

The Economic Impact of Covid-19 on African Countries: The Case of Madagascar

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Abstract. The emergence of the Coronavirus disease (COVID-19) on the global public health scene has stunned the entire world in terms of the pandemic's impact and origin. Almost all economic activities worldwide were paralyzed by the pandemic, especially in developing countries with their intrinsic domestic and international services, including Madagascar. However, in the pre-covid situation, Madagascar is known as one of the weak countries economically, meanwhile, the outbreak of the said pandemic jeopardized its economic policy. Therefore, the main purpose of this study is to examine Madagascar's economy impacted by Covid-19 to analyze a better understanding of the post-covid future economy restoration and seek to point out further highlights of the main policy measures adopted by the Malagasy government, involving restrictions on the island economic. Basically, the research study applied an empirical data approach and data analysis collection to discover Madagascar's economic issues, and analyze the impact of the covid-19. Thereupon, this study found that, in the post-covid period, Madagascar is still bearing negative impacts on its economic sector. As a result of this study, Malagasy authorities need to assist vulnerable households and social poverty high rates caused by the unemployment, daily expenses, and uncontrolled isolation.

1. INTRODUCTION

Countries in all over the world, have implemented countermeasures and restriction methods to reduce death rate and complication symptom from appropriate treatment, far too many people die.

A baseline case of a global pandemic is more likely to affect the economy of developing countries due to inconsideration of the health quality system, delineation in demand of production, and income reduction by the amplified outbreak.

Despite the government's efforts to shut down the area and install protection measures, the virus continues to have a detrimental impact on numerous industries and service sectors. The novel coronavirus has changed people's lives all across the world. An significant factor in this change was technology. Lockdown measures, on the other hand, instruct people on how to boost online technology for commercial activities like e-commerce, online ordering and delivery, online entertainment, e-learning, e-health, etc... This internet technology plan keeps the populace in a secure environment and on lockdown to prevent virus outbreaks and rising unemployment.

However, it means the COVID-19 pandemic affected the population social in each household's purchasing capacity has been unprecedented. The amplified global pandemic in developing countries relies on developed

countries for substantial financing and asking for development assistance, which may affect the time process to return the countries' pandemic situation to the average activity level.

A global research community is about to design, implement and complete a study to response Covid-19. Indeed, most of developing countries from all regions have received technical assistance to help them build epidemiological capacity, improve protocol development, and conduct statistical analysis.

As a result of the situation, many African countries adopted public health policies to mitigate the amplification of infection in the community. Thus, this end affected the economy of the countries. Considering the Madagascar situation, the government authorities took various measures to limit the virus spread through the global measures system such as social isolation policies, shutting educational institutions, limited labor schedules, and people mobility restrictions, and generally reacted rapidly despite limited resources and capacity.

The impact of the coronavirus worldwide based on robust statistical evidence which provides a better understanding of its impact on the Madagsacar economy's critical situation to better discover the weakness of the health management policy system and socio-economy severe crisis to adapt the appropriate countermeasures for Malagasy population safety and surety.

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As known, before the beginning of the pandemic outbreak, the African continent's economy has already suffered from output weakening, especially Madagascar's economy. Consequently, this pandemic encumbers the weakness of economic development policy and the disproportionate burden of poverty and disease, so far, reporting has meager mortality rates from COVID-19 infections.

Henceforth, Madagascar is still need working to enhance health system policy for better treatment, prevention, and control, which is important to advance and create some recent scientific information pertinent. Both efforts are intended to help the country's economy recover and development. Since the pandemic expanded, it has revealed the alarming flaws in public health systems and caused national economy destruction of entire industries, supply chains and financial markets collapsed. It not only has an impact on the economic but also on social, emotional, mental, and business affairs.

Overall, this study used to attend the research questionnaires listed below:

(1) What are the challenges and impact of covid-19 on Madagascar's economic growth in a severe global health crisis?

(2) How do the Madagascar government and other non-governmental organizations deal with the global health crisis in health system policy and investment management?

