

2014 Ann Arbor STEM - Africa Charter



*Compiled from submissions of working groups of conference attendees at the closing dinner held at the University of Michigan Union in the STEM-Africa 3rd Biennial Conference, April 4, 2014;
Formally approved and adopted June 10, 2014 by Conference participants:*

(STEM stands for “Sciences, Technology, Engineering and Mathematics)

WE, participants of the African Studies Center (ASC) hosted STEM-Africa 3rd Biennial Conference on “*Effective U.S. Strategies for African STEM Collaborations, Capacity Building, and Diaspora Engagement,*” representing multiple universities in the U.S. and in countries in Africa, the private sector, civil society and other stakeholders, meeting at the University of Michigan–Ann Arbor from April 1-4, 2014;

REAFFIRMING the various commitments made by the Heads of State and Government of the African Union to strengthen and advance Science, Technology and Innovation (STI) in Africa, and in particular, specific commitments articulated in *Africa’s Science and Technology Consolidated Plan of Action* adopted in September 2005 by the African Union and New Partnership for African Development (NEPAD). This includes “To ensure that Africa harnesses and applies science, technology and related innovations to eradicate poverty and achieve sustainable development; and to ensure that Africa contributes to the global pool of scientific knowledge and technological innovations”;

FURTHER AFFIRMING the objectives proclaimed in UNESCO’s African Science, Technology and Innovation Policy Initiative (ASTIPI) launched in October 2007, that include “Greater capacity for policy analysis in Africa; assessment of the status of science and technology policy formulation; development of common African STI indicators; creation of an African e-Library of Science, Technology and Innovation Policy, and creation of a pilot science park in Africa”;

NOTING the historical contributions to and advancement of African higher education made by Nnamdi Azikwe, Kwame Nkrumah, Julius Nyerere, Cheikh Anta Diop and W.E.B. DuBois among others, which opened the doors to African STI knowledge production;

ACKNOWLEDGING that, while not a panacea for solving Africa’s development challenges, STI constitutes a critical component without which development and 21st Century economic growth cannot occur;

AWARE of the pressing need to address the gender imbalances in African STI that impede knowledge production and global visibility, and supportive of the goals outlined in UNESCO’s (2007) *Report on Science, Technology and Gender* that include, “to provide S&T policy-makers with a framework for action regarding gender mainstreaming in S&T; elaborate a sound message for national and international scientific and academic communities, promoting dissemination and rigorous discussion of gender in S&T issues; and disseminate, implement and follow up policy recommendations and agendas for major actors”;

AWARE of the great potential eager to be tapped in the African diaspora for collaboration and support in STI-related teaching, training, curriculum development, research and development;

BUILDING ON local ingenuity and traditional STI knowledge systems in African societies, from healing practices and housing construction to agricultural innovations and expertise in the science of local materials, and committing ourselves to the safeguarding of such knowledge with accepted Intellectual Property protocols;

RESOLVING TO work both as partners and in networks for close consultation with universities, governments, parliaments, Regional Economic Communities (RECs), private sector, media outlets, traditional leaders, civil society, development partners and other stakeholders to advance STI in Africa;

UNDERTAKE TO PROMOTE African STI progress throughout several dimensions: human capacity building, collaborative research, material infrastructure, outreach and communication, and resource allocation;

SPECIFICALLY:

In the realm of human capacity building, education, and training:

1. Development of joint US-Africa programs for science and education, co-funded by African governments and external partners;
2. Expansion of President Obama's signature Young African Leaders Institute (YALI) program to include a STEM Africa Leadership Institute (SALI) component;
3. Expansion of the University of Michigan African Presidential Scholars (UMAPS) program to include graduate students (without requiring tuition or granting course credits), and raising of funds for UMAPS among interested stakeholders;
4. Development of research experience opportunities for undergraduate students to stimulate research at an early stage in a STEM career;
5. Facilitation of e-learning and distance education programs to support African STI educational efforts;
6. Revision of primary-level curriculum to promote STEM education in African countries, and raising of funds for elementary STEM education via alumni endowments;
7. Reinforcement and strengthening of African diaspora networks to facilitate partnership and collaboration (e.g., coordinate a user-generated human resources databank like LinkedIn);

In the realm of collaborative research:

