

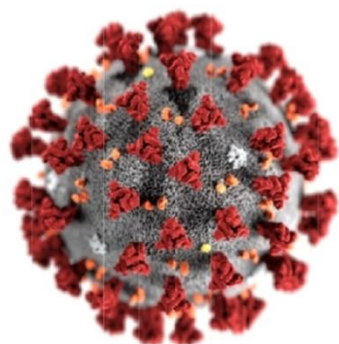


African Scientific
Research and
Innovation Council



African Union
SCIENTIFIC TECHNICAL RESEARCH COMMISSION

COVID-19

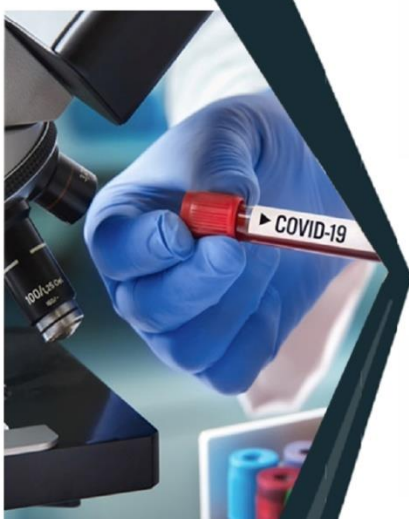


ASRIC Response and Intervention



**ASRIC Advisory Board on STI
Strategic Intervention for COVID-19**

"Actions and Intervention"



ASRIC Advisory Board on STI Strategic Intervention for COVID-19

“Actions and Intervention”

PREFACE

This publication is developed by the African Scientific Research and Innovation Council (ASRIC) in response to the COVID-19 pandemic which has spread globally. Africa is no exception, as the number of new infections continues swell up as are the deaths due to pandemic. This is partly due to multifaceted challenges that were pre-existing before and during the pandemic, like low testing capacity, limitations of human and health infrastructure, funding among others.

The toll of the pandemic experienced by the populace has resulted in pushing African Governments to advocate and implement non-pharmaceutical interventions against the spread of the COVID-19. National lockdowns, social distancing, self-isolation, hygiene improvements e.g. washing of hands have been emphasized by governments from index case identification. These measures were seen to yield position results in the containment of the COVID-19 but have created other socio economic effects mostly affecting the lives of a large percentage of the African population who lives from hand to mouth. There is also the large number of refugees and internally displaced people who have limited access to the most basic needs like water, food, shelter, and health.

Up to now, there is no vaccine or treatment has been developed for COVID-19 and African Governments are applying non-pharmaceutical interventions while exploiting the benefit of scientific and research to find lasting solution to this challenge. Now is the time for governments in Africa to respond to the COVID-19 pandemic by using better models that can create a balance between economic prospects and health of the population. The value of these actions should be assessed from time to time so as to determine whether they improve the overall wellbeing of the people in Africa.

The key characteristic of this document is to provide a map of the actions and intervention the ASRIC has put in place in responding to COVID-19 while impinging on the various working groups and taskforces under its auspices to engage in the implementation of STI Strategic intervention for Covid-19 “Actions and Interventions”. That way, as a response to the pandemic, all the stakeholders’ contributions will propagate solutions for an Africa free from COVID-19.

ACKNOWLEDGEMENTS

The ASRIC Secretariat is thankful to the eminent scientists from across the Africa and the Diaspora who have voluntarily accepted to contribute and support the fight against the COVID-19 pandemic in Africa through the Advisory Board, Working groups and taskforces under the auspices of the ASRIC. The ASRIC Bureau under the chairmanship of Prof Ratemo Michieka is fully onboard and the encouragement from the Bureau has helped to move forward with the establishment of the Advisory Board for STI Intervention to COVID-19, the Working Group to Study the Impact of COVID-19 on Africa's Food and Nutritional Security, the Working Group to Study the Socioeconomic Impact of COVID-19 on Africa, the 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 which are incredibly supporting the implementation of this strategic intervention strategy.

Special thanks and appreciation to the African Union Department of Human Resources Science and Technology under the able leadership of H.E. Prof. Sarah Anyang Agbor for the inestimable encouragement and to team at the ASRIC secretariat who contributed to the output of this publication.

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I. Introduction:

The African Union's Executive Council Decision (EX.CL/Dec.747 (XXII)) established the African Research and Innovation Council (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 is mandated promotes scientific research and innovation in order to address the challenges of Africa's socio-economic development. It also to 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 programmes and projects in accordance with the Science, Technology and Innovation Strategy for Africa (STISA) and the overarching continental framework AU Agenda 2063.

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 to the low testing capacity of most African nations, and other factors yet to be determined. The relatively lower infection rates in Africa should not ease down the preparedness of the nations to combat the pandemic. In order to be proactive in its response, ASRIC has urgently assembled group of eminent scientists and professionals to guide Africa's fact-based intervention to COVID-19 pandemic.