(3) What are the efficient solution and appropriate countermeasures adopted against the pandemic-caused global health crisis?

(4) What are the strategies implemented to control the covid-19 pandemic spread?

(5) What are the best future efficient solutions needed to recover the economy, health economy, and human development crisis in the post-covid period?

2. RESEARCH METHODOLOGY

2.1 Data Collection Methods

Data were collected electronically online information in different global health websites, journals, and publishing paperwork manuscripts as a simple and fast collection method. The main research content advantage is broad free online access and complete information, including a literature review with online structure questionnaires and Madagascar national statistic data.

This research study's data investigation is based only on global health crisis covid-19 methods approach online studies in published papers and internet health crisis news.

This research manuscript paper data also collected from social media and television information news and African social-economy magazines to explore the continent's actual situation and to adopt a sustainable development solution.

Sample firms will be selected based on consistency in the payment of dividends and those firms that have continuously been listed during the study period and their data available.

Data obtained analysis, panel most minor square analysis through correlation, and regression analysis models will use.

3. Expansion of Covid-19 and extent of solution hampering economic growth

3.1 Expansion of Covid-19 in Madagascar

Before the covid-19 expansion in 2019, the Malagasy economy was expected to upgrade an estimated growth rate of 4.8% over the last five years.

Madagascar's economy has already had a difficult time over ten years before the pandemic begin to spread. Since the 2009 crisis, the big island has encountered political and economic crises for many years due to the government's poor governance.

The spreading pandemic severely impacted Madagascar on economy and society; it may result in a lack of restriction planification and a late decision to ban the main border to avoid the pandemic spreading. The big island border banned remains the most important and best solution for social population security and safety out of covid-19. However, Malagasy people with the rest of the world in a global community may learn to live with COVID-19 as long as it has been completely done.

As a result, Madagascar has experienced a 3.8% economic growth decline rate since the population lockdown, the external market closed, and the closed border, which has directly impacted the Malagasy economy. As long as the border is closed, the first and the most affected sector is tourism, which has a significant rate in Madagascar's economy, next is the mining industry which has about 6% of the world's production but because of a sharp drop in price so it closed from March, and textiles export. According to the Covid-19 information report, global trade and tourism which are Madagascar's economy key sources of development had a highly severe impact and declined over a half billion dollars lost.

Henceforth, due to sudden restriction activity, approximately 97% of local companies have reported a loss of revenue and services. In addition, the fiscal resources available are consumed for social investment urgent activities.

As long as the global health crisis continues to remain domestic and international, the economic growth is expected to remain structural overthrow in Madagascar at around 2% in 2021, 5,8% in 2022, and 5.4% in 2023. In fact, international community with the World Bank estimated an extreme poverty to increase in 2020, which has a significant impact on Malagasy population livelihood. Precisely, the poverty rate is evaluated to increase an average from 75% in 2019 to 80% in 2020 for urban households as well as rural ones.

Based on the National Institute of Statistics (INSTAT) rate survey, less than 25% ranked as susceptible households have benefited from social protection programs such as medicines, surgical masks, and Peripheral parenteral nutrition (PPN) due to high prices.

Table 1: Social protection program beneficiary households

Category	Medicine	PPN	Surgery mask
1st Wave	21,3%	24,5%	11,8%
2nd Wave	15,4%	16,3%	2,8%

Source: National Institute of Statistics (INSTAT)

As mentioned in the table 1, 1st wave shows that 21,3% of households got medicines; 24,5% have received PPN; and 11,8% of them have got Surgery mask benefits. In another, 2nd wave shows that 15,4% of

households have got medicines, about 16,3% obtained PPN, and only 2,8% of them received surgery masks. In this case, as INSTAT surveyed rate show that vulnerable households with the level low income have acquired the government social protection program.