8. Identification of existing relevant well-established networks in Africa and in the USA to partner together STEM scientists for initiatives and funding;
9. Identification of flagship STEM projects, both short-term (low-hanging fruit) and long-term efforts requiring advanced planning and collaboration with African scientists;
10. Establishment of a funding base to support seed grants for collaborative research in the basic and applied sciences;
11. Forging of sustainable linkages between STEM institutions and collaborators in Africa and STEM institutions and partners outside Africa;

In the realm of infrastructure and instrumentation:

12. Engagement of Diaspora in an effort to aggregate used and new equipment to be shipped to universities in need of them on the continent;
13. Compilation of knowledge based information and data (quantitative and qualitative) for the purposes of informing policy and planning (evidence-based platform);
14. Pooling of collective resources to create shared user hubs for expensive and major instrumentation;

In the realm of communication and outreach:

15. Continuation of the University of Michigan STEM-Africa biennial conferences alternating between Africa and the USA; the interim years to be allocated for accomplishing specific tasks identified at the conferences;
16. Lobbying of key government decision-makers in USA and African countries for improved US-Africa STI shared endeavors;
17. Lobbying of the African Union and African governments to adopt STI as an important developmental instrument;
18. Convening and facilitating an advocacy group (with persons from Africa and USA) to advance action items generated at the STEM-Africa 3rd Biennial conference;
19. Improvement of communication across and among STEM-Africa initiatives to avoid duplication of effort and to improve synergies;
20. Encouragement of links of websites of African universities and research centers to the STEM-Africa Initiative website to make the latter's more visible and useful;
21. Promotion of STI as a means of addressing societal needs and development challenges;
22. Promotion of the pursuit of pure/basic/theoretical science in African STI including outreach into communities in Africa and the USA. A goal is to enhance development of a culture that will broad access to knowledge and maximize expectations for STI use;
23. Call upon international professional societies to support African STI;

In the realm of resource allocation:

24. Encourage appointments of science attachés at African embassies; science advisory boards at African government Executive branches; establishment of Science and Technology committees at legislative branches; and establishment of Science and Technology Commissions at Regional Economic Communities (ECOWAS, ECCAS, EAC, and SADC);
25. Establishment of an African Science and Technology Endowment Fund, to be administered by scientists, for African scientists, with special attention paid to the *needs of women scientists*;
26. Support proper remuneration of African university professors, not only in terms of salary, but in time and resources for research and publication, and opportunities for academic advancement;
27. Improvement of expenditures by African governments on higher education, including use of existing centers of excellence, and discontinuation of under-resourced universities;
28. Promotion of industrial development to include grassroots and simple technologies;
29. Determination and prioritization of what we will do to take advantage of natural resources and human capital in African countries.

In an organizational summary of specific items of the STEM-Africa charter:

WE, the undersigned individuals or agencies, will endeavor to bring about the items above to promote STEM-Africa engagement. These fit into three *general* categories, from the "broadest" to the most specific.

I. NETWORKS - these include many nodes, and are further broken down into "topics".

(A) People / Groups / Agencies (e.g., all the Academies of Sciences, or all the diasporans in a particular subject area or expertise).

(B) Knowledge / Databases / Clearing houses

(C) Physical Resources (e.g., Equipment, Instrumentation, Computers)

II. PARTNERSHIPS - these are smaller in size than networks, and typically involve only two groups (e.g. UM and an African University). To distinguish a network and partnership, MOUs are often written to formalize a partnership, but not necessarily a network. Partnerships involve:

(A) People / Groups / Agencies

(B) Knowledge / Databases / Clearing houses

(C) Physical Resources

III. ACTIVITIES/PROJECTS - an activity might, but does not have to involve a network or a partnership. Individuals could make contributions through an activity or collaborative that fall into two general classes:

(A) Education / Research (e.g., small or large projects, either short-term or long-term).

(B) Advocacy / Policy (including lobbying and "think-tank" expertise)

Compiled and Adopted June 10, 2014 by the ASC STEM-Africa III Conference attendees.

Respectfully submitted,

A. Oveta Fuller, Ph.D. and Nkem Khumbah, Ph.D.
2014-15 Co-coordinators of STEM-Africa Initiative

Kelly Askew, Ph.D., Director



African Studies Center
International Institute
1080 South University Avenue, Suite 3603
University of Michigan
Ann Arbor, Michigan 48109-1106
(734) 615-3027 Ph. 734 936 0996 FAX
asc-contact@umich.edu