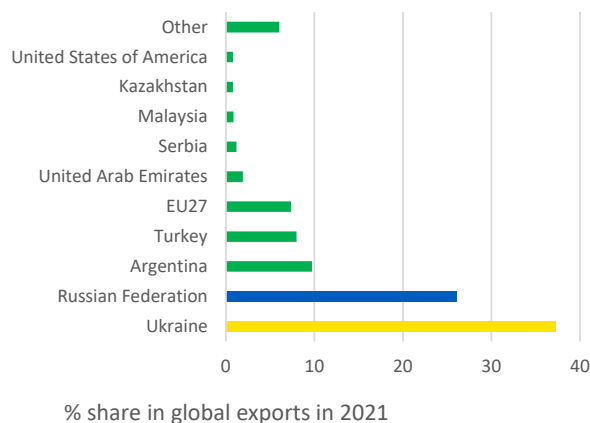
Source: Trade Data Monitor (TDM), FAO calculations

Figure 5: Top 10 exporters of rape seed



Source: Trade Data Monitor (TDM), FAO calculations

Figure 6: Top 10 exporters of Sunflower seed oil

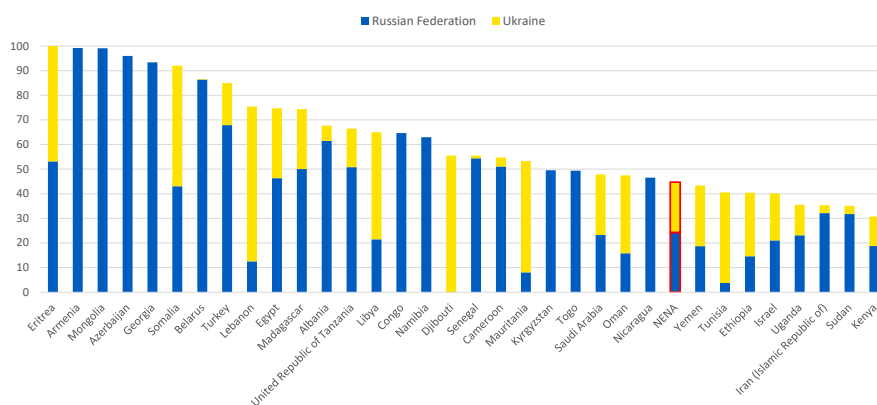


Source: Trade Data Monitor (TDM), FAO calculations

1.2 Trade profiles

Import dependency. Many countries of the NENA region are heavily dependent on imported foodstuff and fertilizers from Russia and Ukraine. Figure 7 below shows countries with highest dependency on wheat imported from Russian Federation and Ukraine (only 2021), with many countries from NENA region featuring in.

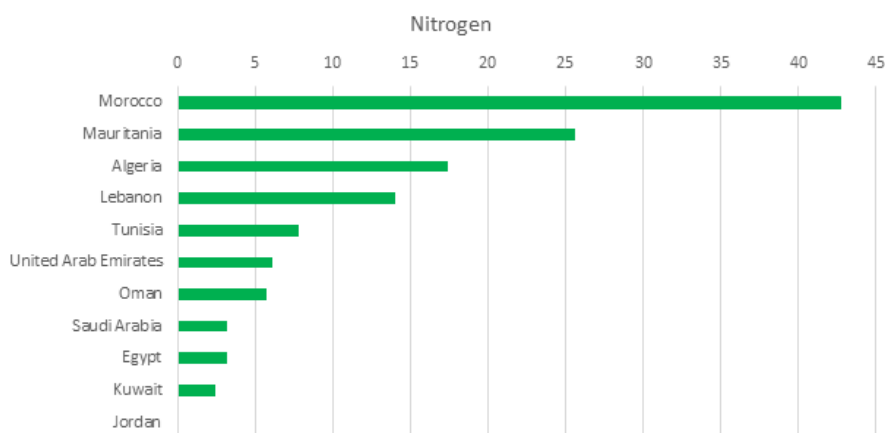
Figure 7: Wheat Import Dependency, net importers, 2021 (%)



