

# The PASET-Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology in Côte d'Ivoire





# Rsif in Côte d'Ivoire



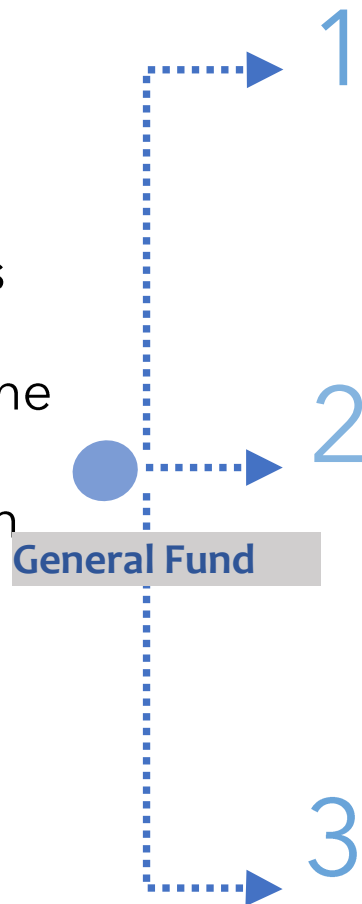
Research. Innovate. Transform Africa

# Rsif Designed for Impact

Building sustainable doctoral training, research and innovation ecosystems for development in Africa

## Objectives

- Create a stock of highly skilled scientists, professionals and innovators in ASET areas
- Address imbalances in the number of women and disadvantaged groups in ASET fields in Africa
- Build African university capacity to provide relevant ASET training



