

Prepared by:

Prof. Dr. Hami Alpas (AWG Consultant)
Food Eng. Dept. METU
Ankara-Turkey
imah@metu.edu.tr

OUTLINE-Part II:

- Survey Results
- Country Case Studies (Nigeria-Pakistan-S. Arabia-USA)
- Policy Recommendations & Conclusions
- Closure

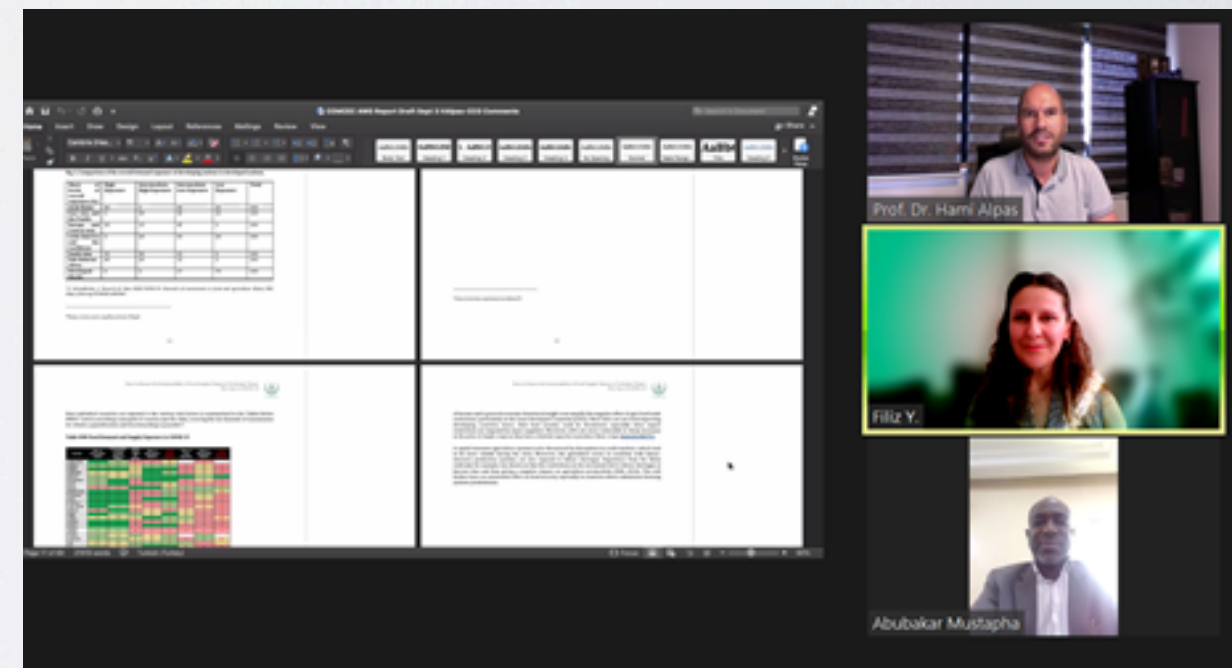
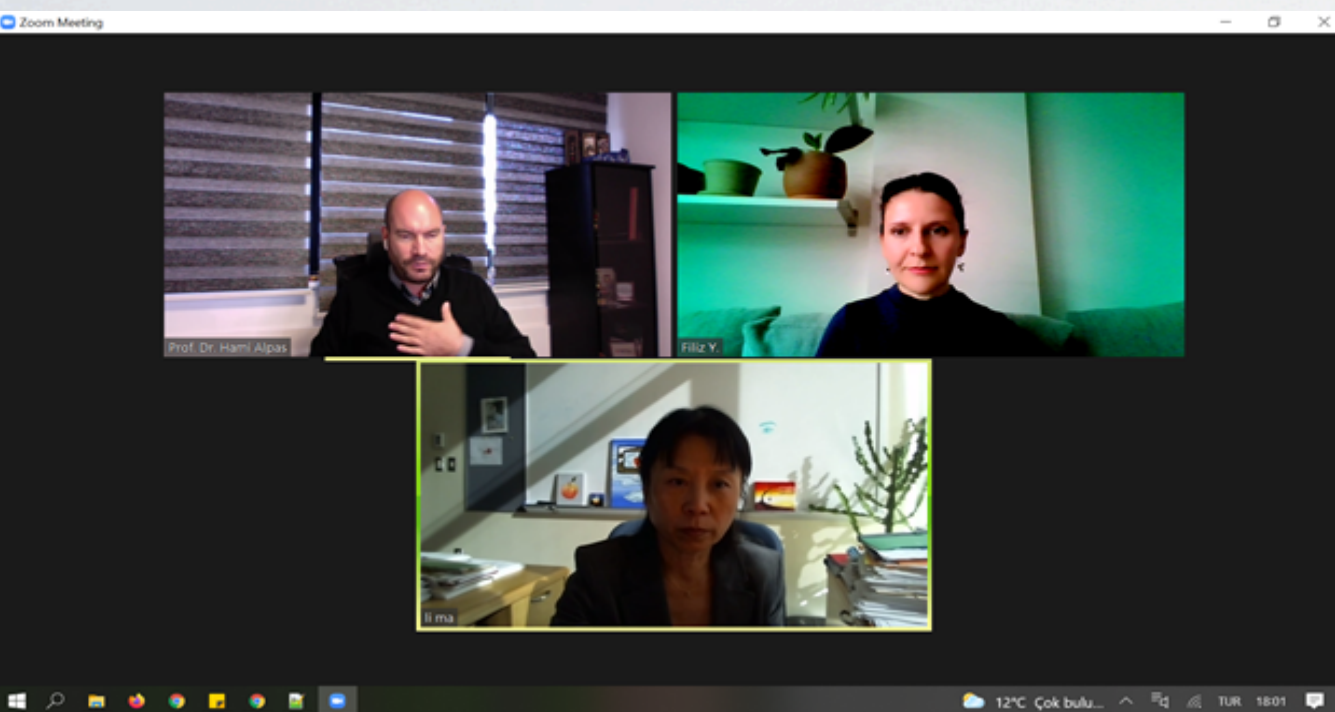
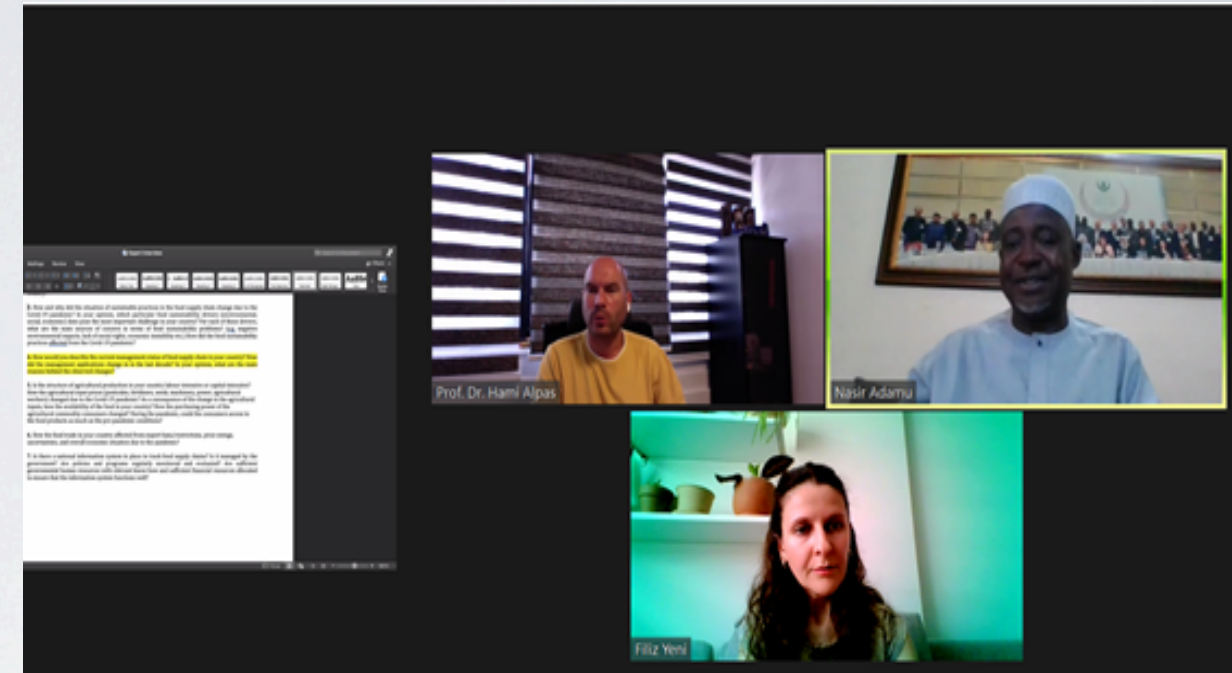
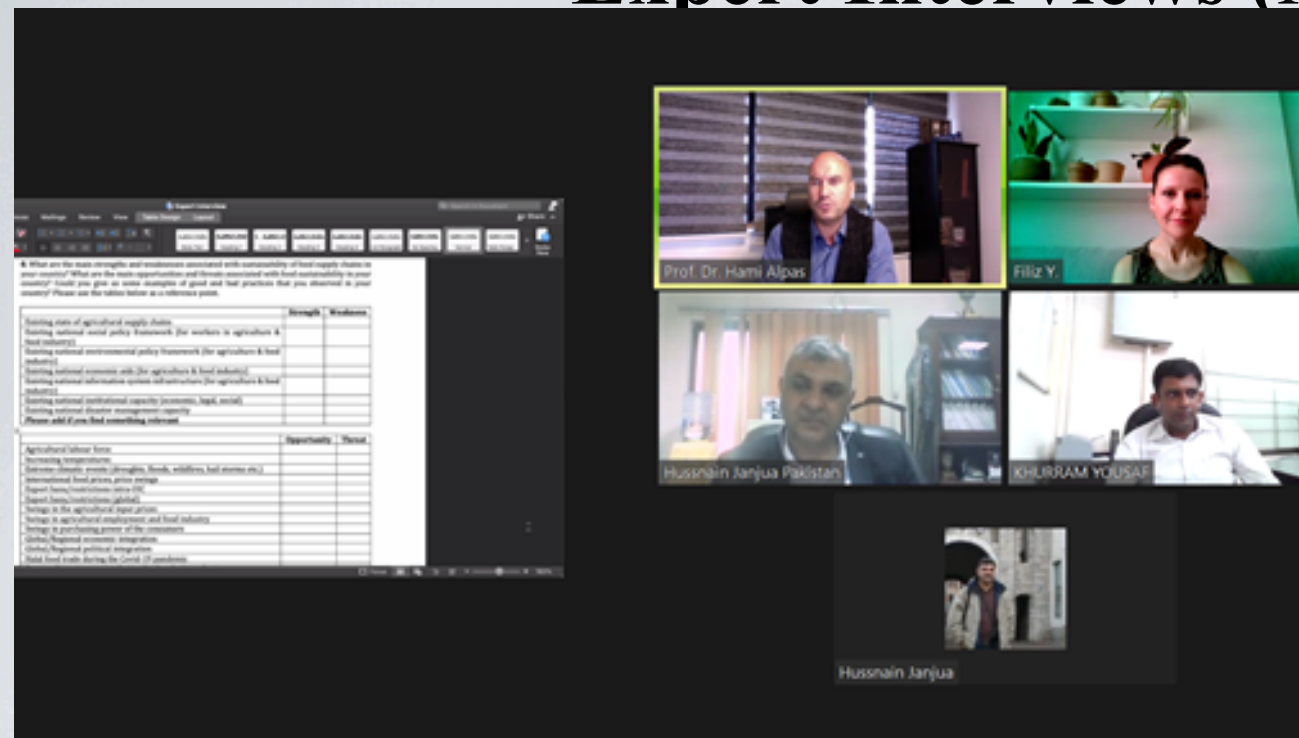
LESSONS LEARNED FROM SELECTED CASE COUNTRY ANALYSIS

This survey composed of 25 detailed questions addressing both the effects of COVID-19 pandemic on the food supply chain and the pillars of food supply chain sustainability.

This semi-structured interview is composed of 10 detailed questions addressing specific information the effects of COVID 19 on the case-study countries regarding the national food supply chain issues.

