

Contextual assessment of Pacific Island Countries and Territories response to COVID-19 outbreak; Delay in community transmission was an opportunity to develop the capability function

Michael Yemoh^{#1}, Vicky Yemoh^{*2}

#Department of Accounting & Economics, Faculty of Business & Entrepreneurship, National University of Samoa, Apia, Samoa

[1m.yemoh@nus.edu.ws](mailto:m.yemoh@nus.edu.ws)

Abstract - A large number of activities and actions have been carried out during the pandemic by and for Pacific Island Countries and Territories (PICT's) in order to manage the effects of the COVID-19 outbreak. In the context of economic development, records suggest that more long-term aggregate measures to public health and medical pandemic and emergencies may be required. To realize real economic growth, solutions aimed at developing medical capability needs are to be explored. This report uses the COVID-19 outbreak as the context and provides a review of medical capabilities and growth opportunities of the PICT's from their responses to the COVID-19 pandemic. If further investigates how the delay in community transmission of the disease had benefited these countries.

Keywords — Capability, Community cases, Development, Economies, Medical, Pacific Island Countries and Territories.

I. INTRODUCTION

Statisticians and Economists use several methods to measure economic growth in different countries. The gross domestic product (GDP) is the traditional, most well-known and frequently used method although it has some limitations and biases. Other measures include the human development index (HDI). The HDI is a summary composite measure of a country's average achievements in health, knowledge and standard of living as basic aspects of human development. The measure of the economic progress of PICT's is therefore based on development, which will be reflected in the welfare and care for the citizens within the economy. This is also an implication of how capability functions of the economy are being developed. Thus, the Amartya Sen's capability approach proposed evaluating human functionings, capabilities or wellbeing and this approach served as the normative basis for "human development paradigm" introduced by the United Nations Development Programme

(UNDP) in 1990 ((Clausen and Barrantes 2022). Economic development in PICT's will thus depend on an ability to develop appropriate medical innovations and medical advancement actions necessary in the face of pandemics or emergencies. This could show through their ability and capacity to produce their own vaccines and other resources.

The first known outbreak of the novel Coronavirus SARS-CoV-2 or Coronavirus disease was in November 2019. It was initially recorded in Hubei Province of the People's Republic of China and has spread to many countries including PICT's. COVID-19 has led to global economic crisis, loss of millions of lives, shocks to public health systems and most notably economic and social disruption. Statistically, the related number of infections and deaths have not been as severe in PICT's as compared to other countries. On 30 January 2020, the World Health Organisation (WHO) Emergency Committee declared COVID-19, a global health emergency (Velavan and Meyer (2020). Since the official recognition of the global pandemic, a lot of research has been done by researchers and academics. Much of these have focused on more developed countries with very little focus on developing countries and regions like the PICTs. This review will be contributing to the existing discussion with a focus on how economic development and capability of a country affect their response to pandemics such as the COVID-19, and how delay in the spread of the virus had resulted in opportunities to build medical capacities.

II. TABLE I

PICT'S COVID-19 RECORDS AT 13 JUNE 2022

#		Date of 1st community cases were recorded	Number of positive cases recorded as at 13 June 2022	Number of COVID-19 related deaths
1	American Samoa	February 2022	6,192	31
2	Cook Islands	February 2022	5,717	1
3	Federated States of Micronesia	No community cases	35	0
4	Fiji	April 2021	65,159	864
5	French Polynesia	July 2021	73,062	649
6	Guam	March 2020	41,550	367
7	Kiribati	January 2022	3,204	13
8	Marshall Islands	No community cases	18	0
9	Nauru	No community cases	13	0
10	New Caledonia	March 2021	62,623	313
11	Niue	No community cases	9	0
12	Northern Mariana Islands	January 2022	11,403	34
13	Palau	January 2022	5,145	6

14	Papua New Guinea	July 2020	44,644	658
15	Samoa	March 2022	14,187	28
16	Solomon Islands	March 2022	21,237	149
17	Tokelau	No community cases	0	0
18	Tonga	February 2022	11,909	12
19	Tuvalu	No community cases	3	0
20	Vanuatu	March 2022	10,497	14
21	Wallis and Futuna	March 2021	454	7

SOURCES: WHO 2022, World Odometers & RNZ

The PICT's have been fortunate in a way as many of the economies did not record community transmissions during the early days of the pandemic. Some of the economies as at June 2022 were still COVID-19 free. The medical situation for those who recently encountered community transmissions had recorded rapid community cases. For example, during the period between January 2022 and April 2022, Solomon Islands had recorded over 12,000 infections with over 100 deaths. Vanuatu recorded over 6,000 cases and 12 deaths. Tonga on the other hand, reported over 9,000 cases and 11 deaths due to COVID-19 (Red Cross 2022).

