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Covid-19 in Morocco: The economic and social implications of the pandemic and the government responses

Abdellatif El Aidi¹ and Adil El Filali²

The novel coronavirus, which broke out in Morocco at the beginning of March 2020, is a disease of pandemic proportions. Its first outbreak was identified in late 2019 in a Chinese city called Wuhan before it spreads like wildfire to the rest of the world. Regarding the cause of the disease, it is a new strain of coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). As soon as the first case of coronavirus appeared in China, the Moroccan government, as is the case with the governments of most countries, took a set of preventive measures to protect the health and safety of its citizens. Although these measures spared Morocco the worst scenario, especially in the number of infections and deaths, they had serious economic and social repercussions on Moroccans. In this paper, we explore Morocco's experience of Covid-19 and the government's measures to contain its spread. Then, we highlight the economic and social impacts of these measures and the steps taken to mitigate them.

Keywords: COVID-19, measures, Morocco, outbreak, economic, social conditions

Introduction

The emergence of several cases of pneumonia of unknown cause in the city of Wuhan (China) wrought fear and terror all over the world. The whole world moved swiftly to besiege the pandemic and prevent its spread. As in all countries, and Morocco is not an exception, a set of measures and decisions aimed at combating the spread of this pandemic and mitigating its impacts on citizens were adopted. Hence, aware of the limited available sources in the health sector, the Moroccan government, under the wise guidance of his Majesty the King, developed a clear and effective strategy to face the challenges of the crisis caused by COVID-19. After sealing off the borders, preventing gatherings and closing schools and universities, the government declared a state of health emergency on 02

which contributed to the increase in the unemployment rate and the decline in people's purchasing power. Therefore, faced with this deteriorating situation, the government decided to provide financial support to all those who suffered from its decisions aimed at combating the pandemic. What measures and procedures did the Moroccan government take to protect the health and safety of its citizens? How did these measures affect their social and economic conditions? And how did the government act to mitigate the negative effects of the pandemic on both people and businesses?

Coronaviruses: an overview

Coronaviruses are sorts of infections that usually affect

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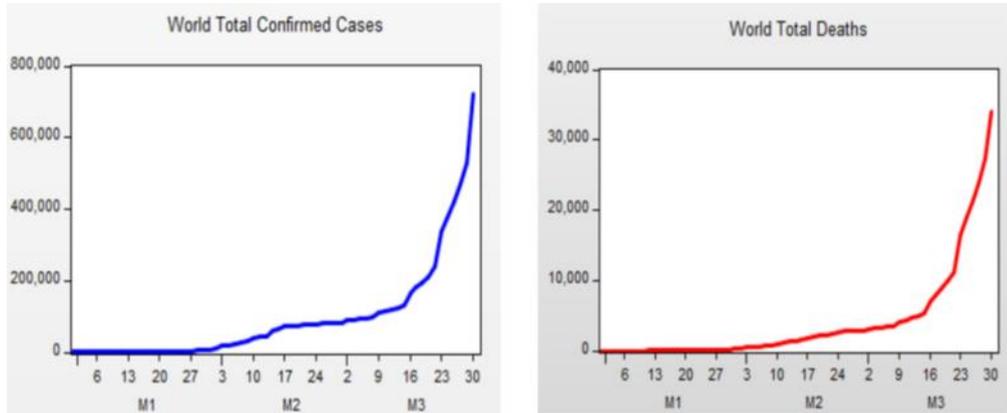
the respiratory system of mammals, including humans. They are connected with the common cold, pneumonia, and severe respiratory syndrome (SARS) and can also affect the gastrointestinal tract (Syed, 2020, p. 8). Prior to the year 2003, human CoVs were not thought of as a dangerous infection. The strains in circulation were giving rise to minor side effects in immunologically competent people. Regularly, the infected suffers from a runny nose, cough, sore throat, headache, and fever which may persist for many days. In the worst-case scenario, the infection could cause a lower respiratory sickness like pneumonia and bronchitis, mainly for those having a weakened immune system (Alanagreh et al., 2020).

However, in November 2002 the first outbreak of severe acute respiratory syndrome (SARS) caused by the SARS coronavirus (SARS-CoV) emerged in Guangdong, China. The SARS-Cov, which had been transmitted from animals to humans, soon became a global pandemic due to its rapid spread among humans. For instance, during a family visit to Hong Kong, a medical professor from Foshan in Guangdong province passed on the virus to 2 of his relatives, 4 health care employees and 12 neighbouring inhabitants. Soon the virus was transmitted to many other countries, such as Canada, Singapore and Vietnam, resulting in 8422 patients and 919 deaths. Between November 16, 2002 and June 3, 2003, 5328 were infected and 349 lost their lives in China alone (Yang et al., 2020, p. 3).

Since September 2012, a new infectious virus causing a severe respiratory sickness, called the Middle East Respiratory Syndrome – Coronavirus (MERS-CoV), has been spreading in the Arabian Peninsula. MERS-CoV is a SARS-like infection displaying with flu-like symptoms (Garout et al., 2018, p. 87). As for the source of the virus, evidence demonstrates that MERS-CoV has been transmitted to humans from dromedary

camels. The strains of the virus isolated from the lung and nasal swab samples from those camels are identical to those found in human patients (Zhu et al., 2019, p. 358). MERS-CoV, which first emerged in Saudi Arabia, spread to other countries in the Middle East, such as Qatar, Bahrain, Kuwait, Tunisia, and Jordan. The infection also spread to the United States, Southeast Asia and many North African and European countries. In September 2018, the World Health Organization declared that MERS-CoV infection had been detected in 27 countries, with 2260 infected people and 803 deaths (Al Mutair & Ambani, 2020).

In December 2019, a cluster of pneumonia cases of unknown origin appeared in Wuhan, a city in the Hubei Province of China. After a few weeks, a novel corona-virus was recognized as the cause of these pneumonia cases (Di Gennaro et al., 2020, p. 1). Preliminary investigations indicated that most patients had worked in or visited a famous seafood market that exhibited live animals for sale (Hu et al., 2020). Although the market was quickly closed for disinfection, the novel corona-virus became rapidly so widespread that it caused an unprecedented epidemic in the whole of China. On 11 March 2020, the World Health Organization (WHO) declared the novel coronavirus a global pandemic due to its quick spread across the globe (Cucinotta & Vanelli, 2020). On 30 March 2020, the World's confirmed cases of COVID-19 climbed to 723 732 patients and 34000 deaths (see Figure 1), and the pace of new infections was accelerating (Worldometers, 2020). Although the elderly were more vulnerable to infection, the novel coronavirus attacked people of all ages. Most patients start noticing symptoms within 2 to 14 days after catching the virus. These symptoms include dry cough, fatigue, fever, conjunctivitis headache, dyspnea, myalgia, sore throat, nausea, rhinorrhea, vomiting and diarrhea (Ozdemir, 2020, p. 243).



Source: Data obtained from Worldometers (2020)

Figure1: World total COVID-19 patients and deaths (January 1, 2020 to March 30, 2020)

COVID-19 outbreak in Morocco

In a press release issued on 2 March 2020, the Ministry of Health declared the first COVID 19 confirmed case in Morocco. The infected person was a Moroccan citizen residing in Itlay. The patient exhibited mild symptoms, such as breathing difficulties, cough, cephalalgia and stomach-ache. He was isolated and subjected to medical supervision in Moulay Youssef Hospital in Casablanca (Ministry of Health of Morocco, 2020). Morocco’s Minister of Health held a press conference on 3 March 2020 to keep the public informed about the new case. During

his talk to the press, the Minister affirmed that the 39-year-old patient had contacted 104 people during his flight. He added, his contacts in Morocco are all from Casablanca and El Jadida. However, some of them went to other cities, such as Ouarzazate. All these people were traced and closely monitored (Kasraoui, 2020). Day after day, more and more positive cases were confirmed. On 31 October 2020, the Ministry of Health announced that the total number of people contaminated with the novel coronavirus reached 219084, including 181275 people recovered and 3695 deceased, while 3107566 cases were excluded because they had negative test results (see Figure 2).

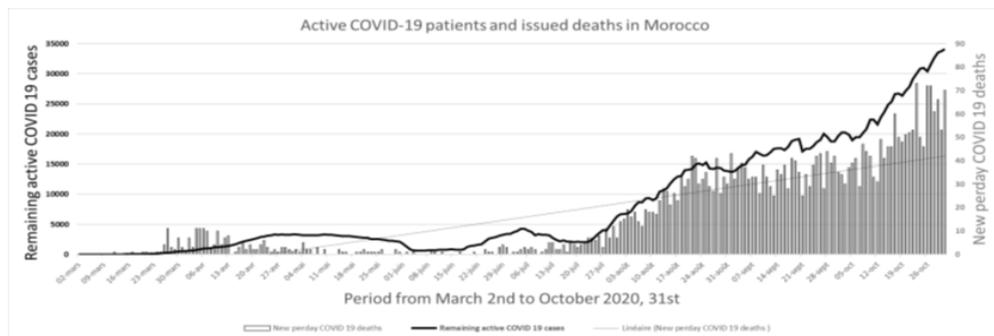


Figure2: Active COVID-19 patients and issued deaths in Morocco between March and October 2020 (Bennis, 2020)

Methodology

This study aims to explore the health crisis caused by the Covid-19 pandemic outbreak in Morocco and its socio-economic implications for Moroccan citizens. The data used in this paper are those published daily by different governmental ministries, such as the Ministry of Health, which daily reports the number of positive cases, deaths and recoveries, the Ministry of Finance, which informs the citizens of the ravaging effects of the pandemic on the Moroccan economy and the Ministry of Interior, which publishes documents aiming to ensure that the protective measures recommended by the health officials are applied. Other sources of secondary data, such as websites and journal articles are also used for purposes of building a solid foundation for our research study.

Morocco's measures to besiege the outbreak of COVID-19

Immediately after sounding the alarm by the World Health Organization about Covid-19 outbreak, Morocco took a set of proactive measures to prevent the novel coronavirus from reaching its territory. This anticipatory response crystallized in the formulation of a National Preparedness and Response Plan for COVID-19 in January 2020, when the virus was still not yet in Morocco. This plan aimed to regulate and standardize the interventions of the health sector and other sectors at the national level (the Moroccan Ministry of Health, 2020).

As soon as the first confirmed case of COVID-19 was identified in Casablanca, the government took several drastic measures. The first of these was the issuance of a press release by the Ministry of Interior on 4 March 2020 which prevented the organization of all types of International events in Morocco (the Moroccan Ministry of Interior, 2020). As a consequence, the 15th International Agricultural Exhibition, scheduled to take place in Meknes from April 14 to 19 as well as the International Grains Montana Forum, scheduled to take place in Dakhla from March 18 to 21 were cancelled (Kasraoui, 2020).