Source: Trade Data Monitor (TDM), FAO calculations

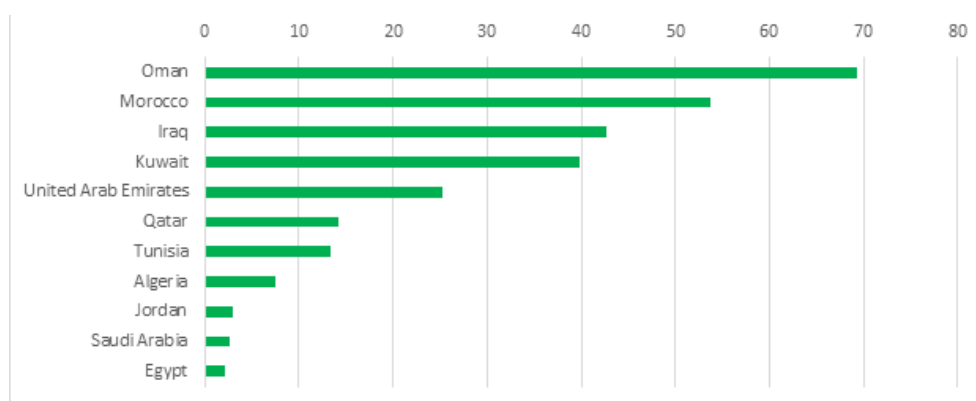
The figures 8 and 9 show high reliance on nitrogen and potassium fertilizers from the Russian Federation and Belarus in NENA region countries.

Figure 8: Percentage of the Russian Federation and Belarus in nitrogen fertilizer imports by country (2018–2020 avg)



Source: COMTRADE (data not shown in the figures are not available)

Figure 9: Percentage of the Russian Federation and Belarus in potassium fertilizer imports by country (2018–2020 avg)



Source: COMTRADE (data not shown in the figures are not available)

Import bills. In addition, broadly the NENA region countries spend sizeable amount on import of food, as high as USD 1454 per capita for UAE (in 2021). Table 1 below indicates food import bills, in 2021, in USD per capita for the NENA Region. In particular, expenses on cereals and cereal preparations that Ukraine and the Russian Federation massively produce were relatively high among other food items in most countries. There is also a trend that import bills of each food item have been increasing, especially for animal and vegetable oils fats in the region. Table 2 below shows percent change (2021 over 2019) in food import bills of countries in NENA region which shows an increasing trend in almost all except Lebanon (due to economic situation).

Table 1: Food import bills, in 2021, in USD per capita for the NENA Region

	Algeria	Bahrain	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Mau-ritania	Mor-occo	Oman	Qatar	Saudi Arabia	Sudan	Syrian Arab Republic	Tunisia	United Arab Emirates	Yemen
Animal and vegetable oils fats	23	18	17	16	11	32	28	23	32	23	53	40	32	6	8	18	74	10
Beverages	1	38	0	4	5	26	9	7	1	4	7	34	5	0	2	1	96	1
Cereals and cereal preparations	80	96	80	57	140	140	77	135	30	71	107	154	148	13	18	80	163	52
Coffee tea cocoa spices	6	48	7	9	31	48	21	34	21	15	22	81	47	1	9	73	138	3
Dairy products and eggs	29	111	7	14	21	60	16	57	16	9	67	93	49	1	6	3	107	5
Fish crustaceans and molluscs	2	24	6	1	10	33	6	13	1	9	7	47	13	0	1	7	61	2
Meat and meat preparations	1	119	12	19	40	115	18	37	11	2	55	160	60	0	1	0	196	6
Miscellaneous food	8	67	4	15	25	50	20	28	23	7	29	75	50	2	5	4	122	7
Oilseeds and oleaginous fruits	13	2	39	2	5	2	7	2	0	2	1	1	19	0	1	23	81	0
Sugar honey and preparations	18	18	5	12	5	16	9	8	14	20	11	21	39	11	7	6	76	6
Vegetables and fruits	11	148	12	48	38	96	21	42	12	15	60	225	76	1	11	8	338	5
Total, US\$/pc	192	688	188	198	331	617	230	385	162	175	418	933	538	35	70	223	1454	98

Source: Trade Data Monitor (TDM), FAO calculations

Table 2: Percent change (2021 over 2019) in food import bills of countries in NENA region

	Algeria	Bahrain	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Mauritania	Morocco	Oman	Qatar	Saudi Arabia	Sudan	Syrian Arab Republic	Tunisia	United Arab Emirates	Yemen
Animal and vegetable oils fats	54	50	74	54	44	64	66	76	89	65	73	46	77	92	44	75	85	42
Beverages	-29	-9	-39	9	8	66	-48	-14	-14	24	-24	-9	3	6	-4	-35	-5	14
Cereals and cereal preparations	43	-13	10	18	24	0	-13	27	-5	42	22	-23	31	7	-5	43	2	5
Coffee, tea, cocoa, spices	4	8	8	16	11	9	-23	4	24	10	39	3	6	-11	-28	-2	17	4
Dairy products and eggs	15	13	4	-3	7	-2	-53	44	20	24	6	-12	12	-44	-14	-48	0	12
Fish crustaceans and molluscs	4	-49	-27	-26	4	26	-56	-51	39	20	-45	-1	-24	-72	-64	12	5	41
Meat and meat preparations	-86	-6	-39	-9	1	10	-32	90	32	-14	-5	-14	9	-20	12	-86	7	7
Miscellaneous food	10	36	20	16	15	7	-15	49	26	43	-1	4	11	20	-2	22	12	31
Oilseeds and oleaginous fruits	336	-1	28	5	4	10	-65	12	-74	63	46	-36	61	39	-30	50	80	-34
Sugar honey and preparations	18	-9	3	24	-2	9	34	80	-28	49	81	-8	24	39	26	21	90	-26
Vegetables and fruits	-5	3	-6	24	0	-1	-41	24	33	47	-4	5	16	-29	16	21	21	12
Total	30	0	7	15	12	7	-25	27	19	40	11	-6	19	19	-1	7	17	8

