Tanzania's Compliance to International COVID-19 Standards: Determinants and Extent

Maria Joseph Tairo
The University of Dodoma, Tanzania,
Email: http://josephmaria20201@gmail.com
&
Boniphace Shimba Francis
ORCID/0000-0003-3526-0921
The University of Dodoma, Tanzania.
Email: http://shimbabony@gmail.com

Abstract

This article assesses Tanzania's level of compliance to international COVID-19 preventive measures, with a focus on the political, economic, and socio-cultural factors that influenced the adherence. A qualitative research approach with descriptive design were adopted. Data were collected through semi-structured interviews with 28 purposively selected participants, including healthcare workers and government officials from Dar es Salaam and Dodoma. Moreover, relevant documents from health sector were reviewed. Thematic analysis was performed using Computer-Assisted Qualitative Data Analysis Software (CAQDAS). The findings revealed that political leadership played a pivotal role in shaping compliance levels. The 5th regime demonstrated skepticism toward WHO guidelines and promoted traditional remedies, while the 6th regime re-engaged with international protocols and endorsed vaccination. Economically, Tanzania's dependence on informal employment, which accounts for approximately 76% of the workforce, hindered the implementation of strict lockdowns, as economic survival took precedence. Additionally, limited health infrastructure and a shortage of resources adversely affected compliance, especially in rural areas where traditional healing methods were prevalent. Tanzania's COVID-19 response balanced public health with economic and political realities amid political transition and cultural factors. The study recommends expert-led communication, health system investments in diagnostics and rural care, culturally tailored outreach to improve future pandemic preparedness.

Key Words: Compliance, COVID-19, Measures, Determinants, Tanzania, Pandemic, Preparedness

Introduction

The outbreak of the second novel 'severe acute respiratory syndrome coronavirus-2' (SARS-CoV-2), popularly known as the coronavirus in the late 2019 offered an appropriate opportunity to test the world's unified resilience in handling global health crises (Jiang et al., 2009; Lee et al., 2021). The virus, which quickly began to spread worldwide in early 2020 has claimed 5.6 million deaths related to COVID-19 out of 327 million confirmed cases as of April 2023 (Nwabuko & Mgbere, 2023). The outbreak of the pandemic and its unprecedented spread prompted the WHO to lay down mechanisms that served as international standards in the

course of addressing its spread and impacts (Beca-Martínez et al., 2022). However, compliance to such measures varied significantly whereas some countries appeared to effectively comply while others rejected, (Basrur & Kliem, 2021). Furthermore, compliance and non-compliance were determined by the extent to which the pandemic affected people's daily lives, a government's initiative to transparently communicate the progress of the virus, nationalistic and reactive unilateral decisions (Sheppard & Thomas, 2020).

The level of compliance was driven by the extent to which a country had been affected. In this case, countries that were hingly hit employed strict measures to contain the spread of COVID-19. For example, the United States implemented nationwide lockdowns, compulsory mask waring, and travel restrictions (CDC, 2020; Adolph et al., 2021), while China enforced city-wide lockdowns, digital surveillance, and strict quarantine protocols (Huang et al., 2020; Di Matteo, 2021). On the other hand, Egypt introduced curfews, school closures, and bans of public gatherings (WHO Egypt, 2020; Or et al., 2022). South Africa adopted alcohol bans, night curfews, and military-enforced lockdowns (van der Westhuizen et al., 2021; Kassa, 2020). In Japan, the government relied on voluntary restrictions, public mask-wearing, and emergency declarations (Crabu, 2021; Toshkov et al., 2021), whereas Germany applied contact bans, closure of public venues, and travel limitations (Barberia et al., 2021). Spain enforced strict lockdowns, movement permits, and military enforcement (Humphreys et al., 2020). The United Kingdom issued stay-at-home orders, launched furlough schemes, and mandated COVID-19 testing (Adolph et al., 2021). France introduced lockdowns, curfews, and digital attestation for travel (Di Matteo, 2021), and Italy, one of the earliest severely affected countries, implemented early and prolonged lockdowns, regional restrictions, and military quarantines (Or et al., 2022; Kassa, 2020). It has to be noted that, political institutions and factors such as the features of political leaders, levels of political trust, and political culture played significant roles in determining the nature of compliance measures adopted (Toshkov et al., 2021; Adolph et al., 2021). As a result, there were notable differences among countries in their containment strategies, with responses shaped largely from a political standpoint and only slightly based on scientific guidance (Barberia et al., 2021; Crabu, 2021).

In developed countries such as the United States, Germany, the United Kingdom, France, Canada, Australia, Japan, and South Korea, most of them appeared to comply (with varying intensity) with the scientific-backed measures recommended by the WHO although some struggled to ensure the necessary compliance. Countries like Germany, Britain, France, Taiwan and New Zealand earned the admiration of the world through its fast response, effective surveillance of the virus' transmission, and the implementation of strict intervention measures (Lai, Lee & Hsueh, 2023; Kaine et al., 2022; Rajan et al., 2022). Major differences in compliance between developed and developing countries stemmed from disparities in state capacity, healthcare infrastructure, communication systems, enforcement ability, and public trust. In this regard, developed countries benefited from stronger institutions, advanced health systems, and greater access to vaccines and technology, while developing countries faced structural constraints, limited resources, and a reliance on informal economies that hindered effective lockdown implementation (Colglazier, 2020). In African countries' such as Rwanda, Uganda, South Africa, Kenya, and Nigeria, compliance to international preventive measures was less adhered to (Kayrite et al., 2020; Dukhi et al., 2021), the reasons include reliance on daily earning which made overcrowding inevitable, mis- and disinformation to be rampant, and

religious beliefs in the form of mass gatherings continued to be grounds for transmission (SSHAP, 2020).

