

# Regional Networks of Scientific Excellence in Sub-Saharan Africa

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March 31, 2011

## Urgent need: S&T capacity building in universities

- Train more next-generation faculty & support faculty development
- Train technologists for private & government sectors
- Provide solutions for society: agriculture, IT, public health, energy, water
- Generate innovations for economic development

## The past: traditional strategies

- Support for individual institutions
- Support for individual students & faculty
- Equipment & infrastructure
- Study abroad

## Where traditional strategies fell short

- Programs seldom designed by Africans
- Failed to slow brain drain
- Few institutions by themselves can support adequate science programs
- Limited instrumentation at individual institutions
- Students lack choice of mentors, opportunities to present work
- No systematic program of faculty development & retention

## Rationale for networks

- Maximize use of scarce STI capacity
- Integrate strengths of partners for collective benefit
- Economies of scale
- Opportunities to meet peers, present work
- Pool instrumentation, other resources
- Establish collaboration among scientists & students in region

## MSI & SIG

- History of Millennium Science Initiative (MSI)
  - South American presidents: legacy
  - James Wolfensohn, World Bank
  - STI was lacking as a component of development
  - Quality control missing
  - Chile, Brazil, Mexico
- Science Initiative Group (SIG)
  - Based at IAS
  - Board of leading international scientists
  - African emphasis

# RISE: Regional Initiative in Science and Education


- SIG-Carnegie partnership, since 2007
- African planning process
- RISE features
  - Training & research networks
  - Competitive selection process
  - Problem-driven
  - Multidisciplinary
  - Focus on excellence & leadership