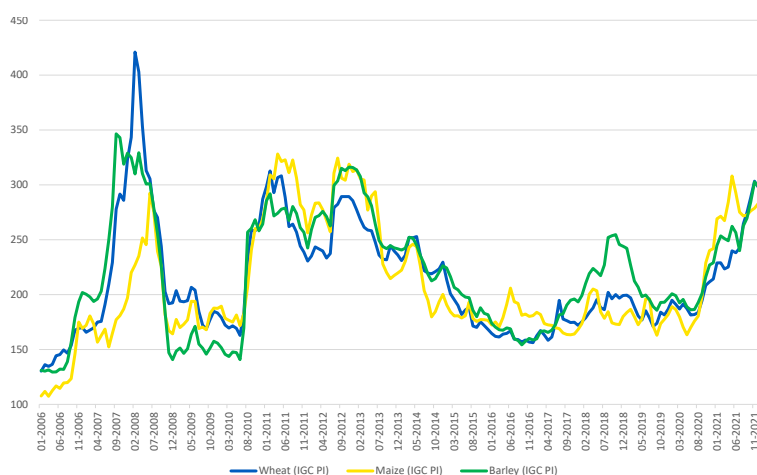
Source: Trade Data Monitor (TDM), FAO calculations

1.3 Recent trends in prices of basic foodstuffs and agricultural inputs for the Arab² region

Global market. The global cereal market, in which both Ukraine and the Russian Federation play pivotal roles, has seen near-uninterrupted increasing prices already prior to the conflict. High and volatile energy prices were also observed, especially for natural gas and in relation to the spike, international benchmark prices of fertilizers rose similarly throughout 2021, with many quotations reaching all-time highs.

Arab region. In line with this global trend, the Arab region had been grappling with the negative effects of high international food and fertilizer prices in relation to rising energy prices (Figure 10-12). The Arab region is particularly vulnerable to rise in food prices due to reliance on imported food and subsidization of basic foodstuff.

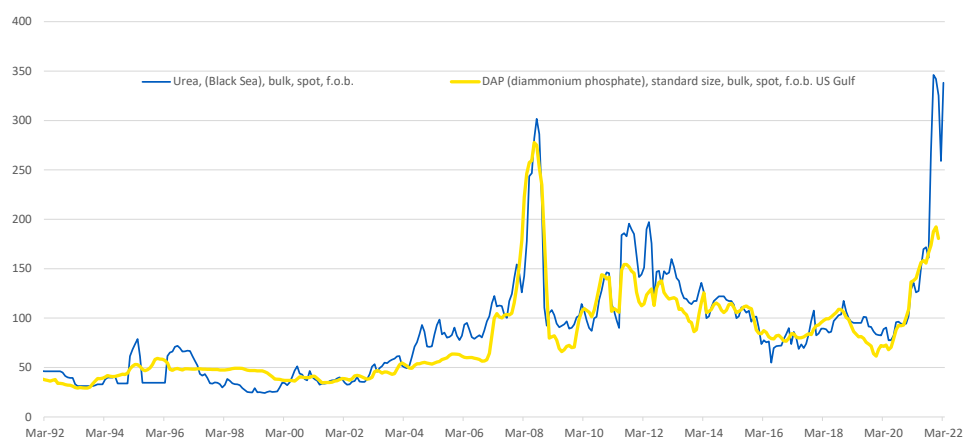
Figure 10: High and rising grain prices in Arab region (index)



Source: FAO, TDM, FAO calculations

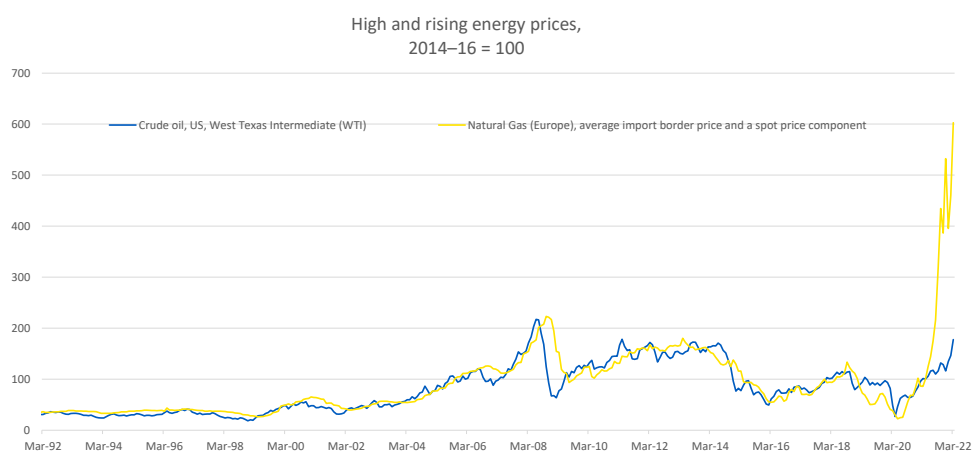
² Arab region includes all NENA countries in addition to Comoros, Djibouti and Somalia.