In Tanzania, compliance to international preventive measures such as closing schools, banning public gatherings, suspending international flights, imposing quarantine for travelers, promoting handwashing and mask-wearing, and encouraging social distancing, was encouraging during the early stages of the pandemic which lasted mid-March 2020 to late April 2020, when the government halted reporting as it was recommended by WHO (Al Jazeera cited in Kangwerema et al.,2021; Thomas, 2021; Mghamba et al., 2022). At the end of May 2020, the government had claimed to have eradicated the pandemic, a claim that was widely contested by health experts and the international community, especially considering that during the same period, about 50 Tanzanian lorry drivers tested positive for COVID-19 at the Holili border checkpoint between Tanzania and Kenya in a single day (Odula, 2020). Under President John Pombe Magufuli's regime, the government adopted a skeptical stance toward the pandemic, emphasizing prayer over masks and vaccines, downplaying the severity of the virus, and refusing international aid or vaccines (Awami, 2021). Scientific data was withheld from the public, and the government promoted steam inhalation and herbal remedies as preventive methods, while discouraging lockdowns to protect the economy and daily livelihoods (Burke, 2021). This approach drew both domestic and international criticism for lack of transparency and deviation from global scientific recommendations. However, following the untimely death of the 5th President John Pombe Magufuli in March 2021, Vice President Samia Suluhu Hassan was sworn in as the new President Busari & Princewill, 2021).

Under the 6th regime, the country appeared to embrace the preventive and control measures recommended internationally by establishing a COVID-19 task force, resuming case reporting to the WHO, applying for vaccines, and securing EU-backed aid worth US$ 27 million to help combat the pandemic's impacts (Richey et al., 2020). The differences on how countries responded to the pandemic indicate variations in factors that underlie the political, socio-economic, cultural, and scientific circumstances. This fragmented the practice of international health diplomacy, an aspect that led the pandemic to continue spreading and have catastrophic effects on the world's socioeconomic, political, and cultural aspects (Mustajib, 2021). It is from this background that the proposed study was set to assess Tanzania's compliance with the internationally prescribed COVID-19 measures, focusing on the determinants and extent of compliance.

Theoretical Literature Review

Theoretical literature review provides a blueprint in an area of inquiry that characterizes the research hypothesis, which serves as the foundation for the research (Adom, 2018). This article is underpinned by two theories of international relations namely, realism and liberalism.

Realism Theory

Classical realism, rooted in Thomas Hobbes' 1651 work *Leviathan*, emphasises that states are the primary actors in international relations, driven by the pursuit of power for survival and security (Donnelly, 2000). This perspective suggests that states prioritise their national interests, often at the expense of others, and compliance with international guidelines is motivated by self-interest. During the COVID-19 pandemic, adherence to international

preventive measures was viewed as a means to safeguard national security and economic power. Historically, classical realism has focused on high politics including war, peace, and national security while largely neglecting health and medicine, only considering health issues when they affect national competitiveness (Kamrava, 2021). Classical realists are critical of international organisations, viewing them as extensions of the interests of powerful states rather than independent entities capable of promoting co-operation (Basrur & Kliem, 2021). They argue that these institutions reflect the power dynamics at the time of their creation and serve the interests of stronger states rather than the common good (Donnelly, 2000). This is illustrated by the varied responses of countries within international organisations like the UN, EU, and WHO during the pandemic, where member states quickly disregarded established laws and principles in favour of national interests (The Guardian, 2020; Basrur & Kliem, 2021). Ultimately, the decision to comply with pandemic measures remained a sovereign choice for each state.

Tanzania's response to the COVID-19 pandemic varied significantly between the 5th and 6th regimes, reflecting a shift in political and ideological orientation. Under the 5th regime led by President John Pombe Magufuli, the government prioritised traditional medicine and religious devotion over scientific medical interventions, despite WHO recommendations advocating for quarantines, social distancing, and transparency in data sharing. The administration rejected lockdowns and relief packages, emphasising economic continuity over public health restrictions. This approach reflected a realist, self-help perspective where the state sought to maintain normalcy and allow citizens, especially in the informal sector, to sustain their daily livelihoods without external assistance. In contrast, under the 6th regime led by President Samia Suluhu Hassan, Tanzania shifted towards a more liberal internationalist stance. The government embraced vaccination campaigns, resumed cooperation with international organisations, and increased media engagement to disseminate WHO-advised preventive measures. This transition signified a move towards multilateralism, institutional cooperation, and interdependence in addressing global health threats. While realist perspectives emphasise state sovereignty and self-reliance, the pandemic underscored the necessity of cross-border information sharing and international collaboration. In a globalised health arena, national health challenges cannot be addressed in isolation, therefore requiring a liberal framework that values cooperation, collective responsibility, and multilateral solutions.

Liberalism Theory

The origins of the liberalism school of thought can be traced to John Locke, Immanuel Kant, Jeremy Bentham, and John Stuart Mill. Other prominent figures, especially in the early 20th Century are Norman Angell and U.S. President Woodrow Wilson (Ishiyama & Breuning, 2011). Liberalism posits that individuals and states are rational and interdependent, with institutions like international organizations and laws playing a crucial role in balancing state ambitions (Heywood, 2011). Interdependence is essential for survival, development, and well-being (Keohane, 2002). This has become even more evident in the wake of global pandemics such as COVID-19, where no single state could manage the crisis alone. As global issues like climate change and diseases become borderless, international measures are necessary to combat and mitigate their impacts. This approach allows for the implementation of preventive measures and aid packages for non-compliant nations (Baylis, 2020).