Methodology-Primary & Secondary Research Tools

Expert Interviews (Nigeria-Pakistan-USA)

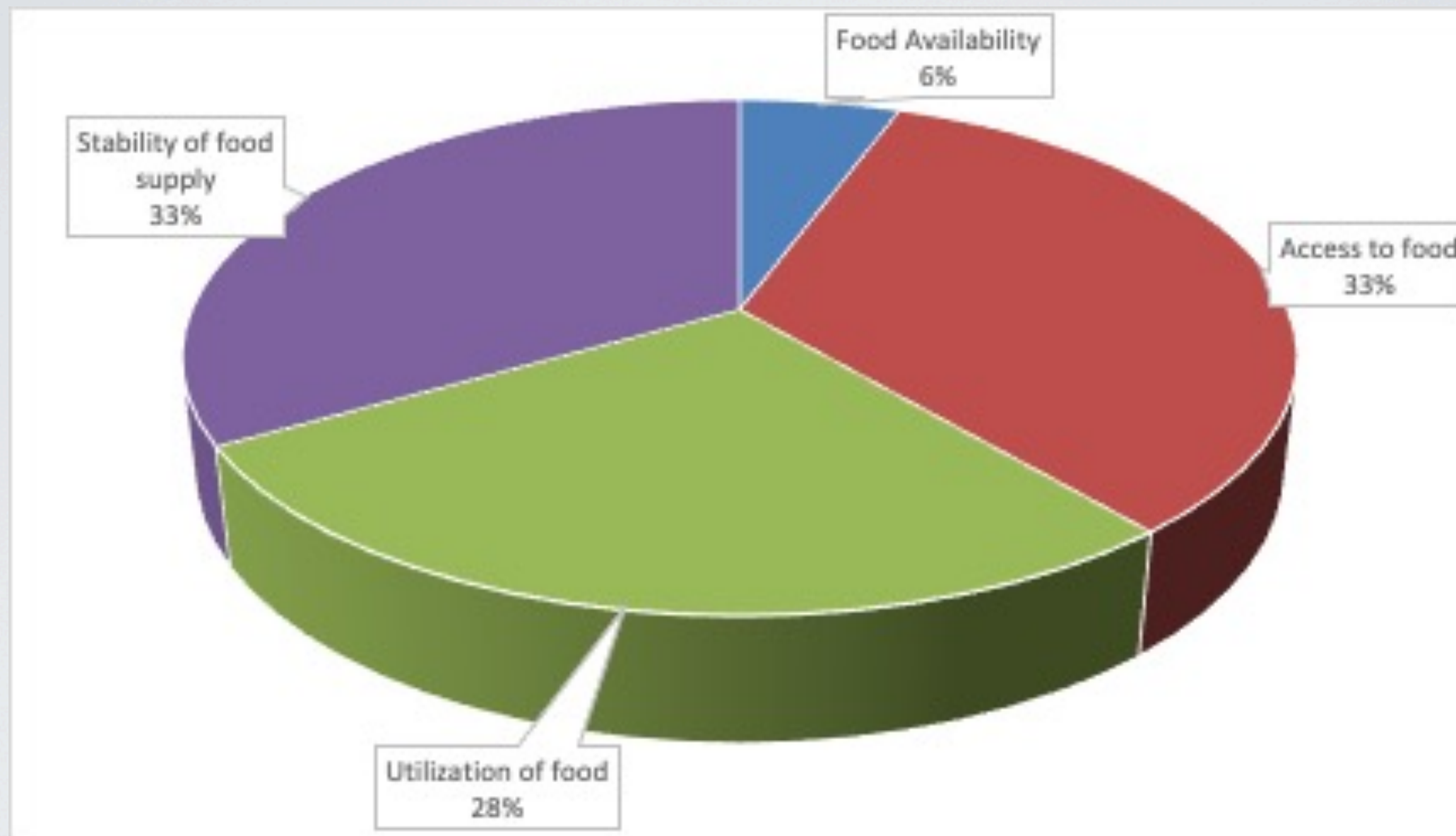


Annex B: Lists of Interviewed Experts and Informants

Country Expert/Informant	Affiliation
Nigeria (Completed)	
Mr. Nasir Adamu Muazu	Director, Ministry of Agriculture and Rural Development, Nigeria
Mr. Abubakar Moustapha	
Mr. Zubairu Abdullahi	Director, Planning and Policy Coordination, Nigeria
Pakistan (Completed)	
Prof. Dr. Hussnain Janjua	National University of Sciences & Technology, Islamabad,
Dr. Khurram Yousaf	Pakistan
S. Arabia (Pending)	
Dr. Rajeh Alregas	
USA (Completed)	
Prof. Dr. Li Ma	Institute for Biosecurity and Microbial Forensics Department of Entomology & Plant Pathology Oklahoma State University, USA
Dr. Jennifer van de Ligt	Director, Food Protection and Defense Institute (FPDI), University of Minnesota, USA
Dr. Lee Anne Jackson	CFSAN Food Lead, 2019 Novel Coronavirus FDA IMG, FDA Co- Chair, Food and Agriculture Sector Government Coordinating Council, MD, USA