Figure 11: High and rising fertilizer prices, Arab region (2014–2016 = 100)



Source: FAO, TDM, FAO calculations

Figure 12: High and rising energy prices, Arab region (2014–16 = 100)



Source: FAO, TDM, FAO calculations



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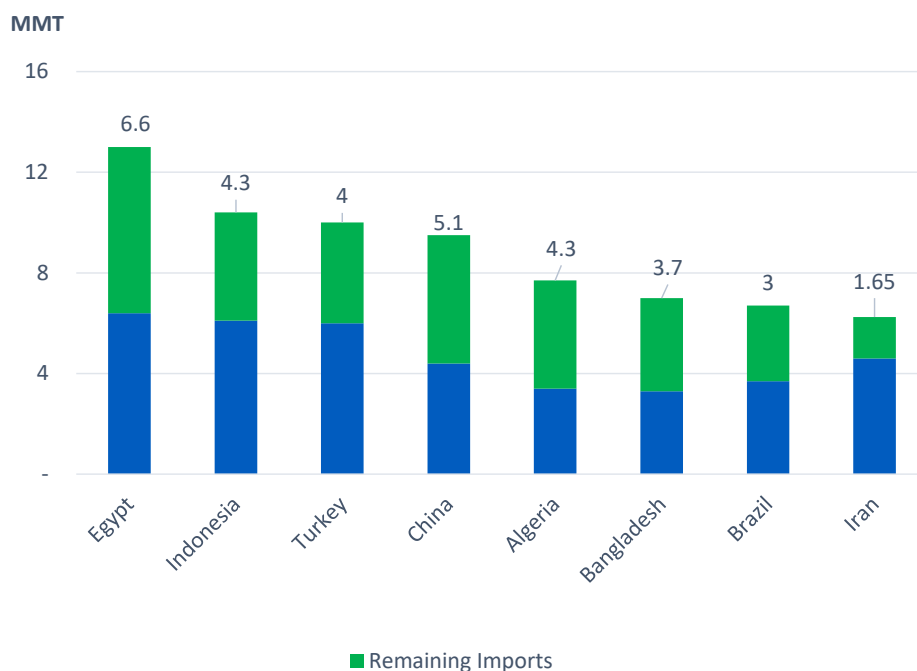
RISK ANALYSIS: ASSESSING THE RISKS EMANATING FROM THE CONFLICT

2.1 Trade risks

Risks in two countries. In Ukraine, the escalation of the conflict raises concerns on whether crops will be harvested and products exported. The war has already led to port closures, the suspension of oilseed crushing operations and the introduction of export licensing requirements for some products. All of these could take a toll on the country's exports of grains and vegetable oils in the months ahead. Much uncertainty also surrounds Russian export prospects, given sales difficulties that may arise as a result of economic sanctions imposed on the country and potential export bans by Russia.

Global risks. Conflict-induced disruptions to food exports by the Russian Federation and Ukraine expose global food markets to heightened risks of tighter availabilities, unmet import demand and higher international food prices. The resulting supply gaps for importers may be especially important for buyers in the NENA region and, given the importance of wheat as a food staple, they could result in some countries increasing imports now in order to secure supplies in fear that wheat markets will become tighter and that prices will rise further. Figure 13 illustrates major wheat importers including Egypt still have import needs for the second half of 2021/22 marketing season.

Figure 13: Wheat imports forecasts for 2021/22 in MMT



Source: FAO

Potential demand shifts. In this context, demand shifts towards other major wheat exporters are expected. However, the potential for other exporters to fully make-up for lower shipments by Ukraine and the Russian Federation is anticipated to be limited. Indeed, wheat inventories are already especially tight in Canada and the United States of America following reduced harvests in 2021/22. Among other suppliers, Argentina's exports during the ongoing season will also likely remain limited by Government efforts to control domestic inflation, while Australia has reached its maximum shipment capacity logistically. In such a setting of significantly reduced global export availabilities, other countries could enforce measures (formal or informal) to slow or restrict exports in order to protect domestic supplies and/or address domestic price inflation, as several countries have already announced since the start of the conflict.

