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**Strengthening African Higher Education and
Research Systems through E-clustering**

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Introduction

This essay, as its title indicates, is an attempt to show how E-clustering can be used to tap into the vast amount of resources available from African and African-Diaspora institutions of higher education, scholars and researchers. It begins with a review of the three interrelated attributes of E-clustering: (1) the importance of times-technologies—telecommunication, information technology, multimedia, entertainment, and security; (2) the concept of cluster-building; and (3) the cluster strategy. After that, an E-clustering strategy for utilizing African and African-Diaspora institutions of higher education, scholars and researchers is suggested. In the end, conclusions are drawn. Before doing all this, however, it behooves me to note that the scientific notion of “clustering” is not new, although “E-clustering” is.

Scientific clustering emerged as an important statistical application in the early 1980s as researchers studying similarly situated entities employed the Cluster Analysis methodology: a number of techniques that are utilized to create a classification. A clustering method is a multivariate statistical procedure that empirically forms “clusters” or groups of highly similar entities. It starts with a dataset containing information about a sample of entities and attempts to reorganize these entities into relatively homogenous “clusters” or groups (Aldenderfer and Blashfield, 1984:7).

E-clustering, according to Ute Hansen (2004a), is an economic approach based on the concept of “cluster-building.” In this case, an economic cluster initiates the networking of all participants in a value-added chain. The objective is to bundle the potentials and competences for increasing the innovation power and competitiveness of the partners in a cluster. Given Internet technology, even business and government networking in rural areas can obtain a driving force. Internet technologies such as infrastructure, applications, platforms, and broadband can enable the business processes among companies, academic institutions, research institutes and governments to be networked. E-business and E-government/E-administration cause fundamental structural changes of the private and public sectors. Given this reality, there is a need for economic and technology policy. This need is taken into account in E-clustering. The partners in an E-cluster can be networked by processes that are more standardized and so able to be supported by online applications. The E-cluster will require a central infrastructure and services. Knowledge management, E-learning, E-marketplaces, personnel management and E-government will be the main processes and services of an E-cluster.

As a side note, it must be acknowledged that there is some tension between many Africans on the continent and those in the Diaspora due to perceived suspicions. Africans on the continent see their brothers and sisters in the Diaspora having an interest in Africa only for their own self-interests, while those in the Diaspora perceive those on the continent of trying to keep them out because they are afraid of the competition they might present. Whether or not these suspicions are founded, it is now quite obvious that both groups must work together if they are to overcome their marginalization in the global arena. This is the reality that undergirds the renewed calls for a Pan-African Union, the African Renaissance and other initiatives. It is also this reality that underlies this essay.

E-clustering Methodology

In a series of six papers (2004a, 2004b, 2005a, 2005b, 2006a, 2006b), Ute Hansen of the Ministry of Economic Affairs, Employment and Transport of the State of Schleswig-Holstein in the Federal Republic of Germany developed E-clustering as an innovative approach for economic policy. The three interrelated attributes of this approach mentioned earlier are described in the following subsections.

The Importance of Times-technologies for an Innovative Economic Policy

According to Hansen, times-markets comprise a major mechanism for the transformation from industrial to information society. Developing rapidly and causing innovations in all industries, times-technologies can be an accelerator for the economic and technological development of a region. The digitization and networking precipitated by the development of broadband infrastructure and applications can push the convergence of different media: information technology and telecommunications industries. Changing business processes, new integrated value-added chains, different organizational structures and innovative products will spur increased employment and economic growth.

The strategy of an economic and technology policy that focuses on clusters ensures innovation, growth and employment in a region. Times-cluster performs two important functions for the processes of innovation. The first function is that due to cross-function technologies, times-cluster accelerates innovation and, thus, the technological and economic development of the application-clusters like life sciences and tourism. The second function is

that time-cluster itself is an application-cluster. These functions of times-cluster provide a great potential for innovation and growth for a region to become economically competitive and dynamic. The realization of the strategic E-clustering strategy can lead to an interlocking of the regional times-cluster policy and user-cluster policy.

The Cluster-building Concept

Hansen points out that the goal of a policy that is geared towards cluster-building is to support regional networks of competitive and cooperative actors in a cluster. An economic cluster initiates and pushes the networking of all participants in a value-added chain, which are companies, institutions such as universities and research institutes, customers, suppliers, employees, representatives of interest groups, and the public sector. A cluster consists of independent organizations that strive for economic growth and efficiency. In accordance with the concept of cluster-building, it is the intensity of the interaction of the actors, not the individual actors, that has a positive effect on the competitiveness of a regional cluster.

The focus of cluster analysis then is the regional or geographic agglomeration of networked organizations and individuals. Efficiency and specialization are derived because the geographic concentration of firms in internationally successful industries often occurs as the influence of the individual determinants in the “diamond” and their mutual reinforcement are heightened by the close geographic proximity within a region. A concentration of rivals, customers, and suppliers will promote efficiencies and specialization. Even more important is the influence of geographic concentration on improvement and innovation.

The cluster-building concept inherits a new dimension because the innovative time-technologies provide new technological possibilities to support the process of cluster-building. Independent of time and location, the actors of a cluster are able to take part in information, communication and transaction processes with internal and external partners of a cluster. The ability of a cluster to be competitive hinges upon its capacity to digitalize the internal cluster processes and the processes among different clusters. Thus, the competitive advantages of a regional and local cluster-building are enforced by the digitalization of the cluster processes. The concept of local and geographic clustering has to be extended by the E-clustering concept.

A paradox concerning regional clustering and the process of globalization implicitly undergird the E-clustering approach. Since the classical factors of production are now more accessible due to globalization, competitive advantage in advanced industries is increasingly determined by differential knowledge, skills, and rates of innovation that are embodied in skilled people and organizational routines. The development of skills and the important influences on the rate of improvement and innovation have become local. The paradox is that as global competition becomes more open, the home base becomes more, not less, significant.

Processes of knowledge management and learning are increasingly being supported by information and communication technology (ICT). As a result, the competitiveness of a regional cluster in the global market will depend on the extent to which the cluster specific process of knowledge management and learning are standardized and digitized. Employing E-knowledge management and E-learning applications will allow the cluster to concentrate on the cluster specific and regional competitive factors described in the paradox of regional clustering and the process of globalization.

An E-clustering approach of a regional economic and technological policy means, on the one hand, a digitized network of the actors of a process-oriented cluster organization and, on the other hand, a digitized network of different clusters. Consequently, distinction should be made between internal and external processes.

A cluster is characterized by a critical mass of actors in a value-added chain that can be focused on technology, processes, or industries. Thus, E-clusters will yield the following positive effects: (a) accelerate the distribution of knowledge, (b) reduce transaction costs, (c) provide for an infrastructure, (d) produce economies of scale, (e) cause external economies, (f) produce economies of specialization, (g) stimulate competition and cooperation, and (h) enforce the internationalization of the economic and cluster-specific relations.

The focus of a cluster policy then is the potential growth of a regional cluster. The acceleration of the innovation processes fostered by cooperation and competition leads to increased employment and growth in the region. An all-embracing cluster has to take into account and to balance out business, economic, technological, employment and educational objectives in order for a management instrument to be applied that meets these requirements. Robert S. Kaplan and David P. Norton's "balanced scorecard" (1996) is a management instrument that can be applied to delineate a concept for a comprehensive cluster strategy. The

outcome will be a strategic frame for E-clustering that is transferable to all regional cluster initiatives or strategies.