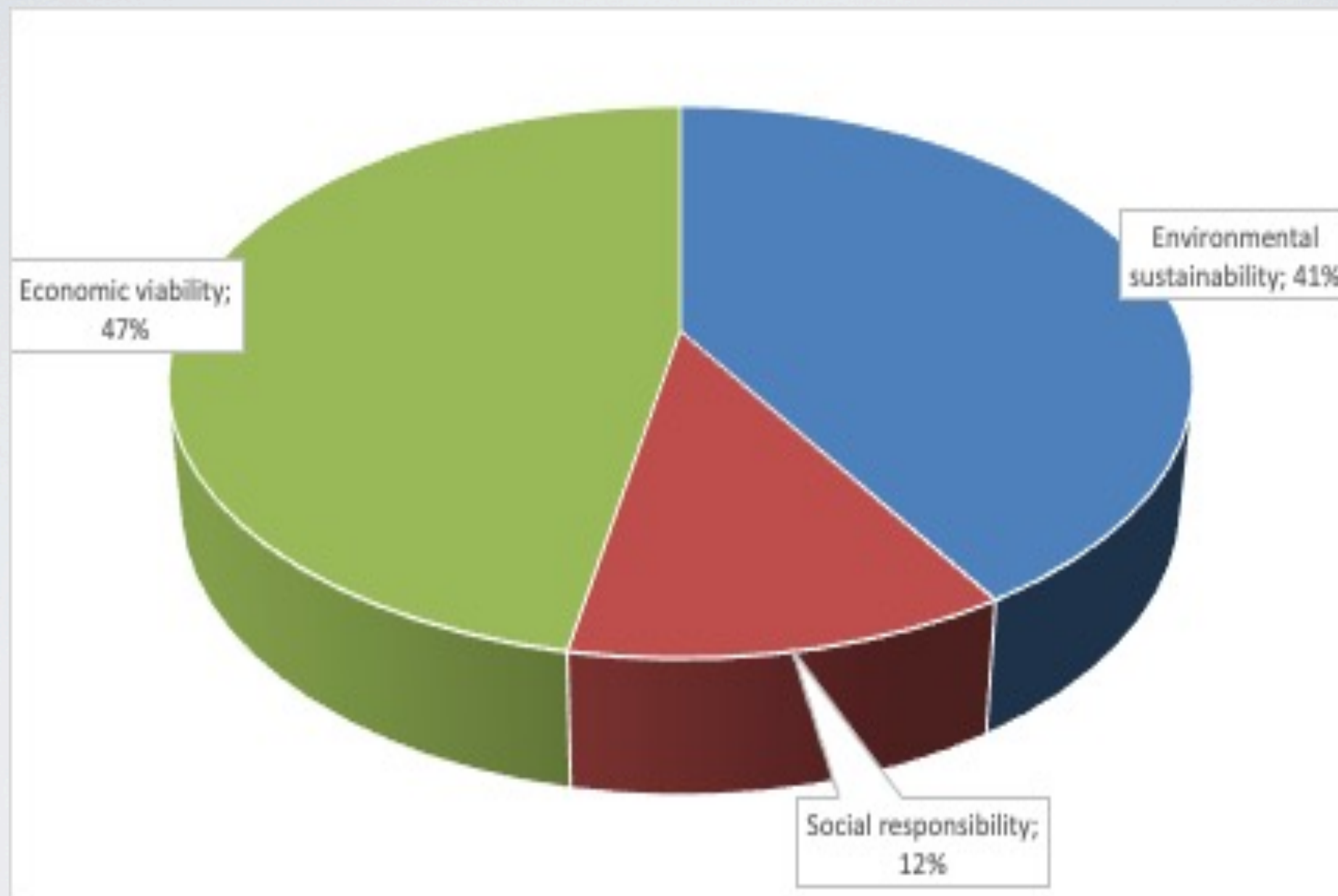
SURVEY RESULTS

Figure 5 Food security pillars posing the most important challenge



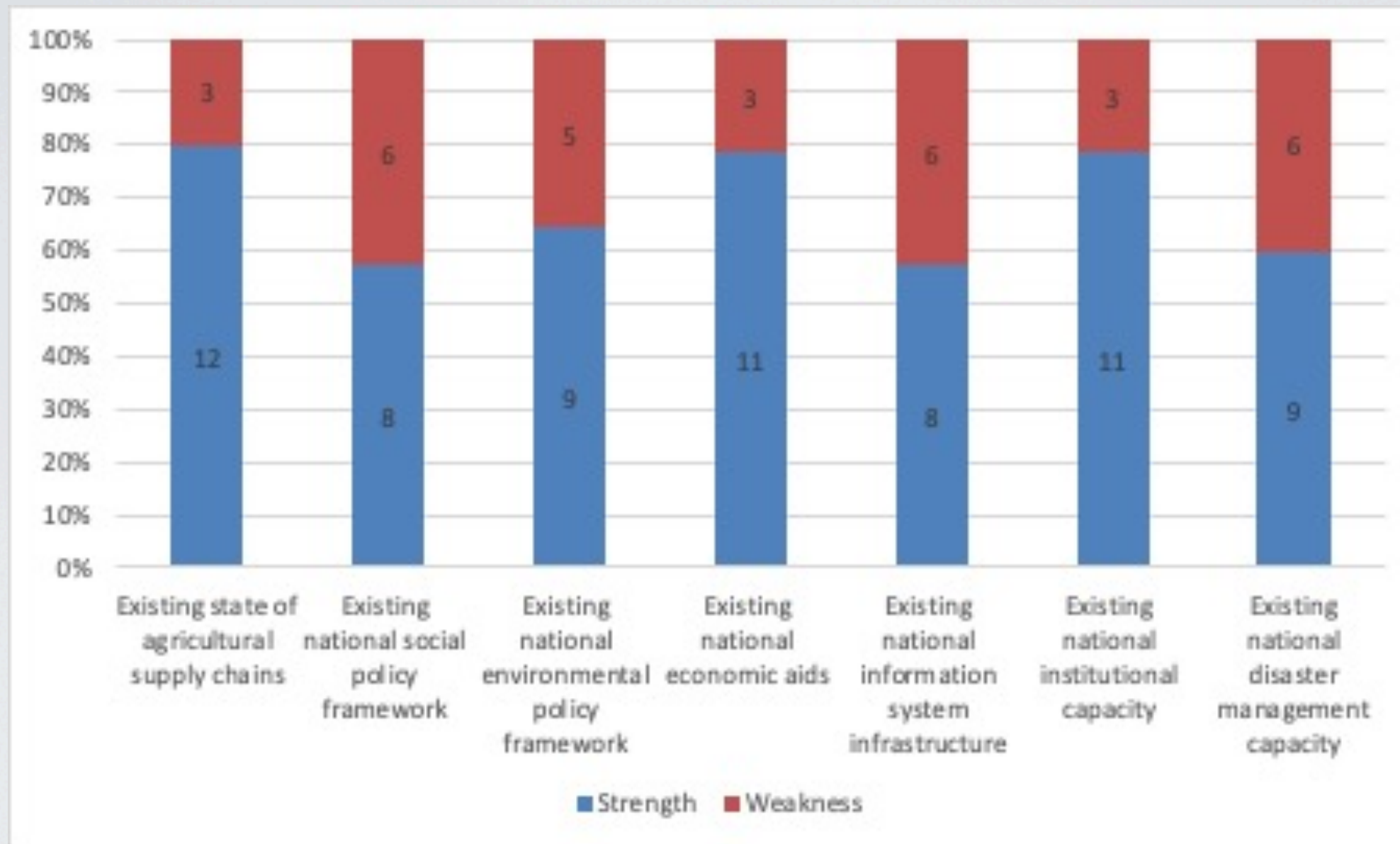
SURVEY RESULTS

Figure 6 Food sustainability pillars posing the most important challenge



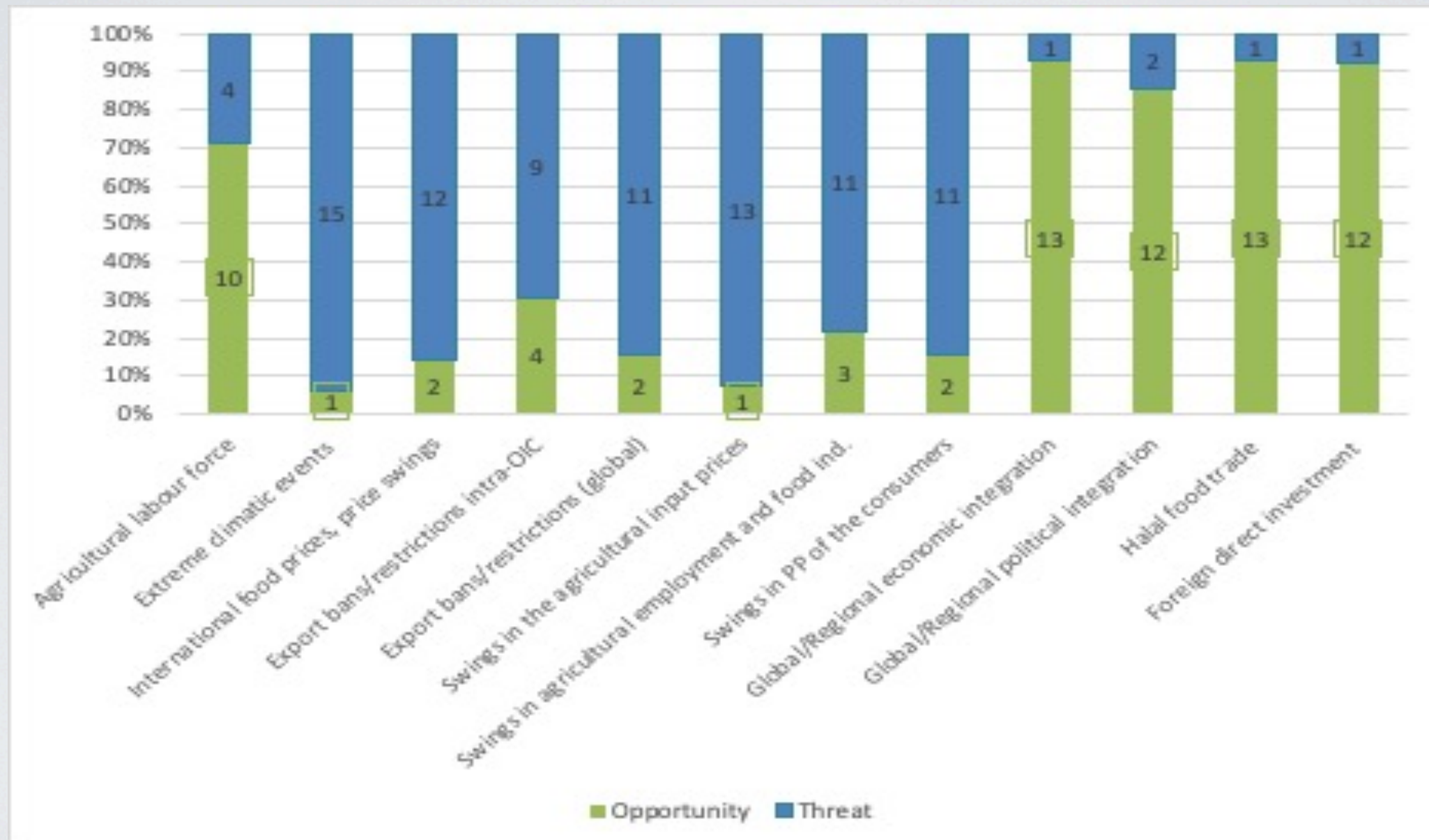
SURVEY RESULTS-SWOT ANALYSIS

Figure 7 Strengths and weaknesses for sustainability of the national food supply chains in OIC countries



SURVEY RESULTS-SWOT ANALYSIS

Figure 8 Opportunities and Threats for sustainability of the national food supply chains in OIC countries



CASE STUDY LEARNINGS-OIC MEMBERS

- The OIC countries covered were Nigeria, Pakistan and Saudi Arabia (S. Arabia).
- The non-OIC country was selected as United States of America (U.S.A.).
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- Both online interviews, expert surveys and secondary research tools were used to collect data in order to analyze the effects of the pandemic on the food supply chain in the OIC and non-OIC case studies within the timeframe of the study.

Nigeria

population of 206,1 million, 52% living in urban areas (WB, 2021).

the most populous country in Africa.

- 2097 US\$ GDP per capita (current US\$) (WB, 2021).
- Since Africa is facing an oil price crash, Nigeria was also affected as an exporter.
- systematically exposed to food crises each year over the last five years.
- Among the OIC member states Nigeria ranks 1st in terms of arable land area, cereals, maize, primary fruits and vegetables in terms of area harvested and sorghum production, (<https://www.sesric.org/oic-tbf.php>).

Pakistan

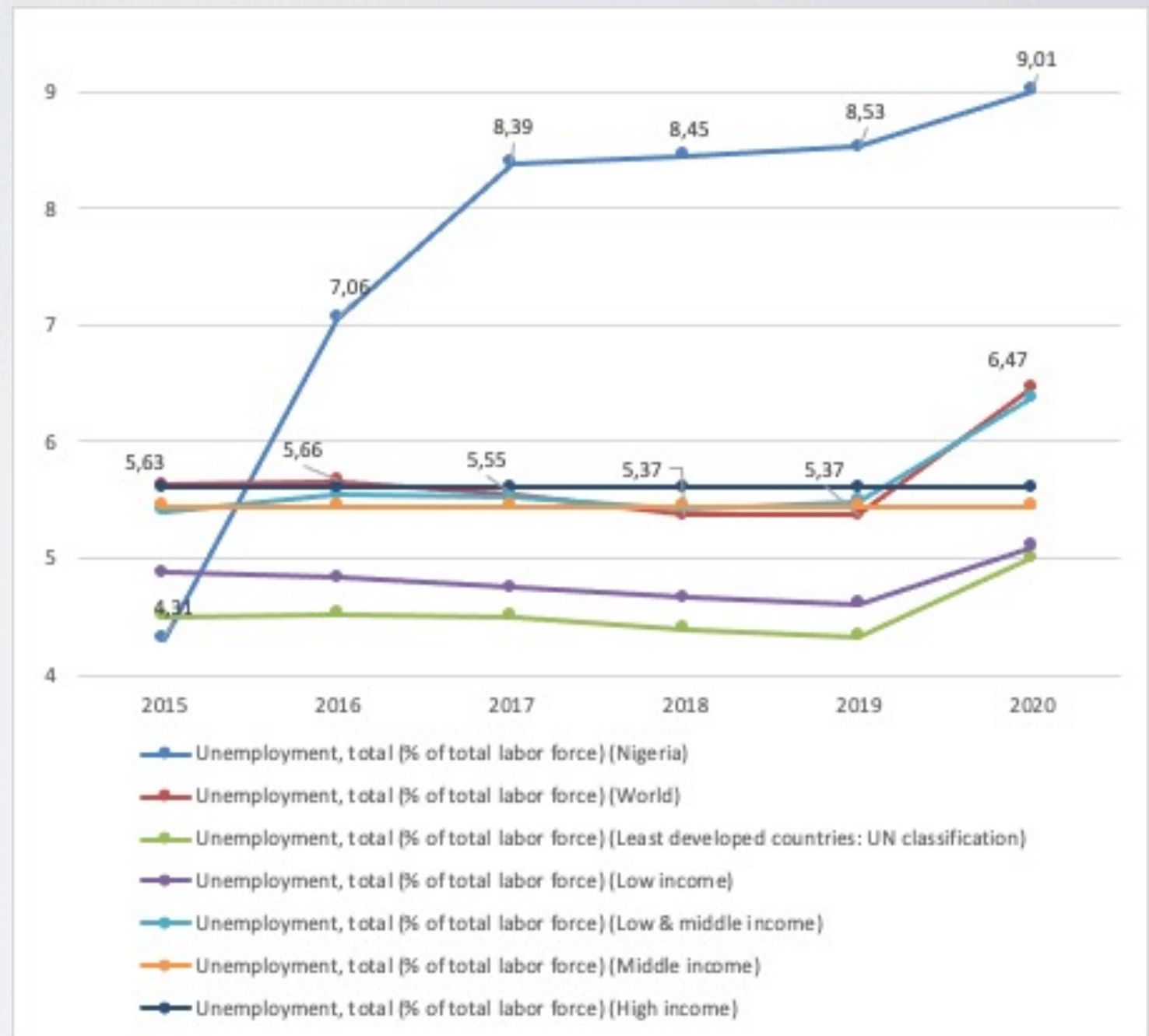
- The country has a population of 220,9 million, 37% living in urban areas (WVB, 2021).
- has a 1194 US\$ GDP per capita (current US\$) (WVB, 2021).
-
- The ratio of agricultural area (hectares) per rural population is 0.27 and arable land area (hectares) per rural population is 0.22 in 2019 (<https://www.sesric.org/oic-tbf.php>).
- Pakistan ranks 1st in cotton production, fertilizers in agricultural use, meat and wheat production among the OIC members (<https://www.sesric.org/oic-tbf.php>).

S. Arabia

- the largest country in the Arabian Peninsula.
- Has a population of 34,8 million, 84% living in urban areas (WVB, 2021).
- has a 20110 US\$ GDP per capita (current US\$) (WVB, 2021).
-
- ranks 1st in terms of per cent agricultural area and land under permanent meadows and pastures and last in paddy rice production among the OIC member states (<https://www.sesric.org/oic-tbf.php>).
- The ratio of agricultural area (hectares) per rural population is 31.79 and arable land area (hectares) per rural population is 0.63 in 2019 (<https://www.sesric.org/oic-tbf.php>).