2.2 Price risks

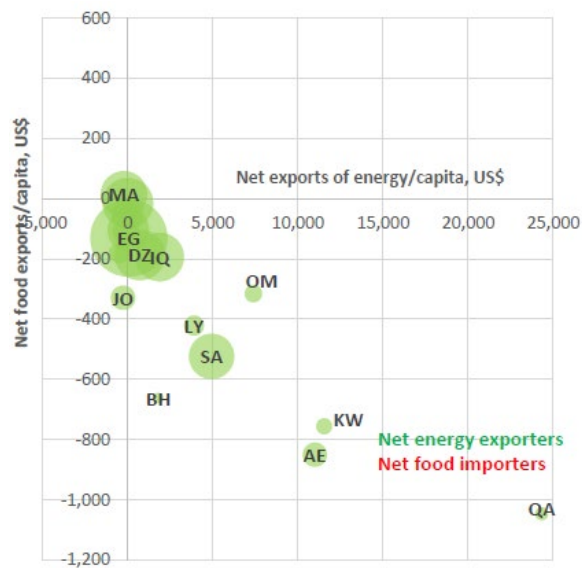
Food prices. The capacities of many exporting countries to boost output and shipments may be limited by high production and input costs. The anticipated global supply gap may raise international food and feed prices by 8 to 22 percent above their already elevated baseline levels in 2021. In the short term, it is anticipated the prices of wheat may rise by 8.7 percent, maize by 8.2 percent, other coarse grains by 9.6 percent, and other oilseeds by 10.5 percent globally. While in the long term the prices of wheat are anticipated to rise by 10.3 percent, maize by 8.5 percent, other coarse grains by 9.1 percent, and other oilseeds by 8.5 percent globally.

Fertilizer prices. The global reference price of fertilizer would undergo a 13 percent increase in 2022/23, relative to its already elevated baseline level, in response to the more expensive production inputs implied by the higher crude oil price, but also by the higher crop prices.

Agri-chemicals prices. The Russian Federation is a key player in the global energy market. Since agriculture absorbs high amounts of energy directly through the use of fuel, gas and electricity, and indirectly through the use of agri-chemicals, prices of those agri-chemicals including pesticides may fluctuate.

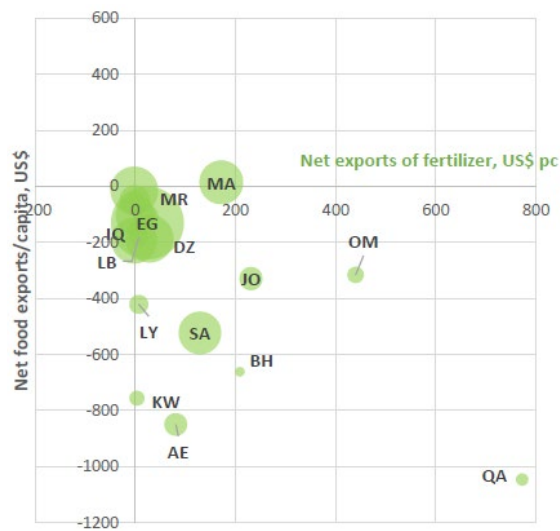
Influence on the Arab region. Figures 14-16 illustrate to what extent Arab countries are exposed to price changes for food, energy and other inputs. It is noteworthy that most of the Arab countries are net food importers that may be significantly affected by the anticipated food price increase. Concurrently, a majority of the Arab countries are net seeds and pesticides importers, leading to the fact that price volatility of those inputs directly influence on the use and indirectly impact the future production.

Figure 14: Net exports per capita, food vs energy, Arab region, 2021 (bubble size=population size)



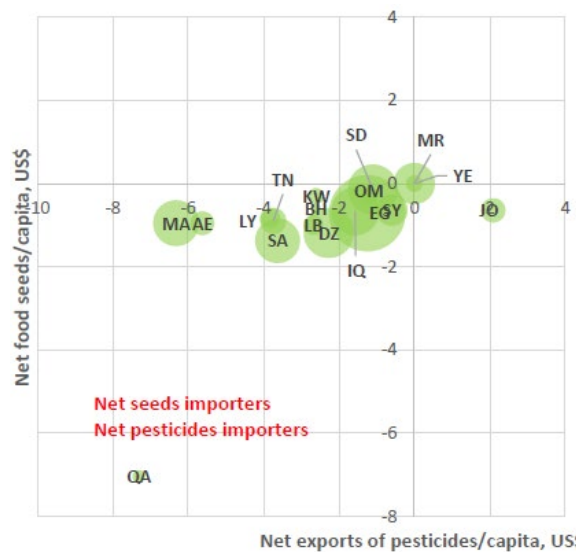
Source: FAO and TDM

Figure 15: Net exports per capita, food vs fertilizers, Arab region, 2021 (bubble size=population size)



Source: FAO and TDM

Figure 16: Net exports per capita, seeds vs pesticides, Arab region, 2021
(bubble size=population size)



Source: FAO and TDM

2.3 Logistical risks

On the logistical front, an immediate source of concern regards the impact of the ongoing conflict on transport infrastructure. The impact of any disruption in this area could be most directly felt by importers in the NENA region. The reliance of these countries on grains originating in the Russian Federation and Ukraine is also associated to the lower shipping costs entailed by their physical proximity to the Black Sea basin.

