Recognizing women @

Nurturing and Developing Africa-focused Research future Leaders
Nurturing and Developing Africa-focused Research Leaders

• What is Africa’s status today
  – The usual gloomy statistics
  – How about some cautiously optimistic statistics?
• Some views about Africa’s natural resources and future development opportunities
• AAS’s role in nurturing and developing the future research leaders of Africa
• Conclude with a vision looking into the future
The Gloomy Statistics About Africa
There are only three universities that appear in the world’s top 400 universities 2013-2014:

- University of Cape Town 126
- University of Witwatersrand 249
- Stellenbosch University 338

Times Higher Education (2014)

- 15% of World’s population
- 25% disease burden
- 3% health workers
- 1% economic resources
- 0.1% researchers

Africa produces only ca 2% of the total global science
Cautiously Optimistic statistics

- Africa is changing: ~5% annual economic growth
- Scientific output growing at 21% annually compared with rest of world at 9%
- “Africa is experiencing some of the biggest falls in child mortality ever seen, anywhere” The Economist 2012
- New commitment of governments to research as integral to development
- Enormous opportunities to catalyse change through targeted investment
<table>
<thead>
<tr>
<th>Country</th>
<th>Seats</th>
<th>Women</th>
<th>% Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rwanda</td>
<td>80</td>
<td>51</td>
<td>63.8%</td>
</tr>
<tr>
<td>Bolivia</td>
<td>130</td>
<td>69</td>
<td>53.1%</td>
</tr>
<tr>
<td>Andorra Cuba</td>
<td>28</td>
<td>14</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>612</td>
<td>299</td>
<td>48.9%</td>
</tr>
<tr>
<td>Seychelles</td>
<td>32</td>
<td>14</td>
<td>43.8%</td>
</tr>
<tr>
<td>Sweden</td>
<td>249</td>
<td>152</td>
<td>43.6%</td>
</tr>
<tr>
<td>Senegal</td>
<td>150</td>
<td>64</td>
<td>42.7%</td>
</tr>
<tr>
<td>Finland</td>
<td>200</td>
<td>85</td>
<td>42.5%</td>
</tr>
<tr>
<td>Ecuador</td>
<td>137</td>
<td>57</td>
<td>41.6%</td>
</tr>
<tr>
<td>South Africa</td>
<td>400</td>
<td>166</td>
<td>41.5%</td>
</tr>
</tbody>
</table>
# Professional Background of African Leaders

<table>
<thead>
<tr>
<th>Field of Expertise of African Leaders</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Science/Engineering</td>
<td>6</td>
</tr>
<tr>
<td>2  Law</td>
<td>8</td>
</tr>
<tr>
<td>3  Economics/Political Science</td>
<td>9</td>
</tr>
<tr>
<td>4  Finance/MBA/Accounting</td>
<td>4</td>
</tr>
<tr>
<td>5  University Professor/Teacher</td>
<td>5</td>
</tr>
<tr>
<td>6  Military coup accession to power</td>
<td>5</td>
</tr>
<tr>
<td>7  Miscellaneous</td>
<td>16</td>
</tr>
</tbody>
</table>

53 African leaders
Ellen Johnson Sirlea  Catherine Samba-Panza

Dilma Rousseff
NURTURING AND DEVELOPING AFRICA-FOCUSED RESEARCH LEADERS
Research leaders have more than just technical competence

1. **Carry out** high quality relevant research

2. **Lead** a research agenda, engage in intra-African and international collaboration (as leaders or equals, not followers)

   1. **Attract** funding from local, international sources, private Sector

   2. **Advocate** for research locally and globally

3. **Influence** the development of evidence-based policies

4. **Engage in technology/knowledge transfer** - Innovation, new products, improved services
**The Development of Research leaders**

- is a long term process – takes 15-20 years
- The PhD training is a critical step
  - Must select the school and supervisor judiciously
  - Training should be of high quality and very relevant
- Mentorship is extremely relevant (institutions must adopt mentorship as a strategic goal for developing research leaders)
It takes long to train and develop ‘Research Leaders’.