Liberals view the global landscape as a non-zero-sum game, fostering cooperation through interdependence and absolute advantages, which makes avoidance costly (Basrur & Kliem, 2020). The pandemic prompted unprecedented collaboration among scientists, transcending national protocols and competitive secrecy (Apuzzo & Kirkpatrick, 2020). International institutions like the WHO were crucial in disseminating information and aiding states in formulating strategies (Martin, 1995; Basrur, 2020). However, the WHO faced challenges due to political tensions between superpowers like China and the United States, which undermined its authority, particularly in developing nations like Tanzania, where compliance with guidelines varied due to a mix of political skepticism, resource limitations, and competing traditional practices (Kayrite et al., 2020; Mghamba et al., 2022).

The theory is essential in articulating Tanzania's evolving reaction to COVID-19 pandemic measures. Tanzania's adoption of COVID-19 measures demonstrated recognition of the importance of liberal proposals, highlighting global interdependence and collaboration in pandemic governance (WHO, 2021). The decisions made by Tanzania were influenced by the necessity to comply with international standards to safeguard its citizens and enhance the nation's economy (Morisset & Wane, 2021). Compliance to preventive protocols, such as vaccine uptake, social distancing enforcement, and cooperation with WHO reporting systems facilitated Tanzania in preserving and enhancing its international reputation and public health.

Determinants of Compliance

According to Biswas (2022) it is maintained that the differences between countries in their ability to limit deaths from COVID-19 may be associated with cultural differences and social norms. Countries around the world differ in their adherence to individualism. The COVID-19 pandemic has led to varying outcomes globally, influenced by cultural factors. Countries' responses to the virus, influenced by their adherence to preventive measures, have led to varying severity of illness and disruption of daily activities. In societies where cultural collectivism, population density, dealing with natural disasters and disease outbreaks are common such as among the Chinese, the adoption of personal protective behaviour was stronger (Lee *et al*., 2021). Meanwhile, societies with lax cultures prioritize individual freedom and privacy (Gelfand, 2021). In an effort to improve adherence to compliance campaigns, Galende *et al*. (2022) assessed the factors that influenced compliance with the COVID-19 health measures in Spain. The study found that compliance with mask-wearing and social distancing in public spaces was mostly driven by family, friends, testimonials, and fines, with younger individuals demonstrating less compliance. Demographic factors, such as age and sex, also influenced compliance according to multiple behavioural studies conducted across Europe and Asia (Wismans et al., 2020; Yıldırım & Güler, 2021).

From an online survey, Wang *et al*. (2020) explored compliance with the preventive measures against COVID-19 among US residents and Canadians during the initial stages of the pandemic. The study involved 1,405 online respondents whose responses were analyzed via regression. The study found age and political ideology as key drivers of compliance with preventive measures, driven by social responsibility, family protection, and self-protection. Non-compliance was attributed to distrust, mixed information, and perceived unnecessaryness. A study by Amour et al. (2023) found that over half of Tanzanian healthcare workers (53.4%) received the COVID-19 vaccine, with 33.6% refusing or preferring to wait. The study also

found that misinformation and inadequate awareness about the safety and efficacy of vaccines were significant barriers to uptake or hesitancy. The odds of vaccine uptake were higher among workers over 40 years with a perceived high or extremely high risk of infection.

Extent of Compliance

Beca-Martínez et al. (2022) studied Spain's compliance with COVID-19 preventive measures, focusing on attitudes, knowledge, practices, and risk perceptions. Surveying 1,033 respondents, they found that those aged 45 and above, knowledgeable about pandemic spread, and adherence to mandatory measures were more likely to stay home. Whereas Liu et al. (2022) studied compliance among Chinese employees returning to work after the pandemic. They found high compliance among 53.7%, attributed to high education, COVID-19 knowledge, and anxiety. The study suggests improving preventive behavior and employee adherence to prevent a resurgence of infections. Intervention strategies like psychological counseling, health education, and isolation policies could be considered feasible. A study by Wright et al. (2021) analyzed compliance with COVID-19 preventive measures among 20,000 UK adults. The results showed high compliance rates, with lower compliance rates associated with youths, riskier behavior, distrust of government, and low empathy. Mask-wearing was the most common measure, while social distancing was less. A study by Kayrite et al. (2020) found that compliance to COVID-19 preventive measures in Ethiopia's Bench-Sheko and West-Omo Zones was 55.5%. Most establishments had working hand-washing facilities, but less than half promoted handwashing, maintained a 2 meters table distance, and provided training for employees. This inadequate compliance made the pandemic challenging to combat.