**Window 1:**  
Scholarships,  
institutional capacity  
building,  
partnerships &  
networks

**Window 2:**  
Research Grants

**Window 3:**  
Innovation Grants  
and creation of  
innovation  
environments

**Rsif supports five priority thematic areas**



ICTs including big data and artificial intelligence



Food security and agribusiness



Minerals, mining and materials engineering



Energy including renewables



Climate change

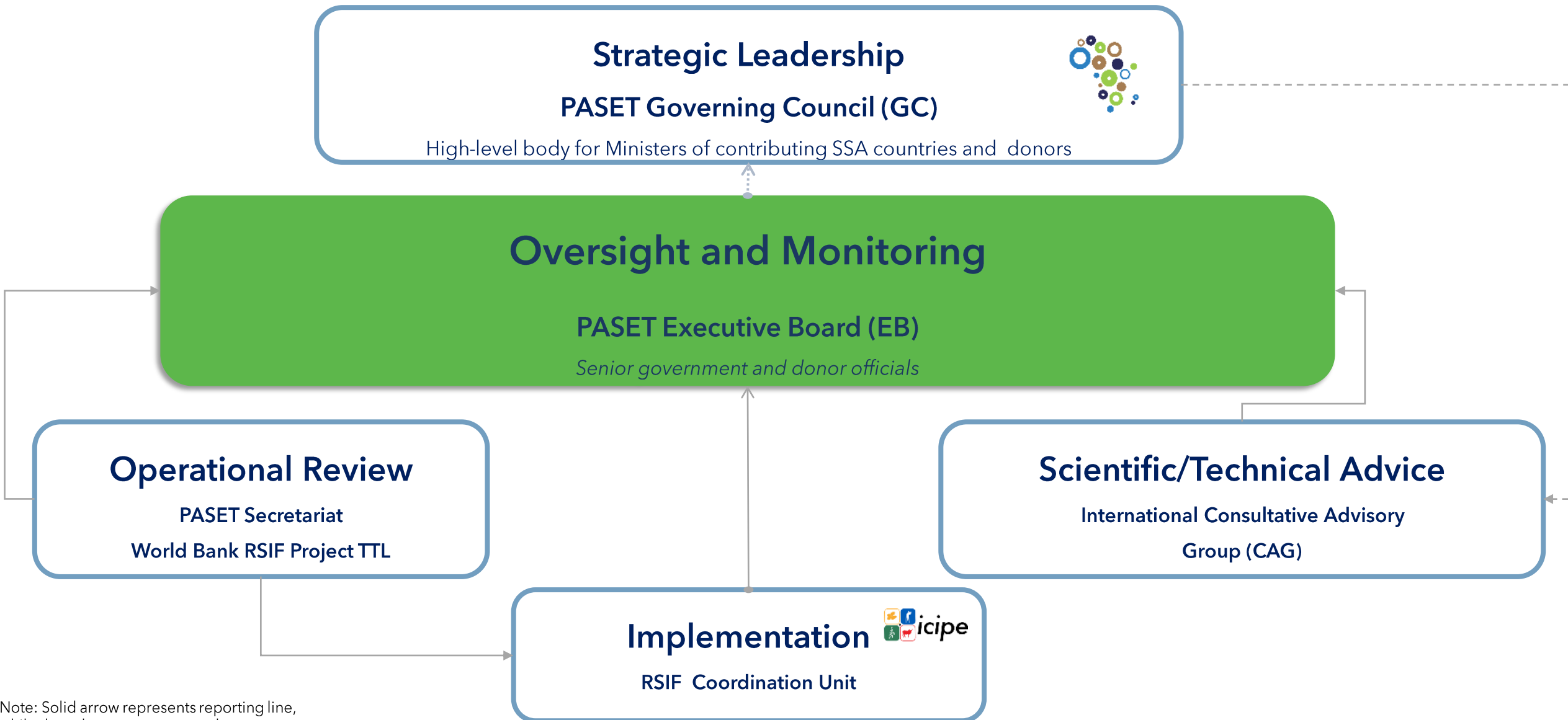


# Rsif is a unique African initiative

1. Owned and managed by African governments through PASET (11 African governments)
2. To-date, investments from 9 African governments (between US\$1 -6 million each), the World Bank, Korea and other funders
3. Managed by an African led international research/innovation and training institution – *icipe*
4. Regional approach to grow Africa's STI agenda
5. Sustainability - vision to grow Rsif into a Pan-African science fund
  - establish a Permanent fund
  - exploring innovative financing and leveraging of private capital, e.g. blockchain technology, carbon credit, venture capital fund.



# Inclusive, Efficient and Transparent Governance



Note: Solid arrow represents reporting line, while dotted arrow represents close working relationship

