



ETHIOPIA

Country Report 2021



Summary of RSIF in Ethiopia

8 Ethiopian RSIF doctoral scholars enrolled

10 PhD scholars and faculty trained

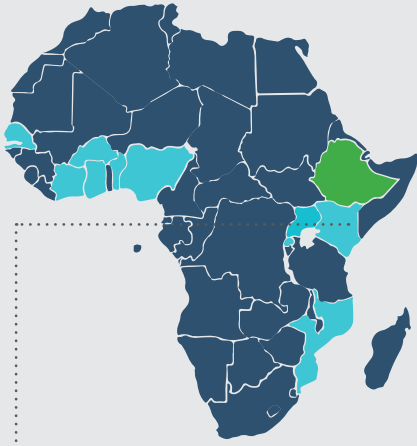
14 training courses held

The **PASET** Regional Scholarship and Innovation Fund



PASET
Partnership for Skills
in Applied Sciences,
Engineering & Technology

An Africa-led initiative to bridge the skills gap in Applied Sciences, Engineering, & Technology



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RSIF IS THE FIRST PAN-AFRICAN SCIENCE FUND OF ITS KIND

Contributing countries: Benin, Burkina Faso, Côte d'Ivoire, Ghana, Kenya, Mozambique, Nigeria, Rwanda and Senegal have made or are at the final stages of making contributions to PASET RSIF, in addition to the Government of Korea, the ACP Innovation Fund of the European Union and the World Bank.

RSIF is the first Pan-African Science fund of its kind connecting innovative minds to resources for revolutionary solutions.

It is the flagship product of PASET, an initiative led by African governments aimed at building skills of citizens of sub-Saharan Africa countries in the field of applied sciences, engineering, and technology for national economic growth on the continent. RSIF builds sustainable doctoral training, highly advanced research and innovation ecosystems to develop transformative technologies in Africa for economic growth and development.



At least 40% of the beneficiaries are women and priority is given to young faculty without a PhD.

Ethiopia's collaboration with RSIF

Ethiopia is a founding member of PASET. Ethiopia participated at the 5th PASET Forum and has expressed its intention to contribute to RSIF. The Minister of Science and Higher Education represents Ethiopia in the PASET Governing Council (GC), and the Director for Capacity Building, sits in the PASET Executive Board (EB).

The potential of Ethiopia's innovative expansion due to investment in RSIF is multiplied when leveraged by the funds through matching support from various donors, including the Government of Korea, international partner institutions and others.

By contributing to RSIF, Ethiopia will benefit from joint resource mobilization with other countries and capacity building for PhDs and research and innovation far into the future. PASET aims to mobilise over USD 500 million into the RSIF permanent fund, with an estimated 20% to be allocated to research and innovation projects for the benefit of citizens and institutions of participating countries. Many African countries are interested to be part of this.

RSIF competitively selects and harnesses the brightest minds with:

(i) doctoral scholarships at Host Universities in Africa and 'sandwich' training at selected International Partner Organizations, (ii) research awards, and (iii) innovation awards to faculty of graduated RSIF scholars.

PASET members have prioritized five cutting-edge thematic areas that will drive growth on the continent:



ICTs including big data & artificial intelligence



Minerals, mining & materials engineering



Energy including renewables



Food security & agribusiness



Climate change

BENEFITS TO CONTRIBUTING GOVERNMENTS

As a contributor to RSIF, Ethiopia would benefit in more ways than through the cost-effective training of its doctoral students.

Countries also benefit from efficient centralized administration of the scholarship and other grants, support for the RSIF scholars to ensure that they complete on time, as well as regular monitoring reports on the progress of their students. The pooling of funds, the highly competitive selection of host universities, international partners and students, and the efficient administration of the fund enhances the value and increases the benefits.

Ethiopia's participation in RSIF will benefit the entire Ethiopian higher education, science and innovation ecosystem. All RSIF scholars will undergo high quality doctoral training in competitively selected SSA universities partnered with international universities, with study abroad for part of the time, at a fraction of the cost of sending students abroad for a full time PhD. On successful completion of the PhD, the students will be eligible for research and innovation grants.



Highly Skilled Human Capital as a Driver for the Ethiopia National Development Plan

The rationale for RSIF is that Africa requires world class scientists in priority thematic disciplines that are relevant to national economic growth across sub-Saharan Africa. Some of these areas include orphaned research areas such as mining, minerals

and materials science, energy and information and communication technology among others. This African led program aims to support the training of African innovators and leaders, with focus on women and faculty, to be able to strengthen the capacity of universities to train at the doctoral level and undertake innovative and impactful research for the future needs of the country.