# RISE Networks

**AMSEN**   
 (SA, Botswana, Kenya, Namibia, Nigeria)

**RISE-AFNNET**   
 (Uganda, Kenya, Tanzania)

**SABINA**   
 (Malawi, Namibia, Tanzania, SA)

**SSAWRN**   
 (SA, Botswana, Mozambique, Uganda)

**WIORISE**   
 (Tanzania, Mozambique, SA)

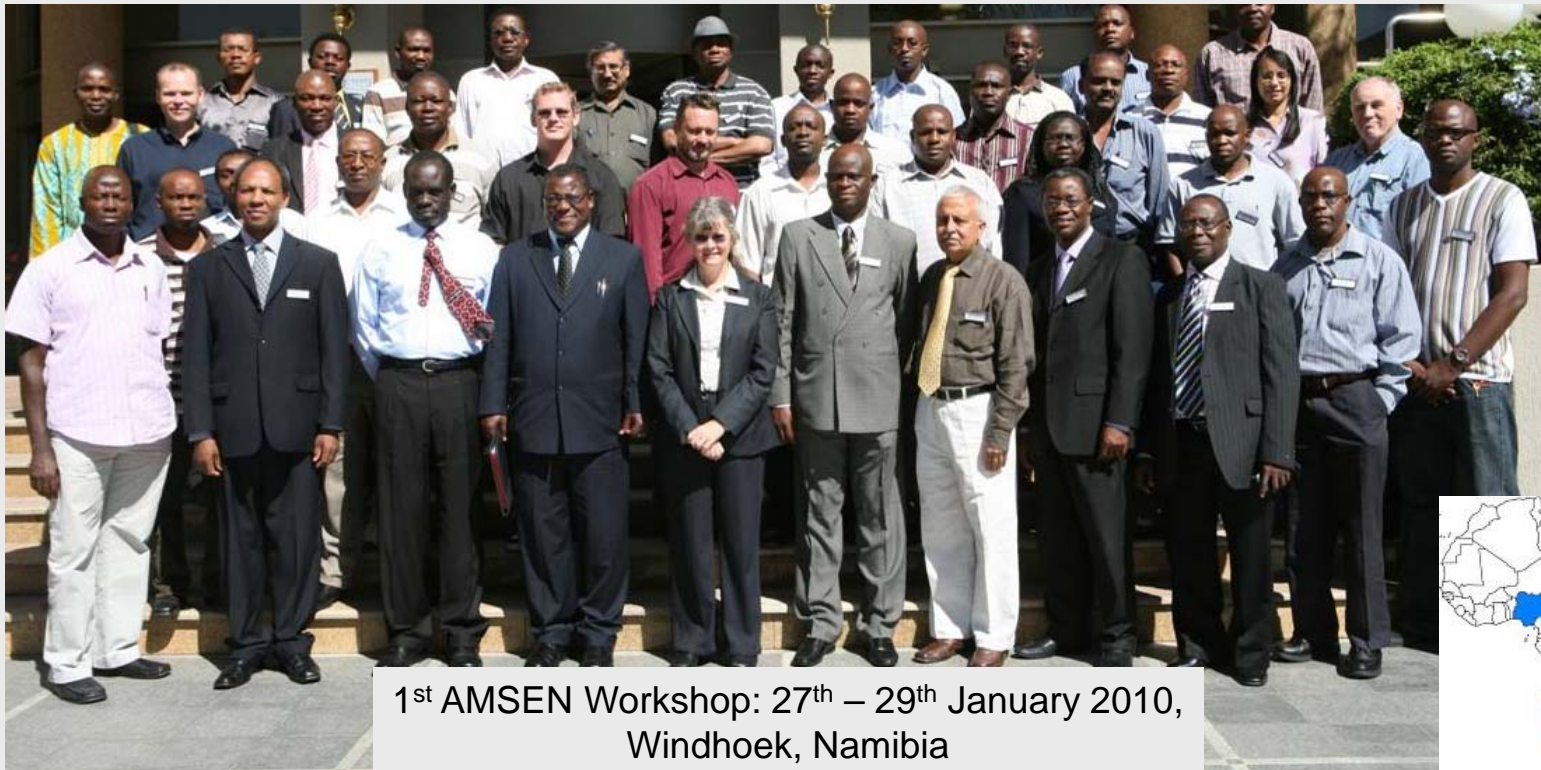




# AMSEN: African Materials Science and Engineering Network

Academic Director: Lesley Cornish, University of the Witwatersrand, South Africa

Other participating institutions: University of Namibia  
University of Nairobi, Kenya  
Federal University of Technology, Akure, Nigeria  
University of Botswana



1<sup>st</sup> AMSEN Workshop: 27<sup>th</sup> – 29<sup>th</sup> January 2010,  
Windhoek, Namibia

# RISE-AFNNET: African Natural Products Network

Academic Director:

John David Kabasa, Makerere University, Uganda

Other participating institutions:

University of Nairobi, Kenya

Sokoine University, Tanzania



# SABINA: Southern African Biochemistry and Informatics

Academic Director: John Saka, University of Malawi

Other participating institutions: University of Namibia  
University of Dar es Salaam, Tanzania  
University of Pretoria, South Africa  
University of the Witwatersrand, South Africa  
CSIR, South Africa  
Tea Research Fdn of Central Africa, Malawi



# SSAWRN: Sub-Saharan Africa Water Resources Network

Academic Director: Denis Hughes, Rhodes University, South Africa

Other participating institutions: Eduardo Mondlane University, Mozambique  
University of Botswana  
Makerere University, Uganda



14th SANCIAHS symposium  
Pietermaritzburg, South Africa, September 2009



# WIORISE: Western Indian Ocean Regional Initiative

Academic Director:

Margareth Kyewalyanga, University of Dar es Salaam, Tanzania

Other participating institutions:

Eduardo Mondlane University, Mozambique

University of Cape Town, South Africa

(University of Mauritius)



The WIORISE Family



## Positive results

- Of 84 RISE students in 2010, 71+ plan academic posts in African universities; others plan work in government or industry. All plan to remain in Africa.
- At end of second RISE phase in 2013, >100 RISE graduates in S&E departments in African universities, training next generation.
- External assessment.
- Goal: 10x scale-up of RISE.

# Sustainability

- More government involvement
- Diversified funding sources
- Expanded competitions; broader geographic coverage
- New African partners
- Visiting professors & students from non-African countries
- Faculty development in universities

# Product development & commercialization

- Diffusion and use of new technologies
- Better links with private sector
- More exposure to business training



## Opportunities for U.S. faculty & post-docs

- Teach short courses in RISE institutions
- Co-mentor RISE students in person and/or virtually
- Engage in joint research projects
- Offer entrepreneurship training
- Host a visiting professor or student
- Cost-sharing: SIG + U.S. univ + African univ



- RISE Summary
- RISE News
- 2010 RISE Conference
- 2009 Second Annual Meeting
- 2008 Inaugural Meeting
- 2007 Planning Workshop
- RISE RFP
- RISE Photo Galleries

**Networks**

- AMSEN
- RISE-AFNNET
- SABINA
- SSAWRN
- WIO-RISE

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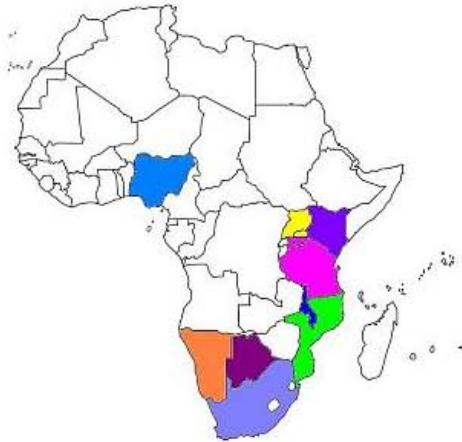
 

## RISE: Regional Initiative in Science and Education

Click on network names below for monthly updates.

[AMSEN](#) [RISE-AFNNET](#) [SABINA](#) [SSAWRN](#) [WIO-RISE](#)

[^ Blog ^](#) [^ RISE Conference 2010 ^](#)



RISE prepares PhD and MSc-level scientists and engineers in sub-Saharan Africa through university-based research and training networks in selected disciplines. Its primary emphases are on training new faculty to teach in African universities and on upgrading the qualifications of current faculty.

In an intense competition that attracted 48 proposals from 29 African countries, five networks were selected in mid-2008 by an international panel of distinguished scientists.

RISE is supported by a grant from [Carnegie Corporation of New York](#).

International Partners: While RISE grant funds are to be used for activities in Africa, primarily within RISE network institutions, RISE networks also will be encouraged to engage in collaborative activities with individuals and institutions outside of Africa. SIG will facilitate partnerships in the form of visits by senior faculty from outside of Africa to RISE network nodes (GSC), semesters at non-African universities for RISE network students, and international research collaborations.

Representatives of universities outside of Africa interested in exploring opportunities for partnerships with RISE networks are