10 Corporate Social Responsibility and COVID-19 Crisis

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Abstract

The cases of ongoing uncertainty of the Covid-19 pandemic have been increased all over the world. It is a necessary emergency for the people to wearing the mask, social distancing, and other issues that affect the negative impact on Covid-19 epidemic in many counties around the world. There is a lack of healthcare safety and security issues in many countries regarding protecting Covid-19 cases, lack of doctors, a lacuna of vaccine (particularly in developing and under-developing countries), and testing facilities. If the country does not solve this Covid-19 crisis, people will overwhelmingly be affected. Nevertheless, this study explores the emerging corporate social responsibility initiatives during

the uncertainty of the Covid-19 pandemic crisis, prudential regulation, governance and provides recommendations including new laws of Covid-19 issue. Also, this study provides how government can mitigate this problem of Covid-19 crisis through a proper strategic decision and corporate social responsibility.

Keywords: *Corporate Social Responsibility, Prudential Regulation, Covid-19 Crisis*

INTRODUCTION

Considering the ongoing uncertainty of the Covid-19 pandemic as worldwide public health and financial crisis, its effects on society and business are practically unimaginable. The world has been mightily attempting since the beginning of the Covid-19 pandemic (Lee, 2020). The pandemic has carried a historic public health crisis to the globe, and its adverse consequences directly extend to the worldwide economy. No specific industry is safe from this pandemic. However, corporate social responsibility (CSR) may play a significant role to diminish the episode of the Covid-19 crisis. The World Health Organization attempts to take initiatives against virus infections (WHO, 2020). Most people know that pandemic influenza comes in 1998 and then respiratory syndrome is noticed in 2002. After that, Ebola attacks in South Africa in 2013 as well. The African Ebola virus kills more than 11,300 people with losses of $53 billion in the United States (Fernandes, 2020). However, these types of viruses devastate social and economic sectors all over the world (Gaffen, 2020; Fernandes, 2020). For example, influenza makes many infections which rate was one-third of the world population (Crosby, 2003). On the other hand, China spreads the virus across the Asian countries speedily which impacts more than 8000 people, and the death of people was 900 people (Peiris et al., 2003). Likewise, we are facing a new virus Covid-19 pandemic, which comes from Wuhan China in December 2019 and it spread very firstly worldwide (Albulescu,

2020; Ashraf, 2020; Béland et al., 2020). Recently, Covid-19 makes problems for the general people of Bangladesh for their daily life. This Covid-19 pandemic hits Bangladesh tremendously when many people die all over the world said to the world health organization (WHO). This pandemic of novel coronavirus is a curse and danger for people's life, public health, economic development, supply chain management, and a peaceful society.

According to the world health organization (WHO), the case of covid 19 was 6,218,927 where the number of death cases confirmed 372,344 among 235 countries of the world including Bangladesh till the day of 31st May 2020 (Shammi et al., 2021). In Bangladesh, the first Covid-19 positive cases were captured on 8 March 2020 and the number of positive cases was 787,726 till 21th May 2021 (WHO, 20021). The confirmed death was 12348 (WHO, 20021). However, still, no vaccine is discovered properly to remove the Covid-19 pandemic. A few countries demand that they have the Covid-19 vaccine. The Covid-19 pandemic attracts extremely to Dhaka city in Bangladesh. There are insufficient medical amenities, social distancing systems, the problem of the vaccine including jobless and other issues in Bangladesh.

In this way, no voluntary issue notices among general people regarding wearing the mask during the Covid-19 outbreak (Hossen et al., 2021). On the other hand, people who come back to Bangladesh from virus-affected areas or foreign county they are also unconscious about mask-wearing. Therefore, the world health organization emphasis on Bangladesh provides a lockdown immediately. Accordingly, the Bangladesh government decides to keep a lockdown in Bangladesh to combat the Covid-19 from March 26 to 4th April 2020 and provides some recommendations to mitigate the Covid-19 spread (Shammi et al., 2021). If this problem is continued all over the world especially in Bangladesh, it will make an overwhelmingly economical problem in Bangladesh and many people will die because of the Covid-19 outbreak. This study aims to explore the Covid-19 crisis, challenges of the Covid-19 pandemic, governance, corporate social responsibility, strategies, and prudential regulation.

