HOW AFRICAN COUNTRIES CAN STRATEGICALLY USE RSIF TO BUILD CAPACITY IN SPECIFIC AREAS

When an African government decides to build capacity in specific areas such as Big Data, Internet of Things, it can allocate targeted funding to RSIF for high quality Ph.D. training in these areas in order to help build the relevant university departments. The Ph.D. graduates will gain access to a network of SSA and international universities that can continue to support them, as well as access to a wider market for their expertise.

RSIF complements other regional efforts such as the World Bank’s Centres of Excellence, programs of the AfDB, and the African Union, as well as many bilateral programs.

RETURN ON INVESTMENT FOR DEVELOPMENT PARTNERS AND THE PRIVATE SECTOR

Development partners can help to build a sustainable regional fund to complement their bilateral efforts. They can link their universities to selected RSIF host universities for the “sandwich” Ph.D. training and collaborative research programs.

The private sector will see its return on investment primarily through the results of funded research directly linked to the core areas of their business. RSIF enables the private sector to use a regional program, access the best African universities and students from across the region, without having to create their own architecture for managing the program.

HOW THE PRIVATE SECTOR CAN BENEFIT FROM RSIF

Private sector firms can derive fields of study in RSIF. Topics of research can focus on the specific operational and other problems facing the firm. Students could spend part of their time working in-house in the company on practical industry related problems. The research results would be used not only towards the Ph.D. degree for the student, but will help inform new business directions. On graduation, some of these students may be employment ready.

In addition, the private sector firm benefits from the visibility afforded by RSIF contributions and can be linked into new markets. It can establish relationships with universities across the continent.

INVEST IN AFRICA’S FUTURE SCIENTIFIC LEADERS

Sustainability: The first pan-African science endowment fund of its kind, the PASET RSIF has the objective of establishing a permanent fund that can sustainably support applied scientific and engineering research in SSA universities.

Flexibility: RSIF’s design encourages scalable, demand-driven expansion, targeting of specific domains and beneficiaries and return on investment. The fund pools resources from African governments, development partners and the private sector to achieve results at scale with an efficient, implementation mechanism.

Transparency: RSIF ensures high standards of selection of universities, students and grantee institutions and accountability to all funders and stakeholders.

African governments, donor partners and the private sector can contribute to RSIF.
KEY FEATURES OF RSIF

RSIF prioritizes the faculty of universities who lack Ph.D. training and the new pipeline of young scientists and engineers who will enter academia or industry, or set up their own enterprises.

Selected priority thematic areas: RSIF addresses the most important, current issues and challenges facing the continent including Food Security and Agriculture; Climate Change; Digital Technologies; including data science and artificial intelligence; Energy; and Mining and Materials Engineering.

Selection of host universities and grant beneficiaries: SSA universities are competitively selected to become RSIF host universities for Ph.D. training by a panel of international experts using transparent criteria. Ph.D. students are drawn from across sub-Saharan Africa, through a two-stage selection, first by RSIF host universities and then by international panels. Research grants and Innovation grants will be awarded competitively to RSIF scholars and faculty in RSIF host universities involved in the Ph.D. training.

International partner university network:
Each SSA RSIF host university will carefully select international partner universities in the respective domain to improve the quality of the Ph.D. training and provide opportunities for Sandwich training in the international partner university (see 14, 24, 25, 26).

A REGIONAL APPROACH ADDRESSING CRITICAL NATIONAL PROBLEMS IN DEVELOPING RESEARCH CAPACITY

In many Sub-Saharan African universities, less than 25% of the teaching staff have Ph.D.s; faculty members with significant experience of science and technology. Many students, on average, are women, even lower proportions at the postgraduate level. Many African countries send students for Ph.D. training to North America, Europe or Asia using their own funds or international scholarships. What is necessary and urgently needed are programs that are more innovative than training in African universities and often students do not return after completing their studies. Furthermore, training individuals Ph.D. students alone is not sufficient; they need to be trained to continue high quality research to start their own business ventures. And finally, training students abroad denies African universities the opportunity to develop the capacity to drive high quality Ph.D. programs themselves and build sustained research capacity.

Transparency in governance: RSIF is the logical evolution of the RSF. All contributions to RSIF are included in the PASET governing bodies.

The VLUE PROPOSITION FOR AFRICAN COUNTRIES

An African country which contributes to RSIF benefits from many aspects, including the co-development of its thrust areas and the continued training of its doctoral students. The pooling of funds, the highly competitive selection of host universities, international partner and students, and the efficient administration of the fund increases the benefit of a country’s contribution directly impacts all its students.

OF A COUNTRY’S CONTRIBUTION DIRECTLY IMPACTS ALL ITS STUDENTS.

The remaining 20 percent finance SSA students from other countries. The students are eligible for RSIF research and innovation grants in the future. Universities in contributing countries can collaborate with non-innovating institutions, drawing upon the capacity and resources of both university and international partner.

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RSIF scholar helps to develop innovative solutions to problems facing SSA. RSIF scholars and faculty members are eligible for research and innovation grants in the future. Universities in contributing countries can collaborate with non-innovating institutions, drawing upon the capacity and resources of both university and international partner.

Traditional PhD scholarship programs are not broad in research and innovation funds.

The other African scholars and students are also eligible for RSIF support when they complete their time, as well as regular monitoring reports on the progress of their students.

OTHER APPROACHES

Training mainly in universities outside SSA; students from SSA are trained in universities where teaching training may not be of the same quality. Without regular follow up and support, students often face difficulties in completing their research in time. Further, there is a risk of many drop out.

RSF/VALUE PROPOSITION

High quality Ph.D. training for young faculty and graduate students, with a focus on Technologies

Competitive selection of the best SSA candidates for advanced, postgraduate quality of Ph.D. training through national and internal university and international scholarship and research programs of students, demand capacity building for host universities, training of students of the best students, with priority given to eligible women in most African countries to focus on research development when they are studying abroad.

RSF APPROPRIATION

Lower cost of Ph.D. training

Lower cost of Ph.D. training for SSA universities and students.

$100k for Ph.D. training

$200K for a full Ph.D. in 4 or 5 years

Building new departments in universities

RSIF scholar can help to develop innovative solutions to problems facing SSA. RSIF scholars and faculty members are eligible for research and innovation grants in the future. Universities in contributing countries can collaborate with non-innovating institutions, drawing upon the capacity and resources of both university and international partner.

Building the research continuum – future

RSIF scholars and faculty are eligible for research and innovation grants. This helps to strengthen the research opportunities opening to African scholars with international capacity and local needs.

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Researcher effects on National Research and Innovation

RSIF provides opportunities for countries in terms of building up or improving the functioning of national research and innovation systems.

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