# icipe Rsif - Fostering Excellence

- Highly Competitive Selection  
- Ongoing Mentoring

- Selective Matching  
- High Level of Interaction



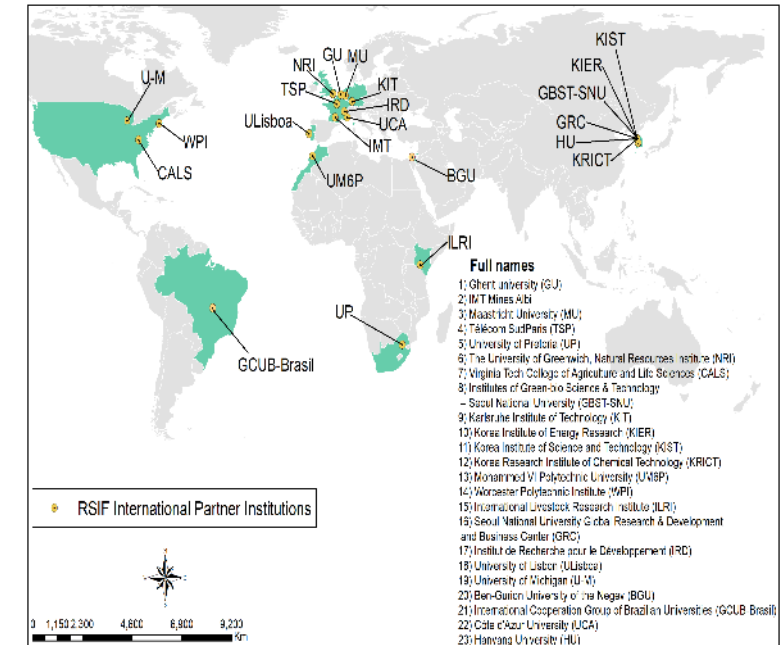
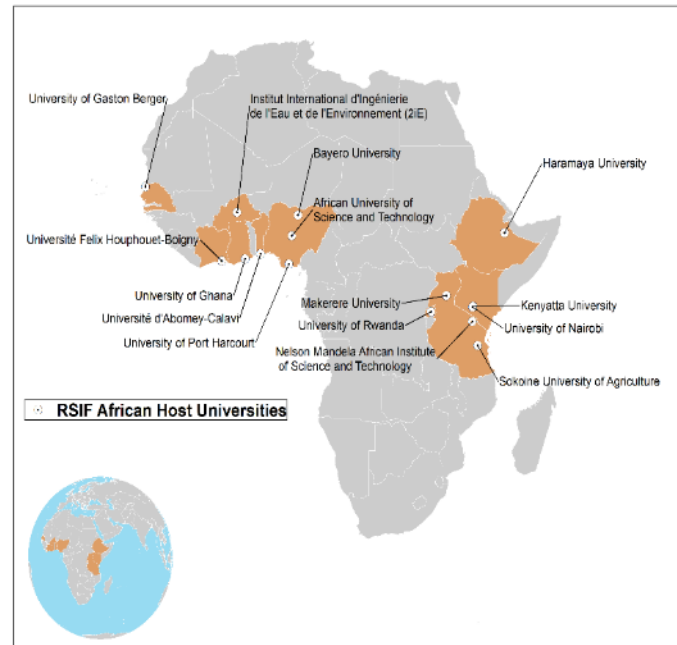
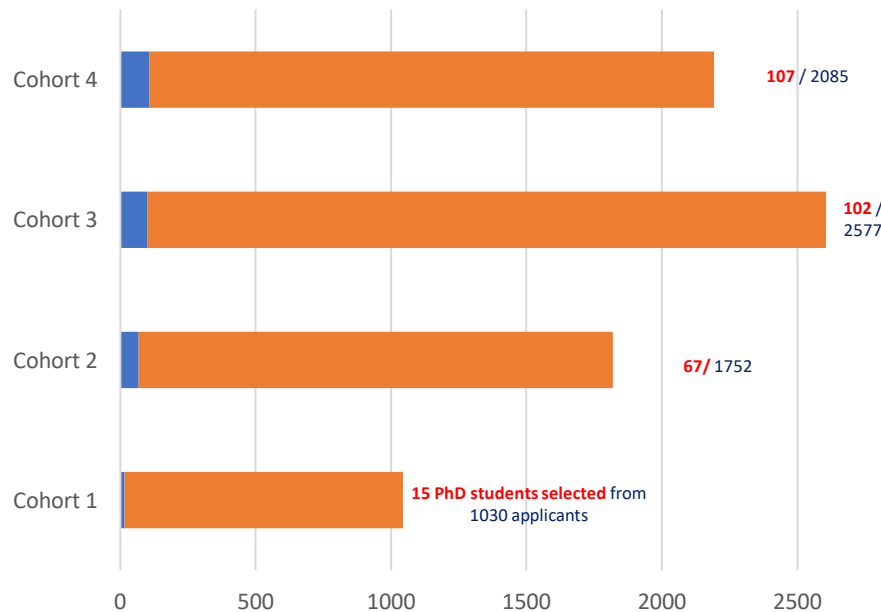
**291 PhD Scholarships**