CORPORATE SOCIAL RESPONSIBILITY

The Covid-19 outbreak has been battering the world economy and further putting business organizations for how their embracement of corporate social responsibility (CSR) matters during the pandemic (He and Harris, 2020). While individuals frequently perceive CSR as one fixed idea, the CSR literature has recognized the developmental idea of CSR (Carroll, 1999; Garriga and Melé, 2004). In the view of CSR from a normative viewpoint, business organizations should be socially mindful because it will become instrumental to developing firm performance and value (Jensen, 2002). The current ongoing Covid-19 pandemic may worsen the unsustainability of conventional CSR, which is carried out by numerous organizations (Manuel & Herron, 2020). The idea and general acts of CSR have been developing (Carroll, 1999) through this pandemic. Coronavirus as a serious worldwide crisis has uncovered numerous issues in our society such as climate change, racial discrimination and income inequality (Noya et al., 2020).

Considering the contemporary pattern of expanding CSR and community awareness in the corporate world, numerous social and natural issues (Rahman et al., 2021) will be examined and likely become incorporated into business tasks in the long run, become more expected standards as a component of the business model. It will be fascinating and crucial to perceive such development so that business objectives can adjust to these developments in an ideal way. Fombrun et al. (2000) stated that the part of CSR as protection like insurance, which may give some adaptability to a business organization during the ongoing Covid-19 pandemic. Due to the company's CSR involvement, the clients may more eagerly buy the company's product during the emergency, or customers may believe the business organization because of its socially responsible image (Bae et al., 2021). Accordingly, we may consider how a business organization's CSR strategy can speed up its recovery during and after the pandemic. The mismanagement and poor development of CSR strategy of business firms can hurt the company during the pandemic. Lee (2020) indicated that a company's investment in CSR deteriorates

the negative effect of the Covid-19 epidemic on its performance because CSR investment is not an ideal method to increase the value of a business organization.

Corporate social responsibility is considered as responsible corporate behaviour although there is no specific definition of that corporate social responsibility. It is also considered a voluntary commitment to certain company rules. In a nutshell, it mentions the moral and ethical obligations of employees, their competitors, the environment, the economy, and many other areas of life that its business affects (Gond et al., 2011). This corporate social responsibility term is used to improve the company's effort in society in some ways. These efforts can include donating money to nonprofits as well as develop environmental policies in the workplace. However, corporate social responsibility is a broad concept and a type of international private business self-regulation which depends on industry and company (Gond et al., 2011). It is very important for both companies and consumers. CSR aims to contribute social of a philanthropic, activist, or charitable nature by supporting ethically oriented practices (Carroll, 2021). CSR is a direction how companies control and measure their impact on society.

It contains the company's contributions with both positive and negative sides on the economy, environment, and greater community (Kang et al., 2010). Corporate social responsibility can make beneficial to a company in two ways. The first benefit is related to increase the companies brand image because any clients or consumers see the evidence of social responsibility where they respond positively. The second benefit is involved with the employee's morale. On the contrary, this social responsibility is related to the management concept where companies join in social and environmental concerns in their business operations and a company achieves a balance of social, environmental, and economic imperatives (Blackburn, 2012). In this way, corporate social responsibility is a company's commitment to managing the social, environmental, and economic effects of its operations. Nevertheless, corporate social responsibility activities include invests profits in health and safety, environmental programs,

environmental management, waste reduction, and sustainability (Montiel, 2008). There are many benefits of corporate social responsibility. First of all, companies establish good reputations, positive attention, save money through operational efficiency, and minimize environmental impacts. Public companies often report on their CSR performance in their annual reports. If social responsibility is not approved by the company, they may lose their customer reputation. It is seen many times in social media and activist groups, some companies do not maintain their duties when they are going to do their social and environmental responsibilities.

