



ASRIC Taskforce
on
Mapping Out R&D
Interventions to COVID-19
ToR

I. Introduction

The African Union's Executive Council Decision (EX.CL/Dec.747 (XXII)) established ASRIC as a specialized Technical Advisory Body to the African Union with African Union, Scientific, Technical and Research Commission (AU-STRC) as its Secretariat. The ASRIC promotes scientific research and innovation in order to address the challenges of Africa's socio-economic development. It also mobilizes African research excellence and provides a platform for dialogue among African scientists and serves as a voice of the scientific community in building and sustaining continental research and innovation nexus.

Launching the ASRIC and its Congress in November 2018 was a land mark in the Science, Technology and Innovation impact on Africa's future and prosperity. The ASRIC Congress is composed of African scientists from all the African National Science Academies, National Research Councils, top Science, Technology and Innovations (STI) Institutes in Africa, Diaspora Scientists and Partners. The Congress decides on the implementation of key science and technology programme and projects in accordance with the Science, Technology and Innovation Strategy for Africa (STISA-2024) and the overarching continental framework AU Agenda 2063.

The STISA-2024 is the first of the ten-year incremental phasing strategies to respond to the demand for science, technology and innovation from various impact sectors. The STISA-2024 is built upon four pillars, one of which is building technical and professional competencies that is anchored on six distinct priority areas that contribute to the overall development of Africa. One of the priorities is Prevention and Control of Diseases. In light of the unprecedented emergence of the Corona Virus Disease Pandemic (COVID-19) ravaging the world the onus lies on ASRIC to respond to the challenges. The ASRIC's intervention in tackling COVID-19 is through the formation of the following:

1. ASRIC Advisory Board on STI intervention for COVID-19

This Board is to advise and guide ASRIC's intervention in the pandemic through formulating policies/guidelines, research and development plans and activities with emphasis on getting the right diagnosis, therapy, and vaccines among others. They are also looking at the needs of hospitals in terms of **development or improvement** of equipment like testing kits, ventilators, protective gears and other equipment that can be acquired.

2. Working group to study the impact of COVID-19 on Africa's food and nutritional security

The objective of this working group is to develop a guided response that will minimize the impact of Covid-19 on Africa's Food and Nutrition Security in order to ensure the wellbeing of Africa's citizens.

3. Working group to study the socioeconomic impact of COVID-19 on Africa:

This objective of this working group is to develop, guide and advice on how to ameliorate the socioeconomic impact of the pandemic (e.g. the results of some of

the containment measures like social distancing, lockdowns, etc., on the lives of people already burdened with other diseases and living on a less than a dollar per day). The group will also work out/help on the development of a non-pharmaceutical intervention measures that is driven by Africa's culture and the realities on the ground.

4. Working group on Africa's indigenous Knowledge to Preventing and Controlling Emerging Infectious Diseases on the continent like COVID-19: Utilizing an Afro-centric Response

This working group has the objective to develop and implement Afro-centric response to COVID-19 and other infectious diseases building on the Africa's abundant indigenous knowledge rooted in Africa's ethno geographical and cultural characteristics through an R&D comprehensive programme. This programme aimed at the development of traditional medicine intervention to the pandemic; and posting community prevention measures.

Each of the above structure need to be assisted by professionals from within the continent and its Diaspora to respond to a timely task that are needed by these structures. That in this regard and as of the statute of ASRIC several working groups are to be launched when the need arises.

II. Situational analysis:

The COVID-19 pandemic has taken its toll on the world and has sent a shock wave globally with a greater impact on the governments and populace. It is evidently clear that the global spread of COVID-19 has been hard, particularly on America, Italy, Spain, and some other countries in Europe, but the infection rate has been generally quite low in Africa, a fact that could be attributed in part to the low testing capacity of most African nations, or to other factors yet to be determined. The case zero was reported in Africa on 17th March 2020 as of 27th of April the total reported cases 33,627.