NURTURING HIGH-IMPACT PARTNERSHIPS

and Strengthening Research and Innovation capacity at the Haramaya University

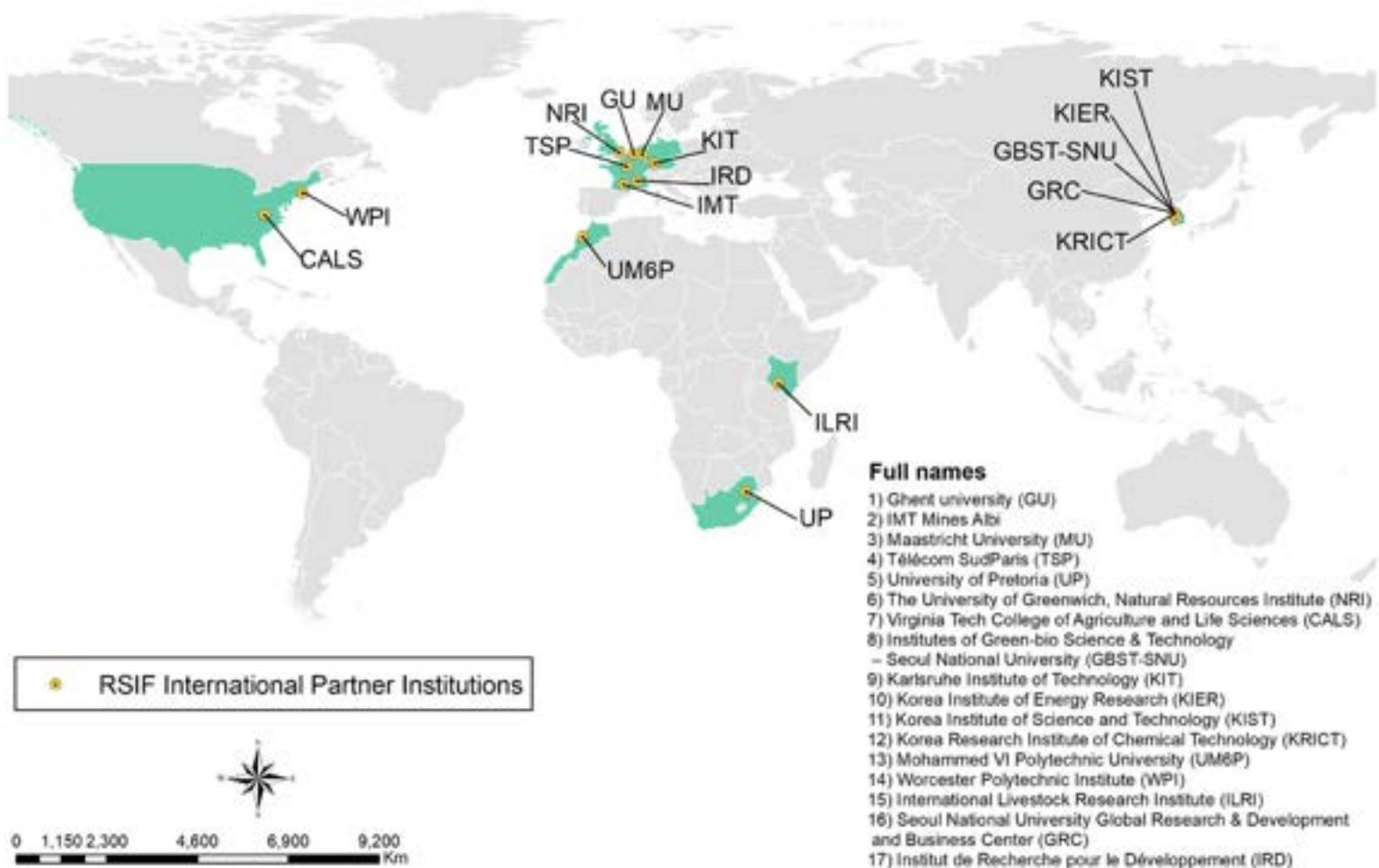


In 2021, Haramaya University, Africa Center of Excellence for Climate Smart Agriculture and Biodiversity Conservation (ACE Climate SABC), was competitively selected as an RSIF African Host University in the PASET priority thematic area of Climate Change. The selected PhD programme at HU is in Climate Smart Agriculture and Biodiversity Conservation. HU will start receiving RSIF funded doctoral scholars in Cohort 4 from early 2022.

As an RSIF African Host University, HU will benefit from various capacity building and technical support, such as strengthening internationalization and accreditation.

Through the Ethiopian RSIF PhD scholars and the RSIF Host University, Ethiopia benefits from linkages with universities across Africa as well as with RSIF international partner institutions for the RSIF's 'sandwich programme' - whereby students spend 6-24 months at an advanced institution conducting collaborative research.