In Canada, mining companies often work with indigenous groups and communities (Dashwood, H. S. 2007). By mining, it causes environmental impacts on aboriginal people who are living in the mining area. That is why some of the Canadian mining companies work in corporate social responsibility with local communities so that adverse effects of mining can be minimized by ensuring safety (Dashwood, 2007). We think that corporate social responsibility increases the company's reputation because it is related to environmental and social issues. By making CSR strategies, companies develop their business. For example, they increase their social consciousness by reducing waste, minimizing carbon footprint, recycling, and other best practices. Using or producing sustainable products, companies gain their reputation among environmentally concerned clients. In social issues, they help and donate to the poor people who are affected by the Covid-19 pandemic.

CHALLENGES OF COVID-19 PANDEMIC

Primarily, Bangladesh could not take any proper steps to control the mass gathering of the general people of Bangladesh during the Covid-19 pandemic (Anwar et al., 2020). Therefore, a plethora of people goes outside for their work specially in Dhaka city (the capital city of Bangladesh). In Bangladesh, around 46 thousand people live per square kilometre. Consequently, people fall into the dilemma while they are walking on the road and in other areas. For the social distancing problem, it is recommended by the

WHO organization for reducing the infection from virus and order to stay at home. It is said that social distancing has become an overwhelming difficulty to control in Bangladesh. Nevertheless, this social distancing is still a challenger in Bangladesh. During this pandemic, the number of Covid-19 cases increases because of the lacuna of awareness and proper information. (Haque and Rahman, 2020). For reducing the infection of Covid-19, the physical distance or social distance of people should keep at least one meter from others. Besides, the government of Bangladesh closes the many educational institutions and cancels most of the events like political events, sporting activities, shows, and commercial activities. Because that social distancing reduces the risk of infection.

The definition of social distancing is given by the various government and private, but the world health organization says to stay at least 1 meter from crowds and public places (Islam & Hossain, 2021). On the contrary, the Australian Government Department of Health, Public Health England, and Public Health Agency of Canada said that one of the most crucial strategies is to keep social distance at least six meters. The Covid-19 is tested in Bangladesh for 7,812 samples per million people when Russia tests 212,414 samples (Islam et al., 2020). In this way, it is believed that most of the persons having covid-19 were cleared out undetected due to the lower number of tests. However, the percentage of Covid-19 has been increased in Bangladesh. There is an available facility for testing services of the Covid-19 pandemic in many countries, but unfortunately, these facilities are noticed in 30 districts out of 64 districts of Bangladesh (Rahaman et al., 2020a).

In most of the districts in Bangladesh, there are no Covid-19 testing service facilities/amenities in Rangamati, Bandabbbrban, Khagrachari, but Covid-19 has been increased in these areas (Rahaman et al., 2020b). Most of the countries are identified that Bangladesh as a dangerous zone because of the spread of the Covid-19 pandemic. A vast number of physicians of private clinics in Bangladesh do not interested to check the Covid-19 patients (Andrade, 2020). The general people of Bangladesh do not aware

of the infection of Covid-19 pandemic, thus, Covid-19 spreads among the people. Despite the world health organization's direction, Bangladeshi people do not care regarding Covid-19 issues.

Many physicians are not willingly interested to check the covid 19 patients and many hospitals and clinics hidden the number of Covid-19 patients. Healthcare organizations should give accurate information about the Covid-19 cases so that the percentage of positive cases can be known to general people. The government of Bangladesh is taking the initiative to reduce the Covid-19 cases. If the test is not finished on the whole country; it will create a red zone all over Bangladesh and bring massive suffering. There is another problem with mental health in Bangladesh. The fear of the Covid-19 pandemic leads to an increase in the mental health of the general people (Torales et al., 2020). When people receive any news of the Covid-19 pandemic from social media (e.g. WhatsApp, Instagram, Facebook, television, print media, political leaders and social workers, religious), they feel the tension which leads to increase mental health (Islam and Hossain, 2021). Social media especially Facebook spreads this information broadly to the general people through messenger chatting. For solving those problems, the imam of the mosque, and social media can provide basic knowledge and consciousness among the general people.