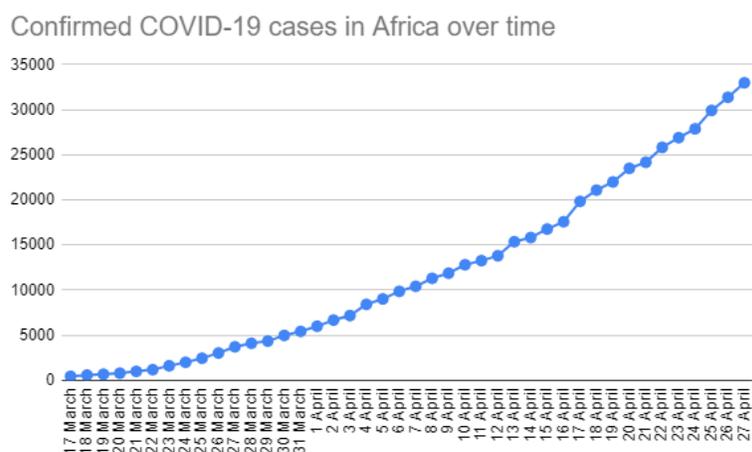


Figure shows the confirmed Covid-19 cases in Africa over time

Knowing fully well that COVID-19 presently has no cure, treatment or vaccine for now, the entire continent is applying the non-pharmaceutical interventions that include (self-isolation when sick, social distancing, hand washing hygiene improvements, working from home, and closing schools, and/or national lockdown) for containment of the disease which also has negative consequences.

The World Food Programme focuses hunger crises of 821 million people go to bed hungry every night all over the world, chronically hungry, and as the new Global Report on Food Crisis published 21st April, 2020 shows, there are a further 135 million people facing crisis levels of hunger or worse. That means 135 million people on earth are marching towards the brink of starvation. But now the World Food Programme analysis shows that, due to the Coronavirus, an additional 130 million people could be pushed to the brink of starvation by the end of 2020. That's a total of 265 million people".

So far, Africa is not hit hard by covid-19, but it is potentially fertile land for rapid spread and it is already suffering due to challenges resulting from strict lockdown measures on some of the AU Member States recalling that a large percentage of the Africa's populace lives on daily wages. In furtherance, Africa has 18 million displaced persons in Africa out of which 12.5 million are internally displaced persons with limited access to utilities and having a poor living condition. The fact also is that while Northern Africa has 92% safe water coverage, Sub-Saharan Africa remains at a low 60% of coverage – leaving 40% of the 783 million people in that region without access to clean drinking water.

This all need Africa and ASRIC to think in different ways that can impact dramatically the number of cases and to ensure that Africa can overcome this pandemic with minimum losses, these should be done through introducing new/innovative **non pharmaceutical interventions; Development of rapid testing kit; develop its ventilators and conduct its clinical trials.**

Most of the AU member States those are implementing lockdown sooner or later will unlock their nations and will move from fully lockdown to no lockdown or partially lockdown "no way to force people at home; with no food and no wages". in other words, markets are to be open and formal and non-formal economy will be rushed to overcome the losses that resulted from the lockdown. This also will result in no social distancing, more interaction between the public, more movement and ultimately more Covid-19 ignorant agents, more infection and more pressure on the health system and consequently more deaths to be recorded.

As of today, several signals are observed that there will be change in the way governments in and outside Africa respond to the pandemic by introducing a new model that can be defined as prevent and control; test; isolate and treat. This model is to be introduced to have balance between economic challenges that caused by the pandemic and the health of the their populous.

III. ASRIC Taskforce on Mapping out R&D Interventions to COVID-19:

The Africa Scientific Research and Innovation Council launched a statement on **COVID-19 Pandemic** on the 27th of April 2020, where the **African Scientific community** to hands for Africa and take up this responsibility, embark more on cooperative research and stand firm to abate the pandemic. In order to benefit from existing accumulated R&D in Africa considering that we need to move fast and steady to combat COVID-19 in one hand. While in the other there is a need to respond to the pandemic by introducing African solution that include but not limited to non-pharmaceutical interventions; Development of rapid testing kit; develop its ventilators and identifying pharmaceutical interventions such as drugs, vaccines and protocols. This is fact that ASRIC need to ensure synergy and minimizing duplication.

That in this regards ASRIC is establishing ASRIC Taskforce on Mapping out R&D Interventions to COVID-19

1- Objective of the Taskforce:

The taskforce is to map out research in the continent and develop an inventory for existing R&D in Africa and the world to guide ASRIC on how best ASRIC can respond to the COVID-19 pandemic utilizing STI while building on existing African resources.

