

Assessing the Impact of COVID-19 Crisis on the Social- Economic Situation: Evidence from the Gambia

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ARTICLE INFORMATION	ABSTRACT
Received: October 21, 2020 Accepted: November 26, 2020 Volume: 2 Issue: 6 DOI: 10.32996/jhsss.2020.2.6.19 KEYWORDS	This study assesses the social and economic impact of COVID-19 pandemic in the Gambia. The data used in this paper was generated from online survey questionnaire, in which the participants were asked about certain questions in which coronavirus affect social and economic in the Gambia. The questionnaire was designed to help Gambia to understand covid-19 impacts on their social and economic situation. The results of this study reveal that coronavirus pandemic affected the people in the Gambia in a number of ways; 1) 84 percent said they should not open borders to more countries while only 16 percent said they should open borders. 2) In the Gambia, 61 percent of the respondents said the

The Gambia, Coronavirus Pandemic, Environment, investment, consumption, unemployment, energy demand, Economics, Social distancing, online research method environmental factor that is serious hit due to covid-19 outbreak is the energy sector. 3) 44.2 percent of the respondent said that covid-19 will have fluctuation in growing on the GDP and trade in the Gambia. 4) Due the serious impact of covid-19 on the societies, 48.8 percent of the respondent in the Gambia said they are very worried that they or someone in their family will be exposed to the coronavirus outbreak. 5) 70.5 percent of the respondent said the outbreak will have negative impact in the economy of the Gambia. 6) As the result generated from the survey, 58 percent of the respondent said in the Gambia, due to covid-19 the recession will happen over the next year. 7) 65.4 percent of the respondents said government implemented an education response for continue of learning in the Gambia while educational institutions are closed.8) 55.1 percent of the respondent said their enterprise used online learning programmes and resources and 32. 1 percent said their enterprise used video conferencing tools and 15.4 percent said their organization used printed materials such as new papers or posters and 9 percent said multimedia including podcasts and YouTube and 6.4 percent, which is the least said TV are used for staff development and training during covid-19 pandemic.9) 50 percent of the respondent to this question of the survey said their organization had planned new training programmes or activities in response to the covid-19 e.g University of the Gambia training their staffs for quality teaching and learning for their students. The implication of the results from this online survey is that it has serious impacts in the Gambia especially in economic situation, employment, consumption, investment and energy. Another policy implication is that, high co2 emission will affect national parks, wildlife and forests', and poverty, food insecurity and hunger will rises and poor agriculture, the domestic and international migration will be reduces, remittances reduces and those left behind will be seriously affected in terms of health, food security, education, energy and so on especially women, children, elderly and disable that are left behind.

1. Introduction

This paper assesses the impacts of covid-19 on socio-economic situation in the Gambia. There is no literature done in the Gambia as the time I search it online. Coronavirus pandemic which had created from the Wuhan Province of China in last part of December 2019. It instigated increasing quickly in China and to other parts of the world through the movement of people in late 2019 and early 2020. The feast of COVID-19 pandemic pretentious economic undertakings in China, the Chinese economy came to a standstill. China is a major exporter of producer and consumer commodities to Africa, and the economic reduction in China is anticipated to have spillover effects for Africa through the deleterious effect on African trades that depend on deeply on China for the supply of primary and intermediate raw materials. The coronavirus crisis is affecting many

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African countries, and the number of confirmed cases has been rising rapidly with a particularly severe situation in South Africa, Egypt, Algeria, Morocco and Cameroon. Prior to the COVID-19 pandemic, maximum of the healthcare infrastructure in African countries had worsened. Some private hospitals rejected to admit sick patients whereas public hospitals surpassed their volume. This pressured the government of some countries to build isolation centers in large open fields around the country; notably, football stadiums were converted to isolation centers in countries such as Cameroon and Nigeria. In African countries where good healthcare systems exist, the government had to scale-up intensive care units and provide more resources for hospitals and healthcare systems to control the spread of coronavirus. The plain social consequence of the coronavirus crisis was fingered through the burden of movement limitations in numerous African countries are not versatile to operate jobs from home and even the government lack certain understand and lack human capita based that have that knowledge to operate from home and contributes effectively and efficiency to the economic growth and development. Most central banks applied fiscal policy, monetary policy and exchange rate policy to stabilize the economic in both the long run and short dynamics.