RSIF supports the establishment of research networks to support Ethiopian Universities.



Through PASET RSIF the cost of PhD training is significantly lowered, while also reducing inbreeding in Ethiopian universities since PhD training will be done in other African universities and international partner institutions.

By working closely with academic institutions, relevant investors and governments and other stakeholders within sub-Saharan Africa; specialized knowledge will be integrated in the region and transferred to the future generation.

RSIF Training Courses Provided

1. Research Communications and social media
2. Digital Storytelling
3. Reference management & open access
4. Grant writing
5. E-Resources
6. Grievance address mechanisms
7. Sexual harassment
8. Strategies for a successful PhD
9. PhD proposal writing
10. Responsible conduct of research including research ethics
11. Introduction to information literacy
12. Introduction to research methods and statistics, data analysis and management
13. Science presentations
14. Science posters

Training Applied Researchers in Science and Engineering Fields

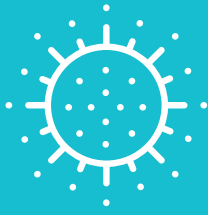
The RSIF Programme has supported more than 180 students. Ten of these are Ethiopians. More scholars will be selected in Cohort 4 in late 2021.

The Ethiopian RSIF graduates are equipped with advancing technologies and strategic research skills for innovation solutions. This provides opportunities for building new university departments that respond directly to national priorities, boosting Ethiopia's capacity to train at the PhD and postdoctoral level. With the ability to undertake high quality research, Ethiopia will be well positioned to lead improved outputs, ranking and prestige.

Breaking Barriers for Women in Science

Women's participation in research remains low in Africa, with women making up only 30% of the science community. RSIF is shifting that perspective.

50% (four of eight) of the Ethiopian RSIF PhD scholars in the first three cohorts are female. RSIF assigns attention to not only women, but also, underrepresented groups, seeking to promote family-friendly policies as well as language and accessibility measures.



RESILIENCE OF RSIF SCHOLARS: COVID-19 CHALLENGES AND LESSONS LEARNT

In a [published article](#), three female RSIF PhD scholars on international sandwich placements in Korea and USA, discuss the impact of COVID-19 pandemic on their personal lives and research journeys. Their immense resilience to pursue despite the unprecedented challenges is evidence of the determination and caliber of RSIF scholars. While the COVID-19 pandemic is affecting all scientists in general, women scientists, especially those with young families, are uniquely impacted. RSIF not only ensures that women scientists enter and thrive in PhD programmes, but also, guarantees that all its scholars are able to circumvent the challenges related to the pandemic. *icipe*, RSIF's RCU is already providing support to scholars in various ways, including online training support, and psychosocial support on issues like mental health. In addition, RSIF is working with partner universities and students towards timely progression in research and overall course completion.

<https://www.universityworldnews.com/post.php?story=20201208123315401>

CATALYZING RESEARCH

to Generate Transformative
Technologies for Innovation
and Development

Faculty members engaged in PhD training at HU are eligible to apply for RSIF Research and Innovation Awards. These competitive grants enable faculty members to advance their research and to help their PhD students generate exceptional research results to solve pressing African challenges.

Innovation spurs from collaborative knowledge sharing.

RSIF's establishment of international networks provides HU with a global pool of like-minded innovators.

RSIF is encouraging partnership with international partners and private firms to leverage some of the brightest minds on the continent. This will contribute to enhanced partnership in higher education, science and innovation ecosystem and collaboration in training, research and innovation.



Meet Fenet Belay Daba.

An RSIF PhD scholar at the Bayero University Kano, Nigeria.

“Through my RSIF PhD research, I will be a problem solver for my country, serve the community and use this knowledge to teach students, because I am a lecturer at Jimma University”, says Fenet Belay Daba, PhD Student at the Africa Centre of Excellence in Dryland Agriculture (CDA), BUK. Her research is on climate change adaptation strategies.

[Click here to view film](#)

Meet Haftu Mengesha Abrha

An RSIF PhD scholar at Université Félix Houphouët-Boigny, Côte d'Ivoire.

Africa Center of Excellence for Climate Change Biodiversity and Sustainable Agriculture (CCBAD).

“My expectation is to solve problems linked to climate change by doing research that is linked to problems on the ground.”