The ASRIC's intervention in tackling COVID-19 is established through the formation of the following:

a- ASRIC Advisory Board on STI Intervention for COVID-19

The Board is to advise and guide ASRIC's intervention in the pandemic through formulating policies/guidelines, research and development plans and activities towards getting diagnosis, therapy, vaccines. 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.

b- 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.

c- 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.

d- 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.

II. STI Strategic intervention for Covid-19 "Actions and Intervention":

The analysis of the inventory table of the 14th April, 2020 Advisory Board meeting resulted in an output of the following intervention. The intervention has three pillars and each pillar is composed of several sub-pillars (actions). The three pillars are: Enabling Environment, Research and Development, Publicity and outreach.

STI Intervention to Covid-19					
Enabling environment	Development of policy briefs/guidelines on investment in health care & health research systems.	Research & Development	Afro-centric non pharmaceutical interventions for outbreak.	Publicity and outreach	Identification of stakeholders
	Development of guideline on IP protection in joint research and collaboration during outbreaks.		Covid-19 pandemic modeling.		
	Development of guidelines on research translation.		Development and/or validation of rapid testing kit.		
	Development of AU Guidelines on outbreak hazard and STI intervention.		Mapping out and inventory of the pandemic.		Publicity campaigns that are tailored to stakeholders
	Health professional training/ capacity building.		Inter-Africa STI cooperation.		
			Clinical trials.		
			Impact on the covid-19 on Africa's health system.		

1- Enabling Environment:

In the context of this document, Enabling Environment consists of development of supportive legal and policy frameworks and their implementation and enforcement; Institutional strengthening including coordination, defining clear roles and responsibilities of key entities (government, non-state actors including civil society); Capacity strengthening of all actors so they can play their roles; and Social dialogue including participation of stakeholders.

To harness the role of STI in addressing the covid-19 and future pandemics, the following policies and frameworks need to be recognized, developed and implemented by the stakeholders.

1.1.Policy briefs/guidelines on investment on health care & health research systems:

The policy briefs/guidelines should address the following among others:

a. Relevance of investment in health care sector improvement & health research systems:

- Remind Governments of their role in providing funding support and enabling health-related STI in Africa by recalling decisions, agreements, treaties signed or committed by the AU Member States. In April 2001, the Head of States

and Governments of the African Union met and pledged to set a target of allocating at least 15% of their annual budget to improve the health sector; Abuja Declaration 2001.

- African Governments should implement agreed GDP contribution to research (1% GDP).
- Innovative approaches to finance and strengthen health infrastructure and equipment supply.
- Strengthen the health care system, infrastructures, resources and financing in Africa.
- Strengthen/develop scientific and technological research and innovation system, resources and financing including biomedical and health research systems

b. STI entrepreneurship for the betterment/improvement of health care system in Africa:

- Identify services and interventions including regulation and financial aid that is to post entrepreneurship “aiming at enable inventors in Africa to successfully bring their technologies and business ideas to market” to strengthen the competitiveness and innovative capacity of African health-related industries and businesses.
- Enhance competitiveness of the African pharmaceutical and healthcare industries by addressing challenges and opportunities of research-based SMEs as the main economic drivers of healthcare systems including biotechnology and pharmaceutical technologies.
- Creating conducive environment for innovation in the health sector in both public and private institutions.
- Highlight the tools and mechanisms for pharmaceutical and healthcare intervention’s, innovations and related activities during and post the pandemics “covid-19”.

1.2.Development of guideline on IP protection in joint research and collaboration during outbreaks:

From experience, after any outbreak of diseases research institutions and pharmaceutical companies race to develop live-saving drugs and vaccines to combat these pandemics, while this is going on there is components IP that is needed to be considered. The IP rights are usually compromised or seem to be ignored by the international research partners which are the case in Africa. Mostly in such situation, the continent is exploited for pathogens which are used for materials for vaccine research and developments as well as for development and validation of diagnostics, this is usually done in total disregard to IP issues and benefit to the continent.

On the other hand, International cooperation with international partner research institutions and pharmaceutical companies is one way or in the alternate allows these countries to develop research capacities and improve Africa’s response to current pandemic and future ones.