The emergent coronavirus literature has discovered the effect of the coronavirus predicament by single-day data, two-day data etc. and they typically emphasis on an exact sector like tourism industry sector (Gossling et al., 2020), the mining sector as part of industrial sector (Laing, 2020), or the economy (Fernandes, 2020; Ozili and Arun, 2020; Fornaro and Wolf, 2020). First, this study contributes to the recent literature on the impact of coronavirus in society (e.g. Fornaro and Wolf, 2020). The paper contributes to this literature by exploring the socio-economic effect of coronavirus in the Gambiaby looking at the context that was not mention in the literatures such as the online research methodology. The main objective of the paper is to assess the impacts of covid-19 on the social-economic live and livelihoods of the people in in the Gambia, specifically; 1) the sectors' that made up the economy, 2) perception of the people 3) social distancing 4) job search 5) Private financial situation, 6) prevention method of covid-19 pandemic etc. The paper follows this formatting. Section 2 presents the brief literature review. Section 3 current statistic of covid-19 in the World and Africa Section 4 the online research methodology. Section 5 the results. Section 6 concludes and policy implication.

2. A Brief Literature review

A recent body of literature explores the impact of coronavirus on society. For instance, Chinazzi et al. Haleem et al. (2020) indication that COVID-19 has pretentious day-to-day life and is decelerating down the worldwide economy. They argue that the economic effects of coronavirus such as the slowing of the manufacturing of essential goods, disruption of the supply chain of products, losses in national and international business, poor cash flow in the market, significant slowing down in the revenue growth while the social consequences include the cancellation or postponement of large-scale sports and tournaments, disturbance of celebration of cultural events, religious and festive events social distancing, closure of hotels, bars and restaurants and religious places, closure of places for entertainment. Chen et al If migration increases by 0%, economic growth in the Gambia will reduces by 1.8(Ceesay 2020). Ozili (2020) analyses the COVID-19 spillovers to Nigeria and finds that the existing structural weaknesses in Nigeria contributed to making the crisis more severe in the country. Fornaro and Wolf (2020), using a simple model, show that the coronavirus trigged a negative supply shock. Ramelli et al (2020) revealed that the health predicament distorted/transformed into an economic predicament which was augmented through financial channels.

3. COVID-19 Statistics and immediate measures for containing its spread

a. Covid-19 update and its impacts

Globally, as of 21st October 2020, there have been 40,665,438 confirmed cases of COVID-19, including 1,121,843 deaths (WHO, 2020). We can see still the virus is affecting millions of peoples by each day. As of 15th October, 2020, confirmed coronavirus cases in Africa: 1,605,581, Recovered: 1,322,441; Confirmed coronavirus deaths: 38,837 (Africa CDC; Johns Hopkins; NCoVAfrica).

b. COVID-19 Situation update for the WHO African Region

The number of coronavirus disease 2019 (COVID-19) cases in the WHO African Region is now at 1 232 030 with 27 684 deaths. This is a 20% increase in incidence cases and an 86% increase in deaths compared to 25 840 cases and 659 deaths registered during the prior reporting period (30 September - 7 October 2020). In an alike trend to the preceding reporting period, 22 countries documented a decrease in new cases, with 15 registering a reduction of more than 20 percent. As of figure 1 below stated that the number of confirmed cases per million people is lower than the number of actual cases. The main reasons from European CDC is that there is limited testing for covid-19 pandemic from February, 2020 to October, 2020. To date, a total of 1 043 969 (85%) case-patients reported from all the 47 countries have recovered. The total number of

deaths reported in the region is 27 684, reported in 45 countries, giving an overall case fatality ratio (CFR) of 2.3%. Two countries, including Eritrea and Seychelles, have not registered any COVID19 related deaths since the beginning of the pandemic. Since the beginning of the outbreak in the region, the majority of the deaths have been reported from: South Africa 65% (18 028), Algeria with 6.6% (1 818), Ethiopia 4.7% (1 305), Nigeria 4.0% (1 116), Kenya 2.8% (787), Cameroon 1.5% (423), Zambia 1.2% (344), Senegal 1.1% (315), Ghana 1.1% (308), Democratic Republic of the Congo 1.0% (276), and Madagascar 0.9% (237). The top five countries: South Africa, Algeria, Ethiopia, Nigeria, and Kenya account for 83% (23 054) of the total deaths reported in the region. Chad (7.0%), Liberia (6.0%), Niger (5.7%), Mali (4.0%), Algeria (3.4%), Angola (3.3%), and Gambia (3.2%) have the highest country specific case fatality ratios.