The E-clustering Strategy

Hansen identifies four major characteristics of E-clustering strategy. The first characteristic is the use of a balanced scorecard as a strategic instrument—i.e. a strategic management system that, on the one hand, is appropriate to evaluate a strategy and, on the other hand, has its main function during the realization of the strategy. The balanced scorecard depends strictly on times-supported processes. A cluster organized by these particular processes is imperative for the application of the balanced scorecard to develop a cluster strategy. The balanced scorecard concept is therefore based on the assumption that managers of the public and private sectors have visions and have also developed a mission and a cluster strategy. The process of developing a scorecard proceeds in the following seven stages:

Stage 1: Evaluation of the strategy by taking the vision and mission into account

Stage 2: Deduction of the strategic objectives

Stage 3: Connection of the strategic objectives

Stage 4: Determination of the measured values

Stage 5: Determination of the assigned values

Stage 6: Determination of the strategic activities

Stage 7: Interconnection with the operational planning

The strategic objectives are linked to measured values with a long-term focus. To realize the objectives and measured values, strategic activities must be planned. In addition, milestones that have to ensure the connection between strategy and the operational plan must be specified. Thus, the balanced scorecard must entail a vision, a mission, a strategy, perspectives, objectives, activities, measured values, and a cause-effect-chain.

The second characteristic entails the vision, mission and strategy, which must be integrated into the objectives of the regional economic policy. The goal is to maximize the welfare objectives concerning stability, growth, structure, and distribution. The economic policy

should always be geared towards innovation, growth, and employment. In order to develop the model of a cluster policy, a vision, a mission, and a strategy are needed. The model serves as the starting point for the conception of the E-clustering balanced scorecard. It is the first step in the dynamic strategic process: i.e. the scorecard process. Cluster actors must therefore participate in the scorecard process because all results, like the model, have to be accepted by the whole cluster.

The third characteristic is about the perspectives of an E-cluster, which are needed to establish a balanced system of objectives and measured values that are necessary to develop a comprehensive strategy. An E-cluster in its formative phase should develop five interrelated perspectives. The first is the economic perspective of an E-cluster, which represents the final output produced by all economic cluster activities. The decisive goal is to improve the economic output and, thus, the gross value-added. The second is the partner and cooperation perspective, which is immensely essential for the cluster strategy. The cluster actors, particularly the companies, the universities, the research institutes, and the public institutions, should organize themselves in network and in cooperation in order to bundle and, therefore, increase their potentials and competences. The third is the cluster perspective, which entails the internal and cluster overlapping processes that are critical for the successful market position of the cluster. The collaborative processes are part and parcel of the main E-cluster processes. Innovation, knowledge management, learning and government/public processes are used to illustrate the perspective processes of the cluster strategy. The fourth is the improvement and development perspective, which focuses on activities and measured values that represent, on the one hand, the improvement and development of competencies of the cluster actors and, on the other hand, the optimal application of times-technologies in the cluster processes. This strategic perspective is oriented towards the growth of the cluster because the human capital and the times-technologies are vital motors for innovation. The main processes of the cluster are collaborative processes that can be supported by times-technologies that will generate a benefit for the cluster actors and for the cluster as a whole. These processes include (a) E-innovation in which companies, research institutes, universities, and government participate; (b) E-knowledge management and learning through which the processes and contents of knowledge management and learning are digitized so that the cluster actors could use them on demand at any time and from anywhere; and (c) E-government through which strategies are realized with

the objective to organize public services as processes and to support them with times-technologies. The fifth is the organization and policy perspective which is concerned with the objectives and activities of the cluster management and the cluster policy. During the formative stage of the development of a cluster, it is imperative to integrate the organization and policy perspective in the balanced scorecard.

The final characteristic is the cause-effect-chain, which must be developed because its assumptions concern the perspectives' overlapping effects that must be controlled and evaluated. The objective is to determine whether the assumptions about the effects are valid. The following questions must be raised and probed: How is cooperation influenced by the funding activities of the public sector? Is the influence of the cooperation within the cluster on the innovation processes of a cluster significant? Which effects on the gross value-added and the employment are to be expected? Cause-effect-chains of the balanced scorecard are all based on assumptions concerning the dependencies of objectives and measured values. A controlling and, if necessary, an adaptation of the balanced scorecard are needed to empirically test the assumptions. To produce reliable assertions with the instrument of the cause-effect-chain, statistical methods must be applied.

African and African-Diaspora Education and Research-cluster

What I suggest here is a prototype E-cluster that would enable various educational and research entities/actors in Africa and the African Diaspora manage critical aspects of their operations from a single interface. The African and African-Diaspora Education and Research-cluster, henceforth AADER-cluster, aims to identify some possible solutions to sustain and support education and research in Africa and its Diaspora. Thus, the E-cluster entails tools designed to pull down geographical distances and facilitate information and knowledge sharing. The general key elements are (a) geographical concentration, (b) specialization, (c) multiples actors, and (d) critical mass. The main challenges for the AADER-cluster are globalization and dematerialization, both of which call for radical redefinitions of physical proximity (local or global) and cultural identity (new or old). These developments have created the need for social or indigenous knowledge preservation while at the same being open to internationalization.

I recommend three project steps. The first step is to set up a model of the E-cluster and test it. The second step is to implement the model, and I suggest the use of action research methodology: i.e. research that involves the active participation or inclusion of groups under study (for more on this technique, see, for example, Bangura and McCandless, 2007). The final step is to evaluate the outcomes of the model in order to be able to replicate it in similar circumstances.

As represented in Figure 1, I identify three potential clusters that can be digitized into a network for the AADER-clustering strategy: (1) Institutions of Higher Education, (2) Research Institutes, and (3) Scholars. The following subsections entail descriptions of these clusters.

Institutions of Higher Education Cluster

The Association of African Universities (AAU), the International Association of Universities (IAU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) *Guide to Higher Education in Africa* (2007) entails entries for over 900 institutions of higher education, university and non-university level, in 47 African countries. It provides background information on the countries' educational systems, admissions and graduation requirements or qualifications, and higher education agencies.

As stated earlier, however, in almost every African nation, there is dissatisfaction with the performance of the higher education system. Universities and colleges are characterized by frequently failing administrations, incessant strikes, wage crises, poor standards, and student violence. When the idea of privatizing higher education gained prominence in the mid-1980s, it seemed to be the ideal answer to the malaise that affects the university systems. The idea was quite simple: privatizing academic institutions will lead to efficient and improved academic systems. Privatization is defined as a situation whereby "governments divest themselves of functions by transferring them to private voluntary organizations or allowing them to be performed by the private sector" (Rondinelli et al., 1990:128). Africa's privatization initiatives in higher education are of two types: (1) full privatization, whereby a government provides no funds to an institution; and (2) partial privatization, whereby a government provides part of the funding of an institution and the rest is provided by the private sector. Believers in the free market felt that privatization was the panacea to the dissatisfaction with the performance of Africa's higher education institutions, since it provided a system of free choice in the

educational world analogous to the market system in the economic world. The appeal of privatizing higher education was that the move would encourage competition, which would thereby shake up the educational systems and force them to be more attentive to the diverse needs that the systems should satisfy. In short, privatization appeared to be the economist's ideal answer to a complex question.