For Africa’s R&D institutions and pharmaceutical companies a guideline on IP protection in joint research and collaboration during outbreaks is imperative to protect their rights. The guidelines may address the following:

- a. *IP Rights and benefits during the testing and manufacture of a drug and/or a vaccine*
- b. *Types of IP rights and their differences*
- c. *Options to reserve rights of investigators and researchers including research partners:* such as licensing (limited time licenses, limited to geographic area or location”; joint production of the technology; and equity sharing among others.
- d. *Highlight the opportunities on the expired IP and how it could be utilized.*
- e. *Develop a draft cooperation agreement on joint research that to protect Africa’s research rights in collaborative research.*

1.3. Development of guidelines on research translation:

In epidemic times a strong research translation guideline that is agreed by most of the AU Member States will shorten the time of intervention and will ensure vaccines and drugs are available on time along with other clinical support and intervention systems. The guideline may develop based on the AU framework on research translation along with other relevant frameworks. The guidelines may address the following among others:

- a. *Protocols on mutual recognition of Independent Ethics Committee (IEC);*
- b. *Protocol on Mutual recognition of national Standard Operating Procedures (SOP);*
- c. *Protocol on recognizing the output of clinical trials rustles that conducted within an AU Member State;*
- d. *Protocols on conducting joint clinical trials;*
- e. *Protocols on data sharing and handling;*
- f. *Establishment of the AU Independent Ethics Committee along with and African Union Standard Operating Procedures (SOP).*

1.4. Health professional training/ capacity building:

Building technical and professional capacity of Africans in combating the pandemic is a critical factor success. In all continental policies, strategies and frameworks there’s emphasis on the need for training and retraining towards building critical mass of professionals in driving the continent.

There is need to assess the training needs and the gaps in combating the COVID-19 pandemic along the STI interventions and that will be according to the desired actions and interventions. The Advisory Board needs to prioritize and group trainings as short, medium- and long-term as per the intervention and advice the ASRIC accordingly. The ASRIC will then, identify and select training institutions and consortium to develop modules tailored to the needs of Member States, this is due to the facts that STISA-2024 states that AU Member States’ capacities (human and infrastructure) are at different levels.

1.5. Development of AU Guidelines on outbreak hazard and STI intervention:

This is a guideline to be developed post-outbreak to document the experiences gained and lessons learned from the covid-19 pandemic. This guideline will be based on an ‘audit’ of the interventions (type and timing) in countries starting from index case to present time and the outcomes of the interventions. Finally, it is to help AU Member States precedence and interventions to future outbreaks.

2- Research & Development:

Research and development (R&D) is the main pillar that is to ensure the success of any intervention that may take place; before, during and after pandemic. Africa needs to rely on its resources (human, scientific and technological infrastructure) in the continent and Diaspora. On the other hand, collective research approach will foster the production of a tangible output since it builds on our scientists “that may come from different Member States and/or disciplines” comparative advantage. These can be achieved by introducing research clusters and virtual lab aspects.

2.1.Outbreak Afro-centric non pharmaceutical interventions:

Outbreak impact on community may be delayed or prevented by introducing non pharmaceutical interventions, an informed guideline may result in community survival. Such non pharmaceutical interventions may include (self-isolation when the people are sick, social distancing, handwashing, hygiene improvements, working from home, and closing the schools, and/or national lockdown) among others.

So far, Africa is not hit hard by covid-19, but it is potentially fertile for rapid spread. 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 the continent out of which 12.5 million are internally displaced persons with limited access to utilities and having a poor living condition. The fact 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.

As such there is a need to develop a guideline on Afro-centric non-pharmaceutical interventions that is driven by the following among others:

- a- Understanding of the covid-19 behavior that includes transmission and spread patterns;
- b- Considering the limitation to non-accessibility of majority of Africa’s population to safe water;
- c- Demographic population in rural areas and the case is worse in internally displaced persons (IDPs) camps;
- d- Majority of the African workforce are earning on a daily basis (daily wage);
- e- Socio-cultural background of diverse African communities.

2.2. Covid-19 pandemic modeling:

For our governments and policy makers to be in position to take an informed decision on the interventions such as resource allocation to health care facility, social distancing, country lockdown among others, a pandemic modeling is the tool needed. However, scientists are still facing challenges as to the existence of a gap on covid-19 viral behavior such as its transmutation, seasonal effect and lack of widespread testing along with weak reporting systems in some countries. Yet model projections are needed to forecast future health care demand, including how many intensive care unit beds will be needed, where and when shortages of ventilators will most likely occur, and the number of health care workers required to respond effectively.

In general terms, modeling of pandemic is a tool based on mathematical formulations that to shed a light on what is possible in the future such as when is the peak of cases expected? If

social distancing is effective and the number of new cases that require hospitalization is stable or declining, when is it time to consider a return to work or school? Can large gatherings once again be safe? Among others.

ASRIC with the support of its Advisory Board is to assemble a cluster of modelers to develop an African tailored covid-19 that is based on existing models that is accepted worldwide and built on any existing infectious disease modeling that may exist in the AU Member States and predict the pandemic evolution (epidemic peak, the slow down phases) in the countries to better inform policy makers on appropriate strategies.

2.3. Development and/or validation of rapid testing kit:

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 in Africa 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 by March 27 while 247 person per day is the Ethiopian testing capacity.