Table 2: Madagascar GDP from 2019 to 2021

Year	GDP	GDP Per Capita (US\$)	Annual Growth Rate
2021	\$14.64B	\$515	7.81%
2020	\$13.23B	\$478	-9.24%
2019	\$14.19B	\$526	1.51%

Source: National Institute of Statistics, World Bank

According to official data from the World Bank as indicated in the table, Madagascar's GDP has been significantly challenged by a big negative transformation impact from 2019 to 2020, on the other hand, in 2021 it shows an important improvement.

3.2 Extent of solution hampering economic growth

3.2.1 Malagasy Government measurement solution

Since the beginning of the pandemic in February 2020, the coronavirus has not hit yet Madagascar's economy and its border. However, on March 20 were detected the first Covid-19 cases of two flights from France to the Madagascar border declared a state of emergency.

Whereas, the Government declared a health state of emergency, lockdown instructions has directly imposed in all cities for Malagasy population health security. On the other hand, the authority has strictly applied effective containment in the Analamanga region to prohibit any access in the region to another, the measure has been taken to close public places such as churches, clubs, bars, schools, festivals, or exhibition show, public transport, traveling, gatherings restriction, business industries banned not including necessary activities for population surviving.

Nevertheless, some businesses are partially and temporarily closed till the next instruction to get back access to their activities. On the other side, some necessary companies have been imposed strictly to reduce work operations.

Ever since, Madagascar has faced a challenge to avoid the virus's massive spread to lockdown in most 6 regions because containment measures have terribly impacted vulnerable households due to restricted living

activities. In response, the Malagasy government has taken responsibility and decisions to alleviate social and economic crises such as :

- Encouraging private textile sector companies to produce much more washable cloth masks with the possibility of the lowest price so that Malagasy people can buy them and avoid the high unemployment rate.

- Due to saturated coronavirus cases in hospitals, the Malagasy authority built basic health hospital centers in some regions, especially in Analamanga built up to 27 centers to receive virus-presenting symptoms people with free treatment charges.

- For vulnerable groups of people, the authority has mobilized a program called "Vatsy Tsinjo" a social aid that consists to distributed PPNs (Basic necessities of life) such as a bag of rice free for each household in need, as well as dispatched some amount of money for help.

- The Government has launched a social emergency project called "Tosika Famenon" to help people in difficulty to assist them financially with an amount of 100,000 Ariary for 270,000 households.

- As the response to the virus spread, in July build up a sanitary emergency plan "Covid-19 Treatment Center" (CTC) to receive intense symptoms people at the lowest treatment costs.

Despite the authority's containment strategy measures, coronavirus continues to spread in some regions in particular in Analamanga (Antananarivo) and Antsinana (Toamasina) with the highest symptoms rate found in Madagascar since the beginning of Covid-19.

Due to finding an effective way to fight against the spread of the virus, the Malagasy president claimed to discover an organic herbal beverage to prevent and cure the virus "COVID Organics (CVO)".

However, the World Health Organization (WHO) opposed literally using CVO as a medicine and ask to proceed to laboratory tests to be internationally approved. Anyway, the authorities encouraged the Malagasy population to protect themselves against the virus by

drinking CVO and at the same time respecting the barrier measures.

In response to WHO criticism, Malagasy Pharmaceutique researchers with Pharmedagasy officials have undertaken clinical trials and claimed to obtain a succeed results to confirm the effectiveness of CVO.

In addition, due to the evolution of the novel coronavirus epidemic in some red code regions, the lockdown strategy with the mitigation measures remains an effective solution until further notice and indeterminate period.

On the other side, the mass media such as public or private television programs, newspapers, radio, and other communication stuff contribute to educating and providing instructions to fight against the virus spread. Region's local authorities have taken all necessary Sanitation and Hygiene tasks to provide a massive vaccine importation act for the public and local interest.

The health prevention and control system on the island has been undertaken by the global health agency with the cooperation of WHO (World Health Organization).