The general people of Bangladesh believe that the political leaders are trying to use more vaccines for business purposes. Another crisis is related to people job satisfaction. Many people lose their job during the Covid-19 pandemic as reported by the World Bank (Lippens et al., 2021). Therefore, jobless people are in a horrible situation in Bangladesh and fail to carry their livelihoods. A report mentions that approximately 76% of people lose their job in Dhaka when 59% in local or village areas (Habib, 2020). It is said that jobless people will be unable to join again in their previous job in Bangladesh (Habib, 2020). Therefore, lower-income people are enduring due to the Covid-19 issue.

According to the vaccine issue, many countries worldwide like England and Russia demand that they discover vaccines to tackle

the Covid-9 crisis (Shin et al., 2020). However, this vaccine applies to some countries to save a life from enduring Covid-19 pandemics but there is no step in Bangladesh to apply that actual vaccine. Although the government starts to apply the Oxford-Astra Zeneca Covid-19 vaccine, it does not work to fight the coronavirus. The latest population of the world is around 7.8 billion but need more than 15 billion vaccine injections to overcome this Covid-19 crisis (Friedman, 2020). The expertise of the USA reported that only seven percent can cover the problem of Covid-19 by using the vaccine. However, it is challenging for Bangladesh to provide the vaccine to all people as a developing country. The Bangladesh government becomes unable to supply the injection or vaccine to the general people during this pandemic situation. For mitigating the problem, the government can make diplomatic relations with foreign countries. For example, Russia and China apply their vaccine in their countries but our media does not focus on news regarding the vaccine issue. Nevertheless, Bangladesh can take help from those countries for getting the vaccine if the Bangladeshi government feels this crisis.

GOVERNANCE

In beginning with Bangladesh, all private and government workplaces are closed for 10 days except shops of essential commodity grocery shops, hospitals, restaurants, pharmacies, such as fresh foods produce markets, industries, retail banks in a limited capacity, and other emergency services (Islam and Hossain, 2021). This lockdown aims to make social distancing and protect the people from Covid-19 and spreading infection with each other. According to those guidelines of the government, no one even a foreigner will go outside except in special cases. Nevertheless, if anyone goes outside, they should wear gloves and a mask too. The rule of foreigners who have recently come to Bangladesh must stay in quarantine for at least 14 days (Ahsan et al., 2020). However, according to government direction, public transport should be avoided as much possible as. Furthermore, various programs like religious assemblies, political and gatherings are imposed on banning. Moreover, no one can go to their village

home. But unfortunately, after three days, hundreds of videos are noticed on social media that people are violating the government rules even they are vising their village home during the lockdown. Consequently, it impacts on government's order and rules.

PRUDENTIAL REGULATION

In Bangladesh, if anyone violates the lockdown from the government and non-government, or an executive magistrate can take action under Mobile Courts Act, 2009 (The Mobile Court Act, 2009). Then, a fine can be imposed under section-269 of the penal code, 1860 (The Bangladesh Penal Code, 1860). Section 269 of the penal code 1860 said that it is an official rule that if people neglect it in a manner by spreading infection among the people which is very dangerous for the human body and their life. According to that section, punishment will be held for a term that can be six months although there is no specific amount. However, section 63 said about the amount of fine, but it will not be extreme. Nevertheless, mobile courts can punish for six months including one thousand takas (Bangladeshi currency) as a punishment under section 188 of that penal code for disobedience of the government's order (The Bangladesh Penal Code, 1860). Against that mobile court's order, people can appeal to the district court when they face a penalty by the executive magistrate. If a person violates any rule or order of government by helping and spreading the infection to the people even provide false news about the Covid-19 pandemic, they will be protected under various provisions of infectious diseases (prevention, Control and Eradication) Act, 2018) (Protirodh, Niontron O Nirmul Ain, 2018), Act No. 61 of 2017). In this way, the government can take steps by choosing a procedure under the penal code of Bangladesh to maintain the mobile court that violates the criminal justice system. However, the law enforces agencies and the police are responsible for ensuring the law and government's order.