On the other hand, Mugambe et al. (2021) conducted a study on COVID-19 compliance in 229 supermarkets in Uganda. The results showed that only 16.6% of the supermarkets complied with control and preventive measures. The majority of supermarkets had washing utilities installed strategically, frequently disinfected surfaces, and imposed mandatory hand washing and face masks. However, only 26.2% had infrared temperature guns for customer screening, indicating low compliance with COVID-19 prevention and control measures. Mghamba et al. (2022) studied the pandemic compliance of Dar es Salaam residents, revealing that 98.9% had heard about health and social measures, 90% on television, and 84.6% on radio. Most common measures included covering coughs and sneezes with a handkerchief, hand washing hygiene, and wearing face masks. However, only 55.4% adhered to physical distancing, with age and gender contributing to differences. Tanzania's COVID-19 prevention measures were initially based on WHO recommendations, including testing, mask-wearing, and public transportation (Thomas, 2021). However, the government stopped providing pandemic-related data in May 2020, and instead emphasized religious practices like national prayers and traditional remedies. The country also received COVID-Organics, a Madagascan remedy, to combat the pandemic (Richey *et al*., 2021). In February 2021, Tanzania's government revised guidelines, emphasizing WHO's measures and local capacity for personal protective equipment production, while rejecting COVID-19 vaccines, sparking controversy. Yet, Richey *et al*. (2021) assert that it is only by understanding the existing political and socio-economic systems in societies like Tanzania that will one be able to grasp and navigate the misunderstanding in how the country chose to comply.

The far-reaching and widespread impacts of COVID-19 on a large segment of mankind's activities have been subjected to analysis that aims to trace which factors influenced the compliance of different countries. Many studies have discussed how different countries complied with the preventive and control measures against the pandemic (Brailovskaia & Margraf, 2020; Chen *et al*., 2021; Júnior et al., 2021; Liu *et al*., 2022; Galende *et al.*, 2022; Gelgelu *et al.*, 2022). However, less attention has been paid to the factors influencing differences in levels of compliance within countries, especially in a country like Tanzania where compliance varied throughout different stages of the pandemic.

There has been scant information regarding the analysis on how the dynamic nature of the pandemic subsequently influenced the variation in how Tanzania complied with the pandemic's preventive and control measures. Various studies such as Brailovskaia & Margraf (2020), Chen et al. (2021), Gelfand (2021), and Lee et al. (2021) have examined cross-national comparisons of pandemic compliance; however, little is reported on the intranational variations in compliance within specific countries like Tanzania.. In light of this, this study contributes to knowledge by examining the factors that influenced Tanzania's varied compliance with the COVID-19 international preventive and the extent of compliance. The current article focuses on the temporal and contextual shifts in Tanzania's policy responses and public behaviour during the different phases of the pandemic.

Methodology

This study employed a qualitative research approach and descriptive design with the focus on political, economic, scientific, and social determinants. The research design included clear identification of the sampling frame as healthcare workers and government officials involved in COVID-19 response and compliance within two key urban health facilities of Benjamin Mkapa Hospital in Dodoma and Muhimbili-Mloganzila Hospital in Dar es Salaam. The sampling unit comprised individual professionals such as medical doctors, nurses, hospital administrators, and government officials directly involved in pandemic management. The total sample size consisted of 28 participants. These healthcare facilities were purposively selected due to their strategic importance in health governance and service delivery, which are crucial to understanding national compliance dynamics. Using purposive sampling, 28 participants, including medical doctors (11), nurses (9), hospital administrators (2), and government officials (6) were interviewed to assess compliance dynamics.

Key informants were selected based on their operational knowledge and direct involvement in policy implementation and healthcare delivery related to COVID-19, ensuring rich, relevant data. Semi-structured interviews and documentary reviews (e.g., WHO, IMF, and Tanzanian government reports) provided primary and secondary data. Data analysis was conducted thematically, organized by the qualitative nature of the data, with use of CAQDAS software to facilitate systematic coding and theme development. Themes focused on leadership influence, information accuracy, and economic trade-offs. Trustworthiness was ensured through triangulation (theory, method, and data sources) and thick description to validate findings.

Determinants of Tanzania's Compliance

The study asseses Tanzania's compliance to COVID-19 preventive measures during different stages of the pandemic, virus volatility, and efforts to curb transmission. The aim is to identify

the determinants of compliance and understand the reasons behind its variation. Thematic analysis identified key themes influencing a country's response to the pandemic, including leadership, accurate information availability, economic considerations, and healthcare capacity. These factors influenced compliance and are discussed in subsequent sub-sections.

Leadership

The response and adherence of the nation to COVID-19 measures are largely attributed to authoritative leaders due to the pandemic's unpredictability and its socio-economic impacts (Ahern & Loh, 2021). Leadership significantly influenced compliance by shaping decision-making and policy execution. In Tanzania, the 5th regime administration played a crucial role in the nation's pandemic response. Initially, the government acted similarly to others but did not implement a lockdown or strict preventive measures such as compulsory mask wearing or social distancing. The president John Magufuli, known for his inward-looking approach, focused on ensuring domestic stability and preferred home-grown solutions, emphasising prayers and traditional remedies, including herbal medicines, even after vaccines became available (Karashani & Tairo, 2021). A participant noted that leadership was a key factor in determining compliance in the country as stated:

"Politicians significantly influence people. Their statements highly influence the masses in either supporting or opposing various issues. This was reflected during various phases and waves of the pandemic which experienced two leaders with different approaches at the helm of governance in Tanzania. The leader of the 5th regime appeared to deviate a bit from the international-prescribed measures, at times announcing that the country was Corona-free without substantiated scientific data and even questioning the efficacy of test kits and vaccines, a move that created a lot of hesitancy when it came to vaccine uptake among Tanzanians. On the other hand, the leader of the 6th regime brought the country back into compliance to WHO-recommended measures. At one time, the second president received a vaccine shot in an effort to reduce vaccine hesitancy among the population, a hesitancy that was created during the leadership of her predicessor." (Foreign Officer, interview conducted in Dodoma, on 5th September 2023).