Africa needs to start preparing for testing the largest population to distinguish between those who are “Antibody positive and protected” and those who are symptomatic needing specific care and contacts investigation and those who are asymptomatic carriers, the most difficult to manage (quarantine, and contacts investigation).

As such development and/or validation of rapid tests, including point of care diagnostic platforms for accurate detection of nucleic acid, antigen and antibody will be essential for rapid diagnosis of cases in Africa.

ASRIC with the support of its Advisory Board is to assemble a cluster of Scientists to foster the development and/ or validate of rapid test kit.

2.4. Mapping out and inventory of the pandemic:

For ASRIC research team and clusters, along with other scientists in the Continent and Diaspora have to be informed on the researches that are conducted on recently and publications, that gave rise to the need to have mapping out and inventory for all the existing data and information. As of 19 of April the WHO website under the Global literature on coronavirus disease shows a number of 3,494 publications coronavirus disease. For a quick win on the race against the pandemic, sharing experiences related to diagnostics tests, respiratory ventilators, and other necessary equipment to deal with severe respiratory cases, health professional protection among the Union Member State is must, as such ASRIC is to establish platforms/forum for exchange of ideas and interaction.

It is also obvious that Africa has a good number of continental advisory bodies, working groups, and institutions working on covid-19, where ASRIC need to ensure synergy and

minimizing duplication. On the other hand, many researchers are demanding to have reliable data on the epidemic on national, continental, world level to conduct their research.

As of that ASRIC need to compile up and collect data in the following sectors:

- a. *Development of an inventory of interventions and research being carried out by various research groups in Africa on Covid-19. The targeted research is the one covers: modelling, case finding, diagnostic tests, surveillance, intervention drugs, vaccines, equipment manufacturing, health system strengthening etc. Where ASRIC need to establish two inventory working group for mapping out research in the continent while the other will be to address the mapping out of research that is conducted outside Africa. These working groups will be requested to summarize the research work along with examining its value.*
- b. *Covid-19 ASRIC platform on research output exchange:*
 - *The ASRIC and AU-STRC to send out a call to all Member States (Ministries of Health & Ministries of STI) to share their experience research findings on diagnostics tests, respiratory ventilators, and other necessary equipment to deal with severe respiratory cases, health professional protection.*
 - *A similar call is to be sent out through the African Union Network of Sciences (AUNS) to its Members.*
 - *The AU-STRC is to avail the software and the medium for collecting the information*
- c. *Identifying continental advisory bodies working groups, and institutions working on covid-19 in the interest of ensuring synergy and minimizing duplication. While in the other hand, advice on how ASRIC and such structures can benefit from each other to be tabled for ASRIC Bureau consideration.*
- d. *The ASRIC website is to be linked to the ACDC website to avail an updated on national and continental pandemic.*

2.5. Inter-Africa STI cooperation:

As mentioned earlier in this document, collective research approach will foster the production of a tangible output since it builds on our scientists “that may come from different Member States and/or disciplines” comparative advantage; in complimentary to adopting vertical research approach is a game changer. Vertical research platform is established to optimize the use of available human and infrastructure and training capacities, regional collaboration, coordination and data/information/materials/products sharing among other. *ASRIC also needs to form research clusters and virtual labs in the following research area: modelling, case finding, diagnostic tests, surveillance, intervention drugs, vaccines, equipment manufacturing, health system strengthening among others.*

ASRIC and its advisory body on STI intervention on covid-19 are to develop research proposals and guidelines that address the priority research under each of the predefined research areas/interventions. (Guided/targeted research)

It would be essential to achieve a “quick win”, including full operationalization of African network of BSL-3 facilities, which should lead and be a part of critical operational research, including international studies led by the WHO, e.g. “Unity Studies: WHO early sero-epidemiological investigations for covid-19”. *ASRIC is to develop a concept note on the networking that will address (What kind of joint research to do, why the network, and etc.).*

On another note *ASRIC is to set up a team from Africa’s inventors and research-based SMEs to build and produce Equipment, kits and protective gears needed.*

2.6.Clinical trials:

AU and its Member States should embark as early as possible in 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. This is to be steered by strong guidelines on research translation (see, 1.4).

ASRIC is to act as follow:

- a. Conduct a survey/inventory on potential drugs; vaccines; and clinical trials sites*
- b. Design different clinical trials for testing potential drugs, vaccines and protocols*

2.7.Impact on the covid-19 on Africa’s health system:

A study based on fact finding surveys on the impact of covid-19 on Africa. *The study should address the following among others:*

- Impact of covid-19 on the health institutions and its resources (Financial, utilities, supplies, services, human resources among others)*
- Impact of covid-19 on the health provider personal.*
- Impact of covid-19 on un-infected patients and the services provided to them.*

This study is to be developed jointly with socio-economic impact of covid-19 working group. On another note this study is to feed in to **AU Guidelines on outbreak hazard and STI intervention** (1.5 of this document).