2.4 Production risks

Crop production risks in Ukraine. The current indications are that, as a result of the conflict, between 20 and 30 percent of areas sown to winter crops in Ukraine will remain unharvested during the 2022/23 season, with the yields of these crops also likely to be adversely affected. Furthermore, considerable uncertainties surround Ukrainian farmers' capacity to plant crops during the fast approaching spring crop cycle.

Global risks arising from an input-intensive Russian agricultural sector. Economic sanctions imposed on the Russian Federation could also disrupt its imports of agricultural inputs, notably pesticides and seeds, on which the country is highly dependent. This could result in less plantings, lower yields and lower qualities, exposing the Russian agricultural sector and global food supplies, at large, to non-negligible risks.

The spread of African swine fever. The conflict is also likely to affect the ability of Ukraine to control its animal disease burden, notably of African swine fever (ASF). ASF is a fatal disease of pigs. It has been reported in the region in pigs and in wild boars, including in Ukraine and the Russian Federation. As no effective vaccine against ASF exists, it can only be controlled by maintaining high biosecurity on pig farms.

2.5 Humanitarian risks

Current status of global food security. The 2021 edition of the report on the State of Food Security and Nutrition in the World (SOFI) estimated that in 2020, prior to the conflict, 768 million people in the world faced hunger. An estimated 69 million in the Arab region people were undernourished in 2020 (Table 3). The prevalence of undernourishment in the Arab region is 15.8 percent which is higher than the global average of 9.9 percent. Hunger in conflict-affected countries has always been much higher than in non-conflict countries, in the order of 17 to 30 percentage points.

Table 3: Number of people undernourished (millions)

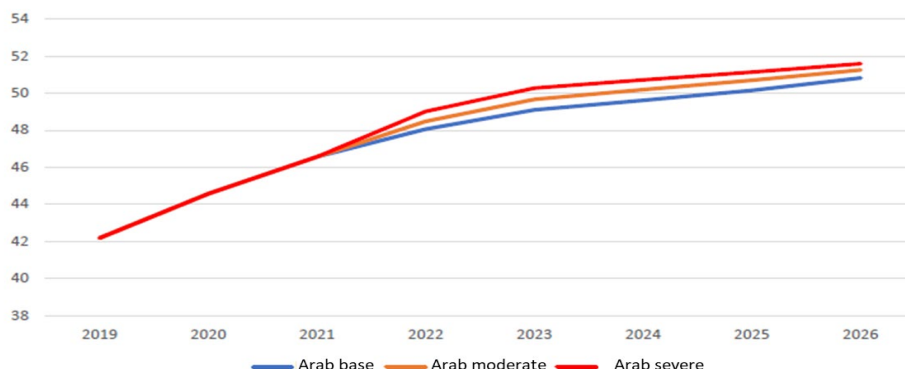
	2000	2010	2014	2015	2019	2020
World	800.3	636.8	606.9	615.1	650.3	768.0
Arab Region	36.1	45.8	53.9	58.8	64.2	69.0
Low-income economies	17.6	22.0	28.4	31.2	33.6	35.6
Lower-middle-income economies	9.8	9.4	7.8	8.0	9.2	10.4
Upper-middle-income economies	7.2	11.8	15.3	17.2	18.6	20.0
High-income economies	1.6	2.6	2.3	2.4	2.8	3.0
Arab States least developed countries	16.7	20.7	22.4	24.9	27.9	29.7
Conflict countries	23.8	32.8	42.9	47.5	50.8	53.4
Non-conflict countries	12.3	13.0	11.0	11.4	13.4	15.5

Source: FAO.

Notes: Values for 2020 are projections.

Risks in international food security. Against this background, the escalation of conflict engaging such important global agricultural commodity market players, at a time of already high and volatile international food and input prices, raises significant concerns over the conflict's potential negative impact on food security and nutrition internationally. In terms of impacts on food security, it is anticipated that the global number of undernourished (NoU) people would increase by 7.6 million in the short term under the moderate shock scenario. The number of undernourished people in the Arab region would increase by 0.4 million in 2022/23 (Figure 17).