After the increase of cases among the people coming to Morocco from abroad, the government decided on 13 March to suspend all air flights and maritime links to and from the countries most affected by the pandemic (Layelmam, 2020). On 15 March 11 new cases of COVID-19 were confirmed in one day, all of them returned from outside Morocco's borders. Because of this dramatic increase, Morocco's air, marine and land borders were temporarily closed (The Moroccan Ministry of Foreign Affairs, African Cooperation and Moroccans Abroad, 2002). To these closure border measures was added the shutdown of all educational institutions starting from March 16 and for an indefinite period. In-person instruction was replaced by distance education as some electronic platforms and Moroccan television channels started to broadcast lessons in the same week (Sebbani et al., 2020).

On 19 March 2020, the Moroccan government officially announced a state of health emergency, to come into force on 20 March 2020 at 6:00 pm local time, and to remain effective until 20 April 2020 with the possibility to prolong it until Moroccans' fragile state of health improves (Hekking, 2020). The state of health emergency was accompanied by a general confinement of the population. Hence, people were not allowed to leave their homes except in cases of paramount necessity: to go to buy food, medicine, or to go to a health center; to go out for family reasons or to provide assistance for people in difficulty; to go to the workplace. In such cases, people were authorized to leave their houses provided they get permission from local state officials. After two weeks of confinement, 5000 people were prosecuted for violating the state of health emergency (Adimi, 2020).

On 7 April, the Moroccan government made the wearing of face masks mandatory for those allowed to go outside during the pandemic. Anyone who refuses to comply with this preventive measure may expose themselves to imprisonment for up to three months and

a fine of up to 1300 Dirhams. And to provide these masks in sufficient quantities, the government mobilized a group of national manufacturers to produce protective masks for the national market, and an appropriate price was set for public sale at 80 centimes per unit with the support of the special fund that was established to manage the Covid-19 pandemic (Kasraoui, 2020).

As part of its response to the coronavirus outbreak, the Ministry of Health also reinforced its capacity of medical diagnostic testing to identify patients with COVID-19. For this reason, the national laboratory COVID-19 networking was created. This laboratory was strengthened by more than thirty public and private laboratories which had the potential to analyse SARS-CoV-2 samples in a safe environment. This enabled Morocco to increase the number of tests, which moved from 300 maximum tests per day in March to 9000 in May, then, 16000 in June to more than 20000 since the end of July (Bennis, 2020). Besides, to support its health services, Morocco managed to build a field hospital in April in Casablanca to receive patients with COVID-19. The hospital, whose construction cost \$450,000, has the capacity of some 700 beds. A similar hospital with a capacity of 200 in Nouaceur was built by Morocco's Royal Armed Forces in Nouaceur, near Casablanca. The two hospitals were equipped with the necessary medical supplies and equipment for the management of COVID-19 patients (Kasraoui, 2020).

These measures were accompanied by awareness-raising and precautionary campaigns to sensitize citizens about the dangers of COVID-19 and stress the need of collective commitment and compliance with preventive measures to prevent its spread. Public broadcasting services and all forms of existing media in Morocco engaged seriously in these unprecedented campaigns. They were also frequently used by health officials to provide guidance and advice on the preventive measures that should be followed. These measures involve coughing away from others,

physical distancing, mask wearing and regular washing of hands. Besides, Moroccan officials and security services roamed the streets and alleys to sensitize people on the risks of this deadly disease and urge them to stay at home and adhere to quarantine measures.

The economic and social impacts of the Covid-19 crisis in Morocco

There is no doubt that the closure of borders, the national health emergency and the other restrictive measures which the Moroccan government had taken to contain the spread of the Covid-19 pandemic led to serious economic and social consequences in Morocco. In a letter addressed to the European Union delegation on March 26, the Moroccan government expected that many sectors, such as tourism, cars and textile industries, would be heavily affected in 2020. The letter pointed out that the European Union contributes to more than 58% of Moroccan exports, 59% of foreign direct investments, and 70% of the Moroccan tourism industry. Therefore, restrictions on travel from and to the European Union would have serious repercussions on Morocco's economic and social development (Chtatou, 2020).

In early April 2020, 57% of all businesses suspended either permanently or temporarily their activities, which gave rise to a loss of more than 700,000 jobs, almost 20% of overall jobs, without including the finance and agriculture sectors. (The High Commission for Planning (HCP), 2020) The negative impact of the pandemic on the Moroccan economy might lead to the worst recession in Morocco since the mid-1990s. A baseline scenario shows that the Moroccan GDP declined by 4 percent in 2020, which goes against the projections of The High Commission for Planning, which had predicted, before the pandemic outbreak, the growth of GDP by 3.6 percent (World Bank, 2020).

One of the sectors hardest hit is the tourism industry, which plays a fundamental role in Morocco's economic and social development thanks to its ability to contribute to the inflow of foreign currency and the creation of new jobs. In contrast to the 12.93 million tourists who visited Morocco in 2019, the number dropped significantly to 100000 tourists in March 2020 (Nazaruk, 2020). This decrease in the number of tourists visiting Morocco led to a steady decrease in income. According to the Directorate of Studies and Financial Forecasts (DEPF), the losses incurred by the tourism sector were estimated at 42.4 billion dirhams (\$4.7 billion) in 2020, representing a drop in tourism revenue of about 53.8% compared to 2019. This substantial loss brought about a negative effect on airport traffic and accommodation businesses. As reported by the DEPF, "the volume of arrivals to Morocco fell by 78.9% at the end of November 2020, against an increase of 5.3% at the end of November 2019, and that of overnight stays by 72.3%" (As cited in Allen, 2021).

The automotive sector, which has become one of the main economic pillars in Morocco, also suffered setbacks due to the pandemic outbreak. For example, for the period from March to May 2020, supplies to this sector, which has achieved significant annual growth in terms of job creation and export, contracted by 56%. Similarly, its export displayed a significant decrease during the months of March, April and May by 79%, 76%, and 41% because of the falling demand in Morocco's principal markets. At the end of August, the volume of export sales decreased to 39.4 billion dirhams, after reaching 51.3 billion dirhams in 2019, a decline of 23.3% (Ministry of Economy and Finance and Administration Reform, 2021).

The textile and clothing sector, which occupies a fundamental place in Morocco's industrial activity as it provides 27% of industrial jobs and generates 7% of the added value created by the country's industrial sector as a whole, was highly affected by the pandemic. At first, the clothing industry in Morocco

has shown remarkable stability amid the global turbulence created by the Covid-19 crisis; however, the containment measures globally taken by most countries had a direct effect on both the supply and demand. Foreign demands for the Moroccan clothing and textile products decreased significantly, mainly from France and Spain which account for 60 percent of the sector's exports. Likewise, because of the conditions created by the pandemic, the importation of raw materials used for production was discontinued, mainly from China and Asia (World Bank, 2020).

Like other sectors, the banking industry in Morocco suffered from the negative impacts of Covid-19. As many people had lost their jobs due to the pandemic outbreak, the loan repayment rate decreased at an alarming rate. This unprecedented increase in the amount of bad debts gave rise to a decrease in funds. Therefore, Morocco's Central Bank (the Bank Al-Maghrib) affirmed that national growth in 2020 would stop at 2.3%, which goes against the Bank's earlier expectation that growth would reach 3.8% (Covid-19 Moroccan Overview, 2020).

Another important component of the Moroccan economy that did not escape the devastating effects of the pandemic is agriculture. According to mid-2019 government figures, the sector accounts for around 13% of gross domestic product (GDP) and provides around 38% of national employment (Green Morocco Plan increases Morocco's agricultural output, 2020). Indeed, to supply Moroccan markets with the necessary agricultural products, lenient measures were awarded to the inhabitants of rural areas as they were allowed to work in their fields and harvest their crops. However, many of them were affected by the drop in additional income, usually provided by their household members who work in cities. According to the High Commission for Planning, the proportion of people whose income decreased in 2020 is estimated at 77 percent in rural areas and 59 percent in cities (Saran & McDonnell, 2020).

Morocco's measures to mitigate the economic and social impacts of the Covid-19 crisis

In conformity with the High Royal instructions, an Economic Watch Committee (CVE) was established on 11 March 2020 to anticipate the direct and indirect economic repercussions of the pandemic on the national economy. The first decision adopted by the Economic Watch Committee was the creation of a special fund to manage the pandemic. In addition to modernizing the medical device, the fund aims to support the national economy to face the shocks caused by Covid-19, as well as preserve jobs and mitigate the social repercussions of the pandemic (Adimi, 2020).

To mitigate the negative effects on all those affected by the health crisis, the committee adopted a number of decisions and a variety of procedures. Relatedly, the committee decided to provide a monthly flat-rate compensation of 2000 dirhams net for all employees who lost their jobs because of the pandemic. However, to benefit from this financial support, the employees had to be declared to CNSS in February 2020. Employees who benefited from this allowance were also allowed to defer the repayment of bank loans, mainly consumer and mortgage until June 30, 2020. According to, Mohamed Amekraz, the Minister of Labor and Professional Integration, until the end of March 2020, the overall number of those who obtained this financial support reached 3, 892,668 employees. The amount of money allocated for this operation was estimated at 6,240, 140,530 dirhams (Covid-19: Over 3892000 Employees Benefited from Financial Support Until End of March, 2021).

And to strengthen support for small and medium-sized businesses as well as liberal professions, the Economic Watch Committee implemented a set of measures that can be summarized as follows:

- Suspension of the payment of social charges until June 30, 2020 ;
- Establishment of a moratorium for the reimbursement of bank loan maturities and for the reimbursement of leasing maturities until June 30 without payment of fees or penalties;
- Activation of an additional operating credit line granted by the banks and guaranteed by the CCG;
- Acceleration of payments for the benefit of businesses, in particular SMEs and very small businesses, in order to reduce the pressure on their cash flow and allow them to fulfill their financial obligations ;
- Companies whose turnover for the 2019 financial year is less than 20 MDhs may, if they wish, benefit from a postponement of the filing of tax declarations until June 30, 2020;
- Suspension of tax audits and ATD until June 30, 2020 (UNDP, UNECA and World BANK, 2020, p. 7).

On 23 March 2020, the members of the Economic Watch Committee decided to provide support for families operating in the informal sector and adversely affected by the quarantine procedures imposed by the Moroccan government. For this purpose, an electronic cash transfer device was activated to remit money to those families. This subsistence aid was provided by the Special Fund for the Management of the Coronavirus Pandemic in two phases. The first phase, which started in 30 March 2020, was devoted to Ramedist families (those benefiting from a health insurance fee waiver registry). The financial assistance received was distributed in the following manner: Families of two members or less obtained MAD 800 (USD 81) per month, families of three to four members obtained MAD 1 000 (USD 101) per month and families of more than four members obtained MAD 1 200 (USD 121) per month. The same amount of financial support was granted to non-ramedist families working in the informal sector in the second phase (FAO, 2021).

Findings and discussions

The main finding of the research indicates that the preventive measures taken by the Moroccan government were very effective in limiting and containing the spread of the novel coronavirus. At a time when thousands of positive cases and hundreds of deaths were daily recorded in countries with well-developed public health care systems, the epidemiological situation in Morocco remained relatively stable. For example, while the total number of infected people in Morocco reached only 219084, including 3695 deceased by the end of October 2020, the number of positive cases in our neighbouring country Spain approached one million and a half, including 37311 deceased (Worldmeter, 2020). A simple comparison between the numbers of confirmed cases and deaths in the two neighbouring countries confirms beyond all doubt that the preventive measures taken by the government managed to stop the epidemiological situation in Morocco from getting any worse.