**15 African Host Universities**  
(4 AHUs admit first Rsif students in 2022)



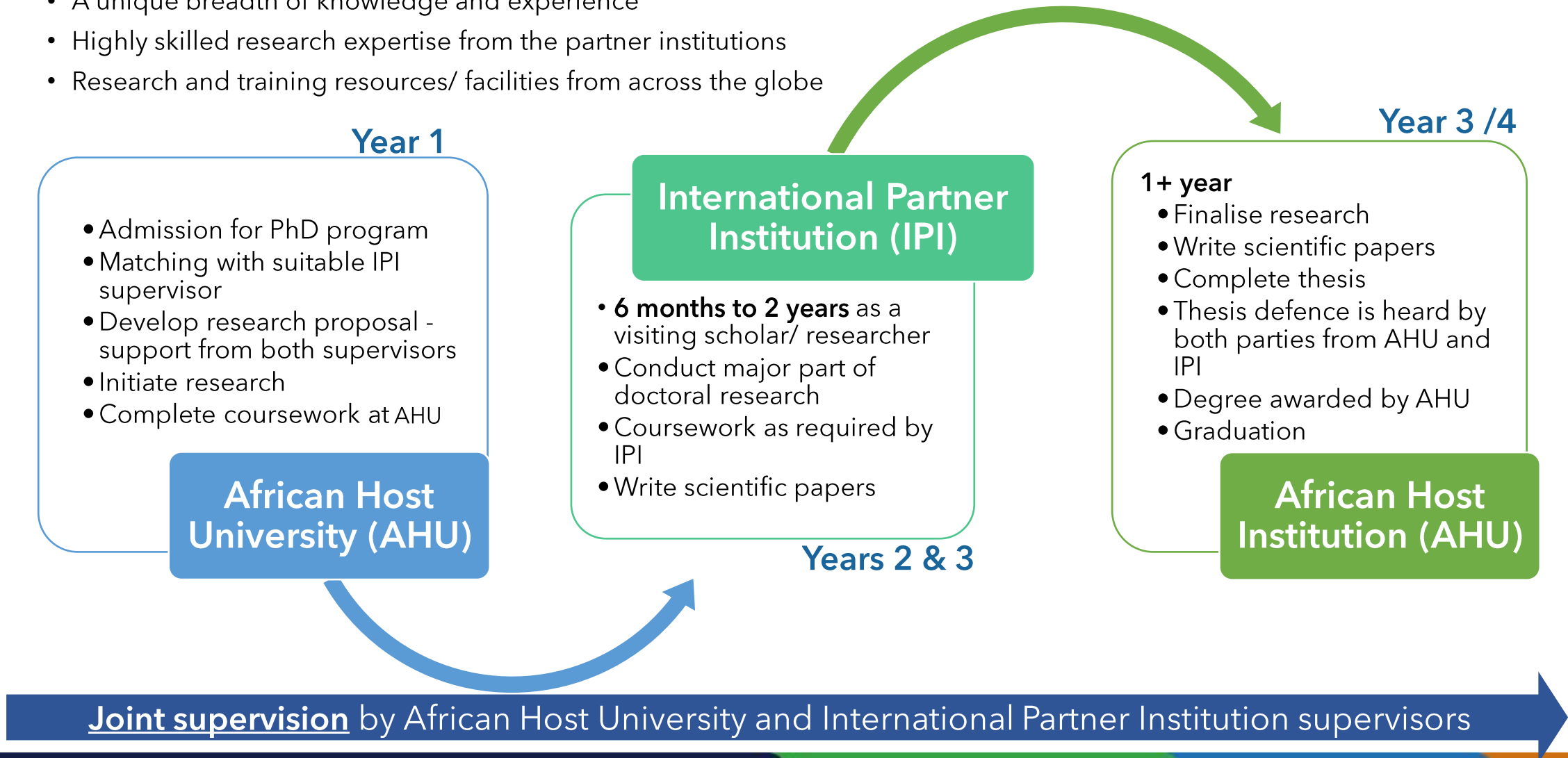
**23 International Partner  
Institutes/universities**



# Rsfif PhD Sandwich Model

Enables scholars and faculty members access to:

- A unique breadth of knowledge and experience
- Highly skilled research expertise from the partner institutions
- Research and training resources/ facilities from across the globe



# Rsif and Côte d'Ivoire

- **Côte d'Ivoire**
  - Expected to join PASET Executive Board soon
- **Investments in Rsif in pursuit of common agenda:**
  - supporting the building of international level PhD programmes anchored within African universities (i.e. UFHB)
  - accelerating high quality PhD training
  - strengthening capacity for innovative research and respond to African challenges
- **Significant benefits to Côte d'Ivoire**
  - Côte d'Ivoire made initial contribution of USD 1 million to RSIF in 2019