[Click here to view film](#)



SPOTLIGHT ON AFRICA'S FUTURE LEADERS

in Science, Engineering
and Technology

“Through my RSIF PhD research,
I will be a problem solver for my
country”



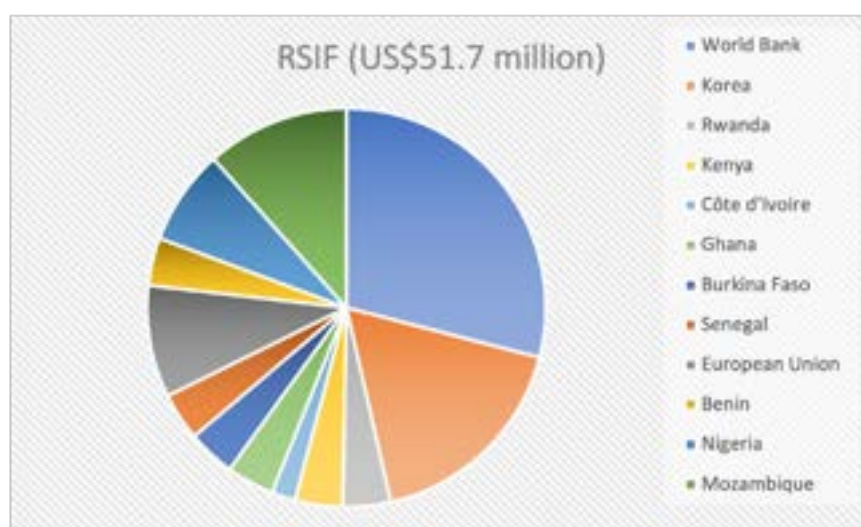
RSIF PhD scholar **Fenet Belay
Daba**
Bayero University Kano, Nigeria,
Africa Centre of Excellence in
Dryland Agriculture (CDA)

Ethiopian RSIF scholars and Research Areas

Name	Research Topic	African Host University
Fenet Belay Daba	Impact of agricultural adaptation strategies to climate change and variability on farm households' food security in South Western Ethiopia	Bayero University Kano, Nigeria, Africa Centre of Excellence in Dryland Agriculture (CDA)
Birki Gurmessa	Climate change adaptation and mitigation strategies, and early warning systems to build pastorals resilience: empirical evidence from Borana pastorals, Southern Ethiopia	
Desta Mulu/ Gebeyehu	Implication of <i>acacia</i> decurrence tree-based (acacia woodlots for charcoal production) intensification to build resilience of socio-ecological systems to climate variability in Injilbara, Northwestern Ethiopia	
Tsegaye Girma Bekalo	Smallholder farming system legacy in sub-Saharan Africa: Understand scenario, soil nutrient stock analysis, and modeling of soil and soil microbial biomass carbon	
Tesfau Bekele Adhena	Investigation of the dynamics of carbon dioxide, methane and annual carbon balance of tropical freshwater wetlands	
Haftu Mengesha	Ecosystem service and biodiversity response to climate and land use change in Hugumburda Grat-Kahsu National Forest, Northern Ethiopia	Université Félix Houphouët-Boigny, Côte d'Ivoire, Africa Center of Excellence for Climate Change Biodiversity and Sustainable Agriculture (CCBAD)
Betelhem Tsedalu Adane	Value Chain Analysis of Eucalyptus Woodlot Products of Smallholder Farmers' in Amhara Region, Ethiopia	University of Ghana
Amsalu Tomas Chuma	Multi-step Deep Learning for Handheld Automatic Medical Images Annotation (IoT and Embedded Sys)	University of Rwanda, Africa Centre of Excellence in Internet of Things (ACEIoT)

See repository of RSIF Scholar Research [here](#)

THE FIRST PAN- AFRICAN SCIENCE FUND INTUITIVELY DESIGNED FOR GROWTH



RSIF is designed for sustainability and has two components: (i) the General Fund and (ii) the Permanent or Endowment Fund, with proceeds to capitalize the general fund.

Country contributions have been earmarked to scholarships, and in some cases to support research and innovation projects, aligned with national needs. So far, most countries have focused on doctoral training.

More importantly, RSIF aims to create a permanent vehicle for supporting science, technology and innovation capacity building through an endowment fund that is being established by the governments.

Ethiopia is encouraged to take up a leading role in PASET through contributing to RSIF and investing in the RSIF permanent fund for lasting returns.

Ethiopia can explore innovative ways of raising more funds for RSIF. By providing tax incentives for private sector companies investing in RSIF, by recommending RSIF to its development partners and by making a fixed annual budgetary allocation to RSIF, Ethiopia will be in alignment with its commitment to PASET's vision.



African governments make good their pledges for advanced training in applied sciences and technology, as continental demand soars.

RSIF provides full doctoral scholarships and grants for research and innovation, to boost technical and scientific capacity for the advancement and use of transformative technologies to tackle Africa's most pressing challenges.

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Please contact the RSIF-RCU at *icipe* for further details.

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