Another finding of the study emphasises the role of the government in mitigating the adverse impact of the pandemic on people and businesses. In other words, the measures taken by the government to protect its citizens from the infectious disease plunged Morocco into a state of stagnation, which resulted in a severe impact on its social and economic status. For instance, with the curtailment of economic activity the unemployment rate increased among Moroccans and their purchasing power declined. Therefore, the intervention of the government by ensuring financial support for all those affected contributed to some extent to the improvement of their social and economic conditions and the alleviation of their suffering.

Conclusion

Morocco, like other parts of the world, made huge efforts to solve the health crisis caused by the new coronavirus. First came the closure of international borders and the sealing off of Morocco from the rest

of the world, mainly from the countries most affected by the pandemic, such as Spain, Italy...etc. Then all kinds of gatherings were banned and all state and private institutions were closed. Finally, a state of health emergency was declared on 02 March 2020. The importance of these measures in limiting the spread of the virus is undeniable, yet they led to disastrous economic and social consequences. In other words, the strict quarantine measures imposed by the health authorities adversely affected all sectors of the national economy. And because of that, the unemployment rate rose sharply and the people's buying power decreased. Therefore, there was a desperate need for the state's intervention to deal with the situation. In fact, that is exactly what happened. The government intervened and provided financial assistance for the people and businesses affected by the quarantine restrictions to alleviate and cope with the consequences of the pandemic.

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Socioeconomic impact of Covid 19 pandemic

Dr Ashu Tomar¹

Covid 19 pandemic impacted every person of the world. The life of every human being is affected by it. The paper will carry out to find out the following: covid pandemic, social impact, economic impact, impact on education and conclusion. Aim: To take step forward towards the impact of covid 19 pandemic. Future Scope: Finding more ways for studying pros and cons. Integration of human being. The paper attempts to study all the pros and cons of covid 19 impact in all the aspects of life. It has brought stand still in the life of all.

Keywords: COVID-19; pandemic, online, virtual

Introduction

Covid Pandemic has impacted every aspect of human life. Coronavirus disease is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus experience mild to moderate respiratory illness and recover without requiring special treatment. A virus is a very small (microscopic) type of germ that can cause an infection in throat. It spreads in the world.

The economic and social disruption caused by the pandemic is devastating. Millions of people are at risk of falling into extreme poverty. The coronavirus pandemic has reached almost every country in the world. Its spread has left national economies and businesses at loss.

Impact of online classes on socialization.

Socialization refers to the process of interaction through which the growing individual learns the habits, attitudes, values and beliefs of the social group by which he/ she is interacting.

Schools provide both formal and informal contexts to the students. The formal context is the one provided in the classroom wherein the content of socialization is determined by the curriculum and the teaching learning process. Informal context can be perceived in the interpersonal relations of students with teachers, seniors, juniors and the peer group.

A teacher can boost the process of socialization in children by modeling behaviour, communicating expectations and buyer enforcing positive behaviour. As facilitator of student's socialization into the learning environment, the teacher has the potential for bringing desirable change in behaviour. His/ her role expands beyond that of instructor while he/ she is engaged in student socialization.

The senior, junior and peer group relationships also help in development of adaptive skills for emphasising proper socialisation process.

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The pandemic had a major impact on socialisation of children as Traditional teaching learning process which used to take place in a classroom has been transformed into a virtual mode (Muthuprasad et al 2021). The students and teachers meet in a virtual classroom on a daily basis and continue their teaching learning process. Both are sitting in front of the screens for most part of their day. The impact of the pandemic on socialisation is huge, it is visible in their behaviour, physical health and mental health but virtual classes are still providing some sort of interaction and hence an opportunity of socialisation for children (Singh et al, 2020).

Students in online learning environments interact with classmates on a daily basis, just like in traditional classrooms. Additionally live lessons can be hosted where students and teachers connect using an online video chat. But the socialization doesn't stop there. Because students don't sit in a physical classroom together every day, they're encouraged to find ways to socialize outside of their live lessons. This can be anything from group chats to virtual study groups, giving students more time to strengthen their friendships.

One of the biggest ways students socialize is through clubs, societies. Most traditional schools, colleges have a set list of clubs they offer. Online classes can have these as well, and students meet on a weekly basis using online video chat. To create an even stronger community, and increase student involvement, schools and colleges can encourage their students to present their own club ideas for implementation.

The majority of student activities at traditional schools revolve around things like group activities, educational tours, co-curricular activities. Online schools, colleges can also offer similar activities. For example, monthly meet ups for students and staff, ranging from small celebrations to campus tours and from online co-curricular activities to group projects and special assemblies. This gives students time to

plan in advance for activities and interact with classmates.

Being an online learner doesn't mean giving up the social aspect of your life. In many ways, online school and colleges will give you the tools to socialize in more ways.

Gendered impact of COVID-19

The economic crisis induced by the COVID-19 pandemic led to unprecedented job losses for both women and men but the disproportionate hit that COVID-19 dealt to female workers is set to endure with the men's employment recovering more quickly than women's, according to the international labour organization (Gromico, 2021).

A deep rooted patriarchy and gender stereotype has already promoted gender division of labour, which is the reason for today's inequality between men and women. The inequalities between women and men in the world of work have been exacerbated during the COVID-19 pandemic and will persist in the near future as well. Even though the projected jobs growth in 2021 for women exceeds that of men, it will, nonetheless, be insufficient to bring women back to pre-pandemic employment levels.

According to an estimated report of international labour organization, 13 million fewer women will be working this year than in 2019 (Gromico, 2021). Men, on the other hand have succeeded in recouping the crisis induced losses. In the contemporary world the major reason for women vulnerable position is their economic dependence. The pandemic impacted woman's job and this again will put women in a position where they will be economically dependent on others. Hence, more vulnerable to exploitation. Their role in decision-making power will reduce and patriarchy will be on rise again.

Bridging this gap is extremely important. The governments should enact policies that place gender equality at the core of the recovery effort and focus on

job creation and retention that will benefit women.

Following steps should be taken: -

- Investing in the care economy because the health, social work and education sectors are key generators of jobs for women.
- Working towards universal access to comprehensive, adequate and sustainable social protection.
- Promoting equal pay for equal work.
- Eliminating violence and harassment in the world of work.
- Promoting women's participation in decision-making bodies.
- Promoting work from home opportunities for women.
- Making women aware about technology and organising seminars or workshops so that women can know how to use technology and get employment.
- Organising some online vocational courses, online educational courses and skill development programs.

In the past a lot of steps have been taken for the upliftment and empowerment of women. But due to this pandemic some of our efforts has been reversed and now focusing on upliftment and empowerment should be with more rigor and we should try our best to bridge this gap as soon as possible.

Impact on health

Corona pandemic has affected every aspect of human life including children. Whether it's the mental health, physical health or a combination of both – the children have had their own share of health problems during this pandemic phase.

Increasing eyesight problems with frequent headaches are attributed to prolonged screen time. In addition, increasing anxiety and depression due to home confinement along with sleep disorders are also on the rise. I myself suffered a lot of pain in the eyes due to

long hours of online classes. Children attending online classes at home are not bound to have classroom professionalism. Hence, their physical health is deteriorating too in many aspects.

Lack of physical activities: I cannot remember the last day when I was out in the park or in the ground or in the college playing something or enjoying at least in the last two years. Obesity in children is on the rise either due to lack of outdoor physical activities or due to binge eating and easy availability of junk food at home.

Children are losing their muscle mass and adding fat which is going to affect their growth. Research has shown that the more physically active a child is during the growing period the better is their physical and mental health for the next 3-4 decades of life (Booth et al, 2012). Children by being physically inactive are also losing their muscle tone thereby finding it very difficult to cope up with sports when they resume in future due to muscle rigidity. Physical activities play a large role in Calcium and Vitamin D levels of the body (Wiciński et al, 2019). Deficiencies are on the rise in recent times in children and their reasons are very obvious.

Deficiencies of Calcium and Vitamin D: Apart from lack of physical activity, lack of sunlight exposure and poor diet also contributes to Calcium and Vitamin D deficiencies. Muscle cramps, spasms and strains/tears are common with trivial injuries / bad postures when a child is having severe deficiencies (Wiciński et al, 2019).

Poor ergonomics: Unlike classrooms, the children are not bound to follow good ergonomics at home. Taking online classes on bed and sofas are one of the commonest reasons that we can attribute to recent rise on back pains or fibromyalgic pains. I am currently suffering from repetitive strain injury in hands due to overuse of mobile for typing and other work.

Parents, teachers and we need to be cautious as well as to make sure that their family remain fit and healthy. Wearing face masks, social distancing and emphasis on personal hygiene are a must for all of us. Create a classroom atmosphere at home to respect and maintain professionalism and good ergonomics. Set screen time for mobiles and tabs after class hours and encourage children to avoid electronic devices. Healthy muscles need good hydration and healthy food habits. Keep away from binge eating and junk foods. 30-45 minutes of sunlight exposure with a minimum of 1-1.5 hours of exertion/rigorous physical activity like gym/ aerobics/ yoga or outdoor physical activities whenever feasible is a must for all growing children.

Impact of COVID-19 on examinations

The education sector has gone through deep structural changes since the major outbreak of the deadly Covid-19 virus. While classroom teaching has changed drastically, the most wide-ranging immediate impact has been on our system of assessment and examination. The CBSE board exams now stand cancelled. Many state boards have followed suit. While the government rightly prioritised student safety in its decision to cancel the exam, we must examine the likely repercussions of the decision on the students and where possible how to mitigate the negative impact.

The cancellation of board exams affects the entry of students in some undergraduate courses more than other courses. In India there is a well-defined structure of competitive exams at the state and national level in place for engineering and medical courses. Students pursuing these streams are firmly in control of their future. Their performance in the exams such as JEE, NEET and other Common Entrance Tests will determine their entry into a university of their choice. Students who pursue the courses such as Arts or Humanities face a lot of uncertainty. Universities such as Delhi University, Madras University and many

others rely heavily on the marks scored in the Board Examination to grant admission. The cancellation of these examinations now puts the onus on the Universities to start expanding the criteria for their selection process such as looking at the overall profile of the student, seeing the historical academic performance, and even consider introducing entrance examinations for admissions.

While many educators and students expressed relief that their concerns about health and safety were addressed, others are apprehensive about whether the move can fix the uncertainties that have plagued the education system since the onset of the pandemic.

There are also concerns about how the academic performance of students will be evaluated now. What about those who had worked hard to improve their previous scores? Will percentage discrepancies end up impacting the future prospects of millions of students? Also, there are some students who just avoid studying without any exam pressure so that students found themselves relaxed but at later they have to bear the consequences in the next promoted class.

The dependence on technology for learning and recreation is almost complete and social interactions, outdoor activities have been severely curtailed. Daily routines have been disrupted and home confinement is likely to impact mental health. According to WHO, 50 per cent of all mental health conditions can surface as early as 14 years of age, these often go untreated and undetected (WHO, 2021)."