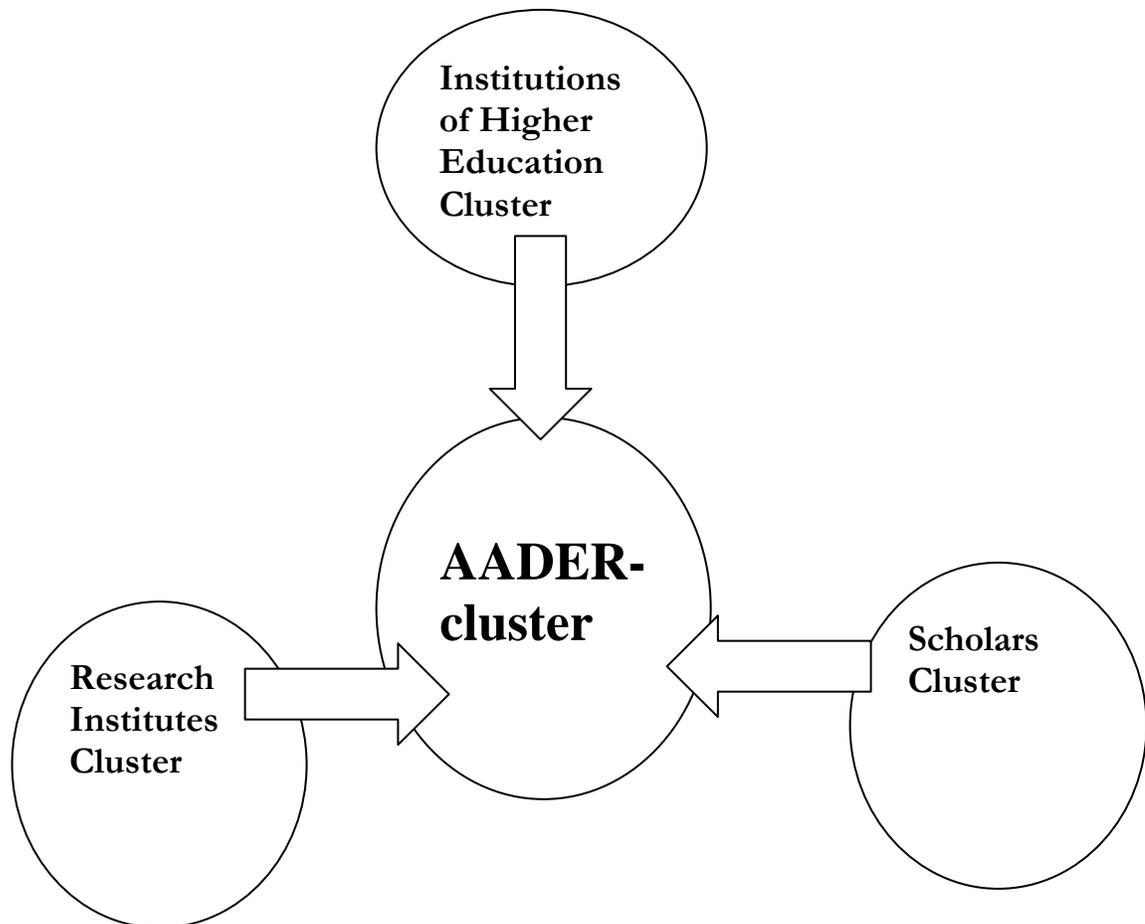


Figure 1: AADER-clustering Strategy

Joel Samoff and Bidemi Carrol (2004a) note that the higher education private sector in Africa is small but growing. In countries where private institutions exist, they include universities, specialty colleges, open universities, distance learning institutions, and more.

Providers of private higher education include religious institutions, private companies, nongovernmental organizations, and extensions and private universities overseas. With a few exceptions, most of the private institutions are teaching institutions specializing in particular fields, and their funding approach focuses on student fees. Some of the overseas institutions that once participated in the launching of African universities are now directly competing with those universities for students and public resources (Samoff and Carrol, 2004a:110-111).

Another major aspect concerning privatization initiatives in Africa's higher education is the role of international financial institutions. In another study by Samoff and Carrol (2004b), they demonstrate the changing agenda and consequences of the World Bank as an example of the role of international financial institutions in Africa's higher education. They note that in the early 1960s, the bank's agenda was clear, as it sought to help Africa develop the specific skills that African countries needed. Human development, couched within the concept of "manpower planning," was to be higher education's major mission. This high priority objective called for the investment of significant public resources in higher education. Within a decade, note Samoff and Carrol, that independence era perspective of the bank began to change. The bank's position was that since university graduates could expect substantial individual personal benefits, public expenditures on higher education, particularly student accommodation, meals, transport, and stipend, investment in higher education was not a contribution to national development but a misdirection of resources. Employing rate of return analysis as the assessment tool of choice, the bank showed that African societies could benefit more by investing in basic education. The agenda pushed was for universities and other institutions of higher education to reduce per-student costs, substantially increase student fees, and privatize. By the 1990s, Samoff and Carrol point out, severe deterioration of higher education institutions, African insistence on a holistic perspective to the development of the education sector, and fascination with the knowledge era all combined to force another policy reversal. The new agenda insists that student fees and privatization should continue, but notes that since knowledge has emerged as the most important factor of production, higher education has a special role and once again should receive significant public support and funding. As dependence has become a fact of life for many African countries, these nations' universities are scrambling to fit the new agenda and secure the resources with it and at the same time seek to preserve some autonomy of action in the face of strong national and international constraints.

But the privatization schemes have met storms of protest from inside and outside the establishments all across Africa. Professors view it as a way of union busting, administrators are afraid that they would lose control over budgets and appointments, and students whose parents cannot afford to pay college tuition are afraid of being left to relatively deteriorating academic institutions. Moreover, while privatization provides freedom of choice, it also destroys the egalitarian principles of education since rich parents could send their children to more expensive schools while poor parents could not. Consequently, the simple economics of the privatization schemes have been placed in direct confrontation with the political economy of the higher education systems, reflecting vested interests and views of groups that saw their values threatened.

Still, in the face of widespread opposition, the idea of privatization has persisted and has led African governments to embrace it. Nonetheless, since higher education systems usually are intransigent in their opposition, governments have found it difficult to implement the idea fully. Thus, whether one evaluates privatization of higher education in Africa as a success or a failure, it will show how the simple economics of choice applied to an institutional structure can be modified by the realities of political economy, in which vested interests alter the way the market is permitted to work.

In essence, under a system of educational privatization, competition will cause a larger variety of educational environments to exist. If public universities and colleges are allowed to co-exist with private academic institutions, public institutions would have to provide services of equal quality to those of private ones. Not surprisingly, officials of public institutions have routinely fought the implementation of privatization systems.

Furthermore, several major aspects account for the undercurrent of globalization and internationalization in Africa's higher education. To begin with, the theoretical and policy implications of globalization in the continent's higher education systems require a broader context in investigating the educational and development goals of the various states. This means that analysts must go beyond the narrow market perspective and factor in the broadest socio-cultural and political dimensions of the phenomenon. Next, even though proponents of globalization and structural adjustment programs (SAPs) continue to insist on a minimal state, Africans must be equally united in insisting on their relevance in shaping and providing the contexts for social development. Moreover, Africans must realize that development continues to

be a contested process; thus, they must be united in insisting that the implicit proposition of homogenizing both policy and outcomes within globalization is untenable.

A higher education cluster will promote inter-exchange, contact and cooperation among higher education institutions in Africa and its Diaspora; collect, classify and disseminate information on higher education and research; promote cooperation among academic institutions in curriculum development and in the determination of equivalent degrees; encourage increased contacts between Africans and the international academic world; study and make known the educational and related needs of African institutions and, as far as possible, to coordinate the means whereby those needs may be met; encourage the development of wider use of African languages; and organize, encourage and support seminars and conferences among African faculty members, administrators, students and others dealing with problems of higher education in the continent and the Diaspora. In essence, this cluster will serve as the apex and principal means for consultation, exchange of information and cooperation among the universities and other higher education institutions in Africa and its Diaspora. The major question here then is the following: What are the potentials of the African-Diaspora institutions of higher education?

The potential for strong academic collaboration between African institutions of higher education and their counterparts in the African Diaspora hinges on Historically Black Colleges and Universities (HBCUs). These are institutions founded primarily for the education of African Americans, although their charters were not exclusionary. Most HBCUs are 50 to 100 years old; the oldest HBCU dates back to 1837. Of the 105 HBCUs, 17 have land-grant status. About 214,000 or 16 percent of all African American higher education students in the United States are enrolled at HBCUs, which comprise three percent of all colleges and universities nation-wide (US Department of the Interior, 2010). As shown in Table 1, a majority of the HBCUs are four-year public and private institutions.

Table 1: Summary of Interesting Facts About HBCUs

Type of Institution	No. of Institutions Per Type	Percent of Total HBCUs
4-Year Public	40	38.09%
4-Year Private	49	46.66%
2-Year Public	11	10.48%
2-Year Private	5	4.76%
Total	105	100%

Source: US Department of the Interior, 2010.

Of the 105 HBCU institutions in America today, 27 offer doctoral programs and 52 provide graduate degree programs at the Master’s level. At the undergraduate level, 83 of the HBCUs offer a Bachelor’s degree program and 38 of these schools offer associate degrees (American School Search, 2010).