Leadership played a crucial role in shaping Tanzania's adherence to global COVID-19 initiatives. Following the death of president of 5th regime, Dr. John Magufuli. The 6th regime emphasised the importance of international cooperation in promoting preventive measures, including vaccinations. To combat public hesitancy stemming from 5th regime skepticism about vaccines. In this regard, the president of 6th regime, Dr. Samia Suluhu Hassani, publicly received the Johnson and Johnson vaccine in July 2021 (Kombe, 2021). Her leadership approach resonated across government and society, aligning Tanzania's response with global practices. The findings suggest that presidential leadership significantly impacted the country's pandemic response through centralised decision-making, which persisted beyond the leadership transition. This centralisation shifted Tanzania's alignment with international strategies (preventive and control measures such as mandatory mask use, physical distancing, transparent health communication, and national vaccination programmes). According to Hamisi et al. (2023), the nation's compliance fluctuated due to the differing leadership styles. The 5th regime focus on national sovereignty led him to diverge from WHO guidelines, downplaying the pandemic's threat and promoting a narrative centered on prayer and traditional

remedies (Karashani & Tairo, 2021). This inward-looking approach contributed to a reduced perception of the pandemic's severity, mitigating mass panic and policy errors seen elsewhere in the world (Bagus et al., 2021; Leung et al., 2021).

The 6th regime leadership emphasised compliance to international preventive protocols (measures and control guidelines such as WHO testing protocols, community sensitisation campaigns, case tracking, and standardised treatment procedures) and common principles, facilitating the dissemination information about the pandemic through WHO-recommended interventions including vaccinations. This progressive strategy altered the social structures and norms governing the nation's compliance. This was exemplified by the airing of the new President, Dr. Samia Suluhu Hassani receiving the COVID-19 vaccine jab, helping recalibrate public perception of the vaccine and other compliance behaviours (Harris, 2022; Yamanis et al., 2023). Hence, the influence of leadership in Tanzania's compliance to the preventive measures can be viewed through the realist and liberal theoretical perspectives, where realism highlights national sovereignty and state-centered responses, while liberalism underscores cooperation, international norms, and institutional engagement, both of which expose the dynamics and consideration of various factors in the country's management of the pandemic's spread and impacts.

Availability and Communication of Accurate Information

This article highlights the importance of pandemic data in shaping Tanzania's compliance to international preventive measures against COVID-19. The government's early efforts in reporting cases, recoveries, and deaths, along with public awareness campaigns, promoted compliance practices, personal responsibility, and understanding of the pandemic's fundamentals. However, when the government halted the provision of relevant statistics and scientifically backed information on the pandemic's prevalence, compliance became more influenced by rumors, misinformation, and conspiracy theories. Extracts from the interviews highlighted this factor (e.g., medical professionals, nurses, and administrators who directly experienced public confusion):

> *"There are so many rumors and conspiracy theories about COVID-19 which made it hard to know what to believe." (Nurse of Muhimbili - Mloganzila Hospital, on 13th August 2023).*

The available information such as government press releases, media broadcasts, and unofficial social media content, which appeared to contain a mix of correct and incorrect information made it harder to effectively implement the internationally prescribed initiatives in managing the pandemic. A similar observation was made by Kangwerema *et al*. (2021) who noted some government officials in the country occasionally downplaying seriousness of the pandemic, with some of them encouraging citizens to ignore some precautionary measures such as mask wearing. This inspired inconsistency in compliance among some people. Improper messaging, especially from the leaders spread much faster as acknowledged by one participant:

> *"Misinformation spread like wildfire that affected people's compliance to the preventive measures since they could no longer differentiate accurate information from inaccurate. This made it hard for people to trust accurate information even when backed by science and instead*

> *prefeered information from political authorities." (Medical Doctor, incharge of Benjamini Mkapa Hospital, on 18th August 2023).*

The findings indicates that information distortion considerably affected Tanzanians' adherence to preventive measures, resulting in partial compliance and non-adherence, hence obstructing successful pandemic management. The delayed dissemination of pandemic progress in Tanzania resulted in public misunderstanding and skepticism regarding containment efforts. Limited transparency in COVID-19 data led to public mistrust, confusion, and compliance with preventive measures, whereby the president being the most prominent source of information. For instance, Quinn (2021) reported that 5th regime of Dr. John Magufuli, fact-free questioning of the efficacy and reliability of lockdown, testing and vaccines, as well as the country's supposed triumph against the pandemic, portrayed the President as the sole arbiter and unquestioned authority of truth about the COVID-19. In other words, the President created a perception of the pandemic, its threat, and its effectiveness, particularly during 5th regime administration. The prevalence of misinformation diminished public awareness and acceptability of COVID-19, leading to postponed health interventions. The 6th regime shifted towards ensuring the availability of accurate official statistics on the pandemic's prevalence and reoriented the nation's adherence to international preventive protocols, marking a return to a liberal perspective.