CASE STUDY LEARNINGS-NIGERIA

Figure 9 The Comparison of Unemployment in Nigeria and the World

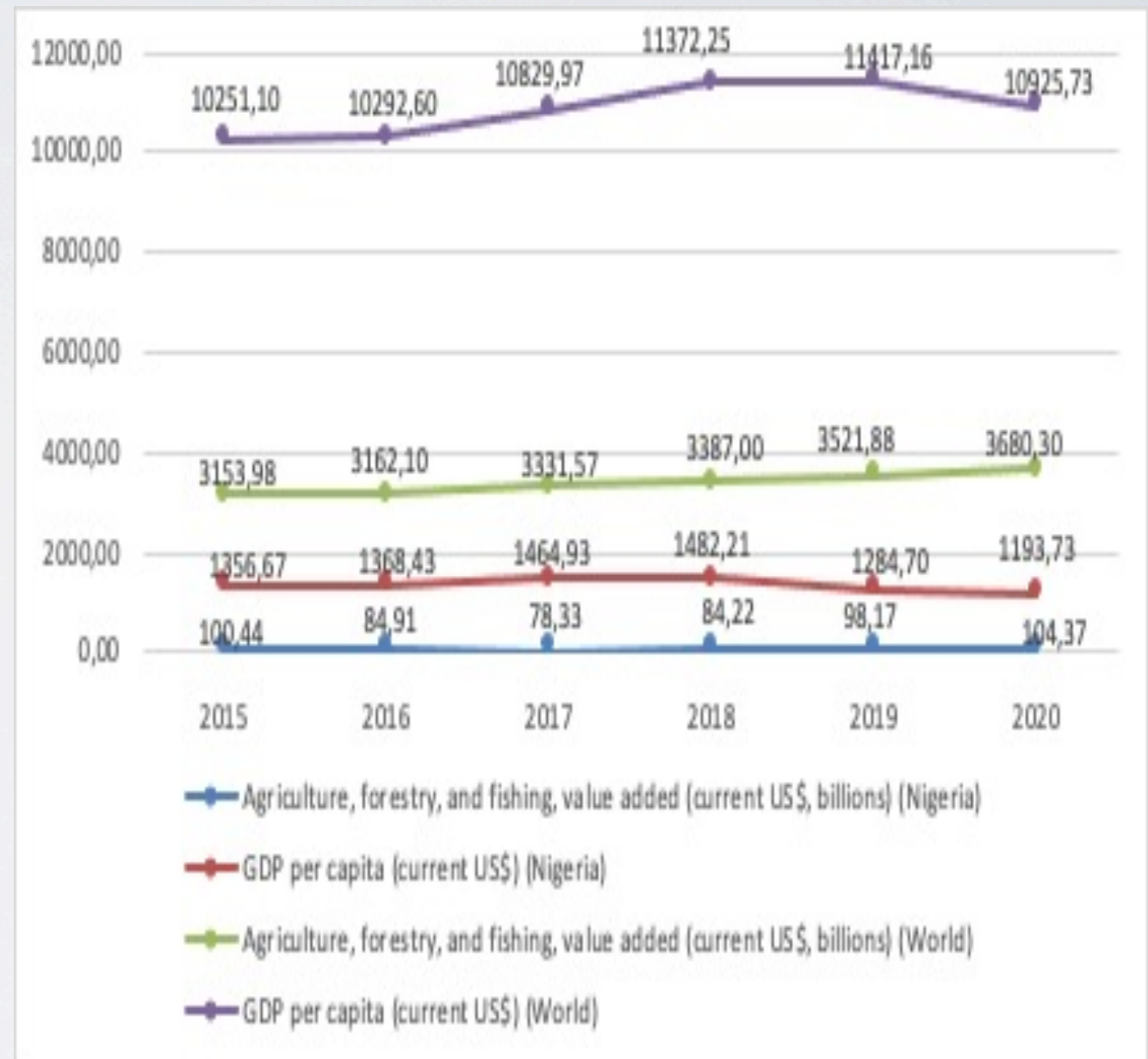


CASE STUDY LEARNINGS-NIGERIA

Figure 10 Economic indicators in the Nigeria and in the World

In the 2019-2020 period, the value-added agriculture (current US\$, billions) increased in 4.52% in the World and 6.12% in Nigeria, and GDP per capita (current US\$) decreased 4.31% in the World and 7.09% in Nigeria (Figure 10).

It was estimated that agrifood GDP declined 18% during the five-week lockdown in Nigeria.

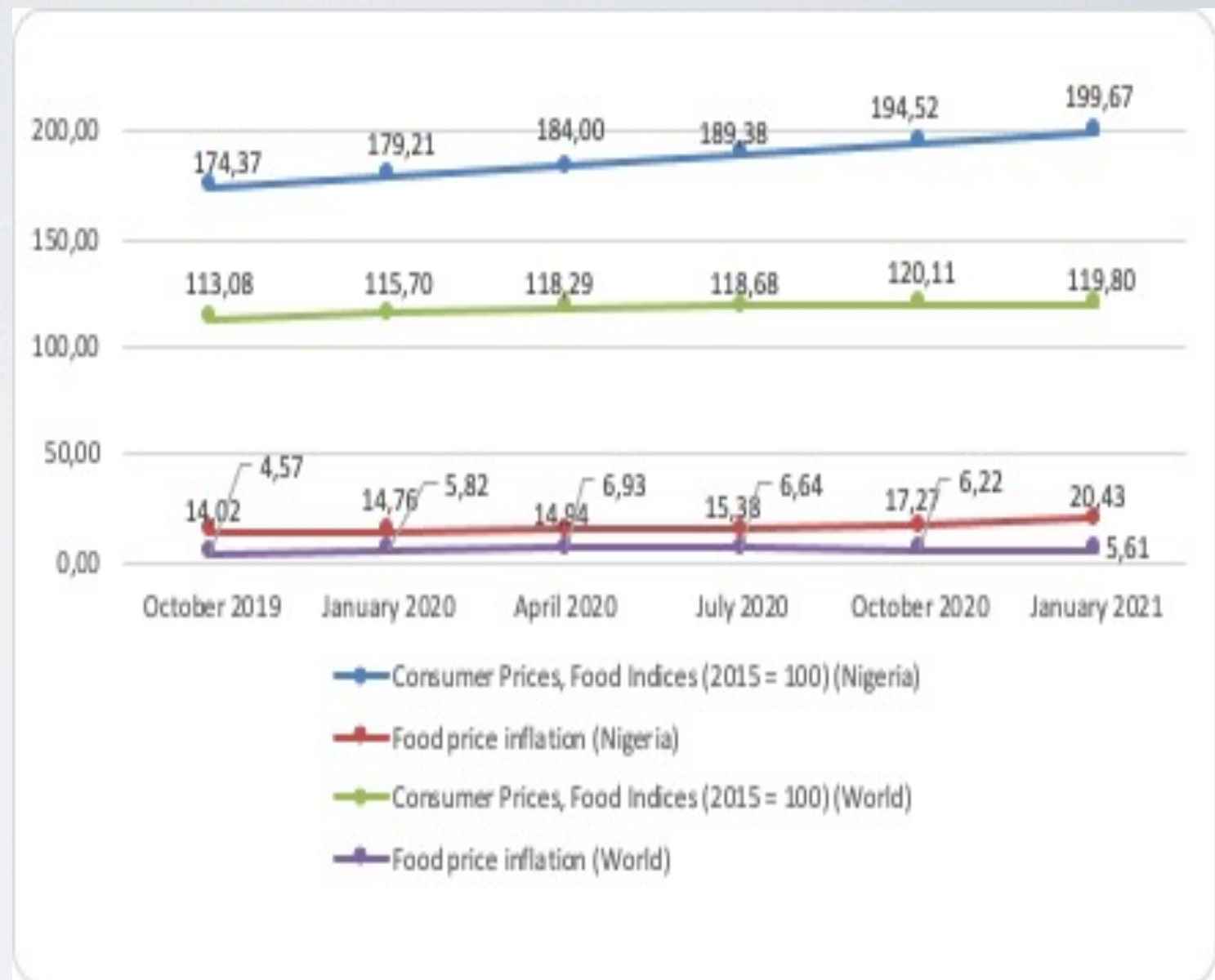


CASE STUDY LEARNINGS-NIGERIA

Figure 11 Consumer prices and food price inflation in Nigeria and the World

the consumer food prices increased 14,0% from October 2018 to October 2019 while the increase was 17,3% from October 2019 to October 2020.

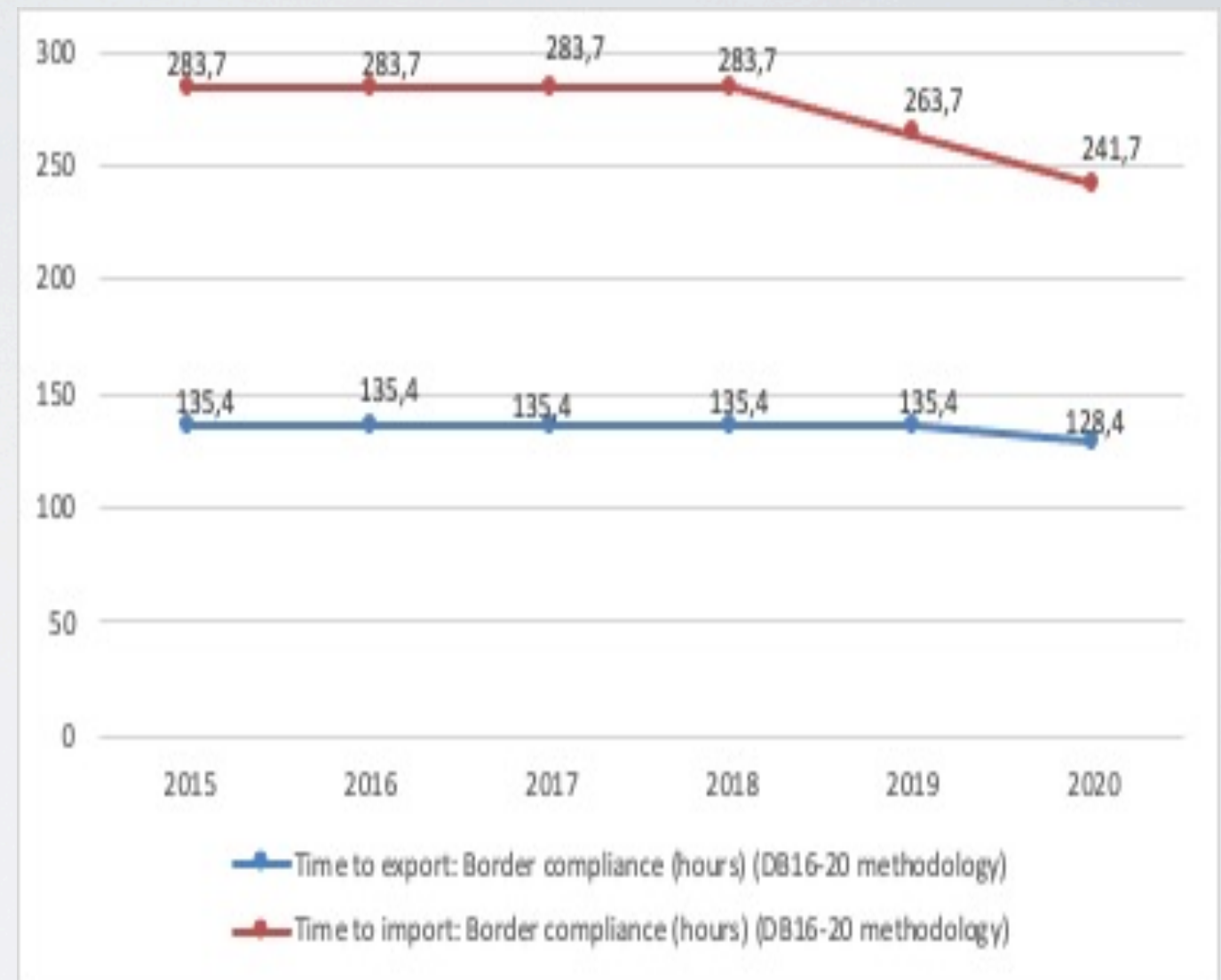
The big fluctuations even in the pre-pandemic era seems to be the nature of the country specific conditions.



CASE STUDY LEARNINGS-NIGERIA

Figure 12 Time spent during the import and export in Nigeria

there has been an increase in the demands for the products imported to and exported from Nigeria during the pandemic.

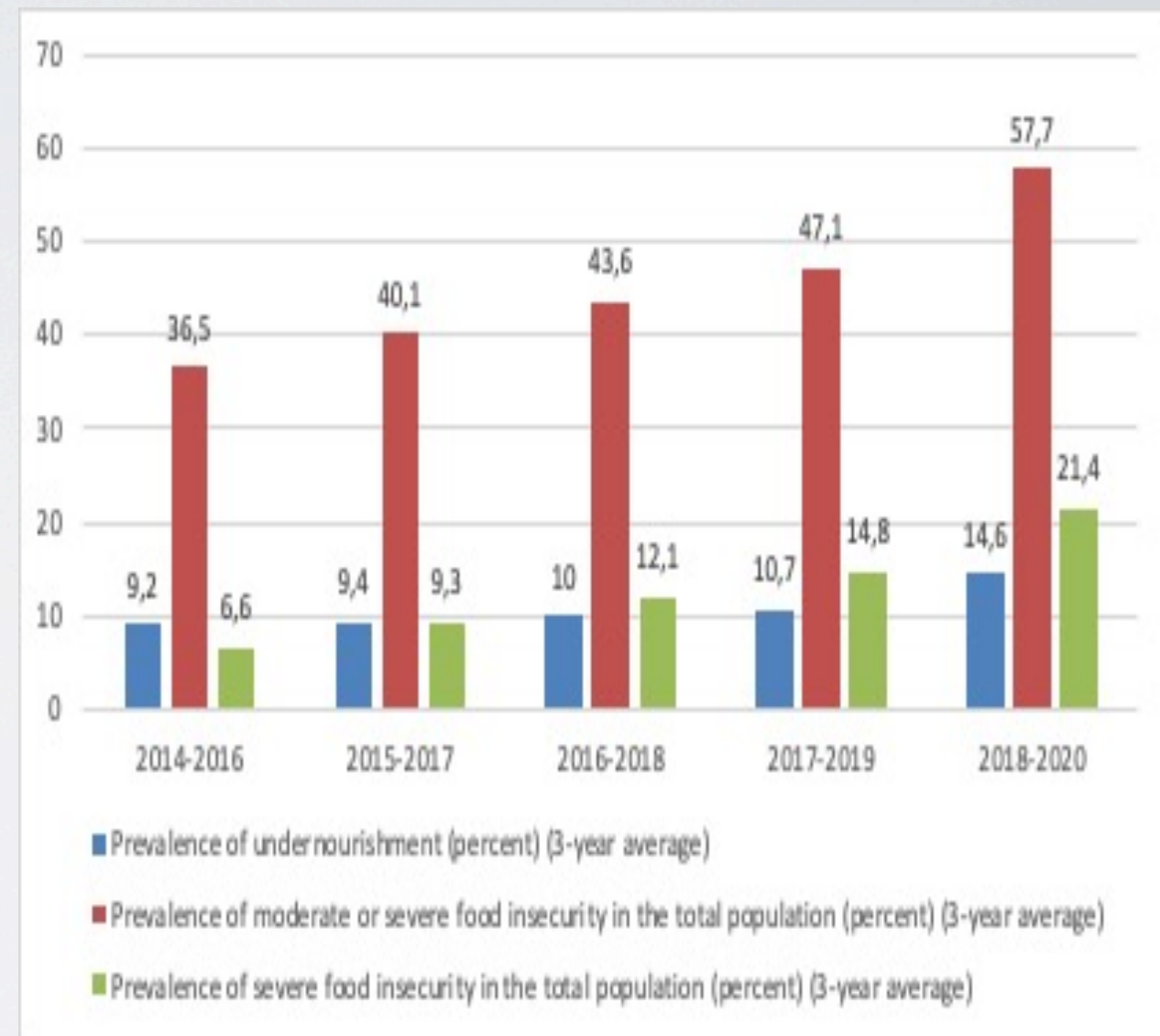


CASE STUDY LEARNINGS-NIGERIA

Figure 13 Food security indicators in Nigeria

food security in Nigeria has been hit by the pandemic more harshly.

the number of undernourished people increased 40% number of people which are moderately or severely food insecure increased 25,5%.