3.2.2 Consequences Impact of Government sanitary measures

Because of the fast spread of the coronavirus, the pandemic Covid-19 impact has deeply affected Madagascar's economic and humanitarian social crisis, which remains a critical and dangerous situation for

trading import and export sector and the Chinese economy which China has become the first exportation country in Africa continent market, including Madagascar. The main reason for Madagascar's economic challenges is the spreading outbreak caused by the global health apportion crises like high unemployment rates, currency devaluation, expenses prices of ordinary daily life, and the country's global sanitation and commerce impact crisis which is the most critical situation.

Despite the government measures accomplished efforts, the novel coronavirus keeps remaining but has less power than previously. However, the authority's results strategy has triggered a negative impact on the population's daily life. Precisely, a closure border with the lockdown strategy system has become the source of extreme poverty and a low economy causes.

The Government's sudden restriction and containment measures (border closure, school closures, transportation restrictions, and cancellation of events) have started to intensify Madagascar's poverty rates from 75% to 78%.

The country's slowdown economy and losses caused by businesses and companies' closure activities such as global trade prohibited, tourism banned, partially limited employment, and job losses in export-import companies. As a result, a GDP dropped deficit to 6,3%, deflation of -4.2% with a worse decline indicators, and public finance crisis.

Table 3: Madagascar Economic Indicators from 2019 to 2020

ECONOMIC INDICATORS	2019	2020
GDP	14191.9\$ M	13720.6\$ M
GDP growth	4.4%	-4.2%
Inflation	5.6%	4.2%
Unemployment	1.7%	1.9%
Foreign Direct Investment	3.3%	-
Export growth	4.2%	-11.7%
Import growth	5.3%	6.6%
Current account balance	-330.5\$ M	-
Public debt	38.5%	46.0%
External debt	4065.4\$ M	4873.2\$ M
Total debt service	118.2\$ M	124.6\$ M

Source: The World Bank, World Development Indicators | International Monetary Fund (IMF), World Economic Outlook