4. Methodology

4.1. Online Research Method

The data use in this paper was generated from online survey questionnaire from June, 2020 to October, 2020, in which the participants were asked about certain questions in which covid-19 affect their social-economic situation. The questionnaire was design to help the Gambia to understand covid-19 impacts on their daily live. Respondent were questions such as; Psychology-Behavior, altitude, perception, trust, lockdown, Agriculture, Energy sector, Job/employment/employee, daily working, Economic, GDP, Social Impact-Ceremonial gathering. The initial information was reviewed to understand the final information we put it as questions to increases quality and what information needed to be gather or not gather.

5. Results

Figure 1: opening borders and COVID-19 pandemic June, 2020 to October, 2020



Source: Author Compilation from Google form for online survey

84 percent said they should not open borders to more countries while only 16 percent said they should open borders. They should open borders with countries that are free from covid-19 while others said they should bring mandatory issues to apply if they arrive in the Gambia, the study confirmed. Opening borders facilitate trades and trades as percentage of GDP increases economic growth through daily exchange of goods and services for money and that helps most businesses especially small businesses to have daily meal and to helps to solve their households needs in term of food, health and education especially children if households heads are women. Like in my country-the Gambia border with Senegal and most of this small petty trade are done in the border and mostly done by women and their children to solve their households needs and some even to helps their husband with fish money.

Figure 2: Climate change and COVID-19 pandemic June, 2020 to October, 2020



Source: Author Compilation from Google form for online survey

29.5 percent agree and 12.8 percent strongly agree that covid-19 is as serious as the impact of climate change cause in the Gambia. Lower rainfall or high temperature or sea level rises respectively lead to lower agriculture productivity which is associated with low crop yield and poor livestock performance and high temperature cause drought and drought lead to low crop yield, immaturity of crop, water scarcity, and encourages bushfire and wild animals eventually died and run to another places, while 12.8 percent disagree and 17.9 percent strongly disagree that climate change is serious as covid-19.For them climate change and covid-19 do not do similar damages. In the reality check the study can see that what climate change does to humanity in long run, covid -19 did it in short run, because food security halt in both cases, co2 halt manufacturing industries due to climate change effect ,while covid-19 affect productivity and service delivering and employment in manufacturing industries. Sea level rises cause migration and for covid-19 travel ban occurred but peoples always want to go to places too where covid-19 is less severity.

Figure 3: Environmental factors and COVID-19 pandemic June, 2020 to October, 2020



Which environmental factors will be serious hit by covid 19 pandamic? Select all that apply 77 responses

Source: Author Compilation from Google form for online survey

In the Gambia 61 percent of the respondents said the environmental factor that is serious hit due to covid-19 outbreak is the energy sector. As in the covid-19 the demand for electricity reduces due and the supply for it also reduces. The demand reduces due to reduction in employment or due less services delivering by large cooperation due to lockdown or closure of most of the work places. So high reduction in revenue in the energy sector especially electricity generation directly from fossil fuel generation and while other renewable energy are less common in the Gambia such as wine power generation, solar power generation and so on. As energy sector is seriously hit by covid-19 pandemic, it supply to the public also reduces because in the Gambia ,as most of the countries are using non-renewable energy sources to supply electricity and they import those barrel from outside and as import stop through travels ban, it makes most of them to reduces the supply of electricity. This serious affect the services for the society and that makes most people to go in for alternative sources of energy such as generator, which is also costly and it pollution causes health hazard as well.37.7 percent of the respondent said it the wildlife and the habitat that are mostly affected by covid-19 pandemic, while 36.4 percent and 35.1 percent of the respondent said it is the CO2 emission per person and waste respectively that are affected by the outbreak of coronavirus.