Figure 17: Number of undernourished in Arab region (millions)



Source: FAO own calculations

2.6 Energy risks

The Russian Federation plays a key role in the global energy market. As a highly energy-intensive industry, especially in developed regions, agriculture will be affected by the sharp increase in energy prices that has accompanied the conflict. With prices of fertilizers and other energy-intensive products rising as a consequence of the conflict, overall input prices are expected to experience a considerable boost. The higher prices of these inputs will first translate into higher production costs and eventually into higher food prices. They could also lead to lower input use levels, depressing yields and harvests in the 2022/23 season, thus giving further upside risk to the state of global food security in the coming years.

Higher energy prices also make agricultural feedstock (especially maize, sugar and oilseeds/vegetable oils) competitive for the production of bio-energy and, given the large size of the energy market relative to the food market, this could pull food prices up to their energy parity equivalents.

Although most of the NENA region countries are net energy and fertilizer exporters, the global price increase may impact their agricultural sector.

2.7 Exchange rate, debt, and growth risks

The surge of international prices has put pressure on the international reserves of food importing countries and by consequences on their exchange rates. As of 4 April 2022, the Egyptian pound has devaluated by 17 percent, the Tunisian dinar by 3 percent and the Lebanese pound has devaluated by 25 percent against the US dollar (Sayrafa rate). With currency depreciation in some countries in the region, debt service of foreign denominated debt will increase and will put additional burden on state budgets. It will also pass through to further increasing inflationary pressures, especially in those countries who are dependent on imports for essential items of consumption. It may have a negative impact on provision of subsidized essential goods.

Agriculture is the backbone of the economies of many developing countries, the majority of which rely on the United States dollar for their borrowing needs. As such, a lasting appreciation of the USD vis-à-vis other currencies may have negative significant economic consequences for these countries, including for their agrifood sectors. Moreover, the potential reduction of GDP growth in several parts of the world will affect global demand for agrifood products with negative consequences for global food security.

The situation warrants responses at country, sub-regional and regional levels. Some of these must be taken immediately to respond to the immediate risks associated with the conflict. Others need to be addressed in the longer term to draw lessons from the crisis and provide longer term responses to build more resilient agrifood systems across the region. They are summarized in the table below.



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3

POLICY RECOMMENDATIONS

3.1 In the short term

The purpose of action in the short term is to respond to the challenge posed by limitation of food supply from Ukraine and Russia as well as raising food prices as a result of the disturbances in post-COVID-19.

Seek to diversify sources of import, in particular for wheat.

One of the main challenges of the current crisis is associated with the concentration of suppliers for key staple commodities, in this case wheat. Countries relying on Russia and Ukraine for their wheat supply should seek to identify other exporters from which they can import.

Ensure timely monitoring and well-targeted social protection interventions to alleviate the hardship faced by vulnerable segments of society and foster a fast recovery from it.

Many segments of societies have been facing economic hardships caused by the effects of COVID-19, hampering their access to food. The rising prices and potential supply shortages due to Ukraine crisis may impact availability of food as well. Countries should keep a close eye to monitor such vulnerable segments and provide timely, even if ad-hoc, support particularly for access to food.

Develop a food/fuel/fertilizer import finance facility for the poorest and most affected countries.

NENA region is quite heterogeneous in terms of financial resources. The countries may establish a regional finance facility to support countries in dire need for imports of food, fuel and fertilizers. This fiscal support may be institutionalized through financing partners such as the Islamic Development Bank.

Avoid ad hoc policy reactions, export restrictions, import subsidies, etc. keep trade open.

Some countries resort to immediate restrictive actions to limit the imports and exports, particularly of food items, in anticipation of market stabilization. This, however, may not result in the optimal scenario as the global open markets may be more responsive and able to fill the food shortages rather than closed borders for that the self-sufficiency will take time to be developed.

Establish and use early warning systems to anticipate food crises.

There is a need to develop a regional early warning system to monitor, track and report the anomalies in food supplies. FAO may support member countries in deploying such early warning system, based on already functional similar tools within the FAO.

Ensure humanitarian intervention where needed, supporting the poorest.

Some of the countries in NENA region are facing severe humanitarian crises and sometimes the needed support is not delivered where it is needed. Countries should ensure that such humanitarian support is allowed to be delivered on timely basis.

3.2 In the longer term

The region needs a transformation in agrifood systems and a resilient food security strategy. In order to do so, the following proposed actions may be considered.

Develop strategic reserves, including when possible regional or sub-regional reserves.

The NENA regional countries, except a few, lack capacities to have strategic food reserves. In order to mitigate this challenge, there could be an establishment of a regional or sub-regional strategic food reserves mechanism, like that of ASEAN. The countries with capacity to maintain reserves could hold for others, subject to cost-sharing arrangements to be agreed upon.

Develop and commit to implementing national and regional food and nutrition security strategies, building in particular on the Zero Hunger Initiative of the League of Arab States.

It is imperative to develop the national and regional food security strategies, particularly to ensure sustainability and resilience. The Zero Hunger Initiative of the League of Arab States may be taken as a basis for developing such strategies.