HBCUs enjoy a presidential executive order that was inaugurated in 1980 by President Jimmy Carter when he signed Executive Order 12232, which established a federal program “... to overcome the effects of discriminatory treatment and to strengthen and expand the capacity of historically black colleges and universities to provide quality education.” The order has been reauthorized by every President since Jimmy Carter. By the authority vested in the President by the Constitution and the laws of the United States of America, the order was initiated to advance the development of the nation’s full human potential and to advance equal opportunity in higher education, strengthen the capacity of HBCUs to provide the highest quality education, increase opportunities for these institutions to participate in and benefit from Federal programs, and ensure that the United States has the highest proportion of college graduates in the world by the year 2020 (The White House. 2010).

There is established in the Department of Education the President's Board of Advisors on Historically Black Colleges and Universities (the Board). The Board consists of 25 members appointed by the President, who also designates one member of the Board to serve as Chair, who in turn coordinates with the Executive Director to convene meetings and help direct the work of the Board. The Board includes representatives of a variety of sectors, including philanthropy, education, business, finance, entrepreneurship, innovation, and private foundations, as well as sitting HBCU presidents (The White House, 2010).

The Initiative works with executive departments, agencies, and offices, the private sector, educational associations, philanthropic organizations, and other partners to increase the capacity of HBCUs to provide the highest-quality education to a greater number of students, and to take advantage of these institutions' capabilities in serving the nation's needs through five core tasks (The White House. 2010):

- (1) strengthening the capacity of HBCUs to participate in Federal programs;
- (2) fostering enduring private-sector initiatives and public-private partnerships while promoting specific areas and centers of academic research and programmatic excellence throughout all HBCUs;
- (3) improving the availability, dissemination, and quality of information concerning HBCUs to inform public policy and practice;
- (4) sharing administrative and programmatic practices within the HBCU community for the benefit of all; and
- (5) exploring new ways of improving the relationship between the Federal Government and HBCUs.

Each executive department and agency designated by the Secretary of Education prepares an annual plan of its efforts to strengthen the capacity of HBCUs through increased participation in appropriate Federal programs and initiatives. Where appropriate, each agency plan addresses, among other things, the agency's proposed efforts to:

(a) establish how the department or agency intends to increase the capacity of HBCUs to compete effectively for grants, contracts, or cooperative agreements and to encourage HBCUs to participate in Federal programs;

(b) identify Federal programs and initiatives in which HBCUs may be either underserved or underused as national resources, and improve HBCUs' participation therein; and

(c) encourage public-sector, private-sector, and community involvement in improving the overall capacity of HBCUs.

Many HBCUs have established collaborative programs with institutions of higher education in Africa. For example, in 1980, Lincoln University (LU) established an International Programs Office (IPO). With this office in place, LU confirmed its determination to play an increasingly important role in international development. Through two consecutive United States presidential appointments, Dr. Wendell G. Rayburn, Past President of Lincoln University, served as a member of the Board for International Food and Agricultural Development and Economic Cooperation (BIFADEEC); this organization assists the United States Agency for International Development (USAID) administrator in carrying out the title XII mission of the Agency (Lincoln University, 2010).

LU's permanent faculty members are involved in many international projects. One of LU's agronomists served as the Chief of Party for a major USAID Natural Resource Management project in Uganda and prior to that served with USAID/REDSO/ESA in Nairobi, Kenya as a natural resource/agronomy advisor for the entire region and Chief of Party in Guinea. LU was the lead institution for two concurrent ongoing multi-million dollar USAID projects in Malawi, East Africa, with the University of Malawi's Bunda College of Agriculture. One was in the area of human nutrition and animal science, and the other to establish the Agricultural Sector Policy Unit at Bunda. LU continues to collaborate with the University of Missouri in their linkage activities involving the University of Western Cape in South Africa. Lincoln along with three other HBCUs is partnered with ACIDI/VOCA on a Worldwide Farmer to Farmer program with the greatest concentration in the Greater Horn of Africa. LU is involved in a long-term project with University of Minnesota in Senegal in the area of horticultural commodities trade with the United States. This project is a part of USAID's continent wide

Trade and Investment Policy Program (ATRIP). LU has just concluded a four-year, multi-million dollar USAID project in Egypt with the Midwest Universities Consortium for International Activities (MUCIA), led by the University of Illinois. This Cooperative Agreement for the Institutional Linkages Activity (ILA) of the Agricultural Exports and Rural Income (AERI) project partner institutions, included Purdue University, The Ohio State University, University of Minnesota, University of Florida, Lincoln University, and Chemonics International, in addition to several Egyptian and European institutions. The project strengthened public/private international relations, assisted Egyptian universities with graduate capacity building and also included a biotechnology component (Lincoln University, 2010).

Since its inception, LU's IPO has brought and conducted non-AID type development opportunities involving the university, including Workshop in Agribusiness Management in the Caribbean, funded by the United Nations Development Program (UNDP), the Organization of American States (OAS), and the Caribbean Development Bank (CDB); Grain Consumption and Preparation in Upper Volta, funded by the Center for Women in Development of South East Consortium for International Development (SECID); Growth of External Debt of Selected Caribbean Basin Countries and its implication for U.S. Trade in Farm Products, funded by the United States Department of Agriculture (USDA); and training of Women Leaders in Cooperative and Business Management from Zimbabwe funded by USIA and administered by IIE (Lincoln University, 2010).

LU has a strong involvement in participant training. Over the past several years, LU has trained more than 800 international participants both long- and short-term in public administration, agriculture, natural resources, farm cooperatives, private sector development, electric cooperative, and many other areas of human endeavors. Through its International Programs activities, the university has brought participants involving USAID/Reimbursable Training Program (RTP) Nigerian Task Force and the Technical Teacher Training Program (TTTP); the Phelps Stokes Fund for African Paramedics Training (APT) and the Southern African Manpower Development Assistance Program (SAMDAP); the Presidential Training Initiatives for the Island Caribbean (PTIIC), the Central American Peace Scholarship (CAPS), Andean Peace Scholarship (APS) and others. LU has been training people from various countries in private sector development including AID participants from Bolivia, Peru, Costa

Rica, and several other African countries. The International Programs Office was awarded a short-term training program in the area of public administration for several high level governmental officials from Slovakia charged with the task of decentralizing the Slovak government (Lincoln University, 2010).

Since its inception, LU has been involved with the Cochran Middle Income Country (MIC) training program administered by USDA/OICD. Through the MIC program, Lincoln has provided short-term (1-12 weeks) custom-tailored training for professionals from China, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Kenya, Madagascar, Morocco, Tunisia, Nigeria, Uganda, South Africa, Tanzania, Malaysia, Korea, Taiwan, Hong Kong, India, Pakistan, Vietnam, Bangladesh, Thailand, Oman, Turkey, Yemen, Poland, Albania, Belarus, Slovakia, the Czech Republic, former Yugoslavia, Armenia, Bosnia, Herzegovina, Croatia, Georgia, Lithuania, Moldova, Slovenia, Bulgaria, Ukraine, Russia, Kyrgyzstan, Uzbekistan, Turkmenistan, Kazakhstan, Tajikistan, Mexico, Costa Rica, Colombia, Honduras, Peru, Bolivia, Venezuela, the Dominican Republic, Haiti, and Trinidad and Tobago. LU also has been providing solicited and unsolicited custom tailored short-term training programs for various USAID missions worldwide, including a recent collaboration with USDA for the training of a high level Nigerian Agricultural Ministry team (Lincoln University, 2010).

In August of 2007, LU hosted its first USDA/FAS/Norman F. Borlaug International Agricultural Sciences and Technology Fellow from Bahrain. A second fellow from Egypt arrived in early 2008 (Lincoln University, 2010).

LU faculty members are encouraged to incorporate an international dimension into their teaching and research, and administrative policies and procedures are in place to support this mission. Time spent on overseas assignments is regarded as time spent in residence, and is cumulative toward the length of service in granting leaves and in promotion and tenure considerations (Lincoln University, 2010).