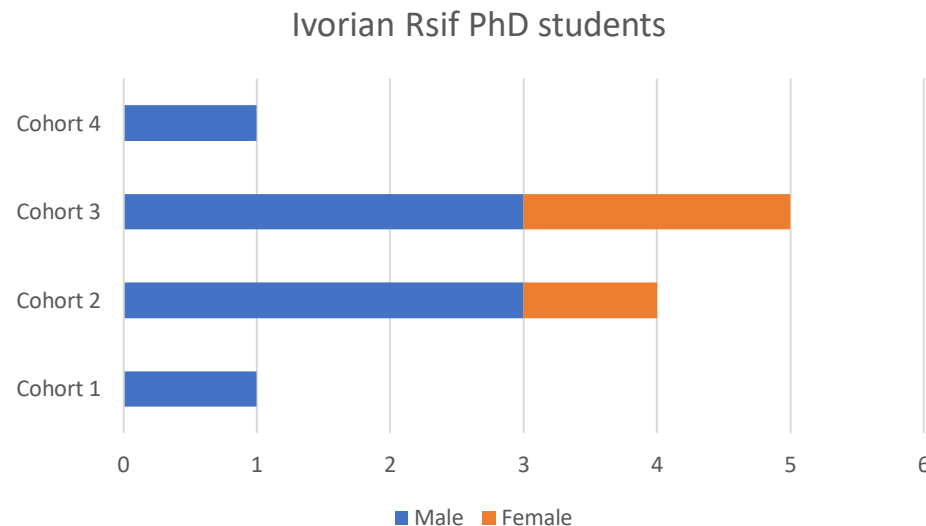


Photo: Prof. Kone, UFHB, speaking at the Rsif 2022 Conference in Morocco



# Ivorian Rsif PhD Students Overview

- 11 Ivorian Rsif doctoral scholars (27% women)
- Scholars registered under 4 thematic areas in 4 African Host Universities
- 2 publications by Ivorian nationals so far



Thematic Area	African Host University	Scholars
Climate Change	Université Felix Houphouët-Boigny, Côte d'Ivoire	6
ICTs including Big Data & Artificial Intelligence	University of Gaston Berger	1
Minerals, Mining and Materials Engineering	Kenyatta University, Kenya	1
Food Security and Agribusiness	Sokoine University of Agriculture, Tanzania	3

# Building Côte d'Ivoire's Research and Training Ecosystem

## Ivorian national Rsif PhD Students (11) Status

### Cohort 1

- 1 scholar about to complete PhD Studies and graduate soon

### Cohort 2

- 2 scholars at AHUs and collecting data in the field
- 2 scholars started their international research placements

### Cohort 3

- 5 scholars at their respective AHUs and collecting data in the field
- Scholars to start their international research placements

### Cohort 4

- 1 scholar have reported to their AHU, in first year of study



Photo: Ivorian Rsif Cohort 1 scholar  
Traore Abdoulaye

# Ivorian Rsif Students' Status - Cohort 1 & 2

No	Name	Gender	African Host University	Research Topic	Status	International Partner Institution
1	Traore Abdoulaye	Male	University Felix Houphouët-Boigny	Relationship between local cooking /processing methods and glycemic indices of three Varieties of orange-fleshed sweet potato (Ipomoea Batatas) in Cote d'Ivoire	Preparing for thesis defence 1 publication	N/a
Cohort 2 (2020)						
2	Charlie Frank Arthur N'guessan Amoia	Male	Sokoine University of Agriculture	Use of the Newcastle disease virus LaSota backbone for the synthesis of a recombinant vaccine	At VT-CALS, USA	Virginia Tech, USA
3	Jean-Yves Ekra	Male	Sokoine University of Agriculture	Genetic studies of trypanosomes and Trypanotolerance of cattle in Ivory Coast tsetse infested environments	At SUA, Tanzania	Worcester Polytechnic Institute (WPI), USA
4	Adjata Kamara	Female	University Felix Houphouët-Boigny	Study of the diversity of fungi responsible for post-harvest rots of yams in Côte d'Ivoire in the context of climate change and research into control methods using biopesticides	At UFHB 1 publication Part of research project	Natural Resources Institute (NRI), University of Greenwich, UK
5	Yefounnigui Souleymane Yeo	Male	University Felix Houphouët-Boigny	Damages, diversity, distribution and management of pathogenic fungi associated mango Dieback and Stem-end rot in a context of climate change, Côte d'Ivoire	At IRD, France	IRD, France