In sum, while it has been a challenging year for education, it has also forced educators to think deeply on the fundamentals of learning and assessment. It has also led to the rapid development of technological tools to aid learning. As we slowly step out of this pandemic, these learnings and advances will pave the way for more relevant learning frameworks, better-skilled teachers, more engaged learners and positive learning outcomes.

Impact of Covid-19 on education

As the world becomes increasingly interconnected, so do the risks we face. The COVID-19 pandemic has not stopped at national borders. It has affected people regardless of nationality, level of education, income or gender. But the same has not been true for its consequences, which have hit the most vulnerable hardest.

Education is no exception. Students from privileged backgrounds, supported by their parents and eager and able to learn, could find their way past closed school doors to alternative learning opportunities. Those from disadvantaged backgrounds often remained shutting out when their schools shut down. This crisis has exposed the many inadequacies and inequities. In our education systems – from access to the broadband and computers needed for online education. The supportive environments needed to focus on learning up to the misalignment between resources and needs. The lockdowns in response to COVID-19 have interrupted conventional schooling with nationwide closure of educational institutions in India.

In Oct. 2019, the World Bank introduced the concept of learning poverty. This is a way to put a face to a name when it comes to the learning crisis that children and adults across the world face every day. According to the World Bank, learning poverty occurs when one is unable to read and comprehend simple text by the age of ten. Even before COVID-19 which forced a massive closure of schools around the globe, the world was in the middle of a learning crisis that threatened efforts to build human capital—the skills and know-how needed for the jobs of the future. More than half of 10-year-old children in low- and middle-income countries either had failed to learn to read with comprehension or were out of school entirely. Across the globe, students are underprepared or unprepared, teachers are ill-equipped or unqualified, and administrative institutions lack the organisation to enforce high standards of teaching.

With the arrival of covid-19 this situation further degrades into its new lower levels. Temporary educational institutions closures in this pandemic, kept billions of students out of schools, one can imagine the intensity of loss children suffer in their learning process. The negative impact of the unprecedented global economic contraction on family incomes has increased school dropouts. Marginalized groups are likely to fall further behind. Girls are facing increased risk of adolescent pregnancy and early marriage during the pandemic. And children with disabilities, ethnic minorities, refugees, and displaced populations are less likely to access suitable remote learning materials and to return to school post-crisis.

However, in response to the pandemic, education systems have been forced to rapidly implement innovations in remote learning at scale. To reach as many children and youth as possible, they have used multi-modal remote learning approaches that combine online resources with radio, TV, mobile, as well as printed materials for the most vulnerable. However, the huge digital divides – from connectivity to digital skills – and inequalities in the quality of parental support and home learning environments is amplifying learning inequality.

Going forward, as now schools/universities are reopening, educational systems will need to be more flexible and adapt to the student's needs. We will need to reimagine their educational systems and to use the opportunity presented by the pandemic to build back better and enhance learning opportunities in order to curb down learning poverty.

Conclusion

Covid pandemic has affected the whole world. It has impacted every sphere of life. Large number of people got vaccinated daily in every country to save public from covid pandemic. There is the need to come out of this pandemic fear and live the life with the normal

routine as people used to live earlier. Though the virtual communication has replaced face to face communication and other ways came into new norm. It is only a way out for accomplishing the task in this covid situation.

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Does socioeconomic condition affect the spread out of Covid-19? comparative study of Asian and European countries

Amjad Ali Khan¹

The Coronavirus or COVID-19 is a disease based on an unknown virus which has created a huge chaos in world, the virus is not only costing human lives but it also creating a massive economic loss to the whole world. The objective of current study is to test the relationship of different socio-economic variable with the spread of COVID-19. In order to achieve this objective the current study has employed a country wise cross sectional data in which two pools of European and Asian countries are specified. The study consider the population, population density, age, GDP, HDI and hand washing facilities as the socio-economic factor that can affect the spread of COVID-19. The OLS technique has been considered as a tool for the analysis. The study yielded that socio-economic condition does affects the spread of COVID-19 in both the European and Asian countries. The study concluded that population is most important factor that determine the spread of viral disease along with population density as well. Furthermore the study came up with the policy implication that policy makers should consider the importance of socio-economic factors along with the biological factors in order to formulate policies that can result in the prevention of COVID-19.

Keywords: COVID-19, Coronavirus, Socio-economic condition, Europe, Asia

Introduction

The Coronavirus or COVID-19 is a disease based on an unknown virus which creates a huge chaos in world. It was first identified in Wuhan, China in December 2019 after that it had a rapid spread and World Health Organization (WHO) soon realized the severity of the situation and declared a “public health emergency of international concern” on 30 January 2020 (WHO, 2020d). Within a short period, the reported cases grew exponentially all over the world; as a result, the WHO declared COVID-19 a “pandemic” on March 11, 2020 (WHO, 2020c). The main purpose of this study is to analyze the role of Age, Gross domestic product (GDP),

population, population density and Human development index, Hand washing facilities in the spreading of COVID-19 disease in an Asian and Europeans countries.

Evidences highlight that older people don't have as strong immune system so they are more vulnerable to infectious diseases. Because they are facing other type of diseases like heart disease, lung disease, diabetes or kidney disease, which weaken their body ability to fight infectious diseases. Regarding the COVID -19 diseases there exist fundaments that older people become more

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infected due to coronavirus (Vally, 2020). People over 65 years of age especially over 80 are more likely to have severe, life-threatening disease, even if their general health is good (Hafner, 2020). Evidence from the study of Valley (2020) People aged 80 and over 80 years approximately 15% of these infected died. The ranges of death rate for the age of 50 and below is between 0.2- 0.4% (Vally 2020).

Simultaneously, different studies find that countries have developed economy also have developed health care system. Regarding the study of Rana et al. (2020) 43% change in global health expenditure growth explained by economic growth. In reality countless studies find that there is a positive relationship between the economic development of a country and population health (Achim et al. 2019, Biggs et al.2010; Strittmatter and Sunde, 2013). According to the study of urban institute (2015) the lower income people

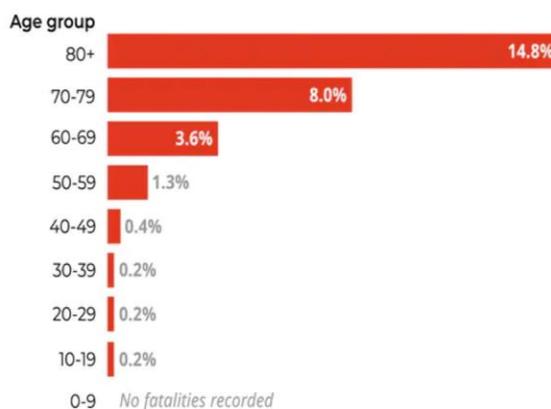
report weaken health and have many chances to be unveiled for the disease. From a socio-demographic point of view, low population density face higher burdens to achieve coverage of some health services (Hanlon et al.2012), higher level of health ensured by less medical illness(Bradshaw et al. 2019) and Population density increased the number of chronic diseases decreased (Costa, 2008).

Vally (2020) older people more at risk of coronavirus. As we know about the covid-19, it is increasing due to the higher risk of severe illness and death is increases with age. Those children whose age is nine or more than nine years at least little infected or mild symptoms therefore no one have died due to infection.

Those peoples whose age is 80 year and also facing chronic diseases become more infected. For those whose 80 years almost 15% of these have died.

COVID-19 death rate by age group

Death rate due to COVID-19 (all cases)



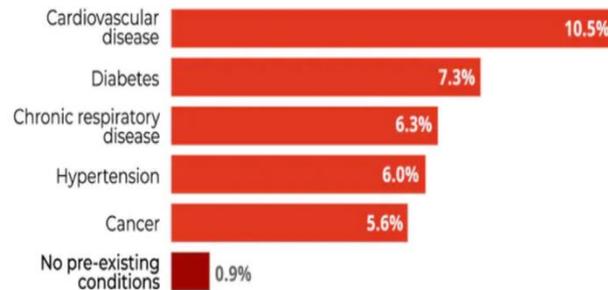
Source: Author provided

The death rate starts to increase for those over 50 years of age. Those under 50 years who are infected have a death rate of 0.2-0.4%, while for those 50-59 years it's 1.3%. For those 60-69 years it's 3.6%, for 70 to 79 year olds it's 8.0% and for those over 80 years of age it is 14.8%.

A similar picture is emerging when looking at the increased risk of severe illness and death of those with underlying conditions.

Pre-existing medical conditions and COVID-19

COVID-19 death rate by pre-existing medical condition



The death rate of those who have no chronic diseases is approximately 1%. For those with cardiovascular (heart) disease the death rate is 10.5%, for diabetes it's 7.3%. Chronic respiratory disease (such as asthma and chronic obstructive pulmonary disease) has a 6.3% death rate, for hypertension (high blood pressure) it's 6.0% and cancer is 5.6%.

This study highlighted that the people who has more aged and suffering in others diseases like heart, diabetes, cancer and hypertension become more infected and died.

Literature review

According to the Oxford Economics forecast, the coronavirus epidemic has slowed down world GDP growth from 2.6% to 1% and has "taken away" at least \$1.1 trillion (Felipe et al., 2020). Against the background of an already stagnant economy, a recession may begin, and then a global crisis.

To contain the exponential spread of the virus, countries worldwide have taken various measures ranging from over-all isolation, border cessations, quarantines, travel limitations, and businesses' complete closures. This has mainly led to a decrease in the supply of goods, intensified by a panic accumulation of stocks and a downfall in demand due to people's self-isolation. More importantly, the global pandemic has also led to a considerable upsurge in

demand for healthcare and/or medical products and equipment. Carter and May (2020) claimed that health experts directly put forward several sanctions as the first line of defense to decrease the coronavirus's spread, such as "face masks," "frequent hand washing," "social distancing," and "self-isolation." All these measures tend to have significant implications for businesses globally.

The coronavirus has brought economic costs and is sure to cause an unprecedented economic downturn around the world. The unstable nature of the virus makes it difficult to develop the right macroeconomic policy to contain it. Carter and May (2020) further claimed that that COVID-19 provoked an economic crisis worldwide, and it can be as infectious economically as it is medically. It has been assumed that while the scale of the pandemic's impact is unpredictable, the global economic crisis it triggered is likely to drag on for a long time and possibly trigger significant structural changes in the global economy. For example, traditional trade gave way to online shopping, which affected food and vegetables. But the major first economic shock to shock the world was the most significant one-day oil price crash in three decades.

Epidemiological investigations during the WHO-China Joint Mission on COVID-19 found many infections clustered around households. When there

was taking extreme physical distancing measure closing school, colleges university and workplace to reduce the spread out of COVID-19 and avoidance of any public gatherings all at once. One side this measure taken to reduce the COVID-19 due to the close contact between people but other side it can push the transmission to the household. Because most of the people cannot go outside due the fear of COVID-19 but gathering and close contacts between the family members are increases which become the cause of spread of COVID-19 at home.