Economic Considerations

Tanzania's approach to managing COVID-19 varried from many countries of the world, particularly in sub-Saharan Africa, as it did not implement a lockdown. The government's decision to forgo lockdown measures was influenced by limited economic capacities and fiscal space, which made it difficult for people to remain at home (World Bank, 2020). In contrast, high-income countries like Denmark and the USA allocated around 10% of their GDPs for pandemic relief. Instead, Tanzania adopted a pragmatic containment strategy that included international protocols such as mask-wearing, hand hygiene, sanitisation, social distancing and the alike. However, the strict enforcement of these measures hindered the effectiveness of containment efforts. In this case, economic factors, particularly the informal sector's dependence on daily income and savings, significantly influenced the compliance to preventive measures in Tanzania, despite the government's inability to offer stimulus and welfare relief packages. While it was a national interest for the country to protect itself and its citizens from the spread of the pandemic, it was also a national interest for Tanzanians not to die from hunger that could ensue if the country implemented lockdown without having a safety-net in place. A senior official from the Ministry of Health and Social Welfare in Dodoma Region, stated:

> *"Balancing public health and economic survival was critical. With over 70% of Tanzanians dependent on informal sector incomes, a lockdown would have exacerbated poverty without guaranteed health benefits. Our focus was on adaptable measures that minimised disruption to livelihoods while curbing transmission." (Head of Epidemiology, Ministry of Health and Social Welfare, on 2nd August 2023).*

These findings align with the World Bank (2020), which linked Tanzania's response to the pandemic to its large informal sectors and limited fiscal capacity, hindering the implementation

of costly lockdown and mobility restrictions. The lack of safety nets for most Tanzanians, who are not part of national social welfare funds that primarily cover formal sector workers, made it difficult for individuals, especially in crowded areas like marketplaces, to stay home and practice social distancing. The exclusion of many from social welfare programmes, due to high informality and a limited taxpayer base, restricted the government's ability to provide relief packages that could facilitate compliance to preventive measures. Consequently, the country's low-income economy significantly impacted public adherence to these measures, reflecting a realist perspective on nationalism (Mearsheimer, 2001). However, the government did make some fiscal and monetary policy adjustments, including expanding social security schemes to increase withdrawal benefits for those newly unemployed due to the pandemic (IMF, 2021).

The Country's Health Sector Condition and Capacity

The article reveals that the healthcare system, infrastructure, and resources influenced the nature of compliance to preventive measures against the pandemic. The capacity of a country's healthcare system determines the extent of testing, correct diagnosis, treatment, together with the coordination of scientifically backed measures to combat the pandemic. Healthcare workers vehemently spoke of the policy and implementation challenges that surrounded the country's compliance to preventive measures.The Medical Doctor, in charge of COVID-19 coordination at Benjamin Mkapa Hospital in Dodoma stated:

> *"There were no clear guidelines or instructions from the government on how to handle the COVID-19 cases. Also, the emphasis on prayers and traditional remedies significantly reduced the trust that people had in the evidence-based preventive measures that were recommended by global health authorities including the World Health Organisation (WHO)." (Medical Doctor, Benjamin Mkapa Hospital - interview, on 3rd August 2023).*

As a new health crisis, the COVID-19 pandemic further exacerbated public health risks and piled upon the pre-existing pressure that was already facing Tanzania's health system. Therefore, ensuring that people complied with the prescribed preventive measures would have helped reduce the pressure of the pandemic on health facilities. This is due to the fact that, higher compliance meant that fewer people would be admitted to health facilities with "respiratory-related" ailments. Although the Government of Tanzania had declared the country COVID-free in May 2020, the increase in respiratory illness among Tanzanians coincided with the waves of the coronavirus (Ndumwa *et al*., 2023). The country's denialism led to a rise in patients with respiratory conditions who placed more pressure on the already insufficient equipment such as ventilators and oxygen tanks.

Furthermore, the artile highlights inadequate, slow, and inconsistence on the part of the government on the compliance to directives and guidelines prescribed by WHO. Subsequently, the Tanzanian government also did not offer specific scientific backed-up guidelines on how to handle the pandemic, affecting the preventive and control initiatives in health facilities. The non-provision of guidelines was also influenced by distorted information as explained by a Emergency Medical Technician at Muhimbili Mloganzila Hospital:

> *"The information based on traditional remedies and prayers emphasised by the political authority led to the unrestricted and unmonitored spread of the pandemic, a situation that increased the admission of more patients with respiratory complications to health facilities that were already facing limited resources including testing kits, hospital beds and ventilators. This largely limited our capability of effectively responding to the pandemic." (Emergency Medical Technician (EMT) Muhimbili- Mloganzila Hospital, inteveiw, on on on 3rd July 2023).*

The findings indicate that the government's minimisation of COVID-19's severity and centralisation of pandemic data, coupled with an inadequate health infrastructure, adversely impacted the healthcare system. It was not until 6th regime administration that the health sector witnessed improvements through the establishment of a task force comprising doctors and scientists to advise on the pandemic (Qorro, 2021). The committee, recommended that the government has to recognise the pandemic's prevalence, resume public communication about COVID-19, and promote voluntary vaccinations. These suggestions marked a significant departure from the strategies employed by 5th regime (Odunga, 2021).

In June 2021, the new Tanzanian government joined COVAX, a global initiative aimed at ensuring equitable access to COVID-19 vaccines worldwide (Centres for Disease Contro (CDC), 2022). With support from the CDC and other development partners, Tanzania developed electronic health information systems to track cases and vaccine distribution, enhancing the monitoring of the pandemic's spread and treatment. Additionally, the government implemented customs duty exemptions and Value Added Tax (VAT) relief on imported medical supplies and equipment to strengthen the health system (IMF, 2021). Under 6th regime, there was a renewed focus on scientific data and preventive measures, revitalising the country's public health response to the pandemic and aligning it with global health sector efforts.