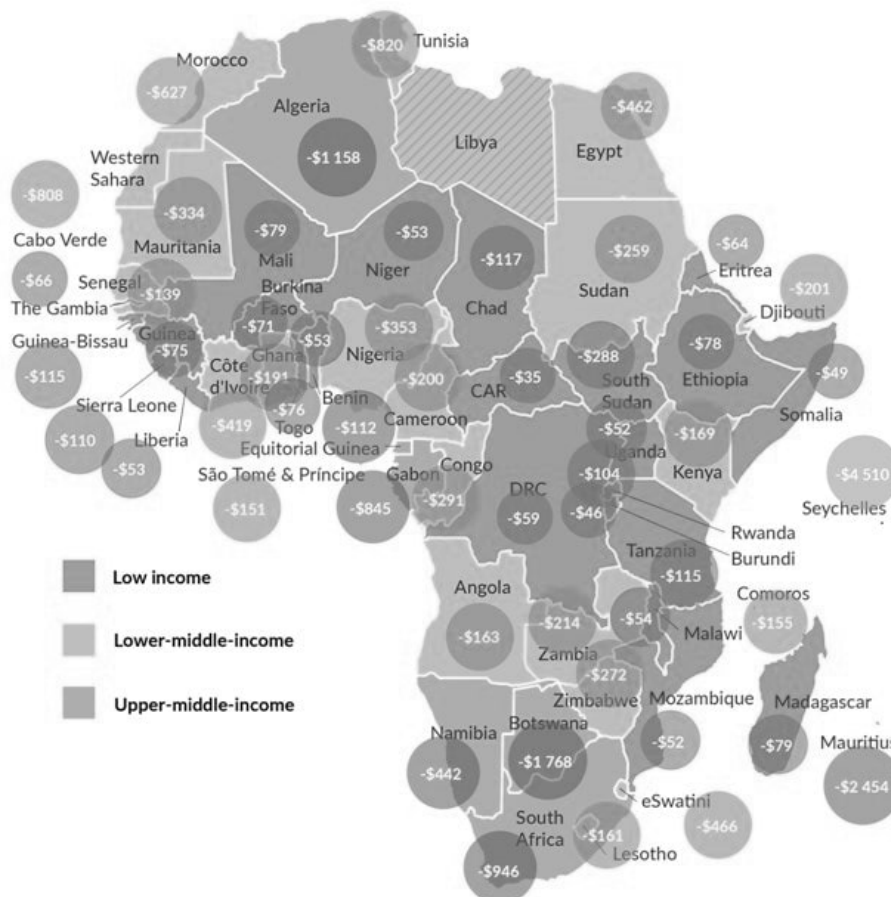


Figure 1: African continent Economic Growth 2020

Source: World Bank / Madagascar INSTAT

World Bank: Macro Poverty Outlook for Madagascar : October 2022. Macro Poverty Outlook (MPO) **Washington, D.C. :**

World Bank Group. Retrieved from

<http://documents.worldbank.org/curated/en/099234010132273661/IDU08139fcd801530047160956203138f2cbb992>

Madagascar has a three times deeper economic crisis compared to most some African countries due to sanitary emergency measures closure of service sectors. Meanwhile, the crisis extended to be affected the agricultural sector inducing high food insecurity rate and increasing daily food prices as a result of low purchasing power. In particular, the southeast of the island located in Toliara is the most susceptible households place not only due to malnutrition but because of the high wide spread of pandemic diseases. Besides, the island capital Antananarivo is the most severely affected province because of the novel coronavirus high symptom cases rate where the first virus case has been found and containment measures are adopted in urban as well as rural.

As the government containment and lockdown measures were implemented, the island's private companies' have experienced slowdown activity as well as declined overall demand and revenue loss. The most affected companies are those in the tourism service sector and Trade market such as "Hotels-restaurants", "Car-rent", "Food transportation", "Tour-operator", and "Passenger transport". Thus, the informal sector employment is the most impacted and vulnerable sector in difficult conditions with weak social protection and low income. According to the National Social Security

Fund (CNaPS), only 1% of workers has been benefited from official social security coverage and only 2.9% of workers in informal have a clear contract. Therefore, most workers in informal sector companies are stripped of daily income sources due to deficit business.

Briefly, local authority restriction decision and strategy has affected vulnerable households in urban as well as rural income and food security in high risk of inadequate resources and unstable income.

4. The improvement of post-covid-19 policy

As known, since the pandemic began in March 2020, Madagascar had a major severe Covid-19 impact on its economy and population. Nevertheless, it should be noted that the government has adopted measures and has always supported the population in financial aid through social protection programs such as mask distribution, cash transfer "Tosika Fameno", and basic alimentary distribution "Vatsy Tsinjo".

On the other hand, the island as a developing country needs financial support and assistance to ensure a total economic recovery. As a result, the Malagasy Government and the World Bank have signed a new

approved post-covid project funds cooperation to bring a financial support amount to retrieve the economy. Whereas, this partnership based on a global financing facility is to focus on the most vulnerable household areas and ensures their access to the operation. This financial project can help the local government to upgrade and maintain an equitable recovery economy in all areas, as also in implementing the National Action Plan for Health Security, the National Strategic Plan for Public Health Surveillance, and the National Health System investment to be ready for upcoming virus spread. In addition, the project aimed to guarantee the most low-income household's health service protection through the Health System investment program.

Besides, the country's biggest challenge is to improve the economy without containment measures, in reopening the public service sector and the country's main income resources such as textile (Zone Franche), mining export-import, tourism, and agriculture.

Hence, the Malagasy authority has finally decided to mitigate the restriction step-by-step and encourage the population to always respect the barrier measures for health safety.

However, the island needs to revise a strategy in tax and fiscal administration policy more effectively to increase the public revenues in implementing public investment and improve budget execution and public financial management. Precisely, the government has to focus to strengthen the economy and social safety policy management to recover households purchasing power loss due to activity restrictions and national inflation. Despite the government's support help to respond to pandemic attacks, the health authority also dealing with malnutrition in the South region was severely affected by Covid-19.