3- Publicity and outreach

To build public understanding, confidence and raising awareness on covid-19 and its impact on each individual’s well-being; and nations’ human and economic capacities a strong publicity and outreach strategy should be in place. A strategy that is addressing all spectrums of predefined stakeholders, beneficiaries and the masses to spread out the knowledge and information of the pandemic.

3.1.Identification of stakeholders:

A deeper stakeholder needs assessment is to be conducted however the following are the preliminary stakeholders analyses that may be improved over time: policy makers on all levels; Scientists in Africa and Diaspora; Health service providers in all levels; community leaders that includes traditional leaders and religious leaders; NGO’s and aid providers; African citizens in all age spectrum i.e. elderly, young, and children; African citizens with different literacy level; prospective donors and sponsors e.g. African capitalist; public; international partners and funding Agencies.

3.2.Publicity campaigns that are tailored to stakeholders:

Recalling that popularization anywhere is to be raised in the context of particular culture and a set of economic conditions and it is driven by the mindset of the recipient and the change needed. The publicity campaigns would be developed and tailored in accordance to target group that is to be identified from the stakeholders. Such campaigns should be linked to the STI intervention output.

However, due to the fast spread of this pandemic as well as the political support and interventions needed, the Advisory Board is to develop:

- *A white paper for policy makers, and*
- *ASRIC statement for the Public on covid-19*

4- Interventions and actions to be developed by ASRIC WG or ACDC:

The following table shows the interventions and actions that to be outsourced:

SNo	Intervention	Action
1	Establishing a COVID-19 virtual procurement Platform involving a consortium of African /companies/industries and researchers to scale up success stories in some countries	This is a recommendation that to be directed to the ACDC since they are better linked to the Member States Ministries of Health.
2	The most vulnerable people will be the most affected by the COVID-19, if not by the disease itself, it will be due to the hunger, job loss and poverty.	Social issue (To be taken inboard with the socio-economic impact working group)
3	Operational research during outbreak should include sociological and anthropogenic factors contributing to the spread and prevention of covid-19 spread.	Social issue (To be taken inboard with the socio-economic impact working group)
4	The population knowing the lockdown could not last longer or even not be appropriate in some countries.	Social issue (To be taken inboard with the socio-economic impact working group)
5	Adopt health in all policies approach in the new model of health system governance.	Directed to ACDC as recommendation to STC-Health

III.Way forward:

It is imperative that ASRIC expedites the recruitment of the other working groups which are addressing other challenges that directly or indirectly emerge from the COVID-19 pandemic. Also, the Advisory Board needs to recruit with the support of ASRIC, a number of taskforces that will ensure the implementation of this strategic intervention strategy. These taskforces are to attend to the intervention action plan and to ensure it is executed on time. The implementation action plan is presented as follows:

Pillar	Enabling Environment
Sub-pillar	Policy briefs/guidelines on investment on health care & health research systems
Activity	Action
Relevance of investment in health care sector improvement & health research systems	<ul style="list-style-type: none">• A study is to be development that is focusing on the relevance of investing on Health sector including research;• Advocacy materials and campaign
STI entrepreneurship for the betterment/ improvement of health care system in Africa	<ul style="list-style-type: none">• A study is to be development on STI entrepreneurship for the betterment/ improvement of health care system in Africa