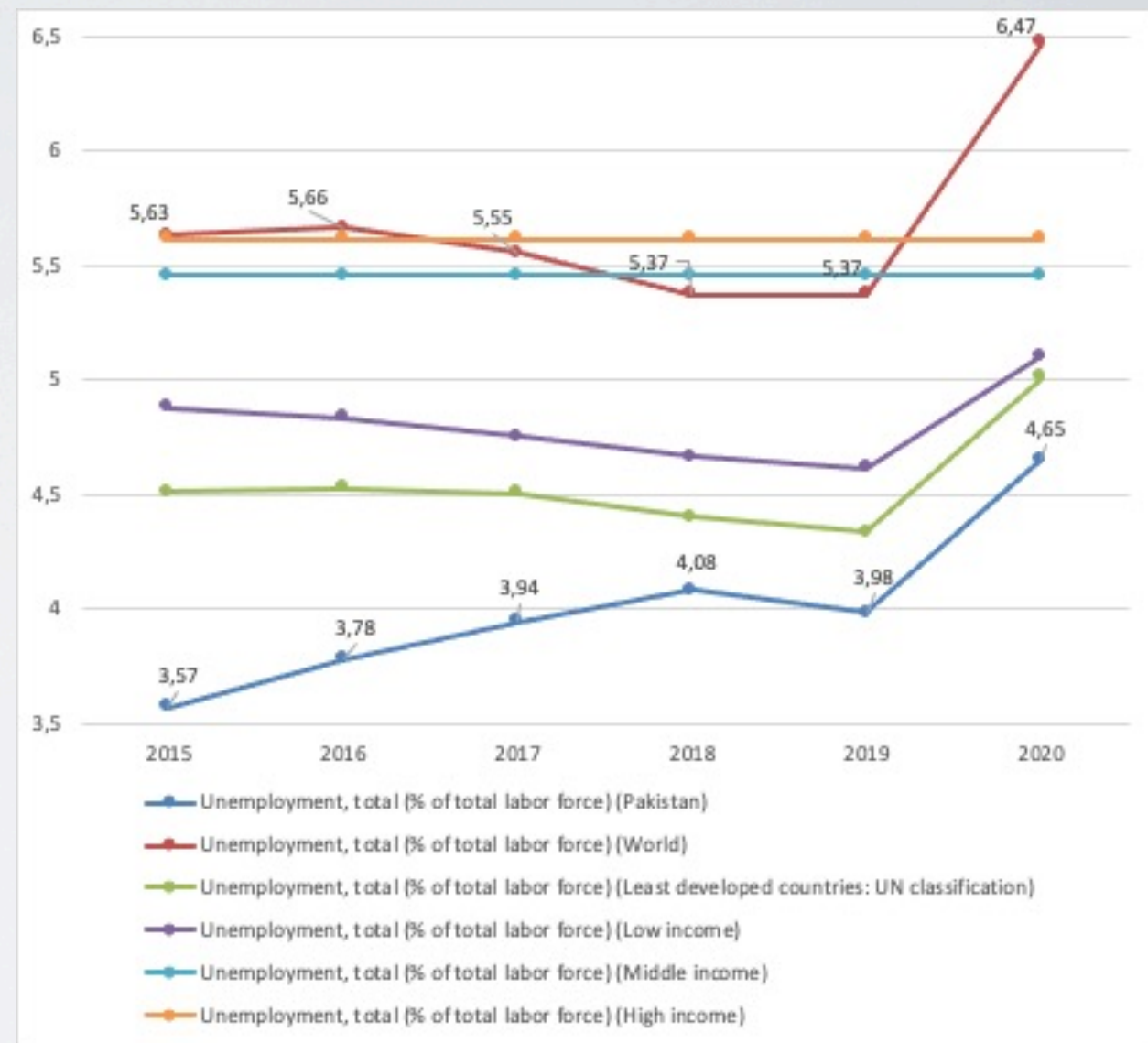
CASE STUDY LEARNINGS-PAKISTAN

Figure 15 Unemployment in Pakistan and in the World

a 35% job loss in the food industry and 21.26% of the jobs at primary production are at risk, mainly due to the COVID-19 pandemic.

There is a labour shortage in primary production.

labour shortage, together with the price swings in other inputs, may have caused a supply crisis in Pakistan.



CASE STUDY LEARNINGS-PAKISTAN

Figure 17 Consumer prices and food price inflation in Pakistan and the World

the consumer prices increased 2.41% while it dropped 0.26% in the World in one year period.

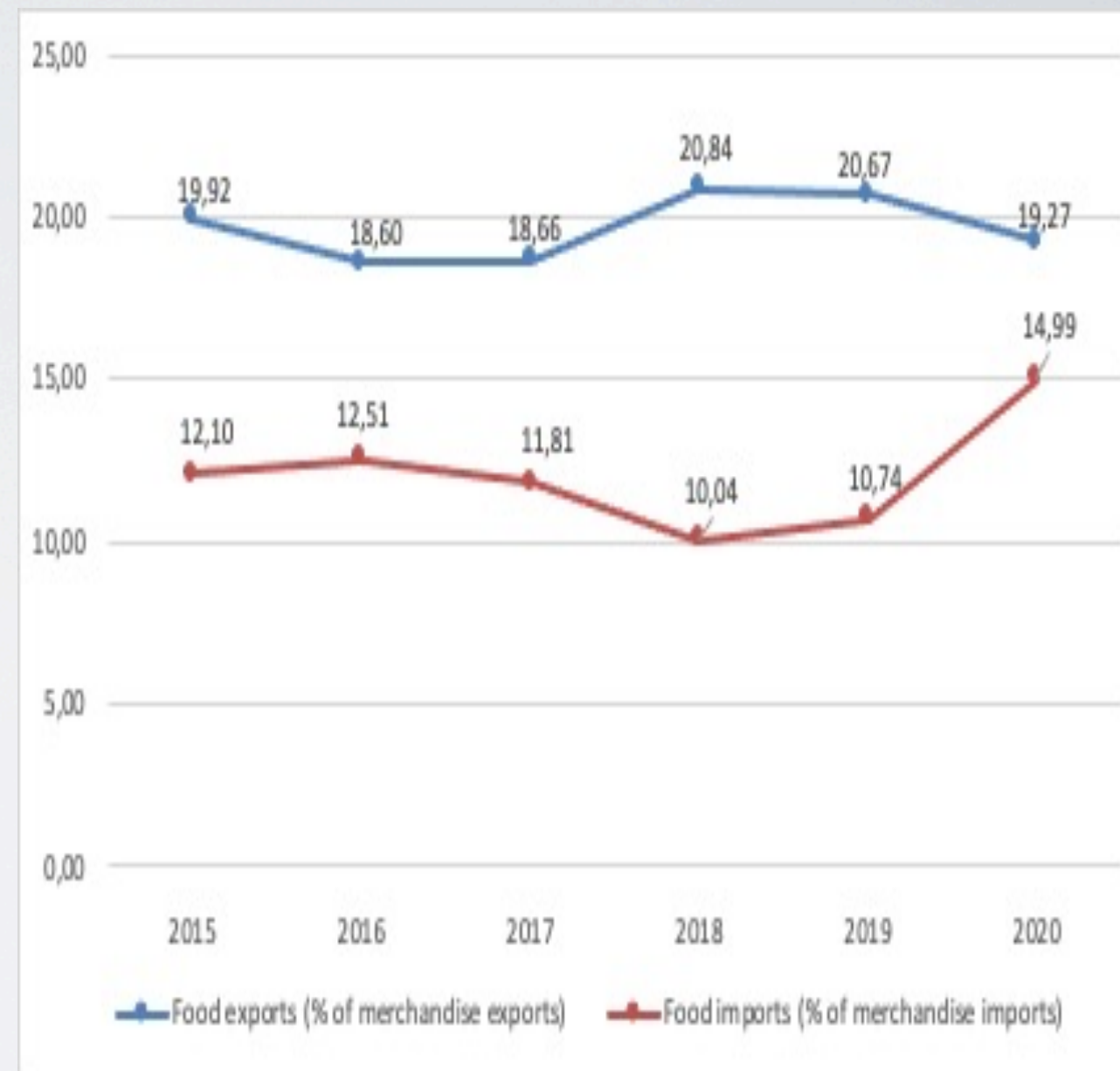
the food security in Pakistan has been affected by the pandemic more adversely than the World average.



CASE STUDY LEARNINGS-PAKISTAN

Figure 18 Food import and export in Pakistan

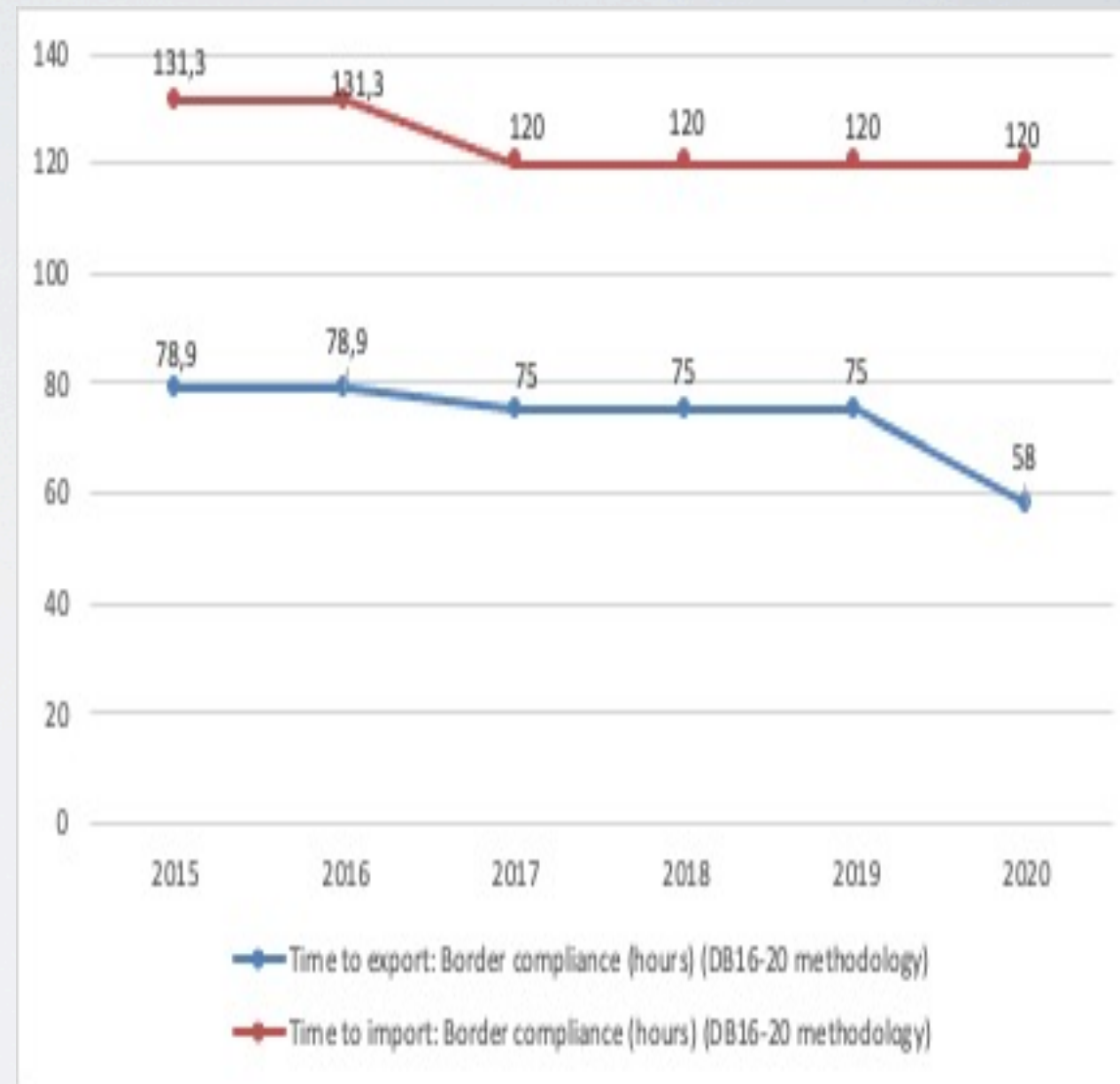
the share of food imports in the total merchandise imports has dramatically increased (39.57% increase) from 2019 to 2020, the food exports has fallen (6.77% drop) in the same time period (Figure 18).