Another example worth noting is the African Higher Education Partnership Initiative (AHEPI), an initiative of the African Studies Center at Michigan State University (MSU). Building on several initiatives in 1998, AHEPI was initiated at MSU in the summer of 1999 in response to what the faculty perceived as a series of crises undermining African higher education institutions and the urgent need to use partnerships with those institutions far more strategically. In order to firm up the initiative, during the summer of 2000, some MSU

professors consulted higher education institutions and organizations in Africa, initially in Ghana, Nigeria, Senegal, Ethiopia, South Africa, Tanzania, and Zimbabwe. They also attended the UNESCO-sponsored World Higher Education Conference. In 2000-2002, a series of roundtables, lectures, discussions, and conversations with visiting scholars and administrators were organized to discuss the needs of African universities and what should be the response of foreign partners (African Studies Center at Michigan State University, 2010).

The major goal of AHEPI is to strengthen African universities and their partnerships with MSU. The initiative's premise is that the world needs strong African universities, research institutes, and technical institutions to attend to the pressing indigenous problems of poverty, disease, governance, and conflict, to innovatively address issues on the continent with African and global knowledge, and to make Africa's unique contributions on the world stage to the world's pressing global issues and research literatures. Since 1998, the MSU faculty has acted on the conviction that the first agenda for scholars of Africa in the wealthier nations should be to develop serious partnerships with African scholars and institutions and to understand better how foreign partner institutions should most productively link to African tertiary education institutions (TEIs) to our mutual benefit in this decade (African Studies Center at Michigan State University, 2010).

The Caribbean with its 56 colleges and universities (Career Orientation On-Line Rotary, 2010) offers another potential for African higher education linkages. For example, the University of the Virgin Islands' Historically Black Colleges and University Undergraduate Program (HBCU-UP) supports science, technology, engineering and mathematics (STEM) excellence by providing mentoring and funding for undergraduates for STEM research during the academic year. As part of the service learning experience, HBCU-UP Scholars serve as peer tutors to support science and math enrichment. Scholars supported by HBCU-UP must be interested in a career in research in science, mathematics, engineering or technology, work closely with faculty mentors, and have specific responsibilities. The HBCU-UP is funded by the National Science Foundation (University of the Virgin Islands, 2010).

Research Institutes Cluster

The United Nations University Web site lists entries for only two regional research institutions, six research institutes, and 14 research universities in Africa, 17 research institutions engaged in research on Africa located in the United States and Europe, but more than 100 useful research sites, numerous United Nations Africa links, and equally numerous interesting African sites and international agencies that are also engaged in some forms of research on Africa (<http://www.unu.edu/africa/00internet.html>). A Google search yielded about 12,400,000 hits for United States institutes and other organizations engaged in African research, about 226,000 hits for those in the Caribbean, and 873,000 for those in Europe.

A research institutes cluster will promote inter-exchange, contact and cooperation among researchers in Africa and its Diaspora; collect, classify and disseminate information on research; promote cooperation among research institutions; encourage increased contacts between African and African-Diaspora researchers and the international research world; study and make known the research and related needs of African and African-Diaspora research institutions and, as far as possible, to coordinate the means whereby those needs may be met; encourage the development of wider use of African languages; and organize, encourage and support seminars and conferences among African and African-Diaspora researchers. In essence, this cluster will serve as the apex and principal means for consultation, exchange of information and cooperation among research institutions in Africa and its Diaspora. The following paragraphs provide examples of a few collaborative research endeavors between researchers in Africa and the Diaspora.

The West African Research Association (WARA) seeks to enhance United States and West African scholarship and increase interest in international affairs among Americans through a reciprocal program of research exchange between American and West African scholars and institutions. The WARA was founded in 1989, for the purpose of promoting scholarly exchange and collaboration between American and West African researchers. Its stated objectives are to (West African Research Association, 2010):

(a) provide United States and West African scholars access to research resources and expand research opportunities;

(b) create a point of contact for United States and West African researchers, allowing the intersection of their respective research traditions;

(c) foster collaborative research efforts, conferences and projects;

(d) reinforce institutions on both sides of the Atlantic to supplement documentation resources and award fellowships to American and West African scholars;

(e) encourage interest in international affairs and careers among American graduate students; and

(f) disseminate information on West Africa-related research issues and periodically organize meaningful and landmark seminars, symposia and conferences when experts and researchers and creative artists and thinkers from different horizons and backgrounds can meet and exchange fruitfully ideas, preoccupations, research results and stimulating thinking.

Prior to its founding, no other institution of its kind had existed in Sub-Saharan Africa. The Council of American Overseas Research Centers (CAORC), with the help of a grant from the Smithsonian Institution, hosted the first meeting of African and American scholars to establish objectives for the association. CAORC groups under its umbrella within the Smithsonian Institute fifteen American overseas research centers around the world. WARA, the only such center located in Africa South of the Sahara, is the newest addition to this umbrella (West African Research Association, 2010).

WARA is a member of the Council of American Overseas Research Centers, and is now included in the ECA/CAORC annual grant (since September 1999). WARA has also been accorded membership in the Association of African Studies Programs (AASP), and is now recognized as a bona fide affiliated member of the African Studies Association (ASA), thereby linking it with mainstream organizations dedicated to the development of African area studies and research exchanges with Sub-Saharan Africa. WARA programs complement the efforts of the 15 National Resource Centers (NRC) for African Language and Area Studies (Title VI Centers) to improve the cross-cultural learning of students and faculty in the United States through study in Africa and they partially satisfy the NRC's concern for the paucity of quality overseas study programs umbrella (West African Research Association, 2010).

WARA's overseas office, the West African Research Center (WARC) in Dakar, Senegal, provides an institutional presence and lends continuity and stability to programs sponsored by

postsecondary United States institutions. The overseas center and its programs create a point of contact for United States and West African researchers, encourage the intersection of respective research traditions, and foster collaborative research efforts. WARA seeks to reinforce institutions on both sides of the Atlantic, supplement documentation resources in West Africa and make available to United States scholars West African research data and primary documents by assisting in the introduction of West African librarians to online delivery services and the Internet umbrella (West African Research Association, 2010).

WARA fellowships and internships funded by grants from the United States Department of Education have made it possible for under-served categories of educators and students to experience professional exchanges and carry out research projects in West Africa. Thanks to the recent inclusion under the ECA/CAORC funding umbrella, WARA has now been able to hire a fulltime highly qualified long-term Center director, and also start a very promising collaborative Researchers-in-Residence Fellowship Program involving West African and United States scholars. A new Travel Grant Program for West African scholars attending international meetings in their fields in the United States has also been instituted. Other equally stimulating regional programs and activities are also on the drawing board. Moreover, the long-term benefits to national interests in the areas of business and foreign policy accrue by developing a close awareness of the societies in which Americans operate. WARA programs and overseas center provide effective institutional linkages between the American public and West African communities umbrella (West African Research Association, 2010).

Through its by-laws, WARA has established a Board of Directors composed of representatives elected by institutions and representatives elected by the general membership. Their role is to assure that the WARA mandate is fulfilled. The directors elect officers to oversee program operations and manage association memberships. The officers, in close cooperation with the overseas center director, are charged with the coordination and execution of programs taking place in the United States and in West Africa. The WARA secretariat, headquartered at the University of Wisconsin since January of 1997, manages the recruitment and administration of a rapidly increasing United States membership, and disseminates information through the bi-annual publication of the WARA Newsletter. The United States WARA secretariat remains in constant communication with the Dakar Center, at all times umbrella (West African Research Association, 2010).

In 1992, the Senegalese government provided a site for the establishment of the association's overseas research center, the West African Research Center (WARC), in Dakar. The center opened, officially, in January of 1994 and its directors have been funded by the United States Information Agency (USIA) through the Fulbright-Hays scholar award program. The overseas center, under the leadership of its initial directors, Dr. Eileen Julien and Dr. Leigh Swigart and the WARA board, has moved quickly to establish itself as a regional research center of excellence in West Africa. The Center director is now Dr. Wendy Wilson-Fall, an Anthropologist by training with a strong research involvement in the West African sub-region as a whole (Nigeria, Niger, Burkina Faso, Senegal, and Mali). WARA has relocated its Research Center (WARC/CROA) to a permanent and much more spacious and functional premises at Fann Residence, near the Université Cheikh Anta Diop, in Dakar since early September of 1997. Just as for the earlier temporary premises, these permanent premises of 15 rooms and dependencies were made available to WARA/WARC through a decision from the Office of former President Abdou Diouf of Senegal. This means more adequate space for the library of more than 10,000 volumes and for the installation of electronic equipment obtained through a joint WARA/MSU (Michigan State University)/USIA grant umbrella (West African Research Association, 2010).