Sub-pillar	IP protection in joint research and collaboration during outbreaks
Activity	Action
<i>Development of an IP guideline</i>	<ul style="list-style-type: none"> Recruitment of the IP taskforce; Draft the IP protection in joint research and collaboration during outbreaks
Sub-pillar	Guidelines on research translation
Activity	Action
<i>Development of guidelines on research translation</i>	<ul style="list-style-type: none"> Recruitment of the Guideline research translation taskforce; Development and drafting a guideline that address: <ul style="list-style-type: none"> Protocols on mutual recognition of Independent Ethics Committee (IEC); Protocol on Mutual recognition of national Standard Operating Procedures (SOP); Protocol on recognizing the output of clinical trials rustles that conducted within an AU Member State; Protocols on conducting joint clinical trials; Protocols on data sharing and handling; and etc
<i>Establishment of the AU Independent Ethics Committee</i>	<ul style="list-style-type: none"> Consultation with AU Member States relevant authorities; Factualization of the AU Independent Ethics Committee
Sub-pillar	Health professional training/ capacity building
Activity	Action
<i>Development a tailored capacity building programme for health professional</i>	<ul style="list-style-type: none"> Needs assessment Development of the capacity building programmes
Sub-pillar	Development of AU Guidelines on outbreak hazard and STI intervention
Activity	Action
<i>Development of AU Guidelines on outbreak hazard and STI intervention</i>	A study is to be commissioned on the AU Guidelines on outbreak hazard and STI intervention
Sub-pillar	Outbreak Afro-centric non pharmaceutical interventions
Activity	Action
<i>Development Outbreak Afro-centric non pharmaceutical interventions</i>	A study is to be developed on the Outbreak Afro-centric non pharmaceutical interventions
Sub-pillar	Covid-19 pandemic modeling
Activity	Action
<i>Development of pandemic modeling</i>	<ul style="list-style-type: none"> Recruitment of the Modeling taskforce; Development of the ASRIC COVID-19 Africa Model
Sub-pillar	Rapid testing kit
Activity	Action
<i>Development/ validation of rapid testing kit</i>	<ul style="list-style-type: none"> Recruitment of the testing taskforce Assemble a cluster of scientists to conduct research
Sub-pillar	Mapping out and inventory of the pandemic
Activity	Action
Inventory of interventions and research being carried out	
<i>ASRIC needs to establish inventory working group for mapping out research in the continent</i>	<ul style="list-style-type: none"> A guideline on mapping out R&D Interventions to COVID-19 implementation strategy/actions was developed and circulated and approved by the ABM A questionnaire was developed and presented and approved by the ABM IT needs for launching the mapping is on going ASRIC is recruiting volunteer scientists (50 in number)
<i>ASRIC needs to establish working group for mapping out of</i>	

<i>research that is conducted outside Africa.</i>	
<i>Covid-19 ASRIC platform on research output exchange</i>	
<i>Establishment of Covid-19 ASRIC platform on research output exchange</i>	<ul style="list-style-type: none"> • A guideline on mapping out R&D Interventions to COVID-19 implementation strategy/actions • A questionnaire was • Development of data- base solutions • Sending out a call to all Member States to share their experience and research findings • Sending out a call to all Members of the AUNS to share their experience and research findings
<i>Identifying continental advisory bodies</i>	<ul style="list-style-type: none"> • Conduct an inventory on continental advisory bodies. • Request mutual benefit/exchange between ASRIC and those bodies.
<i>Updated information on Covid-19</i>	ASRIC website is to be linked to the ACDC
Sub-pillar	Inter-Africa STI cooperation
Activity	Action
<i>Establishment of research clusters and virtual labs</i>	<ul style="list-style-type: none"> • Development of a ToR for research clusters • Development a research priority areas and research guidelines (to guide a targeted research)
<i>Establishment of the African Network of BSL3</i>	<ul style="list-style-type: none"> • Development of concept note on the network • Call for participation in the network
Sub-pillar	Clinical trials
Activity	Action
<i>Conduct a survey/inventory on potential drugs; vaccines; and clinical trials sites.</i>	Actions to be covered under “Inventory of interventions and research being carried out”.
<i>Design different clinical trials for testing potential drugs, vaccines and protocols</i>	<ul style="list-style-type: none"> • Development of concept note joint clinical trials • Call for participation in a joint clinical trials
Sub-pillar	Impact on the covid-19 on Africa’s health system
Activity	Action
<i>Develop list of stakeholders</i>	A stakeholder’s analysis was developed in this document
Sub-pillar	Publicity campaigns that are tailored to stakeholders
Activity	Action
<i>Develop publicity campaigns that are tailored to stakeholders</i>	<ul style="list-style-type: none"> • Develop publicity campaigns that are tailored to stakeholders • ASRIC statements

IV. Stakeholder’s analysis

For the successful implementation of the ASRIC STI strategic intervention for COVID-19, a comprehensive analysis for stakeholders is imperative to ensure the participation and support of all the needed factors to achieve the objectives and goals of the intervention.

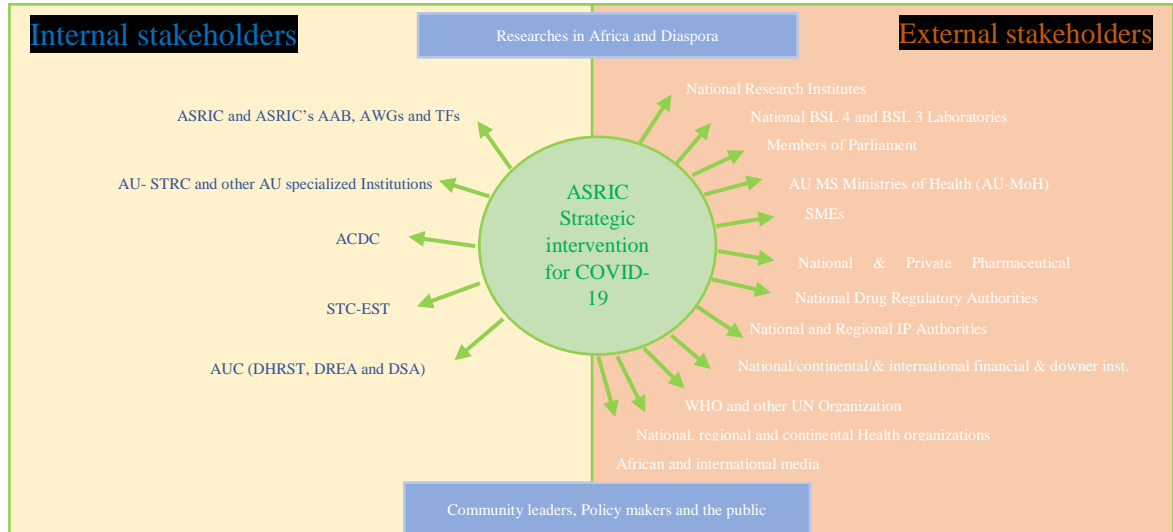
The ASRIC STI intervention is focusing/addressing the output of the Advisory Board, different working groups and taskforces currently working or in the future that to be institutionalized by ASRIC to serve the goal to respond to the COVID-19 pandemic. That is to say, this analysis is dynamic and may be improved in due course.