Being concerned with the fast spread of COVID-19, a limited scholars, principally in India, have made efforts to understand the nature dynamics of the COVID-19 pandemic to model and estimate the pace of transmission and rates of mortality (Khajanchi & Sarkar, 2020; Samui et al., 2020; Khajanchi et al., 2020). Similarly, Acharya and Porwal (2020) have also judged that population which is infected and the rates of mortality due to the infection depend on the demographic composition of the population in the different states of India. All these studies highlighted the essential for continuing physical distance and social distance to control the spread of the COVID-19. Recognizing the significance of maintaining physical distance, due to the strong lockdown imposed by government has saved the lives of the many people in this region.

Global impacts of Covid-19 pandemic

Enhanced poverty

The coronavirus could push up to 400 million people into extreme poverty, defined by the World Bank as on living on less than US\$ 1.90 per day- The average poverty line low income in developing countries. This number rises to over 500 million if using the World Bank higher average poverty lines for lower middle income US\$3.20 and upper middle class US\$5.5developing countries. A lot of study conduct from 1950 to1991, there are twenty countries including developing, developed and under

developing countries, revealed that increasing the infection diseases will not only increase mortality and morbidity, but also increase in the poverty (World Bank).

Financial market impact of the COVID-19

Economics turmoil associated with COVID-19 pandemic has had wide-ranging sever impact of financial market; include stock, bond, and commodity including crude oil and gold market. The crude oil prices and a stock market crash in March 2020.the effect upon the markets are the parts of the coronavirus recession and among the many economics impacts of the pandemic. Owing to COVID-19 World economy have been plunged by 4.9% (IM, 2021) .

COVID-19 and education

Most governments around the world have temporally closed educational institution in an attempt to contain the spread of COVID-19 pandemic. These nationwide closures are impacting hundreds of millions of students. Several other countries have implemented localized closures impacting millions of additional learners. UNESCO is support countries in their efforts to mitigate the immediate impact of school closures, particularly for vulnerable and disadvantages communities, and to facilitate the continuity of education for all through remote learning.

Mental health and COVID-19

Fear and worry, and stress are normal response to perceived or real threats, at times when the world peoples facing uncertainty or unknow.so it is normal and understandable that people are experiencing fear in the context of the COVID-19 Pandemic. Added to the fear of contracting the virus in a pandemic with such a COVID-19 are the significant changes to our daily live as our movement are restricted in support of efforts to contain and slow down the spread of the virus. Faced a new reality wording at home by the peoples temporarily unemployment, home schooling

of children, and lack of physical contact with other family member and friends and colleges.

Reduce pollution during COVID-19

Lock down due to COVID-19 reduces the transports activity which result a less energy consumption and lower oil demand. These changes in the transport activity and oil demand exert a significant impact on the environmental quality. NASA (national Aeronautics and space administration) and ESA (European Space Agency) released fresh evidence which suggest that environmental quality improved and emission of NO2 reduce up to 30%.

Reduce travelling and tourism

The COVID-19 pandemic has had a significant impact on tourism industry due to resulting travelling restriction as well as slump in demand among travelers. The tourism industry has been massively affected by the spread of COVID-19, and many countries have introduce travel restriction in attempt to contain its spread. United Nation World Tourism Organization estimated that global international tourism arrivals might decrease by 20-30% in 2020

leading to potential loss of US\$ 30-50 billion. In many of world cities, planned travel went down by 80-90%. COVID-19 inflicted losses of \$80 billion to tourism industry by restricting 80 million arrival (UNWTO).

Research methodology

The role of economical, biological and demographical factors is very important to explain the spread of this virus. According to the latest data provided by World Bank the current study uses the Population variable which represents percentage of total Population for the age of 65 and above. For Economic development the Gross Domestic Product (GDP) per capita is used, for which the data is taken from the World Development indicators (World Bank, 2020).The socio-demographical Population, population density represented people per sq. km of land area, Human development index, Hand washing facilities for which the database of World Bank (WDI, 2020). The study uses cross- sectional data for the samples of 73 Asian and European countries. Which are affected by COVID-19 disease and Ordinary least squares (OLS) technique is employed for the analysis for which the below the model is specified.

Table 1: Details of the variables

Variables	Description	Source of Data
Dependent Variable		
COVID-19 victims	The number of total cases	Our world in dataset
Independent variables		
GDP	Measure in US dollars at the constant price of 2010	World Development indicators
Population	Total Population of respective countries	World Development indicators
Age	% of total population for 65 and above years age group	World Development indicators
Density	People per sq. km of land area	World Development indicators
HDI	Human development index	World Development indicators
HW	Hand washing	World Development indicators

$$Covid - 19_i = \beta_0 + \beta_1GDP_i + \beta_2age_i + \beta_3density_i + \beta_4HDI + \beta_5Population + \beta_6HANDWASHING + +\varepsilon_i \quad (1)$$

Where COVID-19 represents the quantification of COVID-19 effects (total cases) in the country I; Gross domestic product (GDP) is measured in US dollar per capita; Age represents population aged 65 and above (% of total population); Density represents the population density (people per sq. km of land area); infects.

$$\text{Log}Y_i = \beta_0 + \beta_1 \text{Log}X_i + \varepsilon_i \quad (2)$$

Where Y_i denotes the covid-19 total infected and X_i denotes GDP, Age, Density, Human development index, Population, Hand washing.

Conclusion

The current study investigates the effects of socio-economic conditions and spread of the COVID-19 disease. For this purpose the study used a logarithmic transformation of the considered variables and plotted in an econometric model. The OLS technique was applied on the model in order to gain the results. The results showed a positive relation of population with COVID-19 cases for both European and Asian countries, this relationship depicts that a country with more population yields a high number of COVID-19 cases. The study yielded a positive relation between population density and COVID-19 cases for European countries as there relation was significant but this relation was not find for the countries of Asia. A negative and a significant relation of age with COVID-19 cases was found and their relationship was negative which concludes that spread of COVID-19 is not only related with people have more than 65 years of age, this relation was only established for Asian region. GDP was not correlated with the spread of COVID-19 for both of pools of Europe and Asia while HDI was found as a significant factor for the spread of COVID-19 in Asian countries depicting the effect of economic condition on spread of COVID-19. Hand washing facilities carries the expected negative sign with COVID-19 case in both of the OLS analysis but this relationship was not significant. In conclusion the socio-economic does affects the spread of COVID-19

The study further uses the logarithmic transformation of variables for COVID-19, Gross domestic product (GDP), Age, population density, Human development index, Population, and Hand washing. Thus the model becomes

cases depending on the economic condition of countries.

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OPEN

Socioeconomic impact of Covid-19 on household

K. Manimekalai¹ and B. Iswarya²

The coronavirus swept around the globe in a matter of days to months. Despite the fact that India is not one of the coronavirus's worst-affected countries, it is still a severe public health issue that poses a serious threat to the country's economy. Despite the fact that India's government has imposed complete lockdown, there are numerous economic challenges that must be addressed. Even if a relief fund has been established, the country's vast population could benefit from further financial assistance to meet basic requirements such as groceries, provisions and medicines. Many citizens' livelihoods, work and income are in threat. Savings has significantly affected. This article tries to put the coronavirus outbreak in India within a socioeconomic context. The analysis data was done by IBM SPSS 22.0, using ANOVA test.

Keywords: ANOVA test, consumption, expenditures, household, income, savings

Introduction

The global economic impact of the COVID-19 outbreak has been enormous. Since the beginning of 2020, a new strain of coronavirus known as Novel Coronavirus Pneumonia (NCP) or COVID-19 has been wreaking havoc on the global economy. COVID-19 has an impact on worldwide socioeconomic conditions, notably in poor countries and poverty-stricken areas.

Imran Ur Rahman et al. (2021) analyzed the economic effects of COVID-19 on households based on socioeconomic level variations. The pandemic is wreaking havoc on the poorest families and people of the lowest socioeconomic standing. There appears to be a differential in the impacts of COVID-19 at the household level due to differences in socio-economic

characteristics. As a result, it's critical to look into the effects of external economic shocks on different households, as well as their reactions to them. Household spending and savings loss were described by Amory Martin et al (2020).

The document's outline follows a general pattern. The paper then moves on to the objectives after a brief introduction. Following that, methodology conducted, study's main findings are presented, followed by a discussion. Finally, the article comes to a conclusion.

Objectives

- To study the direct impact of household income, consumption and poverty.

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- To assess the socio-economic impact of COVID-19 on individuals.
- To find the levels of expenses and savings, as affected during COVID 19.
- To investigate the stress levels and coping techniques connected with COVID-19.

people responded to the survey. The information gathered from the participants were evaluated and interpreted. Changes in income, employment, expenses and working hours were analyzed. Household characteristics, such as the size of family, gender, number of employed, number of school going, education level, urban vs. rural domicile and income, including kinds of income were discussed. The data gathered is displayed on an excel page. The data was analyzed by IBM SPSS 22.0 using the ANOVA test. The respondents are depicted in the diagram below.

Methodology

Data collection

The study is entirely based on primary data. Data is gathered using an online questionnaire. A total of 376

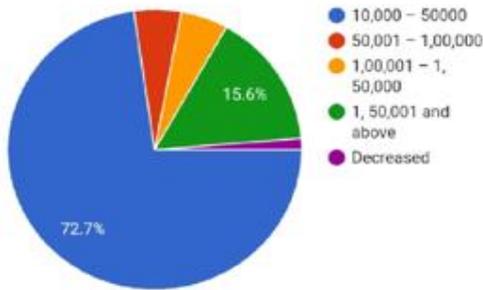
	A	B	C	D	E	F	G	H	I
	Area	Age	Gender	Marital Status	Occupation	Income of the Household	Income of the House	Monthly Expenditu	How did you manage the ex
2	Rural	43	Female	Married	Private	50,001 – 1,00,000	10,000 – 50000	15,001-20,000	Borrowed from Friends/Rela
3	Urban	20	Female	Single	Agriculture	10,000 – 50000	10,000 – 50000	1000 - 5000	Borrowed from Friends/Rela
4	Rural	20	Female	Single	Government	50,001 – 1,00,000	50,001 – 1,00,000	1000 - 5000	Bank Loan
5	Urban	20	Female	Single	Government	10,000 – 50000	10,000 – 50000	1000 - 5000	Pledge the Jewel
6	Rural	21	Female	Single	Agriculture	10,000 – 50000	10,000 – 50000	5001-10000	Borrowed from Friends/Rela
7	Rural	20	Female	Single	Agriculture	10,000 – 50000	10,000 – 50000	1000 - 5000	Borrowed from Friends/Rela
8	Urban	19	Female	Single	Private	10,000 – 50000	10,000 – 50000	1000 - 5000	Borrowed from Friends/Rela
9	Rural	32	Female	Married	Private	10,000 – 50000	10,000 – 50000	5001-10000	Pledge the Jewel, PF/Insura
10	Rural	20	Female	Single	Government	50,001 – 1,00,000	50,001 – 1,00,000	1000 - 5000	Bank Loan
11	Urban	20	Female	Single	Private	10,000 – 50000	10,000 – 50000	1000 - 5000	Money Lenders
12	Urban	20	Female	Single	Private	10,000 – 50000	10,000 – 50000	1000 - 5000	Money Lenders
13	Urban	20	Female	Single	Private	10,000 – 50000	10,000 – 50000	1000 - 5000	Money Lenders
14	Rural	19	Female	Single	Private	10,000 – 50000	10,000 – 50000	1000 - 5000	Money Lenders
15	Rural	32	Female	Married	Private	10,000 – 50000	10,000 – 50000	10001 - 15,000	Bank Loan, Pledge the Jew
16	Urban	21	Female	Single	Private	50,001 – 1,00,000	10,000 – 50000	5001-10000	Borrowed from Friends/Rela
17	Urban	20	Female	Single	Private	10,000 – 50000	10,000 – 50000	1000 - 5000	Money Lenders
18	Urban	19	Female	Single	Business	50,001 – 1,00,000	10,000 – 50000	1000 - 5000	Pledge the Jewel
19	Urban	19	Female	Single	Business	1,00,001 – 1, 50,000	50,001 – 1,00,000	1000 - 5000	Pledge the Jewel
20	Rural	19	Female	Single	IT/ITES	10,000 – 50000	10,000 – 50000	1000 - 5000	Money Lenders