# Ivorian Rsif Students' Status - Cohort 3 & 4

No	Name	Gender	African Host University	Research Topic	Status	International Partner Institution
6	Kicoun Jean-Yves N'Zi Touré	Male	Kenyatta University, Kenya	Valorization of coffee parchments : Elaboration and performance properties of green composites	At KU, Kenya	Worcester Polytechnic Institute (WPI), USA
7	Kouadio Brou Akouassi Henriette	Female	Université Félix Houphouët-Boigny, Côte d'Ivoire	Selection of eggplant genotypes resistant to ron-knot nematodes and mapping of resistance	At UFHB	To be confirmed
8	Nahangnon Arsène Soro	Male	Université Félix Houphouët-Boigny, Côte d'Ivoire	Epidemiology of anthracnose on high producing cashew genotypes and sustainable control strategies in Côte d'Ivoire	At UFHB	To be confirmed
9	N'Dri Amenan Laeticia Felicienne	Female	Université Félix Houphouët-Boigny, Côte d'Ivoire	Impact of climate on biological diversity of pest insect populations in cereal stocks in Cote d'Ivoire: Molecular characterization and spatio-temporal distribution of Prostephanus Truncatus Horn, 1878 (Coleoptera: Brostrichidae)	At UFHB	To be confirmed
10	Kpangni Alex Jérémi Koua	Male	University of Gaston Berger, Senegal	Healthcare Data Analysis : Anomaly detection, profile discovering, segmentation, classification	At UGB, Senegal	To be confirmed
<b>Cohort 4 (2022)</b>						
11	Konan Ange- Sylvestre Goli	Male	Sokoine University of Agriculture, Tanzania	Epidemiology of Peste des Petits Ruminants (PPR) and ecology of the PPR virus in the Poro region (Northern Ivorian)	At SUA, Tanzania	To be confirmed



# Benefits to Ivorian Institutions

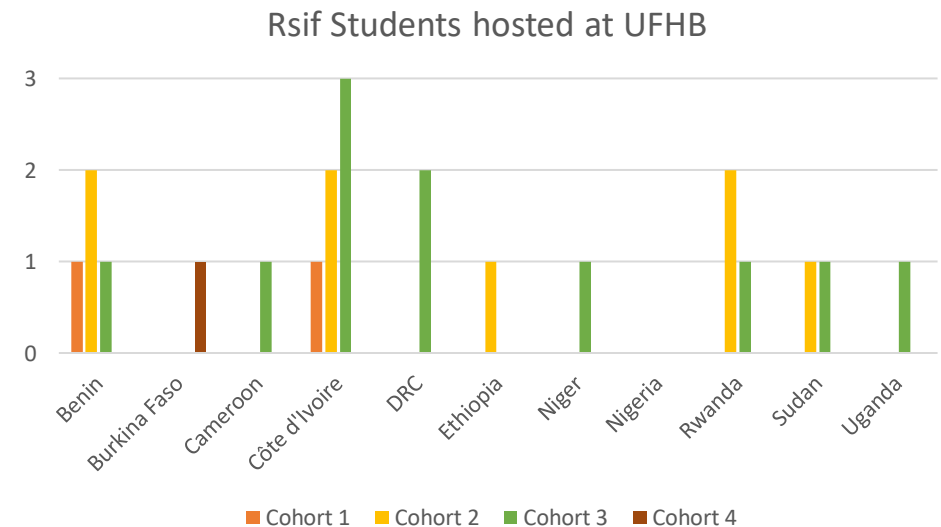


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# Benefits to Université Félix Houphouët-Boigny

## Africa Center of Excellence for Climate Change, Biodiversity and Sustainable Agriculture (CCBAD) - hosting Rsif PhD students since 2018

- PhD programme in Climate Change and Biodiversity
- Hosting 22 Rsif PhD scholars (36% women, 10 nationalities), including 16 international students
- 16 journal publications
- Partnership with advanced international universities receiving students on sandwich programme



# Rsif Funded Students at UFHB Cohort 1

No	Name	Nationality	Gender	Research Topic	Status
1	Dr. Sodedji Frejus Ariel Kpedetin	Benin	Male	Genetic diversity and optimization for increased carotenoids biosynthesis in cowpea [ <i>Vigna unguiculata</i> (L.) walp]	<b>Graduated</b> Completed placement at KIST, Korea 5 journal publications
2	Traore Abdoulaye	Côte d'Ivoire	Male	Relationship between local cooking /processing methods and glycemic indices of three Varieties of orange-fleshed sweet potato ( <i>Ipomoea Batatas</i> ) in Cote d'Ivoire	Preparing for thesis defense 1 publication



Photo: Dr. Frejus Sodedji successfully defended his PhD Research thesis on 8th September 2022. He has returned to Benin and is currently a Research Associate at the University of Abomey-Calavi in Cotonou.

