Africa's Next Generation of Knowledge Workers:
The Role of Networks

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Ouagadougou, Burkina Faso, March 2011

Regional Initiative in Science and Education (RISE)

- Competitively selected training & research networks in problem-driven, multidisciplinary areas of science & engineering (currently 5 funded)
- Designed and run by the African scientific & university communities
- Initial funding from Carnegie Corporation of New York
- (See Case Study for full description, history, rationale, preliminary evaluation; more information at www.ias.edu/rise.)

Summary

- RISE is proving to be a successful model for building African STI capacity and training the next generation of leaders of science in Africa.

- In partnership with other initiatives (such as those being discussed here), with a 10-fold scale-up RISE would have a transformative impact.

The Need

"Many countries are putting renewed emphasis on science, technology, and engineering education. Higher education enrollment is growing rapidly, but faculty to train the next generation of knowledge workers cannot keep pace with the rapidly increasing demand."

Global Forum Action Plan

The World Bank

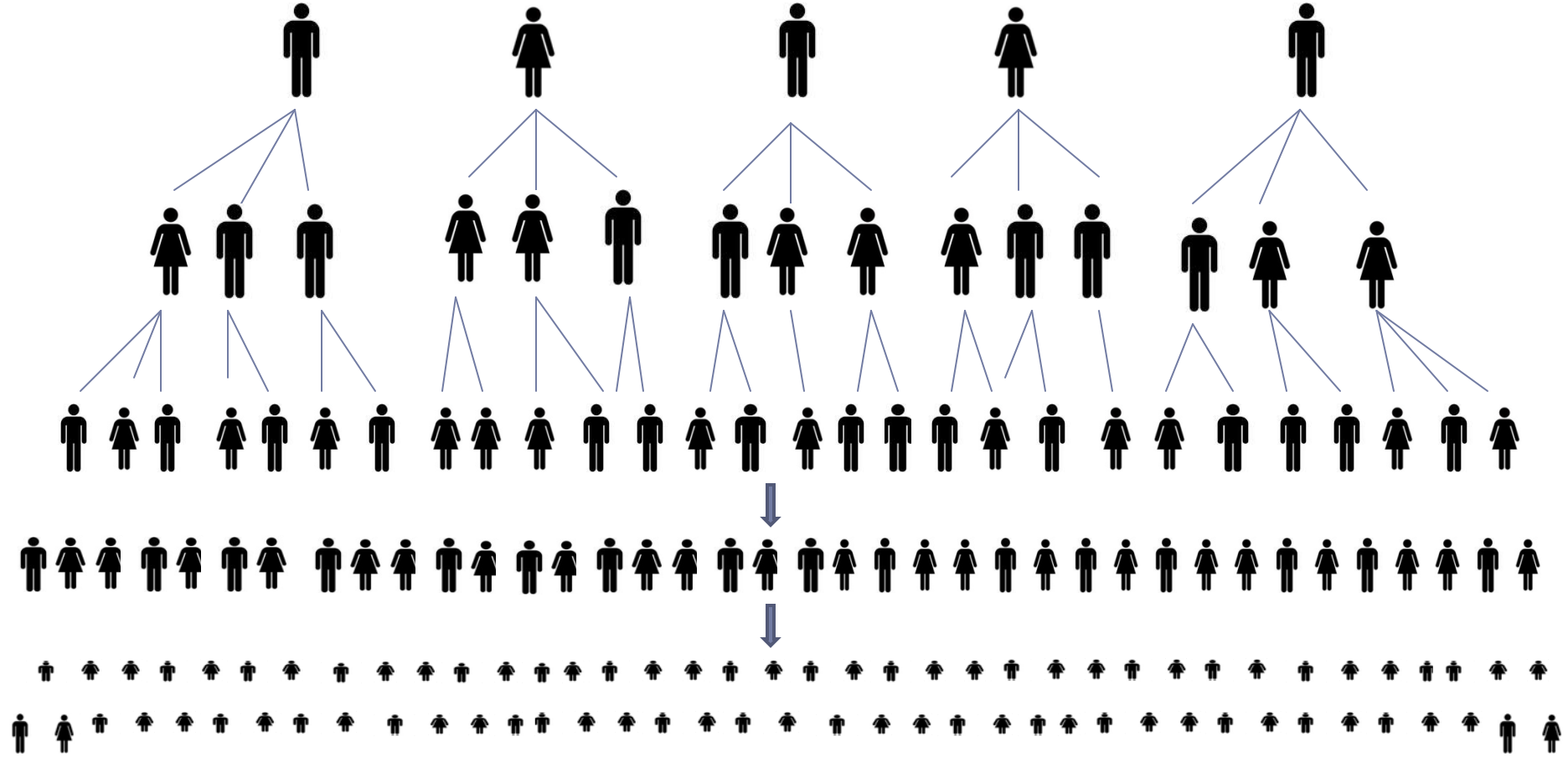
September 1, 2010

(available at www.worldbank.org/sti)

RISE to the Challenge

- Networks have proven to be highly effective. With significant expansion, they could have a major impact on building STI capacity & strengthening African universities.
- Of the 84 students enrolled in degree programs through RISE in 2010, at least 71 plan to return to or take up academic posts in African universities. Others will work in government or industry. All plan to remain in Africa.
- By the end of RISE's second phase in 2013, more than 100 well qualified RISE graduates will be staffing science & engineering departments in African universities – and training the next generation.
- Multiply by 10.
- A group of scientists & engineers, trained at the highest level in problem-driven, multidisciplinary science, and well connected to the scientific community in the region, will have a multiplicative impact.

Research & teaching capacity grows exponentially.



Networks…

- exploit the respective strengths of individual partner institutions for their collective benefit.
- support high quality, problem-driven research, relevant to Africa's development, in Africa, by Africans.
- promote harmonization of programs across universities based on an agreed division of labor.
- maximize use of scarce STI capacity.
- benefit all partners through economies of scale.
- provide graduate & undergraduate training in a broad array of science & engineering disciplines.
- establish partnerships & linkages among the scientists & institutions in the region.

Excellence is Paramount

- Competitive selection process
- Program goals matched to country/regional needs
- Education anchored in research & case studies
- Program evaluation & scientific evaluation
- High level of training
  - co-supervisors with complementary expertise
  - access to scientific instrumentation in multiple locations
  - access to natural resources in different countries
  - research collaboration with peers & mentors
  - opportunities to present research at conferences

Sustainability & Financing

- New African partners: industry, private sector, government labs
- New academic partners: visiting professors, faculty & student exchanges with non-African universities
- Diversified administrative secretariat including Francophone/Lusophone capability
- Diversified financing: foundations, banks, governments
- New competition: more fields, more countries, variation in network size