2- Mandate of the Taskforce:

The taskforce is mandated to build an inventory for existing R&D in Africa and the world on the following areas of interventions:

a. Non-pharmaceutical interventions:

There are innovative and new ways of non-pharmaceutical interventions as such introducing disinfection chambers and/or disinfection tunnel “it is a gateway for sanitization and decontamination of items and people” to the places where individuals are in close contact with each other and are therefore at higher risk. Such disinfection chambers can be installed at the entrance of traditional markets, public offices, supermarkets, hospitals, railway and bus stations.

Mapping such intervention will help in development of such responses in Africa by Africa’s Scientist and SMEs

What to be mapped out?

Disinfection solutions such as disinfection chambers; designs of disinfection chambers; existing technology in Africa; and etc.

b. Rapid Testing:

COVID-19 testing can identify the SARS-Cov-2 virus and includes methods that detect the presence of virus itself RT-PCR and isothermal nucleic acid amplification and those that detect antibodies produced in response to infection. Detection of antibodies serology can be used both for diagnosis and population surveillance. Antibody tests show how many people have had the disease, including those whose symptoms were

minor or who were asymptomatic. An accurate mortality rate of the disease and the level of herd immunity in the population can be determined from the results of this test. Due to limited testing, as of March 2020 no countries had reliable data on the prevalence of the virus in their population. As of 18 April, the countries that made public their testing data have on average performed a number of tests equal to only 1.1% of their population. There are variations in how much testing has been done across countries e.g. the United States was testing 100,000 people per day on March 27 while 247 person per day is the Ethiopian testing capacity.

For Africa to succeed in this new model the number of tests/days need to be increased dramatically and to adopt targeted testing and random testing methodologies this is to aim at minimizing the impact of ignorant agents.

What to be mapped out?

Case finding, diagnostic tests, testing kits and etc.

c. Ventilators

Acute respiratory distress syndrome (ARDS) can originate from either the gas or vascular side of the alveolus. Although the portal for coronavirus disease 2019 (COVID-19) is inhalational, and alveolar infiltrates are commonly found on chest x-ray or computed tomography (CT) scan. For patients suffering from ARDS, there is one hope to save their lives: a mechanical ventilator that forces oxygen into the body. Ventilators don't cure COVID-19, but they can keep patients alive long enough for their immune system to defeat the virus.

A home-made African Ventilator will be in position to help African infected populace and to minimize the mutilate rates, recalling that most of the advance world is suffering sever shortage of ventilators. With this new model to be implemented the demand will be high and may not be in position to respond to our health system needs.

What to be mapped out?

Open source designs for ventilators, ventilators that have been developed in Africa, and etc

d. Clinical trials:

AU and its Member States should embark early on possible available clinical trials and /or set up clinical trials in a collaborative manner to ensure the current tested drugs and protocols could be used in Africa environment.

As of WHO, National regulatory authorities and national ethics committees from across Africa have agreed to combine their expertise to expedite clinical trial review and approvals for new multinational preventive, diagnostic and therapeutic interventions to the COVID-19 pandemic. However, joint reviews are based on voluntary cooperation between the national regulatory authorities and ethics committees. Each country is solely responsible for granting regulatory approval. The agreement was reached during a virtual meeting convened by WHO on 1 April 2020 under the platform of the African

Vaccines Regulatory Forum (AVAREF), one of the Continental Technical Committees of the African Medicines Regulatory Harmonization Initiative.

As such a mapping out existing initiatives in Africa and the world; and following up on recent development will post Africa's R&D capacity and will ensure that our scientists/policy makers are well informed.

What to be mapped out?

Surveillance, intervention drugs, vaccines.

3- Deliverables

Comprehensive inventory on R&D Interventions to COVID-19 in Africa and the world.

4- Modus Operandi

- You will remain in your place of domicile;
- You are expected to work with colleagues virtually for now;
- You will be invited for meetings anywhere within the continent if the need to be.

5- Service Reward

- Members of the Taskforce are participating voluntarily in the board i.e. the participation in the Taskforce will not attract any payment but should incase there is meetings that involves travels, the ASRIC will borne the cost of your travels and daily subsistence allowance according to the UN rates.
- At the end of the programme you will receive a recognition certificate from the ASRIC for your valuable contribution to the continent and ASRIC in this difficult time.

Yes, we are Africans

Africa is calling!!!!

Come and join us in our Research and Development efforts.

Together we Can!