Figure 4: GDP, Trade and COVID-19 pandemic June, 2020 to October, 2020

The Potential Impact of COVID-19 on GDP and Trade:what does coronavirus mean for Gambian Economy after the pandemic? ^{77 responses}



Source: Author Compilation from Google form for online survey

44.2 percent of the respondent said that covid-19 will have fluctuation in growing on the GDP and trade in the Gambia. That mean the GDP in the Gambia and trade in the Gambia with other countries will have decreasing trend and that will reduces most of the economic activities and it will reduces revenue and that will impact economic growth and development in the Gambia, the study confirmed.24.7 percent of the respondent said that the GDP and trade in the may not grow after coronavirus due to the damages done by lockdown and the like while 9.1 percent the GDP na d trade may not grow at all and 19.5 percent are optimistic that the GDP and trade will grow in the Gambia while the least of the respondent said it will take time for the economy to recover in the Gambia and other said they did not have idea on the potential impact of covid-19 on GDP and trade in the Gambia.

Figure 5: Worried and COVID-19 pandemic June, 2020 to October, 2020

How worried are you that you or someone in your family will be exposed to the coronavirus? 82 responses



Source: Author Compilation from Google form for online survey

Due the serious negative impact of covid-19 on the societies, 48.8 percent of the respondent in the Gambiasaid they are very worried that they or someone in their family will be exposed to the coronavirus outbreak. This may be attributed to the number of cases that are spreading globally due breakdown the principle of covid-19 such as prevention principles and limited testing and avoidance etc. 20.7 percent said they are somewhat worried and 12.2 percent not too worried. As most of the peoples in the Gambia are poor and vulnerable to diseases, the study attributed to this part of the survey question that the Gambiawill be exposed to covid-19 and will impact negatively their trade, their services, their export and import, their agriculture sector and food availability with food prices will rises because of lack of food supply from producer, which are affect by either closure or lockdown and they cannot reach at the farm or limited access to their farms.Poverty, hunger, food

insecurity and inequality are high in the Gambia, so covid-19 will make this variables more severe and worsen and that will cost the Gambia to have difficult in post covid-19 recovery. So the study attributed because of breakdown that happened in the Gambiadue to covid-19, they will be seriously negative affect in the future based on their economic, services, and agriculture and food security.

Figure 6: Worried and COVID-19 pandemic June, 2020 to October, 2020

How worried are you that there will be an outbreak of coronavirus in the Gambia? 80 responses



Source: Author Compilation from Google form for online survey

As most of the peoples in the Gambia concerned about the spread of covid-19 in other parts of the world and those they completely bitterly how government allow flight to comes from most risky countries and according to the survey 60 percent of the respondent said they are very worried there will be an outbreak of covid-19 in the Gambia and 15 percent said they are somewhat worried while 7.5 percent not worried at all and another 7.5 percent did not give any answer.

Figure 7: Worried and COVID-19 pandemic June, 2020 to October, 2020.



How worried are you that the coronavirus outbreak will have a negative economic effect in the Gambia? 78 responses

Source: Author Compilation from Google form for online survey

As in other countries coronavirus disrupted industries, services, transportation, productivity and production of agriculture goods, halt export and import, destroy businesses-small, medium and large scale enterprises, stop most businesses such as toyata business in Germany, mobile business in the USA and China, others productive businesses around the world and all these affect economic progression in both the short run and long run. Therefore, 70.5 percent of the respondent said the outbreak will have negative impact in the economy of the Gambia. 10.3 percent said they are somewhat worried and 9 percent did not answer.

Figure 8: Economic recession and COVID-19 pandemic June, 2020 to October, 2020

As you may know, periods of economic growth are followed by periods of recession. Do you think a recession over the next year is...

81 responses



As economic fluctuated over-time. Most of the time period of economy growth, that is associated economic boom from high employment, lower interest rate and low inflation and high investment and high consumption, increases government expenditure and positive net export associated with positive surplus. After economic booming, economic recession may follow and this is associated with high unemployment rate with lower output and in that cases high crime rate with high inflation and high interest and discouragement of investment and that makes youth to have no jobs and that encouraging risky journey to Europ and so on. As the result generated from the survey, 58 percent of the respondent said in the Gambia, due to covid-19 the recession will happen over the next year and 32.1 percent said may be recession will follow due to covid-19 outbreak on Gambian's economy and 9.9 percent said they did not thing because of covid-19 recession will happen after the outbreak of covid-19.