CASE STUDY LEARNINGS-PAKISTAN

Figure 19 Time spent during the import and export in Pakistan

there has been an increase in the demands for the products exported from Pakistan during the pandemic (Figure 19).



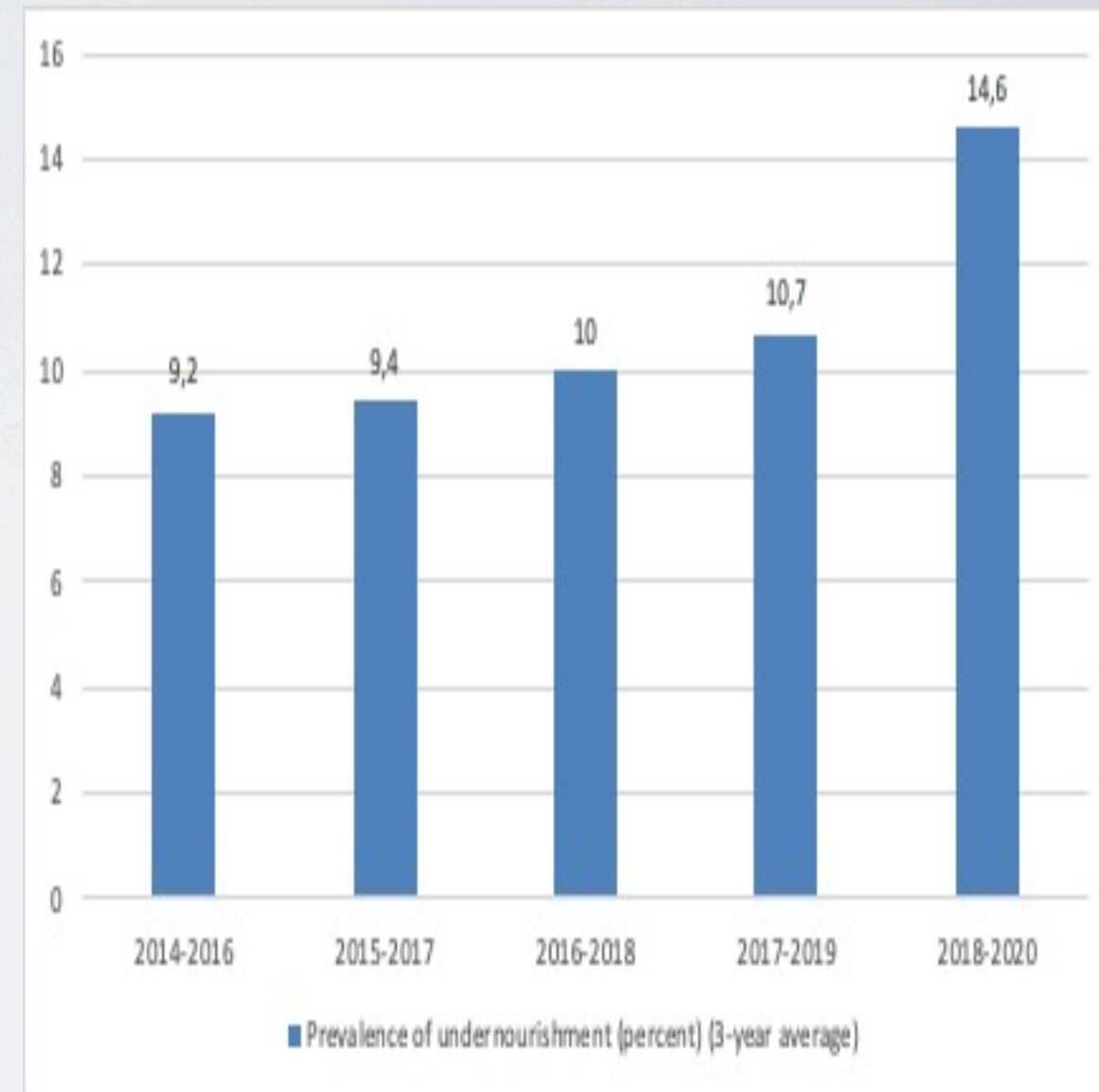
CASE STUDY LEARNINGS-PAKISTAN

Figure 20 Prevalence of undernourishment in Pakistan

COVID-19 pandemic worsen the food security indicators in Pakistan.

The number of undernourished people increased 8,1% and 2,4 million people.

Even before the pandemic, more than 1.2 million people were already in food crisis or worse in the northern Pakistan.



CASE STUDY LEARNINGS-S. ARABIA

Figure 21 Unemployment in S. Arabia and in the World

the total unemployment numbers were already in an upward trend before the pandemic but the pandemic accelerated the increase from 6,13 in 2019 to 8,22 in 2020 (34.09% increase).

It can be deduced that a significant increase in the unemployment can be expected in the primary production in Saudi Arabia due to the pandemic.

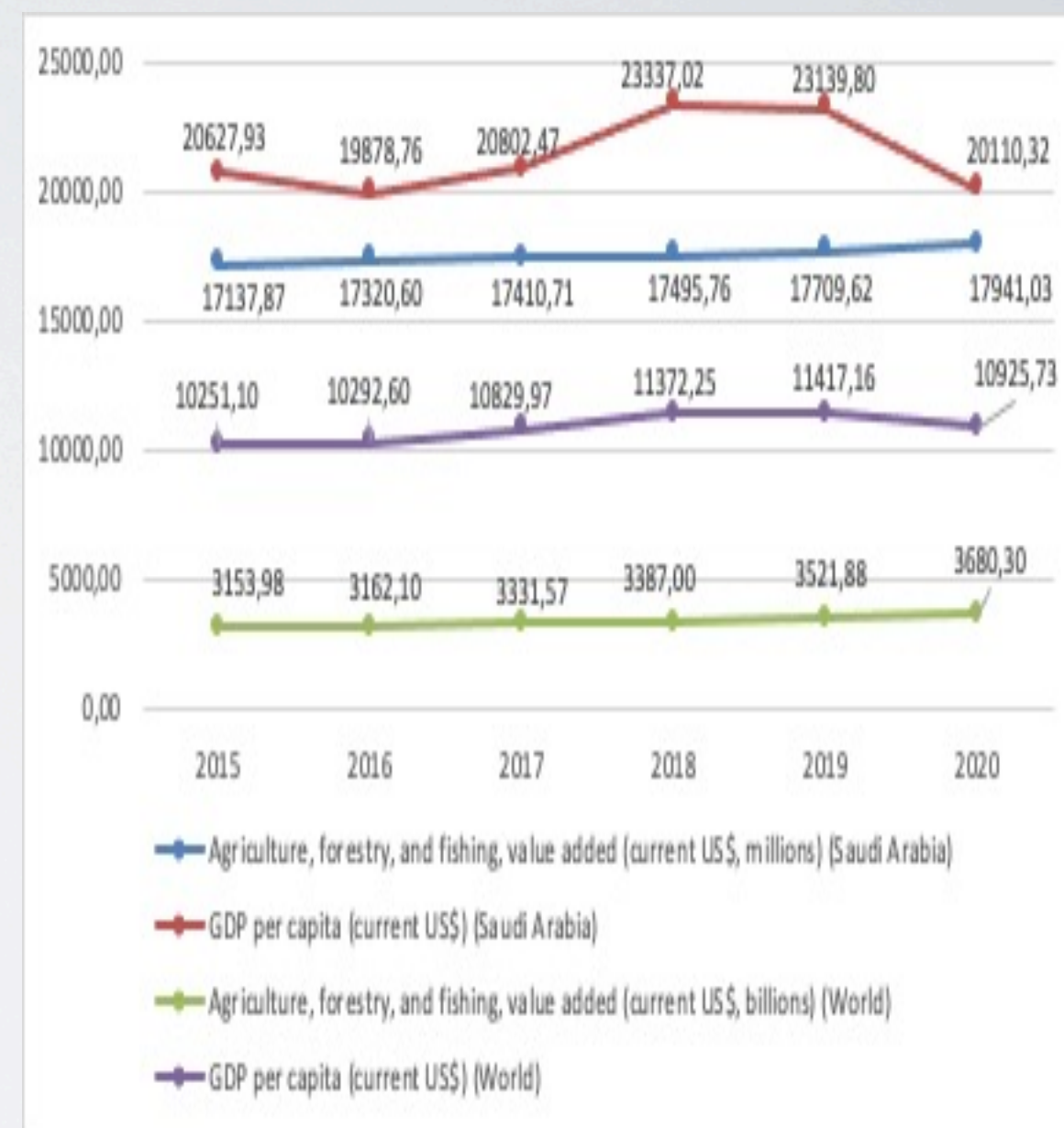


CASE STUDY LEARNINGS-S. ARABIA

Figure 22 Economic indicators in the S. Arabia and in the World

The same upward trends can be seen in value added agriculture (current US\$) before and after the pandemic.

In terms of GDP per capita, there were an upward trend until 2019, however, it decreased 0.85% in 2019 and 13.09% in 2020 in Saudi Arabia.