STRATEGIES

We have suggested some strategies for reducing the pandemic, particularly in Bangladesh. The government of Bangladesh and

civil administration, police, army and other law enforcement agencies will apply the new law unless the public follows the direction of social distancing of the Covid-19 pandemic. The social distancing should be maintained by the people and they will wear gloves and masks. The government's health authorities should provide recommendations for wearing masks and handwashing compulsory in a public place. Furthermore, people will remain at least 6 feet distance from each other. Public awareness should be increased for applying policies of the government. People should refrain from educational institutions, public events, overpopulated areas, any public assembly, cultural program, open birth celebration or marriage party, and take appropriate prevention in place orders. The individual should stay at least 1 meter far away from other people or crowds. The government will take legitimate measures to handle this social distancing problem. That is why the government can pass a new law by alleviating the present Covid-19 crisis.

The number of tests for Covid-19 cases should be increased so that the percentage of Covid-19 outbreaks can be reduced. Russia and the USA have increased the testing services facility in their hospitals. Doctors will be liable for their work unless they provide their services to patients during their duties. The law should be passed regarding that no doctors will neglect any Covid-19 affected patients. The report should be given within 3 hours or in a day so that no person is affected by the Covid-19 pandemic. The testing systems of Covid-19 in every district should be increased for reducing the outbreak of a pandemic. The mental stress can be removed by encouraging people that no Covid-19 is affected on their bodies if they maintain consciousness, cleanliness, healthcare safety and security.

For getting the vaccine, the government should make diplomatic relations with foreign countries. Due to the Coivd-19 pandemic, many people lose their job. The government should provide the job who lose their occupation during the Covid-19 pandemic. It can be held by making new laws or policies. In Bangladesh, it is needed an emergency law so that economic and health problems can be mitigated easily. We can follow the United States because

they make a new law to tackle the Covid-19 issues. The name of that act is The Coronavirus Act 2020 which contains the government's power for executing some emergency and radical measures. Thus, the UK Covid-19 law restricts the spread of infection among people. The Bangladesh government can also follow the UK's law for enacting a new law. So, the government of Bangladesh will be enabled to provide proper guidelines by making new laws regarding Covid-19 issues. The Bangladeshi government can return the job to the jobless people by sanctioning a new law. The government will take a fundamental step and make a new law for social distancing. The act may be exclusively for two years and it can be reviewed every six months. The government will restrict food supply that no one will increase the price of food, particularly raw materials. If anyone does, he will be punished by the new law of Covid-19. All institutions like schools, colleges, universities, private organizations, public divisions, including others will be operated virtually without a physical presence, although the Bangladesh government has already taken steps in every institution. Thus, the Bangladesh government can make a modern law for solving the above difficulties.

Conclusions

This study highlights the business organizations' CSR involvement concerning the Covid-19 epidemic and economic crisis around the world. The global impact of the ongoing uncertainty of the Covid-19 pandemic is a health and economic crisis. There are several limitations in a lower-middle-income country regarding health crisis due to the Covid-19 pandemic. However, for solving this problem, the government can take initiative for a lockdown strategy, particularly for social distancing. Many countries around the world such as the USA, UK, Malaysia, and Singapore have already given a lockdown. The companies' CSR activity during the Covid-19 pandemic can help to solve the job issues and vaccine problems. It is difficult for the government to tackle this problem. International cooperation and individual efforts within the country is required to solve the Covid-19 crisis. The government of any poor and developing country cannot illuminate this issue alone.

The government should take initiative for a long-term plan for reducing the Covid-19 crisis. The emerging CSR initiative throughout the Covid-19 pandemic, financial implication of CSR during Covid-19, and the role of CSR activities during the pandemic can play a significant role in developing the business organizations.