Statistically, a majority of the PICT's have had a head's start and unique benefit of having to face the virus in their shores after months of being aware of the virus. It took almost two years for the COVID-19 virus to reach the shores of some of these nations. During those two years, quite a lot could potentially have been done to increase awareness and to build the medical capacity and the capability function of PICTs. Some economies who had encountered the pandemic had demonstrated exemplary innovations within virtual health care, advances in diagnosis and therapy, hospital at home, team-based care, virtual learning, and virtual clinical learning (Woolliscroft 2020). Others have developed vaccines, Personal Protective Equipment (PPE's), Provision of Medical Equipment including ventilators, reusable masks, vaccines and therapeutics, and laboratory supplies, Health systems resilience protocols, robust testing, rapid isolation and quarantine measures to prevent the spread and respond

to outbreaks.

The health of the citizens and public communities within PICT's is of utmost importance as negative health emergencies contributes to the burden on the already limited resources, the distribution of resources, the labour force participation rate, economic productivity and therefore the aggregate economic income. As such, for the development of the PICT economies, there was greater necessity to their improve medical responses and self-sustainability in providing what was essential to readily respond to a pandemic like the COVID-19.

III. SUCCESS IN PUBLIC HEALTH STRATEGIES SECURED TWO-YEARS OF ZERO-COVID-19

Throughout the pandemic and up till the start of 2022, many PICT's remained virtually COVID-19-free (Tukuitonga 2022). However maintaining a long-term state of zero-COVID-19 infections changed with the emergence of the Omicron variant, which appeared to have rendered the zero-COVID-19 strategies ineffective. Previous successful public health measures used to maintain a zero COVID-19 infection state were achieved through border restriction and strict quarantine policies which focused on preventing community transmission of imported cases (Yemoh and Yemoh 2022). All the strategies including the Zero-COVID-19 strategies had also taken a huge economic toll on many of the islands.

According to an IMF report published in October 2021, GDP across the Pacific Islands contracted by 3.7% in 2020, with tourism-dependent countries such as Fiji, Palau, Samoa, Tonga and Vanuatu were expected to have seen a 6.5% decline in real GDP in 2021 (IMF 2021). Vanuatu, the Solomon Islands, Tonga, Kiribati, and Samoa had all experienced outbreaks in their capitals, after being COVID-19-free for almost two years. The virus has now spread to vulnerable outer island communities which lack basic treatment and vaccination facilities. This has created an immense strain on fragile healthcare systems in population centres such as Honiara, Port Vila and Nuku'alofa (Red Cross 2022). A rising number of healthcare workers are being struck down with COVID-19, further escalating the crisis and limiting health services

Statistically, most of these countries have been dependent on overseas vaccines, personal protective equipment (PPEs) and medical resources (WHO 2022). Furthermore, they are unable to develop their capacity to produce their own vaccines or associated resources to meet the demands posed by the pandemic. Donation of vaccines to PICT's have been greatly beneficial in the fight against the pandemic. It may be

therefore essential for these nations to focus on long-term aggregate growth and solutions including, capacity building of public health measures and response tools such as vaccine production and initiation and establishment of other preventative and protective resolutions.

IV. THE ECONOMIC GROWTH OF PICT'S DEPENDS ON CAPABILITY FUNCTION

The SARS-CoV-2 genetic sequence that causes COVID-19, was published on 11 January 2020 (Le, T.T. et al 2020). This has led to a global intense Research & Development to provide a vaccine against the disease. Most COVID-19 vaccine development activity is in North America, with 36 (46%) developers of the confirmed active vaccine candidates compared with 14 (18%) in China, 14 (18%) in Asia (excluding China) and Australia, and 14 (18%) in Europe (Le, T.T. et al 2020). Additional vaccine development efforts have been reported for China, and Coalition for Epidemic Preparedness Innovations (CEPI) is in dialogue with the Chinese Ministry of Science and Technology to confirm their status. Lead developers of active COVID-19 vaccine candidates are distributed across 19 countries, which collectively account for over three-quarters of the global population (Le, T.T. et al 2020). However, there is currently no public information on vaccine development activity in Africa or Latin America, although vaccine manufacturing capacity and regulatory frameworks exist in these regions. Moreover, New Zealand and Australia who are producing their vaccines are in the same region as the PICTs.

Many of the PICT's have received a number of medical aid over the years and continue to receive aid. However, developing the capability of self-help and self-production of essential resources may be needed to counter any medical emergencies in the future. In measuring the economic growth of PICT's, it may be necessary to review their capability to produce their own preventative and protective measures in the face of the COVID-19 which could have aided their medical response capability functions. Many citizens from these nations also train and reside in countries like the New Zealand and Australia, who have developed vaccines. It could be suggested that such investments could be refocused in developing nations in the Pacific to enable them create their own abilities and means to produce vaccines. There may be a merit in developing the capability of the PICT's in this area instead of relying on short-term solutions, which could also have a bearing on their economic development profiles. This shifted focus will in turn generate many socio economic benefits including; creating jobs, solving unemployment, and developing the medical capacities of the economics to handle emerging issues.