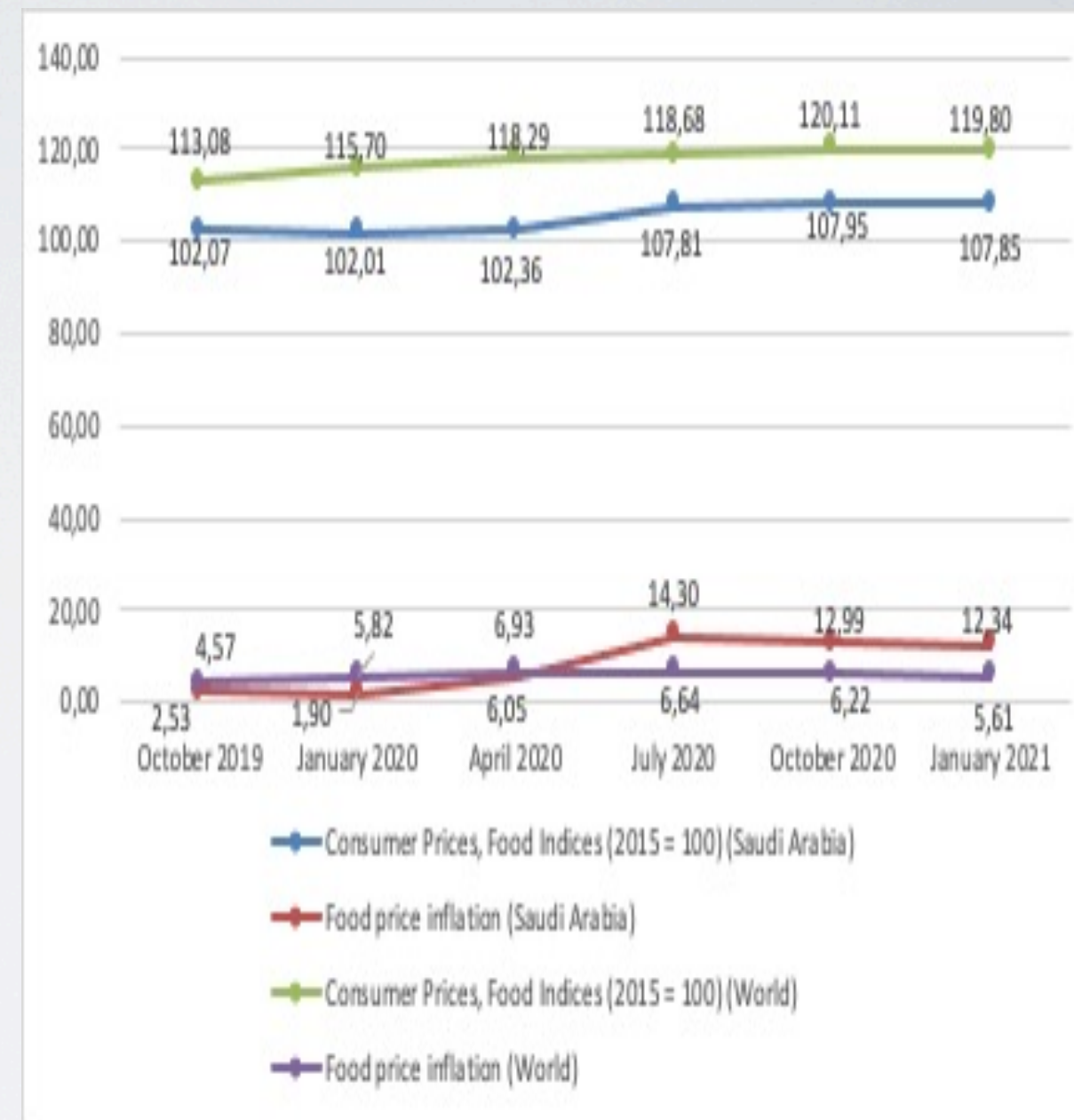
CASE STUDY LEARNINGS – S. ARABIA

Figure 23 Consumer prices and food price inflation in Pakistan and the World

The consumer prices have been in a slightly upward trend both in the World and in Saudi Arabia during the pandemic in 2020.

The food price inflation remained above the World averages after the first quarter of 2020.

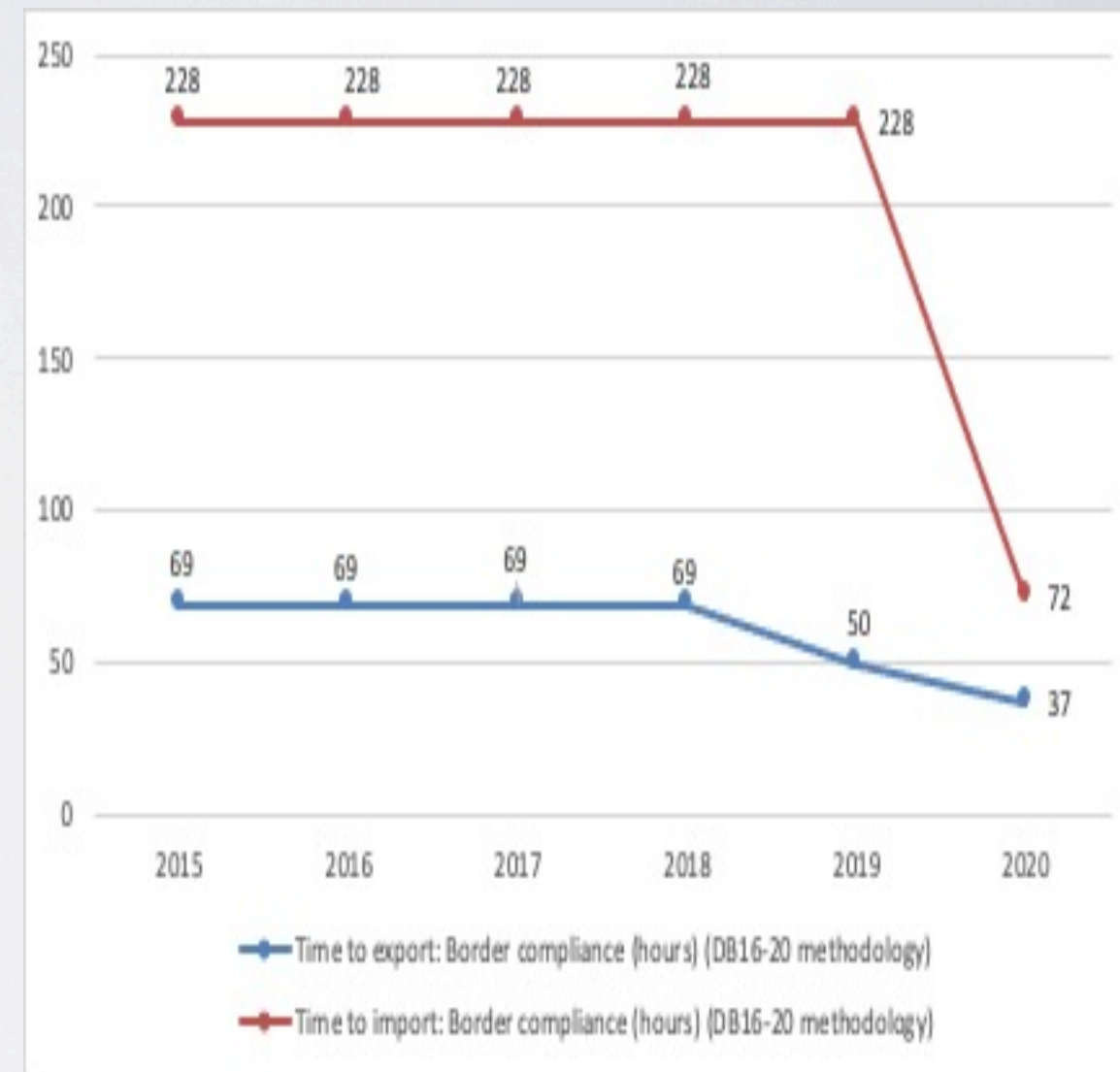
the food security in Saudi Arabia has been affected by the pandemic slightly more adversely than the World average.



CASE STUDY LEARNINGS – S. ARABIA

Figure 24 Time spent during the import and export in S. Arabia

This trend appears to be in line with the situation in Nigeria and Pakistan (Figure 24). And, this may suggest that there has been an increase in the demands for the products imported to and exported from Saudi Arabia during the pandemic.



CASE STUDY LEARNINGS- USA

- A leading role in food supply chain management as well as efforts related to coordinate COVID 19 with food supply chain.
- The country has the third most populous country in the World.
- Ranked 3rd on food security-has robust food production, access infrastructure and safety assurance mechanisms supported by good effective government policies.
- U.S.A. has a 63543 US\$ GDP per capita (current US\$) (WVB, 2021).



CASE STUDY LEARNINGS- USA

- Farming industry contributes to 1% of its GDP. 1.2 billion acres of land in agricultural use.
- Positive trade balance in agricultural export-import.
- FDA & USDA led strict ecosystem for a sustainable food supply chain management.
 - BUT
 - Vulnerabilities even before COVID 19:
 - 12% of households is food insecure !!!
 - Small holders- Flow of seasonal workers to USA Stopped during COVID 19 !!!
 - Women-children-loss of food aid during lockdowns
 - Close to 50 million foodborne illnesses reported per year !!! 3000 die !!!
 - Food Safety Modernization Act-FSMA is not enough to tackle with COVID 19.



CASE STUDY LEARNINGS- USA

➤ *Most Vulnerable Areas in the Food US Food System are:*

➤ Production

➤ Imports-

I. *Despite trade surplus it is dependent on imports for critical fertilizer categories .*

II. *An obvious parallel for OIC members can be drawn here as OIC members broadly depends on food imports.*

➤ Purchasing power-capacity

➤ Availability

➤ Access

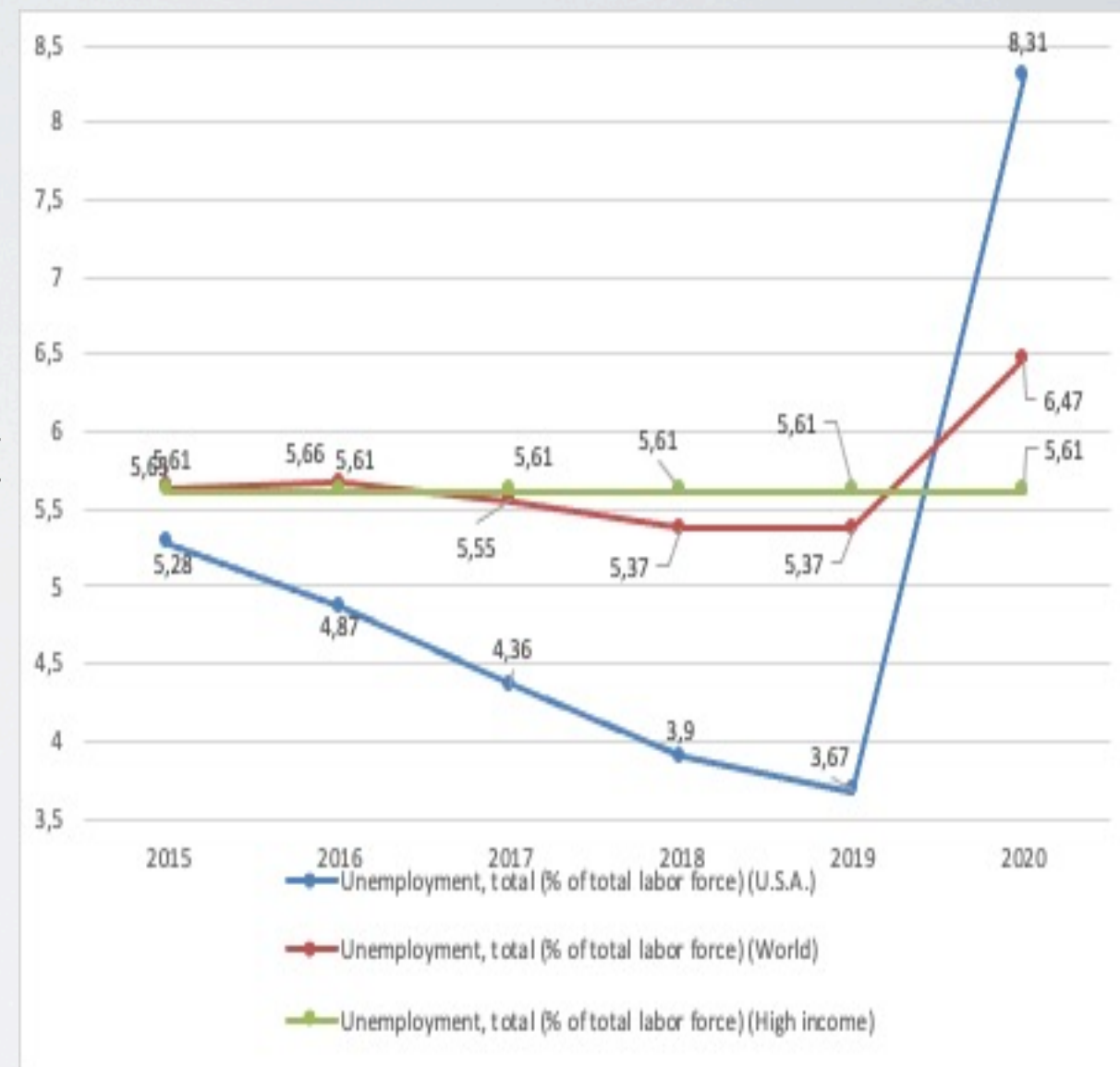
➤ Environmental risks-climate change-COVID 19

CASE STUDY LEARNINGS- USA

Figure 26 Unemployment in USA and in the World

The steep increase in the U.S.A. in the total unemployment was way above the World and OECD member country averages.

This high rate in the increase in employment also above the IFPRI 2020 estimates projecting a 35% job loss in the food industry and 21.26% of the jobs at risk at primary production, mainly due to the COVID-19 pandemic (IFPRI, 2020).