References

1. Ahsan, A., Archie, R. J., & Tidwell, J. B. (2020). Combating COVID-19 in Bangladesh: ideal duration of mandatory quarantine period and policy implications. *Infectious Diseases: Research and Treatment*, *13*, 1-17.

2. Anwar, S., Nasrullah, M., & Hosen, M. J. (2020). COVID-19 and Bangladesh: Challenges and how to address them. *Frontiers in public health*, 8 (154), 1-14.

3. Andrade, R. M. D. (2020). A company doctor's role during the COVID-19 pandemic. Available at:http://www.scielo.br/scielo.php?script=sci_arttext&pid=S180759322020000100105 (Accessed: the 23rd April 2021).

4. Albulescu, C. (2020). *Coronavirus and Oil Price Crash*. hal-02507184v2f. Available at: https://hal.archives-ouvertes.fr/hal-02507184/document (Accessed: the 12th April 2021).

5. Bae, K. H., El Ghoul, S., Gong, Z. J., & Guedhami, O. (2021). Does CSR matter in times of crisis? Evidence from the COVID-19 pandemic. *Journal of Corporate Finance*, *67*, 1-15.

6. Blackburn, W. R. (2012). *The sustainability handbook: The complete management guide to achieving social, economic and environmental responsibility.* Routledge.

7. Carroll, A. B. (1999). Corporate social responsibility: evolution of a definitional construct. *Business and Society*, 38(3), 268–295.

8. Garriga, E. and Mele, D. (2004). Corporate social responsibility theories: mapping the territory. *Journal of Business Ethics,* 53, 51–71.

9. Crosby, A. W. (2003). *America's Forgotten Pandemic: The Influenza of 1918.* Cambridge: Cambridge University Press, UK.

10. Carroll, A. B. (2021). Corporate Social Responsibility: Perspectives on the CSR Construct's Development and Future. *Business & Society*, 00076503211001765.

11. Dashwood, H. S. (2007). Canadian mining companies and corporate social responsibility: weighing the impact of global norms. *Canadian Journal of Political Science/Revue canadienne de science politique*, 129-156.

12. Friedman, D. (2020, 12 4). Vaccine *still a challenge for Bangladesh, many others*. Available at: https://thefinancialexpress.com.bd/health/vaccine-still-a-challenge-for-bangladeshmany-others-says-dr-friedman-1607078183 (Accessed: the 12th April 2021).

13. Fombrun, C. J., Gardberg, N. A., and Barnett, M. L. (2000). Opportunity platforms and safety nets: corporate citizenship and reputational risk. *Business and Society Review*, 105(1), 85–106.

14. Fernandes, N. (2020). *Economic Effects of Coronavirus Outbreak (COVID-19) on the World Economy. Available SSRN 3557504.* Available at: https://foroparalapazenelmediterraneo.es/wp-content/uploads/2020/03/SSRN-id3557504.pdf.pdf (Accessed: the 17th May 2021).

15. Gladstone, R. (2020). *Oil Collapse and Covid-19 Create Toxic Geopolitical Stew.* New York, NY: The New York Times.

16. Gaffen, D. (2020). *What the Future May Hold for Oil Amidst COVID-19*, Cologny: World Economic Forum, Vol. 26.

17. Gond, J. P., Kang, N., & Moon, J. (2011). The government of self-regulation: On the comparative dynamics of corporate social responsibility. *Economy and society*, *40*(4), 640-671.

18. He, H. and Harris L. (2020). The impact of COVID-19 pandemic on corporate social responsibility and marketing philosophy. *Journal of Business Research* 116, 176–182.

19. Haque, S. E., & Rahman, M. (2020). Association between temperature, humidity, and COVID-19 outbreaks in Bangladesh. *Environmental science & policy*, *114*, 253-255.

20. Habib, R. K. (2020, 28 9) *Covid-19 fallout: 68% lost jobs in Dhaka and Ctg*, Available at: The Daily Stra: https://www.thedailystar.net/frontpage/news/68pc-lost-jobs-dhaka-and-ctg-1968641, (Accessed: the 20th May 2021).