Findings

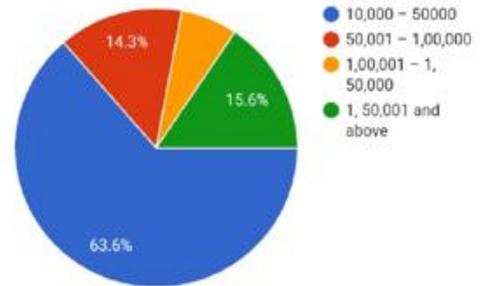
The vast majority of respondents live in rural areas. The majority of people who responded work for Private. The number of employed people in a family ranges from one to two. The majority of respondents

save money on a regular basis. During a pandemic, household income is reduced and monthly expenditures are increased. To pay their debts, they borrowed money from friends and relatives. From a psychological aspect, the bulk of them were hopeless. The findings are depicted in the graphs below.

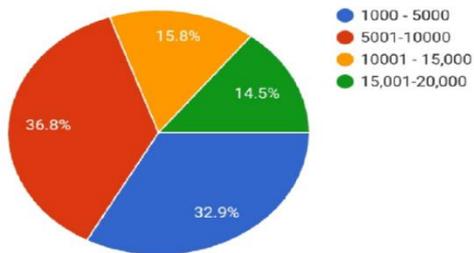
Income of the Household (Per month) before pandemic



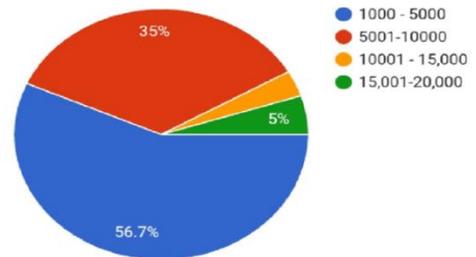
Income of the Household (Per month) during pandemic



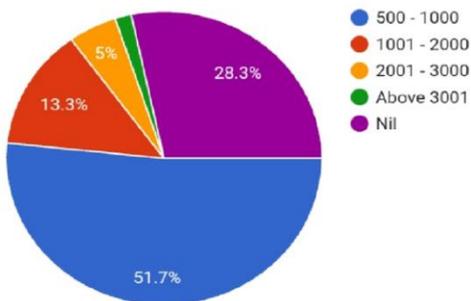
Monthly Expenditure of household before COVID 19



Monthly Expenditure of household during COVID 19



How much do you save per month?



How did you manage the expenses including Medical?

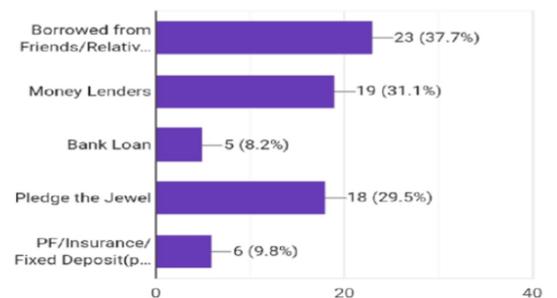


Table 1 depicts the influence of age on expenditure and saving. Table 2 examines the influence of income on expenditure and saving.

Table 1: Influence of age on expenditure and savings

Factors	Age	N	Mean	S.D	Z	Sig
Expenditure	Upto 25	123	35.98	6.37	2.044	0.107
	26-40	140	33.66	7.61		
	41-55	96	33.98	6.81		
	Above 56	17	33.03	6.93		
Savings	Upto 25	123	28.73	8.53	2.278	0.079
	26-40	140	30.92	7.87		
	41-55	96	29.72	8.38		
	Above 56	17	27.47	10.66		

Table 2: Influence of income on expenditure and savings

Factors	Income	N	Mean	S.D	Z	Sig
Expenditure	10000-50000	239	28.63	7.36	0.895	0.444
	50001-100000	53	29.07	8.29		
	100001-150000	26	28.75	7.51		
	Above 150000	58	26.53	9.85		
Savings	10000-50000	239	19.80	5.16	4.723	0.03*
	50001-100000	53	19.30	4.38		
	100001-150000	26	19.09	4.89		
	Above 150000	58	16.07	4.40		

H1: Age of the respondents influence the expenses and savings.

H2: Income of the respondents influence expenses and savings.

Table 1 shows that the respondent's age has no influence on their spending and saving habits. The hypothesis is accepted if the significance level is greater than 0.05. Table 2 shows that while income has no influence on spending, it does have an impact on saving. The hypothesis is rejected if the significance level is less than 0.05.

Coping techniques for financial difficulties

Umucu et al.(2021), investigated perceived stress levels and coping techniques in people with self-reported chronic diseases and disabilities, as well as whether coping is linked to well-being. Households in our sample used a variety of coping mechanisms to deal with financial difficulties. Reduced consumption and expenditure, drawing down cash and savings, and borrowing from friends and relatives were the three most common coping techniques used by those households. Households postponed payments and debt repayment in order to apply for social and government assistance. Some families coped by preparing and selling homemade dishes on the internet.

Poor savings

The COVID-19 pandemic has wreaked havoc on everyone, especially middle-class households, with funds plummeting as a result of job losses, income cuts, and payment delays. While most households' earnings are lower this year than last, the true storey, according to the report, is the elimination of future uncertainty.

Discussion

Since, Coronavirus disease 2019 is a novel disease, investigations are needed to track the trend on a regular basis. According to the study, the pandemic has intensified informality and caused a considerable loss in income for the majority of workers, resulting in an increase in poverty. Women and younger workers

have been disproportionately affected. Households have responded by reducing their food intake, taking out loans and selling valuables. The COVID-19 pandemic has contributed in averting the worst sorts of suffering, but chronic conditions, particularly among the poor, rural and private employees, have had difficulty getting treatment and have been adversely socially and financially impacted by the epidemic.

For the duration of financial viability, the source of revenue is also important. Private, Government, IT/ITES, Agricultural production, Business and other sources of income tend to have a longer financial viability period. Consequently, despite the fact that households with income from agricultural output and household business/self-employment are more likely to experience a drop in income, these households are more likely to be financially viable than other households.

The study has a number of intriguing findings. To begin with, most households saw major drops in income and employment. Nearly three-quarters of households saw their income fall (mainly by 26 percent to 50 percent compared to the baseline period). All sources of income decreased, especially household enterprise/self-employment income decreased the most.

Second, roughly half of the households had financial problems. Almost all financially distressed households had to cut back on their spending, around half of them drew down cash and savings, and approximately a third did the following: borrowed money from family or friends; (ii) postponed payments and debt repayment; and (iii) applied for government assistance. Furthermore, the proportion of households in our sample that could only subsist without income for less than a month is relatively significant, accounting for almost 70% of all households. In addition to household variables such as household education, age and gender, COVID-19 generated factors have a significant impact on the likelihood of

experiencing financial difficulties and the duration of financial viability.

Monika et al(2020) argued that government support to the most vulnerable is a key strategy that could save countless lives. The causes were explained by Peter J. Morgan and Long Q. Trinh (2021). Due of the pandemic, the majority of the youngsters were unable to attend school. During the COVID-19 epidemic, the majority of respondents claimed their household savings decreased. Expenses have increased.

Conclusion

Aid to those in need from the government is an essential measure that can save countless lives. Every crisis, on the other hand, provides once-in-a-lifetime opportunity to reconsider the path adopted for the growth of a human being, a community and a society. Savings power is at the heart of economic growth, allowing capital goods to be produced. The economy will suffer as a result of poor savings. Savings are important not only for individuals, but also for the economy as a whole, because they offer capital for investment. Saving and spending are not only essential elements driving economic development and growth, but they are also key nodes of individual consuming behaviors. The amount of savings available for investing in funds determines the size of a country's economic investment. According to the findings, earnings has an impact on saving but not on expenditure. Expenses have increased as a result of the pandemic, and respondents have to find additional ways to meet the rising costs. The COVID-19 pandemic sends a clear message to India's economy: it needs to adopt sustainable development methods that are self-reliant, inclusive and environmentally benign.

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OPEN

Mitigating and turning challenges caused by impact of Covid 19 pandemic to Nigerian education

Isah Umar Usman¹ and Nuruddin Sambo²

The COVID-19 pandemic has created the largest economic disruption worldwide, most especially education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents. Closures of schools and other learning spaces have impacted 94 per cent of the world's student population, up to 99 per cent in low and lower-middle income countries. The crisis is exacerbating pre-existing education disparities by reducing the opportunities for many of the most vulnerable children, youth, and adults, those living in poor or rural areas, girls, refugees, persons with disabilities and forcibly displaced persons – to continue their learning. Some 23.8 million additional children and youth (from pre-primary to tertiary) have dropped out or not have access to school due to the pandemic's economic impact alone. Similarly, the education disruption has had, and will continue to have, substantial effects beyond education. Closures of educational institutions hamper the provision of essential services to children and communities, including access to nutritious food, affect the ability of many parents to work, and increase risks of violence against women and girls. The past few weeks have ushered in a range of government sanctioned and structure-shifting risk-control directives across Nigeria and the Globe, in an attempt to curtail the spread of the novel coronavirus disease- COVID-19. From international airport closures, to a nationwide closure of all schools, and about seven months lockdown of major states starting with the the ramifications from the slowdown/shutdown of economic activity are poised to be severe for Nigeria. It is especially critical, because in the backdrop of COVID-19, the global economic crisis and the recent slump in oil prices are further expected to intensify the impending economic crises, and create sharp shocks that reshaped the economy. In this piece, we would examine some of the immediate and long-term impacts of the closures, and proffering suggestions as to how the government can mitigate these consequences. Additionally, we are looking towards the future, and making prescriptions for how they might turn this disruptive crisis into an opportunity to address several of its pre-pandemic supply side education problems.