The Extent of Compliance

Compliance to COVID-19 preventive measures was crucial for managing the pandemic and minimising its impacts. However, Tanzania's unilateral approach, adopting some measures while neglecting others, hindered collaborative efforts to mitigate the virus's spread. The lack of statistical data complicated the assessment of the pandemic's progress, and political claims of the virus's defeat in May 2020 significantly affected public compliance (Odula, 2020). The degree of compliance directly influenced the virus's transmission and Tanzania's interactions with international actors. Research indicated that Tanzania experienced various stages of the pandemic, with fluctuating compliance levels influenced by factors such as leadership, data availability, communication, and economic conditions. Based on this fact, the article assesses the extent of compliance to internationally established preventive measures, revealing variability in compliance across geographic locations, age groups, and the availability of accurate information. These factors and their effects on compliance are further discussed as follows.

Geographic Location

The current article reveals a high degree of compliance to preventive measures in urban areas compared to rural areas. This emanates from the fact that, there is a better access to information from international news and media platforms in urban areas compared to rural areas. Moreover, the divide notion between urban and rural regions played a significant role in determining compliance and public health behaviour resulting from differences in infrastructure, access to information, health service maldistribution, and socio-economic conditions. In both high-income and low- and middle-income countries, the urban-rural dichotomy was associated with rendering rural residents more susceptible when it came to testing and diagnosis, treatment, and the overall management of the pandemic (Petrazzuoli et al., 2023; Malatzky et al., 2020).

Similarly, the findings unveils that urban residents employed a mix of internationally prescribed measures such as mask-wearing, social distancing, sanitizers; and traditional remedies including steam inhalation and herbs, meanwhile, their rural counterparts largely relied on traditional remedies. A Medical Doctor from Benjamin Mkapa Hospital who served in both settings acknowledged such differences as follows:

> *"In the cities, people's awareness was high and it was not as difficult to urge someone who enters a health facility to have on a mask. But, in rural areas, it was harder to get people to adhere to international preventive measures since most of them only relied on information provided by the government, which was sometimes unreliable." (Medical Doctor, Benjamin Mkapa Hosptial, interview on 18th August 2023).*

Apart from informational gaps, the influence of cultural and religious beliefs was also found to be more dominant in rural areas than in urban. Participants especially from the medical field opined that the strong ties and inclination some areas had to their traditions and religion, coupled with the emphasis by 5th regime that people should pray and use herbal remedies limited the extent of compliance in rural areas than in urban areas. Similar results were found in the United States where rural residents were depicted as less likely to adhere to the preventive measures against the pandemic including wearing masks in public, sanitizing their workplace or homes with disinfectants, working from home as a means of social distancing, or avoid going to bars and restaurants (Callaghan *et al*., 2021).

These all boiled down to differences in demographic factors, political ideologies, and COVID-19 experiences between rural and urban areas, factors that went on to inform their preventive health behaviours about complying with the pandemic's preventive and control measures. Nevertheless, in urban areas such as Dar es Salaam, Assefa *et al*. (2022) discovered that there was also a high prevalence of utilisation of misinformed preventive measures including steaming or saunas, eating ginger and/or drinking lemon, and ingestion of nutritional supplements to prevent contracting the coronavirus. This implies that even in urban areas compliance with the international preventive measures was not guaranteed especially when information was distorted.

Degree of Compliance Among Age Groups

Notable differences were observed across two major age groups, youths and the elderly. The article reveals that young people were less compliant because of the presence of distorted

information that they were less affected by the coronavirus. This made them reckless in adhering to the preventive measures and given that youth (aged 15-35 years) makeup 34.5% of the country's population (NBS, 2022), the level of reicklessness was likely to be that much higher and pose a huge risk of spreading the virus resulting from the potential low compliance to the youth. Such kind of misinformation has detrimental impacts on the already controversial compliance of the country under 5th regime.

The interviewed health workers spoke of how distorted information had spread in the public, information that described young people as somewhat more immune to the coronavirus. Such information was overheard by health workers when they attended patients who visited health facilities. One of the informants (Registered Nurse at Muhimbili Mloganzila Hospital) proclaimed:

> *"I overheard patients telling each other that young people can't get seriously ill from COVID-19, so they didn't need to worry about it. They did not need to wear masks everywhere nor would they need the vaccines." (Registered Nurse at Muhimbili Mloganzila Hospital, inteveiw on 13rd August 2023).*

Although it might appear empowering youth, such proclamations posed a threat of making young people less compliant, a practice that would put other age groups, especially the elderly who represented about 5.7% of the population at greater risk of being infected due to their interaction with young people who are either their children, grandchildren or neigbours (NBS, 2022). The participants added that the elderly, who were considered more vulnerable to the coronavirus and its health-related complications, expressed fear and were more compliant with the preventive measures. Parallel to these findings, Beca-Martínez *et al*. (2021) observed that people aged over 45 years complied with the preventive measures more closely than younger adults in Spain, the United Kingdom, Greece, and the United States. Globally, adolescents and young adults were recognised as the age group(s) with the lowest compliance rates while older people had the highest compliance levels with the preventive measures that aimed to curb the transmission and spread of the pandemic (Nivette *et al*., 2021; Reinhardt *et al*., 2022).