In 2003, the African Society of Human Genetics (AfSHG) was established. The aim of AfSHG is to equip the African scientific community and policy-makers with the information and practical knowledge they need to contribute to the field of genetics research and to attract global attention to the efforts of African scientists. An important goal of this organization is to provide opportunities for networking and collaboration among professionals working on genetic and genomic issues relevant to Africa. By achieving these goals, AfSHG will help diminish the widening gap between Africa and the Western world in biomedical science (Rotimi, 2004).

The inaugural conference of AfSHG was held on December 8-12, 2003 in Accra, Ghana. The theme for the meeting was "Biomedical Research in Africa with Emphasis on Genetics." The meeting began with a review of socioeconomic and health conditions on the African continent. The importance of current realities for building a strong foundation for developing genetics and genomics in Africa was considered. Genomic variation in the African Diaspora was explored with attention to understanding the differential distribution of diseases, including

malaria, tuberculosis, AIDS, diabetes, hypertension and cancer. Challenges surrounding the design and implementation of the only biobank in Africa, The Gambia National DNA Collections, were described. Current and potential applications of bioinformatics for the expansion of genetics and genomic research in Africa were reviewed. Gene-environment interaction and its impact on the distribution of common complex diseases in Africa and the African Diaspora were critically assessed. Ethical issues surrounding voluntary participation and informed consent in genetic research conducted in African settings and the current status of bioethics in medical education were discussed (Rotimi, 2004).

Membership in AfSHG is open to any individual who is interested in issues of human genetics in Africa, including, but not limited to, education, clinical care, research, public health, ethics, law and policy. The field of genetics represents a continually expanding global enterprise. Successful international application of scientific and technological knowledge associated with genetics depends on cooperative arrangements between professionals living in diverse African countries and between Africans and their counterparts residing in other areas of the world. Collaborative partnerships in genomics and genetics will contribute greatly to promoting a sustained commitment to the development of the field of genetics in Africa. AfSHG envisions itself as the organization that will be a driving force in building a strong foundation for scientists and scholars working in genomics and genetics issues in Africa. Information on the AfSHG is available at <http://www.afshg.org/> (Rotimi, 2004).

The African Diaspora Archaeology Network (ADAN) provides a focal point for archaeological and interdisciplinary studies of the African Diaspora, with news, current research, information and links to other Web resources related to the archaeology and history of descendants of African peoples. Through this engagement with the African Diaspora, the ADAN seeks to connect an intellectual community that considers the historical processes of culture, economics, gender, power, and racialization operating within and upon African descendant communities (African Diaspora Archaeology Network, 2010).

The ADAN publishes a quarterly online Newsletter, with essays, analytical papers, project reports, announcements, book reviews, and news updates that serve a readership of several thousand stakeholders, researchers, and educators across the globe. One can navigate within the organization's Web site by clicking on the subjects on the world map displayed at the top of each menu page. In addition to the many collaborating researchers who participate in this

network, this Internet resource and quarterly Newsletter are edited by Chris Fennell and hosted by the Department of African American Studies and the Department of Anthropology at the University of Illinois in Urbana-Champaign (African Diaspora Archaeology Network, 2010).

Scholars Cluster

The discourse on the limited availability of African scholars in the continent centers on what has been characterized as “brain drain.” In the absence of methodologically grounded findings on the topic of “brain drain,” however, I am beginning to wonder whether we have uncritically accepted a concept that is lacking scientific import. “Brain drain” from one country to another typically, albeit not exclusively, is perceived to be from the developing to the developed country. In a small number of cases in which the flow is from one developed country to another, it is said to be the consequence of the immigrant’s inability to maximize his/her economic potential in his home country. And in another small number of cases where the flow is from a developed to a developing country, it is said to be driven by a missionary impulse to aid the developing nation.

The major empirical studies on “brain drain” of which I am aware are those by Gould and Findlay (1994), Choi (1995), Cao (1996), Johnson and Regets (1998), and Carrington and Detragiache (1999). From these works, which lack methodological rigor, two major findings emerge. The first of these findings is that the education of the immigrant plays a major role in the immigration decision. The largest group of immigrants in these studies came with secondary education from other North American countries; the second largest group consisted of highly educated immigrants from Asia and the Pacific, with those from the Philippines being the largest in the latter group. The same is then said of immigrants from Africa.

The problem with these works is that they are marred by a serious methodological shortcoming: i.e. a large number of the estimates are based on missing data. Thus, much serious empirical work is needed before a definitive statement can be made about “brain drain.”

The second major finding proffers a “brain circulation.” These works suggest that many foreign-born scholars return home after finishing their education or engage in a cycle of work abroad. These works also suffer from serious methodological shortcomings. To begin with, the survey samples are comprised of foreign-born scientists and engineers. Next, of the half of all

foreign doctoral students who are estimated to leave the United States after obtaining their degrees, the percentage is not uniform among the countries of origin. Also, the exact percentage is not provided for those who are estimated to network with their counterparts back home. Nonetheless, based on my knowledge, experience and own work in the United States and on the continent, and the amount of remittances Africans in the Diaspora send to Africa, especially during crises situations, which now range in billions of dollars, I am more convinced of the “brain circulation” perspective.

In the case of Africa, Damtew Teferra’s essay, while also lacking in methodological rigor and also by now a bit dated, has some interesting findings, albeit anecdotal. The following paragraphs entail synopses of the findings from his study. To begin with, Teferra notes that although data for Africa are very scanty, available sources show that the figure for immigrant scholars and those who stay on is very high compared to the small critical mass of its trained and qualified scholars. Britain alone, he points out, hosts over 8,000 recent Somali refugees, many of whom are businessmen and academics. A 1985 World Bank report, he adds, reveals that more than 70,000 trained Africans have chosen to remain in Europe; in the United States, about half that figure may also have stayed in the country (Teferra, 1997).

According to Teferra, due to its huge higher education system, scholarship opportunities, and less stringent immigration policies, the United States has been a more attractive market to pursue scholarship compared to other Western countries. The United States also still has a more favorable immigration policy for trained professionals. This atmosphere contrasts with the fact that opportunities for higher education, especially graduate studies, are quite limited and fiercely competitive in Africa. One therefore continues to see a steady flow of African immigrants to the United States in pursuit of academic excellence. Teferra notes that in the 1986/1987 academic year alone, more than 31,000 African students traveled to the United States: 48.2 percent were from West Africa, 20.9 percent from East Africa, 17.3 percent from North Africa, and 16 percent from Southern Africa. Nigeria, Egypt, South Africa, Ethiopia, Kenya and Liberia were the leading African nations sending students to the United States from the 1960s to the 1990s. In the 1987/1988 academic year, approximately 41 percent of African students were enrolled in graduate programs and 55 percent in undergraduate programs (Teferra, 1999).

Drawing from many sources and his own personal observation, Teferra opines that most African scholars and students prefer to stay in the United States rather than other Western countries. He points out that in Addis Ababa University, Ethiopia, where he worked for over ten years, for example, of about 20 faculty members from the Physics Department who left for doctoral studies, none returned. This is in contrast with almost all those who studied in Europe, the old Eastern Bloc, and Scandinavia that returned. Teferra adds that the Mathematics Department at the university also suffered from the same problem and had to recruit fresh graduates almost every year. These trends, he believes, correspond quite well with the general perception that immigrant scholars with science backgrounds have better job opportunities in the American market than do their counterparts in the humanities and the social sciences (Teferra, 1999).