# Rsfif Funded Students at UFHB - Cohort 2

No	Name	Nationality	Gender	Research Topic	Status	International Partner Institution
3	Goudjo Habib Toessi	Benin	Male	Epidemiology of citrus fungal diseases in the context of climate variability in Benin	At UFHB	University Mohammed VI Polytechnic (UM6P) Morocco
4	Jean-Fabrice Akouemaho Dominique Adanve	Benin	Male	Impact of climate variability on the interaction of soil and major diseases occurrence in rice agroecosystems in Côte d'Ivoire	At UFHB	To be confirmed
5	Adjata Kamara	Côte d'Ivoire	Female	Study of the diversity of fungi responsible for post-harvest rots of yams in Côte d'Ivoire in the context of climate change and research into control methods using biopesticides	At UFHB 1 publication Part of research project	Natural Resources Institute, University of Greenwich, UK
6	Yefounnigui Souleymane Yeo	Côte d'Ivoire	Male	Damages, diversity, distribution and management of pathogenic fungi associated mango Dieback and Stem-end rot in a context of climate change, Côte d'Ivoire	At IRD, France	IRD, France
7	Haftu Mengesha	Ethiopia	Male	Plant biodiversity and ecosystem service response to land use and climate change in Hugumburda Grat-Kahsu National Forest, Northern Ethiopia	In the field for data collection 6 journal publications	UM6P, Morocco
8	Petronille Dusingizimana	Rwanda	Female	Assessing the potential of conservation agriculture to increase maize smallholder farmer's resilience to climate change in Rwanda: Kirehe Case study	At UM6P 2 journal publications	UM6P, Morocco
9	Nduwayezu Anastase	Rwanda	Male	The effect of climate change on potato crop in Rwanda: Impact on major diseases	At UFHB 1 publication	ILRI, Kenya
10	Fatima Awadalla Abass Elhassan	Sudan	Female	Understanding and predicting the impacts of Climate Change on vegetation diversity & ecosystem service Situation: Case Of Acacia Senegal(Linn.) Willd (Fabaceae) in the Gum Arabic Belt dry land of Sudan	At UM6P	UM6P, Morocco



# Rsif Students at UFHB - Cohort 3

No	Name	Nationality	Gender	Research Topic	Status	International Partner Inst.
11	Isabelle Erhudice Tachégnon Tokannou	Benin	Female	Impact Of Climate Change And Land Use On In Situ Conservation Of Colas Nitida (Vent.) And Development Of Technical Itinerary For The Sustainable Production Of The Species In Benin	At UFHB	To be confirmed
12	Larissa Whego Kenmegne	Cameroon	Female	Climate change, migration and security in West Africa: Study case of the North Region of Cote d'Ivoire	At UFHB	To be confirmed
13	Jean Pierre Azenge Bokoy	DRC	Male	Climate change impacts on the resilience of the most important trees of Miombo forests in the Democratic Republic of the Congo	At UFHB	To be confirmed
14	Joseph Reagan Falasi Nitu	DRC	Male	Improvement of soil productivity and adaptation of agriculture to climate change in Kinshasa through the input of Tithonia diversifolia	At UFHB	To be confirmed
15	Kouadio Brou Akouassi Henriette	Côte d'Ivoire	Female	Selection of eggplant genotypes resistant to ron-knot nematodes and mapping of resistance	At UFHB	To be confirmed
16	Nahangnon Arsène Soro	Côte d'Ivoire	Male	Epidemiology of anthracnose on high producing cashew genotypes and sustainable control strategies in Côte d'Ivoire	At UFHB	To be confirmed