The Source of Accurate Information

Information about the manifestations of the pandemic and mechanisms of combating its spread and transmission played a crucial role in determining the degree of compliance to preventive measures. In Tanzania, the main source of information on the prevalence of the pandemic and the progress of infections was the government, particularly the President. At one point in time, President in power appeared to be the sole authority and unquestioned arbiter of information about the pandemic, overshadowing vital areas such as the health sector and its stakeholders in response to the pandemic (Quinn, 2021). The clamping down of data and statistics on the country's progress when it comes to testing, diagnosis, the number of infected cases, and those recovered made it hard for many Tanzanians to access accurate and consistent information. A medical officer from Muhimbili Mlonganzila Hospital opined;

> *"Instead of institutions, particularly those in the medical field being the source of information,there was mixed information from various political outhorities in different places. Consequently, people fell prey*

> *to mixed and personalised information, opinions, speculations, conspiracies, and rumors that hurt the country's compliance to internationally prescribed preventive measures against the pandemic. This resulted in increased mistrust of official information sources from medical institutions and instead acceptance and reliance on unconfirmed sources that were fact-free and less scientific including traditional remedies, and faith-based approaches." (Medical Doctor, Muhimbili Mlonganzila Hosiptal, interview on 13th August 2023).*

Interviews from the medical doctors particularly of Muhimbili Mlonganzila Hospital, highlighted several factors contributing to Tanzania's low compliance to preventive measures after the initial pandemic wave. A decline in trust towards information sources resulted in diminished confidence in scientifically backed measures, the acceptance of traditional solutions, and a reduced perception of the pandemic's risk and seriousness. This led to reckless behaviour among the youth and many individuals in the informal sector, alongside a conscious replacement of proven international measures with unverified alternatives. Consequently, COVID-19 spread unchecked, overwhelming already strained healthcare facilities. Despite the government's declaration of Tanzania as COVID-free in late May 2020, evidence of ongoing transmission was apparent, such as 50 Tanzanian lorry drivers testing positive at a border checkpoint and travelers returning from Tanzania to Angola carrying a highly mutated variant of the virus (Odula, 2020; Awami, 2021).

The findings highlight that the distortion of information sources contributed to the ongoing spread of the pandemic, preventing individuals from making informed decisions and implementing scientifically supported strategies to control the coronavirus transmission. Supporting this, Kangwerema et al. (2021) noted that a lack of transparency and distorted information in Tanzania fostered confusion and mistrust among the public, leading to either a disregard for control measures or the adoption of non-evidence-based alternatives.

Following a change in presidential leadership, Tanzania realigned herself with international preventive measures against COVID-19. The new President established a COVID-19 expert committee that recommended the republication of COVID-19 statistics after nearly a year (Mfinanga et al., 2023). This move was accompanied by Tanzania's participation in the COVID-19 Vaccines Global Access (COVAX) initiative to ensure public vaccination against the pandemic. On July 24, 2021, the country received a consignment of 1,058,400 doses of the Johnson & Johnson's Janssen vaccine, presented to officials including the then Minister of Health, Community Development, Gender, Elderly and Children, Dorothy Gwajima, and the then US Ambassador to Tanzania, Donald Wright (Vuzo, 2021). This return to multilateral collaboration highlighted Tanzania's acceptance of cooperative strategies in addressing challenges, emphasising the importance of increased cooperation in today's interdependent world, especially as demonstrated during the pandemic.

Based on the previous mixed information, there was a high level of vaccine hesitancy and skepticism including among health workers and the public. The hesitancy levels ranged between 62% in western Tanzania (due to limited access to accurate information and stronger traditional belief systems) and 65% nationally, requiring greater campaigns and initiatives to restore the confidence of health workers and the public in the effectiveness and utility of

vaccines (Chilongola et al., 2022; Konje et al., 2022). This led to a slow uptake of vaccine jabs among the population especially during the first months of the arrival of vaccines. However, the 6th regime President's public vaccination campaign inspired more uptake as time went on to reach a coverage figure of 37.7 million people by the end of 2022 (Gatei et al., 2023). By the end of 2022, the vaccination efforts had successfully reached 37.7 million people across Tanzania, demonstrating a significant increase in public confidence and participation in the national COVID-19 response.

Conclusion and Recommendation

Tanzania's compliance to international COVID-19 preventive measures was influenced by a complex interaction of political, economic, and socio-cultural factors, reflecting tensions between national sovereignty and international expectations. The study showed distinct shifts under two presidential regimes: the 5th regime prioritised economic preservation and self-reliance, favoring traditional remedies over WHO guidance, which fueled misinformation and vaccine hesitancy; the 6th regime embraced transparency, joined global initiatives like COVAX, and promoted vaccination despite lingering skepticism. Key factors shaping compliance included leadership rhetoric, economic reliance on the informal sector, urban-rural disparities, health system inadequacies and demographic differences, particularly lower adherence among the youth. Basically, Tanzania's response illustrated the negotiation between health priorities and broader national realities rather than a simple public health issue.

Based on the findings, the article recommends to improve future pandemic preparedness and response by depoliticising public health leadership through empowering health experts to lead crisis communication, thereby restoring public trust based on consistent, evidence-based messaging. Strengthening health system resilience is critical, including expanding domestic production of medical supplies, enhancing rural healthcare access, and integrating digital health information systems. Public sensitisation campaigns have to be tailored to demographics, harnessing social media influencers for youth and partnering with local leaders in rural areas,to effectively counter misinformation. Additionally, Tanzania should deepen regional cooperation through multilateral platforms like the East African Community to ensure equitable resource distribution during crises. Finally, economic safety nets designed for the informal sector would enable compliance to health measures without exacerbating poverty, balancing health imperatives with economic survival.

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