Diversify the food supply and import sources in order to have resilient food supply chains.

In continuation of the short-term measure of seeking other sources, the countries should aim at diversifying their import baskets in order to manage the supply risks in future. Such diversification may also lead towards getting better prices and quality of the imported food items.

Reflect upon food subsidies and repurpose these in order to ensure resilience in national food supply chains.

Most of the countries in NENA region have subsidy schemes for agriculture and food. Many of these subsidies are consumer oriented, in order to manage the consumer prices of essential food items. This, however, does not necessarily encourage the domestic production of those food items. A reflection at the current agriculture and food subsidies systems is encouraged, so that the fiscal support goes to economically efficient areas with better output and efficiency in agriculture and food systems.

Strengthen market transparency and dialogue; provide timely information at regional level in order to keep markets functioning.

It is imperative to keep markets well-functioning and well-fed with timely information in order to avoid speculative actions and price movements. The countries should keep engaged in open dialogue and information sharing to keep transparent market mechanisms. FAO may help countries in providing essential information and data in this regard.

Strengthen the regional data, information and early warning systems to monitor food security and manage the challenges through evidence-based decision-making.

It is extremely important to have access to, and use of, timely and relevant data and analytics to design and implement evidence-based policies on food and agriculture. With the timely and tailored data,

countries can anticipate and mitigate the food supply and related challenges. FAO can help member countries in developing regional and country level data and analytical systems.

Review options and adopt new technologies to enhance agricultural productivity where possible.

The NENA region has limitations for agriculture resources, particularly the scarce land and water availability. It is, therefore, essential to enhance the agricultural productivity through deployment of innovation and technologies.

Decide on balance between staple and cash crops as part of overall food security strategy.

Countries need to focus on trade-offs between the staple and cash crops in order to find the best pathways for national food security strategy. The factors such as the land and water availability should be incorporated in this thought process. The balance between staple and cash crops should factor into the volatility in food through imports.

Promote better regional economic integration, including intra-regional trade in food, fuel and fertilizers.

It is very important to harness the potential of intra-regional trade, particularly in food, in the NENA region. There are many regional and bilateral trade arrangements in the region but the application of such arrangements and agreements is not visible in actual data on trade. In order to manage the global food supply chains volatility, the intra-regional trade should be enhanced for food, fuel and fertilizers.

Share knowledge on best practices to tackle food loss and waste specially cereals (harvest, storage, processing, consumption).

Food loss and waste is a serious issue that needs to be tackled, particularly in the NENA region. In the context of shortages in food supplies, it is even more important to focus towards reducing food loss and waste. Sharing and application of best practices in this regard would be quite helpful in balancing the food supply shocks and volatility in the future.

Raise awareness to step up sustainable production and consumption patterns.

Sustainable production and consumption is required not only to meet the SDG 12, but also to ensure resilience in the national agrifood systems and food supply chains. Countries should work towards raising awareness, and encouraging application, of sustainable production and consumption among the relevant stakeholders.

Recommendation	Regional	Sub-Regional	National
Short term			
Seek to diversify sources of import, in particular for wheat			X
Ensure timely monitoring and well-targeted social protection interventions to alleviate the hardship faced by vulnerable segments of society and foster a fast recovery from it.	X		X
Develop a food/fuel/fertilizer import finance facility for the poorest and most affected countries.	X	X	X
Avoid ad hoc policy reactions, export restrictions, import subsidies, etc. keep trade open	X		X
Establish and use early warning systems to anticipate food crises	X	X	X
Ensure humanitarian intervention where needed, supporting the poorest		X	X

Recommendation	Regional	Sub-Regional	National
Long term			
Develop strategic reserves, including when possible regional or sub-regional reserves	X	X	X
Develop and commit to implementing national and regional food and nutrition security strategies, building in particular on the Zero Hunger Initiative of the League of Arab States	X		X
Diversify the food supply and import sources in order to have resilient food supply chains.	X	X	X
Reflect upon food subsidies and repurpose these in order to ensure resilience in national food supply chains.			X
Strengthen market transparency and dialogue; provide timely information at regional level in order to keep markets functioning.	X	X	X
Strengthen the regional data, information and early warning systems to monitor food security and manage the challenges through evidence-based decision-making.	X	X	X
Review options and adopt new technologies to enhance agricultural productivity where possible.	X		X
Decide on balance between staple and cash crops as part of overall food security strategy.			X
Promote better regional economic integration, including intra-regional trade in food, fuel and fertilizers.	X	X	X
Develop food supply chains in geographical proximity, wherever practical.	X	X	X
Share knowledge on best practices to tackle food loss and waste specially cereals (harvest, storage, processing, consumption)	X	X	X
Raise awareness to step up sustainable production and consumption patterns	X	X	X

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Cairo, Egypt