Concerning “brain drain” within Africa itself, Teferra says that the flow of scholars from one developing country to another is not considered “brain drain” in the accepted sense. Instead, it is considered a sign of solidarity, cooperation, and collaboration among developing countries. He points out that many African scholars work across their borders to meet the need for professionals in many African institutions. He observes that the preference of recruiting professionals from abroad in most African institutions is changing in favor of African scholars for social, economic, cultural and scientific reasons (Teferra, 1999).

In terms of the socio-cultural setting, Teferra asserts that African scholars are better able to adapt and work within the continent where the socio-cultural realities are quite similar in many countries. He believes that this may also be the case with Muslims who travel across the continent into the Middle East. In terms of scientific approaches, Teferra is of the opinion that African-trained scholars live with the underlying problems of the continent; this gives them a competitive advantage over other scholars in approaching, assessing, and solving problems. He notes that many problems in Africa are common and interrelated; thus, well-informed, experienced and indigenous scholarship is imperative for sustainable socioeconomic development. Hence, it has now become evident to African institutions that many overseas consultants, especially from the West, who are usually on short-term contracts, are short-sighted when it comes to the complex social, cultural, political and economic as well as regional and local realities of Africa. And in terms of economic benefits, Teferra posits that many African scholars value the opportunity of working abroad in areas of their expertise, which usually

comes with good financial remunerations. But, still, he points out, the cost of employing these scholars is often lower for the recruiting institutions than employing their Western counterparts. He makes the point that Western scholars have become so expensive that even buying round-trip tickets for external examiners has become taxing for most African institutions. Nonetheless, Teferra also notes that the movement of scholars within the continent has its downside as well. For example, he points out that the massive outflow in some countries of Southern Africa has reached such staggering proportions that it has caused severe shortages of personnel. Zambia, Malawi and Zimbabwe have had a flood of scholars to Botswana, South Africa, Swaziland and Namibia, creating severe shortages in the former countries (Teferra, 1999).

Concerning efforts to halt the “brain drain,” Teferra mentions various national, regional and international efforts that have been launched. He cites a prominent international initiative launched by the United Nations Development Program (UNDP) and the International Organization for Migration (IOM) geared toward attracting African scholars who are resident in the United States to work in Africa. He notes that through the Transfer of Knowledge through Expatriate Nationals (TOKTEN) program, the UNDP recruited many professionals including Africans in developed countries to volunteer their services for short, well-prepared consultancy assignments in their countries of origin. A number of African governments, he adds, have also taken measures to attract their scholars living abroad by providing them free housing, duty-free status, and other benefits. He further points out that some ill-advised national initiatives such as strict regulations hindering the exodus of scholars and students in order to curb the “brain drain” have had adverse effects, as they end up discouraging potential returnees (Teferra, 1999).

Teferra concludes by recommending that African governments should wholeheartedly embrace the fact that scholars are the core of development, self-reliance, and sustainability. He adds that this fact should be accompanied by the commitment of more resources and autonomy, responsibility, academic freedom, and good working facilities, not only to encourage those scholars abroad to return but also to discourage those at home from leaving. This, he believes, will ultimately strengthen nation-building capacity in Africa (Teferra, 1999).

A scholars cluster will promote inter-exchange, contact and cooperation among African and non-African scholars in Africa and its Diaspora; collect, classify and disseminate information on scholars; promote cooperation among academic institutions; encourage

increased contacts between African and African-Diaspora scholars and the global educational world; study and make known the faculty and related needs of African and African-Diaspora academic institutions and, as far as possible, to coordinate the means whereby those needs may be met; encourage the development of wider use of African languages; and organize, encourage and support seminars and conferences among African and African-Diaspora scholars. In essence, this cluster will serve as another apex and principal means for consultation, exchange of information and cooperation among academic institutions in Africa and its Diaspora.

The potential for research linkages in the African Diaspora is tremendous as Black populations in various Diaspora regions are undergoing a cultural and civil rights awakening. Leading these movements is a new breed of African-centered scholars. And as we can recall, it was African-Diaspora scholars, particularly those in the Caribbean and the United States such as Henry Sylvester-Williams, Edward Wilmot Blyden, George Padmore, C. L. R. James, W. E. B. Du Bois and Walter Rodney, who ushered the concept and movement of Pan-Africanism that attracted continental African intellectuals and leaders such as Kwame Nkrumah, Ahmed Sékou Touré, Julius Nyerere, Jomo Kenyata, Patrice Lumumba, Gamal Abdel Naser, Kenneth Kauda, Robert M. Sobukew, Amilcar Cabral, and many others to struggle for the liberation and assertion of Africa. Today, we see Diaspora African leaders like Hugo Chavez of Venezuela taking up the mantle for the revival of the Pan-African agenda.

In the Caribbean, as I have demonstrated elsewhere (Bangura, 2007), since an overwhelming majority of Caribbean countries' populations are African and mixed African and other ethnic Caribbeans, ranging from 18.9 percent in Puerto Rico to 100 percent in Anguila (see Table 2), they represent a great potential for scholarly collaboration.

Table 2: Population Estimates, 2005

Country or Colonized Territory	Estimated Total Country Population	Percent of Population African	Percent of Population Mixed African and Other(s)
Anguilla	13,254	100.0%	---

Antigua and Barbuda	68,722	91.3%	2.4%
Aruba	71,566	83.7%	----
Bahamas	301,790	85.0%	----
Barbados	279,254	90.0%	6.0%
Belize	279,457	24.9%	----
Bermuda	65,365	58.0%	----
Cayman Islands	44,270	20.0%	40.0%
Cuba	11,346,670	11.0%	51.0%
Dominica	69,029	89.2%	----
Dominican Republic	8,950,034	11.0%	73.0%
Grenada	89,502	82.0%	13.0%
Guadeloupe	448,713	90.0%	----
Guyana	438,144	10.0%	31.0%
Haiti	8,121,622	95.0%	4.0%
Jamaica	2,731,832	90.9%	7.3%
Martinique	432,900	90.0%	----
Montserrat	9,349	90.0%	----
Netherlands Antilles	219,958	85.0%	----
Puerto Rico	3,916,632	8.0%	10.9%
Saint Kitts and Nevis	38,958	95.0%	----
Saint Lucia	166,312	90.0%	6.0%

Saint Vincent and The Grenadines	117,534	77.4%	19.0%
Surinam	756,283	36.0%	7.0%
Trinidad and Tobago	1,088,644	39.5%	18.4%
Turks and Cacois Islands	20,556	90.0%	----
Virgin Islands, British	22,643	83.0%	----
Virgin Islands, United States	108,708	78.0%	9.9%

Source: Bangura, 2007:18-19).

As I have also demonstrated (Bangura, 2007), a great deal of African language varieties (ALVs) are still alive in the Caribbean as shown in Table 3.

Table 3: African Language Varieties Spoken by Country

Country or Colonized Territory	African Language Varieties
Anguilla	African-English Creole
Antigua and Barbuda	African-English Creole
Aruba	Papiamentu/u
Bahamas	African-English Creole Haitian African-French Creole/Kweyol
Barbados	African-English Creole/Patois

Belize	Garifuna African-English Creole/Kriol
Bermuda	African-English Creole/Slanguage
Cayman Islands	African-English Creole/Patois
Cuba	Yoruba Haitian African-French Creole/Kweyol Arará Congo/Bantu Abakwa/Ñañigos Jamaican African-English Creole/Patois
Dominica	African-English Creole African-French Creole/Kweyol
Dominican Republic	African-Spanish Creole Haitian African-French Creole/Kweyol
Grenada	African-French Creole/Patois
Guadeloupe	African-French Creole/Kweyol
Guyana	African-English Creole/Creolese
Haiti	African-French Creole/Kweyol
Jamaica	African-English Creole/Patois Twi Yoruba Kikongo Mahi (Also varieties of these languages referred to as Nago, Tambo, and Goombeh)
Martinique	African-French Creole/Kweyol
Montserrat	African-English Creole

Netherlands Antilles	Papiamentu/u Haitian African-French Creole/Kweyol Dominican Republic African-Spanish Creole
Puerto Rico	African-Spanish Creole/Bozal Creole
Saint Kitts and Nevis	African-English Creole
Saint Lucia	African-English Creole African-French Creole/Kweyol
Saint Vincent and the Grenadines	African-French Creole/Patois
Surinam	African-English Creoles: Sranan Tongo Ndyuka Aluku Paramaccan Kwinti Guyanese African-English Creole/Creolese African-Portuguese Creoles: Saramaccan Matawai
Trinidad and Tobago	African-English Creole African-French Creole/Kweyol Yoruba Kikongo Hausa Fon

Turks and Caicos Islands	African-English Creole Dominican African-English Creole Dominican African-French Creole/Kweyol Haitian African-French Creole/Kweyol
Virgin Islands, British	African-English Creole/Calypso
Virgin Islands, United States	African-Danish Creole African-Dutch Creole African-English Creole

Source: Bangura, 2007:23-25.