Figure 9: Education response and COVID-19 pandemic June, 2020 to October, 2020.

Has the government implemented an education response for the continuation of learning in the Gambia while education institutions are closed?



Source: Author Compilation from Google form for online survey

65.4 percent of the respondents said government implemented an education response for continue of learning in the Gambia while educational institutions are closed. In the Gambia this is very true most of the universities conducted training and learning through online classes and that helps most of the universities in the Gambia not to skip single semester and continue learning was implemented. This is good ways to increases new platform form learning but the disadvantages is that it reduces quality because most of the peoples or students lack knowhow to operate online zoom or others but also the energy sector in

the Gambia makes most of the students to miss certain lecture and that disruption affects their daily life. Lacking interactions and exchange of ideas with peers also reduces the quality of education and learning, research and development, training and so on are all affected by covid-19 pandemic, that was first seen in China city of Wuhan.

Figure 10: Method for continuity of learning and COVID-19 pandemic June, 2020 to October, 2020

If Yes) What method for continuity of learning is currently available for children affected by closures of educational institutes provided by the Government? (Select all that apply) 78 responses



Source: Author Compilation from Google form for online survey

61.5 percent said use of online/digital learning platform is the method for continuity of learning is currently available for children affected by closures of educational institutes provided by government, while 50 percent said television, radio, or podcast broadcast and 17.9 percent said assigning reading and exercises for home study. In our opinion, this may be due to the fact that each level of education was given special treatment such as those at university can conduct online classes and those at secondary level can conduct others means to have education even though we are in lockdown or schools closure is on.

Figure 11: Training programmes and COVID-19 pandemic June, 2020 to October, 2020

50%

Yes No 34.6% Maybe

Has your enterprise or organization planned or organized any new training programmes or activities in response to the COVID-19 pandemic? 78 responses

Source: Author Compilation from Google form for online survey

50 percent of the respondent to this question of the survey said their organization had planned new training programmes or activities in response to the covid-19 e.g University of the Gambia training their staffs for quality teaching and learning for their students.34.6 percent said their organization is not planning or organizing any new training or activities to the covid-19 pandemic while 15.4 percent said maybe.

Figure 12: Online/offline and COVID-19 pandemic June, 2020 to October, 2020

Is your enterprise or organization using any of the following online and/or offline distance learning tools for staff development and training during the COVID-19 pandemic? Please check all that apply. 78 responses



Source: Author Compilation from Google form for online survey

55.1 percent of the respondent said their enterprise used online learning programmes and resources and 32. 1 percent said their enterprise used video conferencing tools and 21.8 percent said their enterprise used no distance learning tools and 17.9 percent of the respondent said their enterprise used virtual reality simulators and 15.4 percent said their organization used printed materials such as new papers or posters and 9 percent said multimedia including podcasts and YouTube and the 6.4 percent, which is the least said TV are used for staff development and training during covid-19 pandemic. This covid-19 has lot of problems and interruptions such as universities closed down, some universities online classes, which is mostly ineffective and other they even postpone the semesters and others they are undecided, some market are closed down and this also affect trades, some mosques and church closed down and this affect worshipping "Allah" or "God" and some import and export stop and some even currency exchange stop, some services sector, industrial sector and agricultural sector stop or activities reduces and small, medium and large enterprises halted and all these disrupts the current and expected economic growth and development

6. Conclusion and Policy Implication

This paper assesses the covid-19 and its effect on the social-economics of the Gambia by looking at the people's perception and social-economic situation in the Gambia. As the results generated, most people said coronavirus will affect the Gambia even in the future due to the fact that the Gambia do not have proper human capital to deal with this pandemic and due to lockdown, most of the revenue and products are drive from tourisms and china. As lockdown rises and travels ban affects the tourism sectors and it makes the Gambia vulnerable and that contribution to tourism sector decline and that reduces the overall economic growth in the last quarters of 2019 and the whole year of 2020. The most peoples that answer to this online survey said coronavirus affect their daily life such as job search, the economic, employment, consumption etc.