1- Identification of stakeholders

In this part, stakeholders are defined. “A stakeholder is either an individual, group or organization who is impacted by the outcome of a project. They have an interest in the success of the project, and can be within or outside the organization that is sponsoring the project. Stakeholders can have a positive or negative influence on the project, its objectives and overall goals”. Generally, stakeholders can be divided into **Internal stakeholders** which refer to the individuals and parties, within the organization and have a direct impact on the project. On the other hand, **external stakeholders** represent outside parties, who affect or get affected by, the business activities that have an indirect impact on the project. The following table also explains the different type of stakeholders.

BASIS FOR COMPARISON	INTERNAL STAKEHOLDERS	EXTERNAL STAKEHOLDERS
Meaning	The individual and parties that are the part of the organization is known as Internal Stakeholders.	The parties or groups that are not a part of the organization, but gets affected by its activities is known as External Stakeholders.
Nature of impact	Direct	Indirect
Who are they?	They serve the organization.	They get influenced by the organization's work.
Responsibility of the company towards them	Primary	Secondary

The analysis for the ASRIC Advisory Board is presented in the following chart:



2- Stakeholders Mobilization/engagement

Stakeholder Mobilization and engagement is an umbrella term encompassing a range of activities and interactions over the life of any project. The term “stakeholder mobilization / engagement” is emerging as a means of describing a broader, more inclusive, and continuous process between the Advisory Board and potentially impacted stakeholders. In the current situation we have two different groups of stakeholders as mentioned earlier. In this regard, each of the groups and sub-groups should be mobilized and engaged to the implementation of the strategic intervention by different and very subservice targeted plans and actions.

There are several strategic cost-effective solutions, ways and tools on how to mobilize stakeholders such as website; activities in social media; newsletter, basic dissemination material; articles; and events, workshops, and conferences.

The stakeholders generally need to be well informed about the ASRIC and its COVID-19 Intervention and its Advisory Board. These include the Advisory Board mandate, objectives and values, and programmes the progress so far achieved and how they can contribute to a broader discussion on board challenges and targets. Applying good practice principles is important. There is a need to disclose early with the aim of providing relevant information to targeted stakeholders in advance. At a minimum, we need to explain next steps and be clear about which project elements are fixed and which can be changed or improved upon, based on consultation and participatory inputs. Objective information needs to be disclosed to the extent possible, and to be open about ASRIC and its Board. In short, “tell it as it is.”

Tools	Description	Target group	Remarks
Website	The ASRIC website is a platform which targets all categories of the public, from citizens to decision makers, partners and stakeholders. The point of this website is to promote ASRIC, its values and its intervention in COVID-19, as well as provide most of the tools for the mobilization. ASRIC website www.asric.africa was created more than 2 years ago.	Internal and External Stakeholders	The ASRIC website needs to be regularly improved to provide updated information on the ASRIC’s intervention events and project related news. All members of the AAB, AWGs, and ATFs are to be requested include the ASRIC title and the web address into the signature field of their emails.
Activities in social media	ASRIC is to have a page in Facebook this will draw the attention to ASRIC and its AAB, WGs and TFs, in one hand while on the other it will attract African young scientists and to take the responsibility to advocate for the ASRIC intervention to COVID-19	Internal and External Stakeholders	ASRIC needs to have its own Facebook page All members of the AAB, AWGs, and ATFs are to be requested to link their Facebook personal pages to the ASRIC Facebook
Newsletter	Newsletter is an important communication tool. A monthly newsletter will be structured, designed and edited to build a cross-linking communication tool between ASRIC and its partners and stakeholders.	Internal and External Stakeholders	ASRIC needs to develop its monthly Newsletter All members of the AAB, AWGs, and ATFs are to be invited to contribute to the Newsletter
Basic dissemination material Presse release	ASRIC press releases on the ASRIC’s interventions should be produced when the need arises but it shouldn’t be at a distant time. The press releases could focus on the findings/output of the ASRIC’s interventions in one hand while, motivational findings are equally welcomed.	Internal and External Stakeholders	ASRIC needs to develop its monthly Press release (in all AU languages) ASRIC Bureau members along with members of the AAB, AWGs, and ATFs are invited to contribute