In Latin America, Black populations are undergoing their own cultural and civil rights awakening. In Nicaragua, Afro-Latinos are engaged in a quiet but powerful civil and cultural movement that flickers while in neighboring Honduras, the Black Garifuna community fights to preserve its culture. In Colombia, the first Black general serves as an example of Afro-Latino achievements (Burch, 2007). Also, Blacks are everywhere present in Latin America. There are an estimated 100 million people of African descent living in the region, making up 45 % of Brazil's population. There are also sizeable African populations in Colombia and Venezuela (USCIA, 2010).

In the United States, there are approximately 65.7 million African Americans, comprising 13.5 percent of the total population. They are projected to make up 15 percent of the total population by 2050 (US Census Bureau, 2010). Indeed, African Americans are Africa's most important external human resource, precisely because they constitute a large concentration of people of African ancestry lodged in the most powerful nation in the world, and certainly a nation with immense capacity to do Africa harm or good. Like other minorities in the United States, African Americans have indicated special interest in some foreign policy issues. For more than a century, prominent African American activists and scholars emphasized the important linkage between American foreign policy towards Africa and their struggle for equal rights. As economic activities have become overwhelmingly global in nature, African

Americans are increasingly stressing the importance of international affairs for their own economic advancement.

In Canada, Black Canadians form the third largest visible minority group, after the South Asian and the Chinese. Black Canadians, Caribbean Canadians and African Canadians are designations used for people of Black African descent who reside in that country. The terms are used by and of Canadian citizens who trace their ancestry back to Black populations indigenous to Sub-Saharan Africa. The majority have relatively recent origins in the Caribbean, while some trace their heritage to the first slaves brought by British and French colonists to the mainland of North America. A minority of the population are of recent Black African origin. Many Canadians identify as Black even if they may have multi-ethnic ancestries (The World Bank, 2008).

Blacks in Europe, also referred to as Afro-Europeans, although this term is also used to describe people of mixed European and African descent, especially in the former European colonies, are Black people who are residents or citizens of European countries. They include immigrants as well as European-born people of Black African descent (Lusane, 2002:9). The number of sub-Saharan African migrants in Europe is between 3.5 and eight million, concentrated mainly in Belgium, France, Italy, the Netherlands, Portugal, Spain, and the United Kingdom. These figures are likely underestimates of the African migrant population due to factors such as illegal migration (Council of Europe Parliamentary Assembly, 2008).

The first Blacks in Russia were the result of the slave trade of the Ottoman Empire and their descendants still live on the coasts of the Black Sea. Czar Peter the Great was recommended by his friend Lefort to bring in Africans to Russia for hard labor. Alexander Pushkin was the descendant of the African princeling Abram Petrovich Gannibal, who became Peter's protégé, was educated as a military engineer in France, and eventually became *general-en-chef*, responsible for the building of sea forts and canals in Russia (Gnamankou, 1995; Hugh, 2005).

During the 1930s, 15 African American families moved to the Soviet Union as agricultural experts. As African states became independent in the 1960s, the Soviet Union offered them the chance to study in Russia; over 40 years, 400,000 African students came, and many settled there (MediaRights, 2001). There are also non-African people within what was the

Soviet Union who are colloquially referred to as “the Blacks” (*chernye*). Gypsies, Georgians, and Chechens fall into this category (Humphrey, 2002).

Some Blacks of unknown origin once inhabited the southern Abkhazian today are assimilated to Abkhaz (Richter, 1930). Also, beginning several centuries ago, a number of Sub-Saharan Africans, usually via Zanzibar and from places like Kenya, The Sudan, Ghana, and Nigeria were brought by Turkish slave traders during the Ottoman Empire to plantations around Dalaman, Menderes and Gediz valleys, Manaygat, and Cukurova (Güncelleme, 2008).

In the United Kingdom, two million, excluding British Mixed, split evenly between Afro-Caribbeans and Africans. In the 2001 United Kingdom Census, 565,876 people identified their ethnicity as Black Caribbean, 485,277 as Black African, and 97,585 as Black Other, making a total of 1,148,738 in the census’ Black or Black British category (UK Office for National Statistics, 2003). Mid-2007 estimates for England show a drop in the Black British population at 1,448,000 compared to 1,158,000 in mid-2001 (UK Office for National Statistics, 2009:5).

For France, estimates of between two to three million people of African descent are provided, although a quarter of the Afro-French or French African population lives in overseas territories. It is estimated that four out of five Black people in France are of African descent, with the remainder being of Caribbean ancestry (Bennhold, 2006:2).

In the case of Italy, estimates of 755,000 to 900,000 people of African descent are provided. The largest group is from North Africa; a minority is from Sub-Saharan Africa. Black Caribbeans are a negligible percentage originating from Cuba, Trinidad and Tobago, Dominica, Guadeloupe, Martinique, and the Dominican Republic (Istituto Nazionale di Statistica, 2006).

In the Netherlands, there are about 500,000 of Surinamese and Dutch Antilles descent. They mainly live in the islands of Aruba, Bonaire, Curaçao and Saint Martin (which is half French), but many Afro-Dutch people also live in the Netherlands (Council of Europe Parliamentary Assembly, 2008).

In the Indian and Pacific Oceans, there are a number of communities in South Asia that are descended from African slaves, traders or soldiers (Ali, 1996). These communities are Siddi, Sheedi, Makrani, and Sri Lanka Kaffirs. Some of these communities, such as Jamal-ud-Din Yaqut or Hoshu Sheedi, and the Murud-Janjira fort, have become quite prominent. Some Pan-Africanists also consider other Africoid peoples as African Diaspora peoples. Some of these groups are the Negritos of the Malay Peninsula, Orang Asli (Rashidi, 2000); the Papuans of New

Guinea (Tangghama, 2007); certain peoples of the Indian subcontinent, notably Vedda people and Dravidians such as Tamils; and the aboriginal peoples of Melanesia and Micronesia (Elango, 2002; Tudu, 2002; Rashidi, 1991).

Conclusion

That a comprehensive and balanced cluster is required to expand the potentials of the development and competitiveness of Africa and the African Diaspora in the global market is hardly a matter of dispute. Thus, the process orientation and the application of times-technologies are the key factors for the development of an AADER-cluster and for the realization of the innovation and growth objectives of the cluster.

To optimize the strategic process in an AADER-cluster, the participation of all institutions of higher education, scholars and researchers in African and African Diaspora states is imperative. The determination of the vision, mission and strategy in particular requires the process of participation. From the cluster strategy, individual strategies and balanced scorecards of the various clusters can be deduced. The strategic network of all actors will decisively improve the competitiveness of an AADER-cluster.

Indeed, an important issue in the implementation process of innovative actions is the existence of innovation management of tools necessary to support the innovation process from the generation of ideas to launching successful ventures throughout the innovation life cycle. The availability of innovation infrastructure and support tools becomes a crucial factor for the deployment of innovative actions in Africa and its Diaspora. This action line will provide the necessary tools and methods needed to enhance the innovation capacity and the networking interoperability. These goals and tools should be widely and freely available to all actors using Internet technologies. The collective effort will take the form of a portal for innovation management, concentrated in supporting innovation actions.

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