21. Hossen, M., Obaidullah, M., & Hosen, M. (2021). Public Awareness during COVID-19: A Study on Barishal Division, Bangladesh. *Electronic Research Journal of Social Sciences and Humanities*, *3*, 31-42.

22. Islam, M., & Hossain, M. M. (2021). The Challenges of Covid 19 in Bangladesh: Need an Emergency Law. *International Journal of Law Management& Humanities,* 4(1), 124–137.

23. Islam, M. T., Talukder, A. K., Siddiqui, M. N., & Islam, T. (2020a). Tackling the COVID-19 pandemic: The Bangladesh perspective. *Journal of public health research*, *9*(4), 1-19.

24. Jensen, M. C. (2002). Value maximization, stakeholder theory, and the corporate objective function. *Business Ethics Quarterly*, 12(2), 235–256

25. Lippens, L., Moens, E., Sterkens, P., Weytjens, J., & Baert, S. (2021). How do employees think the COVID-19 crisis will affect their careers?. *Plos One*, *16*(5), 1-13.

26. Lee, S. (2020). Corporate social responsibility and COVID-19: Research implications. *Tourism Economics*, 20(3), 1-7.

27. Montiel, I. (2008). Corporate social responsibility and corporate sustainability: Separate pasts, common futures. *Organization & Environment*, *21*(3), 245-269.

28. Manuel, T., & Herron, T. L. (2020). An ethical perspective of business CSR and the COVID-19 pandemic. *Society and Business Review*, 15(3), 235-253.

29. Noya, A., Bulakovskiy, M. and Rijpens, J. (2020). Social economy and the COVID-19 crisis: current and future roles. Organisation for Economic Co-operation and Development. Available at: https://read. oecd-ilibrary. org/view/?ref¼135_135367-031kjiq7v4&title¼Social-economy-and-the-COVID-19-crisis-current-andfuture-roles (Accessed: the 23th April 2021).

30. Peiris, J. S. M., Yuen, K. Y., Osterhaus, A. D. M. E., and Stöhr, K. (2003). The severe acute respiratory syndrome. *N. Engl. J. Med.* 349, 2431–2441.

31. Rahaman, K. R., Mahmud, M., & Mallick, B. (2020b). Challenges of Testing COVID-19 Cases in Bangladesh. *International Journal of Environmental Research and Public Health*, *17*(18), 1-15.

32. Rahman, M. K., Masud, M. M., Akhtar, R., & Hossain, M. M. (2021). Impact of community participation on sustainable development of marine protected areas: Assessment of ecotourism development. *International Journal of Tourism Research*, https://doi.org/10.1002/jtr.2480.

33. Shammi, M., Bodrud-Doza, M., Islam, A. R. M. T., & Rahman, M. M. (2021). Strategic assessment of COVID-19 pandemic in Bangladesh: comparative lockdown scenario analysis, public perception, and management for sustainability. *Environment, Development and Sustainability*, *23*(4), 6148-6191.

34. Shin, M. D., Shukla, S., Chung, Y. H., Beiss, V., Chan, S. K., Ortega-Rivera, O. A., ... & Steinmetz, N. F. (2020). COVID-19 vaccine development and a potential nanomaterial path forward. *Nature nanotechnology*, *15*(8), 646-655.

35. Torales, J., O'Higgins, M., Castaldelli-Maia, J. M., & Ventriglio, A. (2020). The outbreak of COVID-19 coronavirus and its impact on global mental health. *International Journal of Social Psychiatry*, *66*(4), 317-320.

36. WHO (2020). *Immunization in the Context of COVID-19 Pandemic.* Available at: https://www.who.int/publications-detail/immunization-in-the-context-of-covid-19-pandemic (Accessed: the 12th May 2021).

37. WHO (2021). Global Bangladesh. Available at: https://covid19.who.int/region/searo/country/bd (Accessed: the 24th April 2021).