First Degree
- 2 years

Masters
- 4 years

PhD
- 3 years

Postdoc
- 5 years

Second Postdoc or other experience

Researcher Leader
- 15-20 years
Key elements needed in African Centers of Excellence

- Africa-centered, Africa-specific and Africa-led
- Strong institutional leadership
- Strong research leadership
- An environment with critical mass and strong research culture
- High quality mentorship and supervision
- Career structure
- Strong collaborations (intra-African, global)
- Continuity of long-term support
AAS’s main mission are to:

- Improve Africa’s capacity for management of research development and public policy
- Promote sustainable development through R&D
- Promote women and youth
- Recognize Excellence
- Regional integration, global peace and security
Some Activities at AAS relevant to development of Research leaders

Affiliates’ program

– Identify five top young scientists from each region (25)
– Link them to mentors - the best experts in the field from anywhere (Volunteers – also from China, India, Brazil, South Africa)

Examples Since January 2015

In Cell Biology and Regenerative Medicine: Seven mentees visited mentors (Five Females and 2 males – India, Brazil, RSA)

In Climate Change: 34 participants 19 Male and 15 Female already placed in host institutions – number to grow to 100

DFID

- AAS-ELSEVIER Training courses
Young Affiliates

2011

- Kakaï, Benin
- Lochner, RSA
- Igbinosa, Nigeria
- Mwangani Kenya
- S. F. Kouam, Cameroon
- Mahomoodally, Mauritius

2012

- Choonara, South Africa
- Gahungu, Burundi
- Danda, Zimbabwe
- A.E. Schutte, RSA
- Atunga, Nyachiego, Kenya
- Adewale, Adewuyi, Nigeria
- H. H. Kinfe, Eritrea

2013

- A. Mudhoo, Mauritius
- Chabi A. M. S., Djagoun
- Adejuwon, A. Adeneve

2014

- B. A. Ojokoh, Nigeria
- Sophie von der Heyden, South Africa
AAS Fellows - 2013

Ejeta, G. Ethiopia
Obi, T. Nigeria
Kelemu, S. Ethiopia
Neuenschwander, P Switzerland
Abdulrazak, S. Kenya
Ambali, A. Malawi
Awuah, R.T.. Ghana
Bringmann, G. Germany
Steyn, P. South Africa
Dagne, E. Ethiopia

Nyassse, B Cameroon
N. Torto Botswana
B. Torto Ghana
P. Rasoanaivo Madagascar
T. Mutabingwa Tanzania
O. Jegede Nigeria
Kevin Urama Nigeria
A. Samatar Somalia
J. Mugabe Kenya
Mamo Muchie Ethiopia

B. Bouhaouala-Zahar Tunisia
D. Van Wyk South Africa
D. Abutajdine Morocco
H. Merzouk Algeria
B. Mgaya Tanzania
A. Sanni Benin
F. Toteu Cameroon
F. Okeke Nigeria
M. Tchuente Cameroon
B. Mwamila Tanzania

G. Mophou France - Cameroon
D. Makawiti Kenya
H. Talaat, Egypt
AAS FELLOWS 2014

E. Bukusi
Kenya

S. Nadifi
Morocco

F. Djeffal
Egypt

A. Zobaa

S. Messoui
Sudan

S. Khalid

A. Faha

M. Cherry
RSA

G. Stevens
RSA

D. Bakibinga
Uganda

A. Noor
Kenya

R. Sang
Kenya

F. Dako
Ghana

F. Nyamnjoh
Cameoun

E. Cloete
RSA

A. Van der Walt
Lal
India

A. Viljoen
RSA

A. Viljoen
ategan
RSA

Von
Brown
Germany

H. Geyer
RSA

N. Coville
RSA

W. Gelderblom
RSA

The African Academy of Sciences
The target number of Fellows by 2018 is 600, with 15% of these being Women; and Africa-wide representation.

291 Fellows in 44 Countries

- **Under-represented**
- Normal
- **Leading**
- **Not represented**
- No women fellows
Growth of AAS Fellowship

No of Fellows

No of Women Fellows
Recommendations

- Institutions must assume full responsibility to identify, train, attract bright young people, engage them, stimulate them, and foster their growth into research leaders

- Active and aggressive program to address gender issues; Top end of University and Research Institutions may aim at attaining 35-40% women by 2025

- There is a need to reduce that age at which candidates obtain their PhD (25-30)
One objective long term measure of success-50 senior fellows leading world class groups

<table>
<thead>
<tr>
<th>50 Senior Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 Post-docs</td>
</tr>
<tr>
<td>800 PhDs</td>
</tr>
<tr>
<td>1,000 Masters</td>
</tr>
<tr>
<td>3,200 Graduate Interns</td>
</tr>
</tbody>
</table>

AHREI funded fellows
Trained researchers
Strategic Approach

A single initiative with clear aims, a large base, a long time horizon, an emphasis on quality and relevant research and mentorship, rigorous review and sustainable (and expanded) funding.

Vision

A large cohort of internationally competitive researchers, appropriately gender-balanced, spread across Africa, addressing problems relevant to Africa, clustered in programmes and headed by world-class leaders.

This new generation of researchers will play a major role in shaping and driving the research agenda in Africa over the next 50 years.
Acknowledgements

• Organizers of the Gender Summit 5
• AAS-AESA colleagues – Dr. Benjamin Gyampoh, Dr. Tom Kariuki and Prof. Kevin Marsh
• AAS