	Brochure	Well-designed Brochures of not more than eight-page that highlights the ASRIC interventions, AAB, AWGs, and ATFs to be designed, developed and disseminated		ASRIC needs to develop its Brochures
	Video clips	A short videoclips and jingles that are focusing on the following themes: highlighting the ASRIC interventions; call for solidarity/participation of African Scientists; success stories; community outreach among others. These videoclips and jingles are to be publicised via ASRIC's partner Institutions; You-Tube and linked to the ASRIC website. The clips should be in English with caption of other AU languages.		
Articles		The progress, different perspectives of the stakeholder communities, and results will be analyzed and summarized to scientific articles publishable in relevant journals and other media.	Internal and External Stakeholders	ARSIC Bureau members along with members of the AAB, AWGs, and ATFs are to be invited to contribute
Events, workshops, and conferences		In order to achieve a wide stakeholder mobilization of the ASRIC's interventions, progress and results, ASRIC Bureau, AAB, AWGs, and ATFs are motivated to present the achievements at relevant external events or conferences or at specific events. The ASRIC's intervention to COVID-19 project has a high scientific relevance.		ARSIC Bureau members along with members of the AAB, AWGs, and ATFs are to be invited to contribute

It may be recalled that **external stakeholders** represent outside parties, who affect or get affected by, the business activities and have an indirect impact on the project, however most of the time their impact on the project could be vital for the project success. In what follows, action and activities to engage stakeholders are highlighted:

Implementation stage	Description	Stakeholders	Action	Activities
Conceptualization	Project conceptualization is the initial process of designing a project that leads to a project concept document.	Internal (all)	Notify and have their consent	Direct Communication for recruitment of the project development team and press release
		External (all)	Disseminating the information to relevant bodies , to ensure they are informed on the project startups	Press release
Development of the project full document	To develop different working documents. Research areas, needed working groups and taskforces along with the needed ToRs.	Internal (all)	Regular updates and request participation of relevant stakeholders in this stage	Direct Communication & website updates
				Newsletter
				Communication to relevant AU specialized Institutions
		External (Selected and limited STI Institutes)	request participation of relevant stakeholders in this stage	Identifying key structure needed such as AAB, AWGs and ATFs.
Research work	Is to conduct research that is addressing the different working documents	Internal (all)	Direct communication; and indirect communication to:	Direct Communication & website updates
				ASRIC reports of activities to the STC-EST
				ASRIC reports to the AUC and AU chairpersons
				Bureau report to the ASRIC assembly
				Newsletter
				Brochure
		External (National Research Institutes, Researches in Africa and Diaspora, National BSL 4 and BSL 3 Laboratories, AU-MoH)	request participation of relevant stakeholders in this stage to form research clusters this may include	Video clips
				Direct Communication & website updates
				Newsletter
				Brochure
				Video clips
Output dissemination	The output of the interventions' findings and studies to be disseminated to all stakeholders	Internal (all)	Dissemination of the project output to all stakeholders	ASRIC reports of activities to the STC-EST
				ASRIC reports to the AUC and AU chairpersons
				Bureau report to the ASRIC assembly
				Direct Communication & website updates
				Newsletter
				Brochure
		External (all)		Video clips
				Direct Communication & website updates
				Newsletter
				Brochure
Implementation of the findings	Monitoring the implementation of the findings	ALL	Development of the project final report	Development and dispatching of the project final reports to all stakeholders
			Development reporting templates	Requesting stakeholders to report on the implementation of ASRIC interventions

V. Conclusion:

This document presents the **STI Strategic intervention for Covid-19 “Actions and Intervention”** based on the advices of the *ASRIC Advisory Board on COVID-19* which is mainly focused on health Sciences. That will lead to the fact that other working groups that established by ASRIC namely: *Working Group to Study the Impact of COVID-19 on Africa’s Food and Nutritional Security*; *Working Group to Study the Socioeconomic Impact of COVID-19 on Africa*; and *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* will have their own intervention strategies.

The success of the STI Strategic intervention for Covid-19 “Actions and Interventions” is relaying on the commitment of ASRIC members and the participation of internal and external stakeholders; which highlights the importance of stakeholder engagement and which make it imperative to the Secretariat along with the Advisory board members to ensure that the stakeholders are carried onboard during the implementation process.