Keywords: Covid-19, education, economy, security

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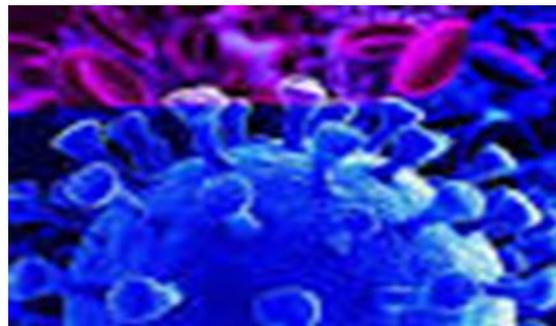
Introduction

The 2019 novel corona virus disease (COVID-19) was first reported in China as an infectious upper respiratory disease. The virus has since spread worldwide presenting one of the most serious global health crises in history, with high socio-economic costs. While the health impacts are directly through contagion, the economic impacts are largely a consequence of the preventive measures adopted by the respective governments to curtail its spread. Key measures adopted by most countries to curtail the spread include the closing of their frontiers and partial or complete lockdowns of economies which among other things, have seen the temporary closure of businesses, schools and social services. (Marinoni et al 2020). The past few weeks have ushered in a range of government sanctioned and structure-shifting risk-control directives across Nigeria and the Globe, in an attempt to curtail the spread of the novel corona virus disease- COVID-19. From international airport closures, to a nationwide closure of all schools, and now, a two-week lockdown of three major states - Lagos, Abuja and Ogun, the ramifications from the slowdown/shutdown of economic activity are poised to be severe for Nigeria.

It is especially critical, because in the backdrop of COVID-19, the global economic crisis and the recent slump in oil prices are further expected to intensify the impending economic crises, and create sharp shocks that will reshape the economy in the near term. (African Development Bank 2020). For some sectors, the immediate ramifications are evident. One of such sector is the basic education sector, the impact of which has been largely felt by students. The nationwide school closures have disrupted learning and access to vital school-provided services for a record number of students in Nigeria. According to UNESCO, almost 40 million learners have been affected by the nationwide school closures in Nigeria, of which over 91 percent are primary and secondary school learners. In a short time, COVID-19 has disrupted the landscape of learning in Nigeria by

limiting how students can access learning across the country.(African Development Bank 2020). For an already fragile education system, the COVID-19 pandemic poses unprecedented challenges on the government, students, and parents that will highlight and could amplify some of the cracks in the system.

As the nation begins to grapple with these challenges, a key question arises: Is the Nigerian education system designed to adapt rapidly to the changing world? Given the state of affairs in the world today, the nation's ability to ensure continuation of learning will depend largely on their ability to swiftly harness available technology, provide adequate infrastructure, and mobilize stakeholders to prepare alternative learning programs. (IMF 2020). Generally, Nigeria's education sector is not adapting, and is expected to struggle on that front for the foreseeable future. However, the consequential socio-economic burden will be borne disproportionately by students in public schools, as compared to those in private schools. While several private schools have begun to initiate distance learning programs, and taking advantage of the myriad of ICT-learning opportunities provided by the international community, the government limited by funds and persistent deficiencies in planning, is yet to announce any official plans for providing distance learning opportunities, especially for public schools. The implication being that these students in public schools currently have no formal learning plans and could be missing learning altogether. (World Bank 2020).



Covid 19 picture 1 by (IMF 2020).

Objectives

In this piece, we examine some of the immediate and long-term impacts of the closures, and proffering suggestions as to how the government can mitigate these consequences, and Additionally, we are looking towards the future, and making prescriptions for how the government and other authorities might turn this disruptive crisis into an opportunity to address several of its pre-pandemic issues side education problems.

Main body

The method adopted for this work is using content analysis.

Research questions

By tracing chains of these effects the following important questions could be ask:

- How has education been impacted due to covid-19 pandemic in Nigeria?
- What are the immediate and long term impacts of schools closure due to covid-19 pandemic in Nigeria?
- What are the possible ways through which Nigerian government and other authorities across the globe can mitigate impacts of covid-19 pandemic?
- What are the possible ways through which Nigerian government can turn crisis caused by covid-19 pandemic into an opportunity to address several pre-pandemic supply aside education problems?

Discussion of result

How has education been impacted?

Missed learning for the majority of pre-pandemic in-school-students: According to UNESCO, about 35.9 million primary and secondary school learners are currently out-of-school as a result of the school closures. For primary schools, this number totals approximately 25.6 million students, of which about 87 percent (23.5 million) are students

enrolled in public schools. The numbers are just as stark for secondary school learners. Of the roughly 10.3 million secondary school students who are out-of-school as a result of the closures, approximately 81 percent (8.4 million) of them are public school students. In Nigeria, school opportunity is correlated to income level, and public schools differ from private schools in the populations they serve.

While private schools serve learners from higher socio-economic backgrounds who are willing and able to pay more to access the better resources offered by private schools, public schools which are usually free, comprise students from lower socio-economic households and low-income areas. In instances where distance learning opportunities are available, uptake will be low from the students in the public schools category, as a result of poor infrastructure such as lack of electricity, or poor/no internet connectivity, etc. Opportunities to learn within the homes are also limited, given that a parent's ability to provide education support to their children will be shaped by their own level of educational attainment, general literacy level, and other commitments.

Given the significant relationship between educational attainment and income level, and the correlation between parental income level and school choice, we can infer that the literacy level of parents in public schools in Nigeria might be lower than their private school counterparts. In instances where the parents are educated, investing the time to train their children during this time might be a luxury. For Nigeria, the reality is simple - while the school closures are necessary to curtail the spread of the COVID-19 virus, until the ban on movement is lifted and schools are reopened, majority of students will not be learning.

Loss of access to vital school-provided services: Beyond the missed learning opportunities, students in Nigeria were also losing access to the daily meals made available by the federally-funded school

feeding programs. Nigeria has one of the largest school feeding programs in the world, with the World Food Programme estimating that in 2019, Nigeria's Home-grown Schools Feeding Initiative provided access to daily meals to over 9 million children in over 40,000 public schools. The benefits of school feeding programs extend beyond the immediate education benefits of the meals provided, such as encouraging enrolment in schools, and boosting learning. School feeding programs yield larger socio-economic benefits for children, their families, and society at large, two of which are especially pertinent to children of low socio-economic groups: boosting health and nutrition, and providing social protection and safety nets.

Health and nutrition: For some students, especially those from disadvantaged and vulnerable backgrounds, the daily meals provided at schools are their primary source of healthy and nutritious meals. With schools closed, over 9 million public school students are currently being deprived of this benefit. Beyond feeding, Nigeria's feeding program also offers health services, including deworming and immunizations for students in public schools across 17 states. This closure would unfortunately also affect access to some basic health services for poorer children.

Social protection and social safety nets - Over 50 percent of students accessing free meals fall into first and second wealth quintiles, representing the poorest 40 percent of the population, in a country where over 50 percent of the country live below the poverty line. As empirical evidence has revealed, people living below the poverty line usually spend between half and three-quarters of their income on food, representing a significant proportion of a poor household income. For each individual meal provided, the value can represent up to 10 percent of a family's income; for families with more than one child in school, this small figure can represent significant savings for families. The school feeding program can provide safety nets by boosting income for households. The absence of these daily

meals is likely causing posing potential challenges for households, especially at this time where there has been a shut-down/slowdown in economic activities across the country.

Leaving more kids behind - A longer-term impact of these school closures would be deepened educational inequality. While some international development partners (UNESCO, for example) have put together and provided access to ICT-based resources to foster learning, uptake will depend largely on the level and quality of digital and internet access, and language accessibility (as most programs are available in English or other non-native Nigerian languages). According to the Digital 2020 Global Overview Report published in January 2020, about 60 percent of Nigerians are not connected to the internet. The statistics for mobile phones, which could also be used as a learning medium, are more hopeful. According to the report, around 169.2 million people - 83 percent of Nigerians have access to mobile phone connections; however, of these, 50 percent - around 84.5 million people, reside in urban areas. For the population with access, the proportion would be skewed towards high socio-economic households and urban households; an overwhelming majority of whom are private school students who already have a learning advantage over their public school peers.

For children from poorer backgrounds who tend to have less access to internet connectivity, computers, and other devices, and reside in rural areas where local languages take dominance over English, ICT-learning uptake will be limited. The inequity in access to ICT-based learning has the adverse effect of further intensifying the existing disparities in learning outcomes along socio-economic lines, and the urban-rural divide. Given that the school closures are currently indefinite, these students would continue to fall further behind. For students with learning disabilities, and those living in fragile and conflict-affected regions, the outlook is even bleaker. This raises a major challenge around educational inequality

- given the technological landscape and income driven digital-divide, how do we harness available technology to support already marginalized students during these closures? If this is unaddressed, the gap in education quality, and inadvertently socio-economic equality could become more extreme as a result of the school closures.

Impacts on gender issues

Closing schools will obviously not impact all students equally. This is evident in the disproportionate impact it will have on girls¹². School, beyond simply being a place of learning, also represents a safe haven for many children who live in difficult situations at home. Girls are particularly at risk of sexual violence and problems surrounding reproductive health during school closures: when schools were closed due to Ebola, there was a sharp increase in teenage pregnancy and many pregnant girls were refused entry to school at the start of the school year¹³; unfortunately, the same thing is likely to happen again in the current crisis. In addition, throughout the world, women provide the vast majority of unpaid household labour (cleaning, cooking, childcare, etc.). This is equally true for young girls: even before confinement, girls aged 5 to 14 years already spent 40% more time than boys on household chores at home¹⁴. Forced to stay at home, girls are likely to see a disproportionate increase in the amount of work they have to do, leaving them less time than boys to devote to academic homework. This increase in work may encourage parents to push their daughters to drop out of school altogether. Finally, like many other NGOs, organizations working to advance the situation of girls and in the education sector in general face a lack of funding. In May, nearly half of the educational organizations contacted by CGDev reported that their budgets had already been reduced, largely as a result of a drop in private and philanthropic donations¹⁵. This decrease in budget may come at the most inopportune time: more than ever, children and especially girls will need additional support in order to

achieve MDGs 4 (quality education) and (gender equality).

Other effects beyond education

Notwithstanding the fact that school closures will result in significant loss of learning for children, educators and psychologists alike point out that this will not be the only impact felt by students. In the context of school closures, and with the impacts of the COVID-19 crisis more generally, it is unfortunately quite likely that many students will experience significant trauma, additional stress and anxiety. Many children and adolescents will potentially find themselves confined in unsuitable and/or unsafe housing, especially if parents are also confined and still have to work. Family ties have been placed under greater strain, with mandatory confinement and the need to live together with few alternatives. The economic impact of the crisis has greatly aggravated the stress felt by many, posing psychological difficulties for parents and, indirectly through them, children. Finally, with the number of deaths from SARS-CoV-2, close to 700,000 at the time of writing, families around the world will find themselves in mourning. All of this will add to the emotional and psychological consequences of the current crisis in general, in which students around the world are temporarily losing, unexpectedly, a comforting routine. While the WHO indicates that in order to combat these psychological consequences, parents should devote time to help and support their children, this is not necessarily possible in all cases. Such support is particularly difficult, if not impossible, for families where parents have significant employment problems, or where they have even been affected by the disease itself.