# Cont. Rsif Students at UFHB – Cohort 3 & 4

No	Name	Nationality	Gender	Research Topic	Status	International Partner Institution
17	N'Dri Amenan Laeticia Felicienne	Côte d'Ivoire	Female	Impact of climate on biological diversity of pest insect populations in cereal stocks in Cote d'Ivoire: Molecular characterization and spatio-temporal distribution of Prostephanus Truncatus Horn, 1878 (Coleoptera: Brostrichidae)	At UFHB	To be confirmed
18	Ma-Lyse Nema	Rwanda	Female	Landslide occurrences in Kivu Catchment, Rwanda: Assessing and Modeling its Causes and Risks Management	At UFHB	To be confirmed
19	Nasradeen Adam Hamed Gadallah	Sudan	Male	Adequacy of Sudan forests resources for biodiversity conservation, climate change mitigation and environmental sustainability	At UFHB	To be confirmed
20	Abdallah Boureima Mamadou	Niger	Male	Climate change, anthropization and landscape dynamics in Maradi region (central Niger)		To be confirmed
21	Julius Ndemere	Uganda	Male	Climate Change Solutions for Soil and Earthworm Protection in Uganda's Family Farming System	At UFHB	NRI, University of Greenwich, UK
Cohort 4 (2022)						
22	Idrissa Sawadogo	Burkina Faso	Male	Impacts of changes in land use and occupation on pasture productivity along the Burkina-Togo transhumance corridor in a context of climate change	At UFHB	To be confirmed

# Strengthening Research Networks for UFHB

Rsif International Partner Institutions (IPIs) signing agreements for exchanging staff and students with UFHB:

1. Korea Institute of Science and Technology (KIST), Korea
2. Natural Resources Institute (NRI), University of Greenwich, United Kingdom
3. Institut de Recherche pour le Développement (IRD), France
4. International Livestock Research Institute (ILRI), Kenya
5. University Mohammed VI Polytechnic (UM6P), Morocco

*icipe* supported proposal writing workshop for team from Côte d'Ivoire, WASCAL, prepare competitive proposals to EC funding opportunities



# Strengthening Research and Innovation Capacity at UFHB



- **Increased opportunities to translate research outputs into commercial products** (1 innovation commercialization grant awarded) to faculty – Dr. Brahama Camara)
- **Sustainable and innovative production of yams in Côte d'Ivoire by post-harvest pest control**

## **Project objective:**

- To develop biopesticide from 4 plant extracts to treat fungi (*Rhizopus nodosus*, *Botryodiplodia theobromae*, *Penicillium* spp., *Aspergillus* spp., *Fusarium bulbigenum*) in yams

## **Status:**

- Research work to develop a prototype ongoing; in vitro tests done, control tests done, sample biopesticide available, technical sheets have been produced.
- Final tests on-going before approval for public use by the relevant regulatory body
- Second article published by the PhD student involved in the project based on research work done in the International Journal of Agricultural Research (ISSN 1816-4897)



# Multiple Benefits to Côte d'Ivoire's Research and Innovation Ecosystem

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1. Rsif graduates, with strong research networks, able to “win” additional research awards.
2. Reduced “inbreeding” at Ivorian universities
3. UFHB received video conference equipment, library resources and benefit from various trainings e.g.
  1. Staff benefited from proposal writing training workshops
  2. Arranged exchange visits for UFHB staff to Morocco and Japan
4. New institutional research and training networks including with IRD, NRI, KIST, UM6P etc.
5. Graduates equipped with advanced technologies, cross cutting and technical skills and relevant international, regional and national networks
6. 16 journal publications from Rsif students at UFHB to date in high impact journals
7. Research outputs and knowledge generated in line with national priorities: e.g climate change and biodiversity, disease control etc.

# Emerging impact – set to “snowball”...

**Rsfif PhD student**

**Adjata Kamara, Côte d'Ivoire, Cohort 2**

Research area: Study of the diversity of fungi responsible for post-harvest rots of yams in Côte d'Ivoire in the context of climate change and research into control methods using biopesticides

1 journal publication so far  
Associated with Rsfif innovation project

Registered at Université Felix Houphouët-Boigny

Research placement at the Natural Resources Institute (NRI), University of Greenwich, United Kingdom.



# Thank You

Regional Coordination Unit (RCU)

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