During a medical crisis, a resilient health system is able to effectively adapt in response to dynamic situations and reduce vulnerability across and beyond the system (Haldane et al. 2021). Countries that have maintained low COVID-19 per-capita mortality rates appear to have strategies that include early surveillance, testing, contact tracing, and strict quarantine (Whitelaw et al, 2020). Some PICT's already have scientific research centres which could potentially be used for the development and research aimed at producing the vaccines or the supply of medical aids. It may be necessary to fund core medical developmental research into providing vaccines which could come through the same channels that all other aid and developmental project fundings are received.

Productivity is a function of a nation's natural resources, labour resources, and capital resources whilst the economic growth is a sustained rise of the goods and services produced in a nation over time. The development of a country and PICT's therefore requires the ability to manufacture and or export commodities that embody certain characteristics. However, a country with quality labour force is more likely going to develop a lot faster than the same nation with far less developed labour force. Rich countries have developed through a combination of government intervention, protectionism, and strategic investment rather than through free trade (Reinert 2008). The development of PICT's will also require the same combination of factors if there is going to be a material change in economic development.

V. CONCLUSIONS

The COVID-19 virus delayed in its arrival into the PICT's. On one hand, this presented a unique opportunity to build up and develop the medical capability including making use of their existing economic resources and opportunities to manufacture the necessary medical supplies and vaccines necessary for the protection of her citizens or prevent the community spread of the virus. The arrival of the Omicron variant made many of the preventative strategies which as at January 2022 had kept many of the PICT's COVID-19 free less effective in preventing the community spread. The records and literature suggests that in some of the PICT's economies, it took almost two years from the official recognition of the COVID-19 virus as a global pandemic and for the virus to arrive. This provided a unique opportunity for the appropriate medical capability building that appears to have been missed.

REFERENCES

- [1] Clausen, J., Barrantes, N., 2022, Developing a Comprehensive Multidimensional Wellbeing Index Based on What People Value: An Application to a Middle-Income Country. *Applied Research Quality Life* . <https://doi.org/10.1007/s11482-022-10064-w>.
- [2] Erik S. Reinert, 2008, *How Rich Countries Got Rich, and Why Poor Countries Stay Poor*, Publisher : PublicAffairs (October 7, 2008), ISBN-10 : 1586486683, ISBN-13 : 978-1586486686
- [3] Haldane, V., De Foo, C., Abdalla, S.M. et al. 2021, Health systems resilience in managing the COVID-19 pandemic: lessons from 28 countries. *Nat Med* 27, 964–980. <https://doi.org/10.1038/s41591-021-01381-y>
- [4] IMF 2021, APD's Pacific Islands Division Pacific Islands Monitor, ASIA & PACIFIC DEPARTMENT, ISSUE 15
- [5] Le, T. T., Andreadakis, Z., Kumar, A., Román, R. G., Tollefsen, S., Saville, M., & Mayhew, S. (2020). The COVID-19 vaccine development landscape. *Nat Rev Drug Discov*, 19(5), 305-306.
- [6] Red Cross 2022, Vaccinations vital as COVID cripples Pacific countries, International Federation of Red Cross And Red Crescent Societies, <https://reliefweb.int/report/solomon-islands/vaccinations-vital-covid-cripples-pacific-countries>, accessed 14 June 2022
- [7] RNZ 2022, <https://www.rnz.co.nz/international/pacific-news/465295/samoa-records-10th-covid-death>, accessed 14 June 2022
- [8] Tukuitonga Collin, 2022, Covid-19 makes its way through the Pacific Islands, <https://www.auckland.ac.nz/en/news/2022/03/30/covid-makes-its-way-through-pacific-islands.html>, accessed 14 June 2022
- [9] Velavan, T. P., & Meyer, C. G. (2020). The COVID-19 epidemic. *Tropical medicine & international health : TM & IH*, 25(3), 278–280. <https://doi.org/10.1111/tmi.13383>
- [10] Whitelaw et al, 2020, Applications of digital technology in COVID-19 pandemic planning and response, *The Lancet Digital Health*, Volume 2, Issue 8, 2020, Pages e435-e440, ISSN 2589-7500, [https://doi.org/10.1016/S2589-7500\(20\)30142-4](https://doi.org/10.1016/S2589-7500(20)30142-4).
- [11] WHO 2022, COVID-19 Vaccines, Western Pacific, <https://www.who.int/westernpacific/>, accessed 14 June 2022
- [12] WHO 2022, Coronavirus disease (COVID-19) pandemic, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- [13] Woolliscroft J. O. (2020). Innovation in Response to the COVID-19 Pandemic Crisis. *Academic medicine : journal of the Association of American Medical Colleges*, 95(8), 1140–1142. <https://doi.org/10.1097/ACM.00000000000003402>
- [14] World Odometers 2022, COVID-19 CORONAVIRUS PANDEMIC, <https://www.worldometers.info/coronavirus/>, accessed 14 June 2022
- [15] Yemoh V., and Yemoh M., 2022, COVID-19 Vaccination and Border Restrictions; Evaluation and Outlook on Health and Socio-economic Systems in Pacific Island Countries and Territories, *International Journal of Scientific Research and Engineering Development—Volume 5 Issue 1, Jan-Feb 2022*