These impacts will potentially have significant consequences during the back-to-school period, and even beyond. Based on past studies conducted in post-disaster contexts, it would seem that the psychological impact of the disruption of routine due to disasters, as

observed in Australia⁷ in Ethiopia, in India and in Vietnam⁸, have a severe impact on educational outcomes. It has been proven that stress can have a strong negative impact on mental ability and memory⁹. The impacts of school closures due to COVID-19 are not likely to be any different. It should also be noted that these psychosocial impacts will not be the same depending on the age of the students, or for those with pre-existing mental problems or special learning-assistance needs¹⁰. Any plan put in place to continue education during COVID-19 must take these particularities into account, including an assessment of the additional stresses faced by students, and putting in place programs to deal with them. Teachers, too, may suffer some psychological consequences during this crisis. The impact of crises (epidemiological, natural/technological disasters, generalized violence, and others) on teachers has been only partly studied¹¹. However, as many children's first point of contact outside the home, they are often very important for the emotional and psychological support of students. It is therefore important that school officials, as well as governments more generally, find ways to assist them in managing this socio-emotional burden, which is added to the new workload of managing remote teaching systems in which the most rewarding part of teaching, the direct contact with pupils, is replaced by a virtual setting.



Covid 19 Picture 2 by (World Bank 2020).



Covid 19 Picture 3 by (World Bank 2020).



Covid 19 Picture 4 by (World Bank 2020).

Recommendation

However, in order to adhere to its goal of halving learning poverty by 2030, it is necessary for the international community to recognize that the consequences of school closures tend to have the greatest impact on the most vulnerable and marginalized students, especially in countries with significant pre-existing gaps in their education systems. Sub-Saharan Africa is particularly at risk: more than 20% of 6-11 year olds, more than 33% of 12-14 year olds, and more than 60% of 15-17 year old adolescents were already out of school before the arrival of COVID-19: numbers which are likely to increase as a result of the health crisis and its economic and social consequences. Students in these contexts have fewer options for education at home, with only a certain few of them having access to computers, a stable connection, the means to pay for educational tools, and other resources available to those living in developed countries. With school closures and the additional financial stresses caused by the economic downturn associated with COVID-19, the risk of dropping out of school is likely to be especially high in sub-Saharan Africa particularly Nigeria and other impoverished regions.

Mitigation strategies to stem the rising learning crisis

Distance learning through low-cost technology

Reaching the vulnerable population in Nigeria will require adopting multiple learning delivery modalities ranging from television, radio and SMS-based mobile platforms that are more easily available to the poor. With over 80 percent of the adult population having access to radios and phones, it would be possible to reach most children left behind with targeted instructions via these mediums. However, while online platforms offer personalized learning, other delivery modalities require a central planner, as well coordination between all three tiers of government, and the private sector (media platform owners). This is where the role of the Ministry of Education will crucially extend beyond traditional policy making and regulations. The commissioners of education could help in the deployment and use of these tools within states, while the federal government coordinates the state efforts by plugging capacity and finance gaps. The government could draw on the experience of Sierra Leone, where the Ebola crisis led to school closures for about 9 months. To reach the most vulnerable and excluded children, the Government of Sierra Leone harnessed radios and televisions to deliver lessons. Whatever strategy the government chooses to incorporate, they must ensure that it is cost-effective (at least available within the home) and easy to use (children and their parents/guardians have some knowledge of it beforehand or can easily learn to use them).

Empowering and supporting parents

Parents/guardians irrespective of their education level will be required to play a pivotal role to ensure learning is unencumbered. In order to ensure proper uptake of the available resources, the government will also need to ensure that parents are equipped to create a conducive learning environment, and support children in this new mode of learning. At this time,

parents would be required to act as intermediaries between the school management/government and the children in learning delivery. In some instances, parents would need to take on the role of a teacher in home schooling their children, although relying on guidance from school. Additionally, most of the learning mediums would be shared amongst household members, and the responsibility will fall on the parents to determine and allocate usage among family members. Therefore, it is essential that the government supports them in understanding and executing their roles during this crucial time.

Ensuring access to nutritious meals and vital services

As part of palliatives to cushion the economic effect of the lockdown, the government announced that it intends to sustain the school feeding program to children. While this is reassuring, it is not yet known how this would be implemented. For example, will the government send daily prepared meals to households, or would the cost of the meals be monetized? By extension, there is a need to design a strategy to keep other educational support programmes flowing. The pandemic already underscores the importance of vaccinations, hence windows to vaccinate children for protection against diseases need to be open. Given that all children are at home, house-to-house vaccination could be deployed. Other vital services, such as providing sanitary pads for girls, can also be distributed via this means. Given that these services are an integral part of learning, scaling them up during these difficult economic times might be crucial. Since the major beneficiary of school feeding programmes are the poor, and given the economic shocks facing the entire household, it might be insufficient to reach only children within the household; the government might need to seek ways to provide meals for entire households.

Reaching the most vulnerable

In keeping the flow of these education support programmes, the educational needs of the hard-to-reach families could also be met. Lessons and homework can go together with physical deliveries of additional education support, while each family develops their home grown strategy to cover the materials.

Education financing

The fiscal space to fund education has further shrunk with the shock on government revenue and economic downturn arising from the COVID-19 pandemic. Many items in the 2020 Education Sector appropriation bill, will not be implemented due to the drastic financial shortfall. Yet, more funding is required to keep learning going or scaled-up education support programmes as part of the government's palliative measures. For the government, reducing costs will require re-prioritising its plans in light of this new reality. The most urgent needs at the moment will be improving teachers' motivation, learners' preparedness and galvanizing domestic digital and media enterprises. This needs to be complemented with innovative sourcing of learning infrastructure during this period. For example, reaching children through existing school and home appliances and gadgets will be more cost-effective. Greater involvement of domestic philanthropists and digital entrepreneurs can reduce the financial burden of sustaining learning through the crisis.

How do we turn challenges into opportunities due to Covid-19 in Nigeria

The immediate consequences of the pandemic might be dire, but this crisis offers a unique turning point; an opportunity to learn, reshape, and build resilience into the educational system in Nigeria. Policymakers have a unique opportunity to explore how this emerging reality could usher in a new education architecture that tackles two of the nations most urgent pre-pandemic education crisis: access (as the country has the highest out-of-school children in the world); and quality (as

majority of children in school are not learning). The following stepwise procedures are to be considered:

Universities should work together via new or existing networks

Regional and global networks of higher education institutions and research collaborations are integral to mitigate reductions in research flexibility and mobility. Higher education institutions are in a prime position to capitalise on their existing networks or to form new ones, including institutions and countries that may not have had a reason to work together before, as interest in collaboration has increased.⁴⁸ The inclusivity of the digital world provides a platform for open source software to be shared and developed to support learning in all corners of the world.

Higher education and research funders should help prevent a 'lost generation' of scholars through the provision of research grants, positions, mentorship, and other forms of support:

As an example, Africa to Patagonia: Voices of Displacement is a collaborative effort of 40 faculty and students from the United States and abroad to further humanities research. This online initiative has provided an opportunity for students to revive their interest and strengthen their employability despite the pandemic.⁴⁹ Other forms of support mechanisms are needed such as postdoctoral fellowships to support early-career researchers across disciplines and countries.

Expansion of digital connectivity and access to hardware for both researchers and students:

Some countries are working with local communications companies to provide free or low-cost access to students, but these efforts must be accelerated and scaled up.⁵⁰ National governments should also partner with international agencies, where feasible and relevant, such as the UN Broadband Commission for Sustainable Development that is connecting Africa through widespread broadband

access.⁵¹ UNESCO's Global Education Coalition could also be a potential partner as it is working with telephone companies to provide free internet access or mobile phone data to students in countries throughout Africa and the Middle East.

Senior and young academics should act proactively to advise policymakers on post- COVID-19 higher education policy reforms and investments at the national and regional levels:

National academy members have extensive local experience as researchers, instructors, and administrators, and collectively cover a broad range of disciplinary backgrounds. Senior and young academics, and their individual members, representing many of the most respected scholars in the world, can draw on this experience to help inform evidence-based higher education policies that promote equity in the provision of online learning as well as help identify opportunities for promising regional collaborations to mitigate local impacts.

International aid organisations should prioritise the education Sustainable Development Goals to expand access to technology and online learning:

International aid organisations can help promote free access to high-quality courses online and access to technology, through partnerships with local universities and UNESCO should expand access to vetted, high quality MOOCs while bridging the resource gap in areas where basic technology is unaffordable.

Universities and governments should prioritise quality education that is student-centred and guided by a vision for the long-term success of students:

When safe and feasible, facilitating personal interaction should be a priority. Governments should ensure valid credentialing of online education platforms that promote equity and do not further exacerbate inequalities of students who struggle to learn at home. Recent and soon-to-be graduates should

also be further prepared by universities to ensure they are skilled for the workforce and the COVID-19 impacted job market. All teachers and faculty should be provided additional support and training in order to acclimate to new modes of teaching and adapt to the constantly changing work and research environment.

Universities should review systems of assessment of students and researchers:

The pandemic has exacerbated inequalities between groups and utilising the same assessment models for all risks increasing these disparities. Rather, assessments of students and researchers should carefully consider how COVID-19 has affected them, particularly when considering vulnerable populations.

**Conclusion
Solutions**

In order to mitigate the potentially devastating consequences of the COVID-19 pandemic, governments and stakeholders are encouraged to pursue the following policy responses:

Suppress transmission of the virus and plan thoroughly for school re-openings:

The single most significant step that countries can take to hasten the reopening of schools and education institutions is to suppress transmission of the virus to control national or local outbreaks. Once they have done so, to deal with the complex challenge of reopening, it is important to be guided by the following parameters: ensure the safety of all; plan for inclusive re-opening; listen to the voices of all concerned; and coordinate with key actors, including the health community.

Protect education financing and coordinate for impact

The pandemic has pushed the world into the deepest global recession in living memory which will have lasting effects on economies and public finances. National authorities and the international community

need to protect education financing through the following avenues: strengthen domestic revenue mobilization, preserve the share of expenditure for education as a top priority and address inefficiencies in education spending; strengthen international coordination to address the debt crisis; and protect official development assistance (ODA) for education .

Build resilient education systems for equitable and sustainable development

Strengthening the resilience of education systems enables countries to respond to the immediate challenges of safely reopening schools and positions them to better cope with future crises. In this regard, governments could consider the following: focus on equity and inclusion; reinforce capacities for risk management, at all levels of the system; ensure strong leadership and coordination; and enhance consultation and communication mechanisms.

Reimagine education and accelerate change in teaching and learning

The massive efforts made in a short time to respond to the shocks to education systems remind us that change is possible. We should seize the opportunity to find new ways to address the learning crisis and bring about a set of solutions previously considered difficult or impossible to implement. The following entry points could be to the fore of our efforts: focus on addressing learning losses and preventing dropouts, particularly of marginalized groups; offer skills for employability programmes; support the teaching profession and teachers' readiness; expand the definition of the right to education to include connectivity; remove barriers to connectivity; strengthen data and monitoring of learning; strengthen the articulation and flexibility across levels and types of education and training.

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