The policy implication of covid-19 as indicated in this survey is that the Gambia depend on employment or jobs as a source of income. This has serious impacts on social-economics interactions. If social-economic interaction decline, this will eventually causes trade, exchange of goods and services to slow-down and eventually will have negative impacts on economics through lack of exchange rates, import, export, net-export per se, balance of payment, investment, consumption, saving, agriculture, causes high commodity prices, debt to GDP ratios to be high, climate change effects affect livelihoods and agriculture productivity will decline through crops failures and low productions in fishing and livestock industries, high co2 emission will affect national parks, wildlife and forests', poverty, food insecurity and hunger will rises due to insufficient demand of food stuffs items because of low import and poor agriculture, the domestic and international migration will be reduces,

remittances reduces and those left behind are seriously affected in terms of health, food security, education especially women, children, elderly and disable that are left behind and this will have negative consequences on economic growth and development. The future research on covid-19 pandemic in the Gambia should also look at educational sector, livelihoods, small, medium and large enterprises/Businesses, market, Food security, to understand the impact of covid-19 outbreak in the Gambian's communities.

References

- [1] Ceesay, E. (2020). Employment in Agriculture, Migration, Bilateral Aids, Economic Growth and Remittance: Evidence from the Gambia. *Economics, Management and Sustainability*. https://doi.org/10.14254/jems.2020.5-1.5.
- [2] Gössling, S, Daniel, S, and C. Michael H. (2020). Pandemics, Tourism and Global Change: A Rapid Assessment of COVID-19. *Journal of Sustainable Tourism*. https://doi.org/10.1080/09669582.2020.1758708.
- [3] Ceesay, E. K., Belford, C., Fanneh, M. M., & Drammeh, H. (2019). Relationship between Export, Imports and Economic Growth: An Export-led Growth Strategy for the Gambia Using The Granger Causality Test. International Journal of Social Sciences Perspectives. https://doi.org/10.33094/7.2017.2019.42.38.47
- [4] Laing, T. (2020). The economic impact of the Coronavirus 2019 (Covid-2019): Implications for the mining industry. In *Extractive Industries and Society*. https://doi.org/10.1016/j.exis.2020.04.003
- [5] Fernandes, N. (2020). Economic effects of coronavirus outbreak (COVID-19) on the world economy Nuno Fernandes Full Professor of Finance IESE Business School Spain. SSRN Electronic Journal, ISSN 1556-5068, Elsevier BV,.
- [6] Ozili, P. K., & Arun, T. (2020). Spillover of COVID-19: Impact on the Global Economy. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3562570
- [7] Fornaro, L., & Wolf, M. (2020). Covid-19 Coronavirus and Macroeconomic Policy. CEPR Discussion Papers.
- [8] Fornaro, L., & Wolf, M. (2020). Covid-19 Coronavirus and Macroeconomic Policy : Some Analytical Notes. *Barcelona GSE Working Paper Series*.
- [9] Chinazzi, M., Davis, J. T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., Pastore y Piontti, A., Mu, K., Rossi, L., Sun, K., Viboud, C., Xiong, X., Yu, H., Elizabeth Halloran, M., Longini, I. M., & Vespignani, A. (2020). The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. *Science*. https://doi.org/10.1126/science.aba9757
- [10] Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of COVID-19 pandemic in daily life. Current Medicine Research and Practice. https://doi.org/10.1016/j.cmrp.2020.03.011
- [11] Ramelli, S., & Wagner, A. F. (2020). Feverish Stock Price Reactions to COVID-19. *The Review of Corporate Finance Studies*. https://doi.org/10.1093/rcfs/cfaa012
- [12] Ozili, P. K. (2020). COVID-19 pandemic and economic crisis: the Nigerian experience and structural causes. *Journal of Economic and Administrative Sciences*. https://doi.org/10.1108/jeas-05-2020-0074
- [13] https://africanarguments.org/2020/10/15/coronavirus-in-africa-tracker-how-many-cases-and-where-latest/
- [14] WHO. (2020). Novel Coronavirus (2019-nCoV) Situation Report 1. Who.
- [15] https://www.ecdc.europa.eu/en