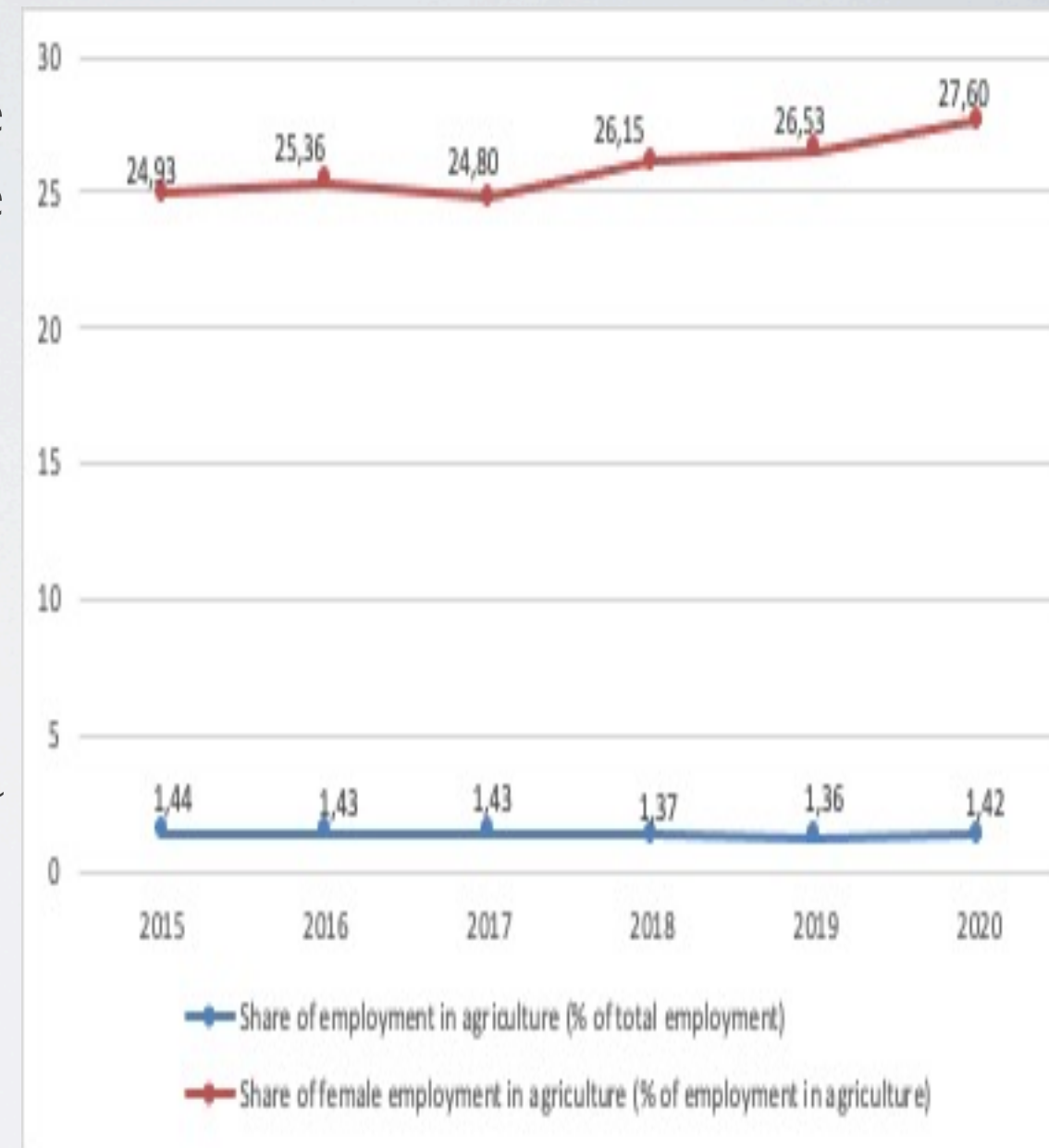
CASE STUDY LEARNINGS- USA

Figure 27 Employment in agriculture in USA

Agriculture is not a labour-intensive but a more capital- and knowledge-intensive industry in the U.S.A.

this makes the whole supply chain more resilient in high-income countries in general.

It can be suggested that the low agricultural unemployment in the country may not caused a shortage in primary production.



CASE STUDY LEARNINGS – USA

Figure 29 Consumer prices and food price inflation in USA

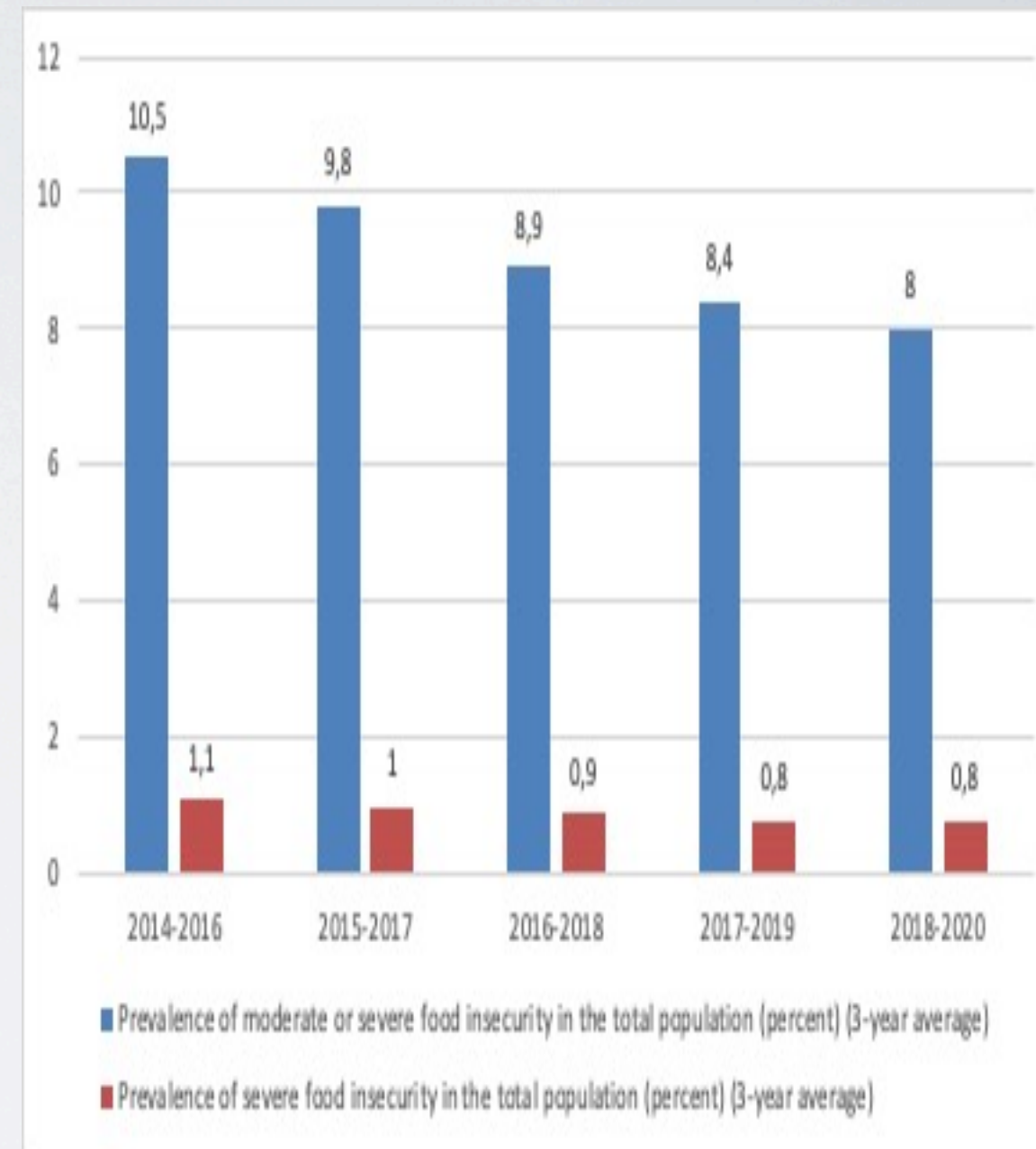
- the food security in the U.S.A. has been affected by the pandemic less adversely than the World average.
- The time spent in export and import for border compliance stayed the same as 1.5 hours in the last 6 years meaning that the COVID-19 pandemic did not affect this time spent in the border in the U.S.A.



CASE STUDY LEARNINGS – USA

Figure 30 Prevalence of food insecurity in USA

- U.S.A. does not seem to be affected from the situation.
- there is an ongoing downward trend in the food insecurity in the population (Figure 30).
- Prevalence of undernourishment was <2.5 for these years.



EVALUATION OF FINDINGS & BENCHMARKING- for the OIC to draw upon

1. private industry is leading the sustainability efforts.
2. Public policy on food sustainability adopts the principles of “*reduce, reuse, and recycle*” in every step of the supply chain.
3. reducing food loss and waste to divert excess food.

EVALUATION OF FINDINGS & BENCHMARKING- for the OIC to draw upon

- 4. Real time monitoring of risks across the food supply chain.
- 5. robust social safety nets for vulnerable households, women and children.
- 6. mitigation efforts to support agriculture sector-insurance funding.
- 6. R&D has been a cornerstone over the two decades for a sustainable food supply chain.

Where findings differs from the OIC

1. OIC can not copy exactly what U.S. does as systems are less developed, less funded and data may be harder to get-reach.
2. Individual OIC members may not have the funds for supporting safety nets.
3. Protecting and maintaining the sustainability of food supply chain is vital for OIC in particular for imports to keep the food security & its pillars.
4. To mitigate all limitations a pan-OIC initiative through a strategic preparedness and response package is needed.

POLICY RECOMMENDATIONS

* *These will be further detailed with respective rationales and discussed in the next session*

IDENTIFIED RISKS FOR OIC

1. The low income OIC countries are the most susceptible to demand-side transmission of the pandemic.
2. Almost 70% of the OIC countries have intermediate-high to high levels of risks in terms of demand-side transmissions.
3. In contrast, only 10% have a low risk of exposure to the demand side.
4. The risk on the demand side threatened OIC members majorly relying on food imports and fiscally exports of raw commodities (e.g., oil) of which the prices have collapsed during the pandemic.
5. The most vulnerable groups got less diverse diets and selling of productive assets – to overcome the income decline.

RISKS

6. Food import is threatened due to decreasing revenue from commodity exports, fluctuation of exchange rates, and disruption of the global agri-food chain.
7. The decrease in the income of the people, made it more difficult to access to the food for daily needs.
8. Possible Food Security crises is on the table.
9. MENA region is at higher risk.

POLICY RECOMMENDATIONS-FOR ALL OIC MEMBERS

-
- *Policy Advice I: Strengthening the food supply chains of the member countries by mobilizing the financial opportunities available within the OIC*
- *Policy Advice II: Reduction of Food Loss and Waste (FLW) through promoting climate smart agriculture and socially responsible practices by offering incentives to suppliers and consumers*

POLICY RECOMMENDATIONS-FOR ALL OIC MEMBERS

Policy Advice III: Protecting the most vulnerable groups through scaling up social protection and assistance programmes as well as food assistance

Policy Advice IV: Promoting international trade and logistics through temporarily reducing VAT for agricultural products, allowing zero custom duties on essential imports, addressing trade barriers, incentivizing e-commerce of agricultural products, and improving the smallholder farmers' access to the market

POLICY RECOMMENDATIONS

Policy Advice V: Providing unemployment insurance to the labor force working in the food supply chain layers

Policy Advice VI: Preventing a new supply crisis in the face of a new food crisis by promoting primary production

* Detailed and discussed in a special session

RECOMMENDATIONS

A Strategic Preparedness and Response Package (PRP) preferably coupled with a 'crisis management' is suggested to be applied at the OIC level at large (1 to 12 months duration) by Islamic Development Bank (IsDB).

- Supporting Health-Food-Development trilogy is vital through the specific needs of OIC member countries by Responding, Restoring and Restarting (3Rs).
- Respond covering short-term (1-3 months) measures has focused on health and food emergence response including social safety nets to sustain and save lives.
- Restore designed for mid-term (3-12 months) and
- Restart, long-term (more than 12 months) approach, has involved in building resilience and robust key industries.
- IsDB allocated US\$ 2.3 billion and launched US\$ 1.5 bn COVID sustainability Sukuk to implement the program.

Thank You:)

Prof. Dr. Hami Alpas (Consultant)

Food Eng. Dept.

METU

Ankara-Turkey

imah@metu.edu.tr

<https://fde.metu.edu.tr/en/prof-dr-hami-alpas>



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