In the meantime, the post-covid project has a mission to provide food assistance and livelihood support programs, particularly in the South region areas. This program aimed to recover and build household food security and nutrition prevention, for more resilience improve social protection, and to fight against malnutrition. Food and nutrition protection is an elementary program to ensure beneficiary families located in the South have access to appropriate food coverage. Apart from food assistance, mobile clinics have also been deployed for vaccination campaigns and to aware the communities about the importance of health protection to avoid virus-increasing cases. Indeed, a mass additional vaccination campaign is needed to avoid the next pandemic wave and to improve social safety protection in health insecurity areas. The government's post-covid policy's main aim is to ensure the country's economic sustainability in sector key activities operation and to involve a technical financial in socio-economic recovery plan in response to the Covid-19 impact.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

Since the beginning of the pandemic in 2020, Madagascar is already susceptible due to political crises and is one of the most vulnerable countries affected by COVID-19 in Africa. About 92% of the Malagasy population lives under the lower middle-income rate of \$3.2 per day.

The main issue of this research paper is the impact of Covid-19 on the Madagascar economy, which needs funding partner support and assistance investment for a more effective restoration economy.

The Malagasy government, with the World Bank cooperation project, is necessary to provide socio-economy sustainability impact in the post-covid improvement and to ensure the public extreme poverty recovery. In addition, the World Bank and WHO (World Health Organization) collaboration assistance is needed to improve the island's social and economic emergency plan for the distribution of sanitary materials, food donations, and health system strengthening and provide an effective supply chain to reduce basic commodities prices and to support unemployment households due to containment and lockdown measures. Accordingly, the World Bank and Malagasy authority have planned to reduce the poverty by close to 80% for accelerating economic growth, improving social protection services, as well as infrastructure building and governance reformation to support and encourage more investors.

In the meantime, the local private and public investors' sector financial support is also indispensable for Madagascar's economic activities and livelihood in the most affected areas. The local authority encouraged investors to continue their efforts for a more effective investment plan to improve the national budget and implement a financial framework system.

Moreover, the government and investors' further contribution efforts are needed to enhance domestic revenue, support public and private companies' losses, and improve the budget in 2023.

Despite foreign investors and other organisations post-covid financial support and assistance on Madagascar economic growth, Malagasy people still endured and suffered due to political and health emergencies. Madagascar has suffered from politico-economic crises that has been hard to overcome since several years before Covid-19 which has most likely banned access to finance and lost investors' confidence due to Malagasy authorities' volatile governance.

5.2 RECOMMENDATIONS

According to the Malagasy Government business recovery plan and the World Bank investment project plan analysis, to ensure economic recovery and support Madagascar's post-covid 19 plan as listed below:

❖ Governance and Political economic growth stability improvement to attract investors confidence and finance support

❖ Implement a Basic Health Services Delivery project to support and strengthen Madagascar's health system efforts

❖ Improve the provision and quality of Basic Health Services to ensure the susceptible domestic in full-service access.

❖ Facilitate the adoption of the One Health Approach system to deal with basic service sectors key such as education, health care, public service, tourism

❖ Help to implement health financing system and human resources reforms

❖ Improving the transport and connectivity sector as mentioned as the key to unlocking Madagascar's economic and social development

❖ Assist to boost public school performance and improve the learning outcomes

❖ Implement strong reforms to stimulate private investment and job creation

❖ Improve public sector governance, and reinforce resilience to the financial crisis

❖ Promote political stability; facilitate access to exports and foreign market financing for a growing economy.

❖ Support healthy food and the livelihood health services

❖ Intensify a cooperation dialogue with foreign investors expected to decline poverty rates and growing economy

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Author's contribution Statement

Razafimanantsoa Harisoa have developed the theoretical formalism, performed the analytic calculations and performed the numerical simulations. Boredison Jack David author contributed to the final version of the manuscript and supervised the research project.

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Data Availability Statements

The data that support the findings of this article are openly available. This data can be found at The World Bank in Madagascar and can be accessed with: <https://data.worldbank.org/country/madagascar>

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