

Brain Circulation: Unparalleled Opportunities, Underlying Challenges, and Outmoded Presumptions*

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Abstract

Brain circulation, or more widely known as brain drain, is the term generically used to describe the mobility of high-level personnel. It is an emerging global phenomenon of significant proportion as it affects the socio-economic and socio-cultural progress of a society and a nation—and the world.

In the information era we currently live in, the barriers of distance and space have been successfully conquered opening up a whole array of opportunities—and challenges—in the manner in which the whole human race communicates, lives and runs day-to-day activities. Instantaneous communication capabilities and their declining cost, massive movement of capital across borders and the expansion and dominance of multinational corporations (globalization), greater demand for talent to maintain competitiveness and replenish national pool, relative ease in the movement of people, the shift in geopolitics, the emergence of “greener pasture” paradigm, and the decline of many Third World countries to provide commensurate and appropriate work and living standard have catalyzed the global trend in the mobility of highly trained personnel.

This presentation explores the unprecedented potentials advanced by the mobility of high level expertise while examining its underlying and emerging challenges. The paper also attempts to scrutinize some of the outmoded assumptions embedded in our current understanding of the mobility process—brain circulation.

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Introduction

The migration of high level expertise is known by several nomenclatures that include brain drain, brain circulation, and less so brain hemorrhage (Teferra, 2000). Certain terms such as “brain gain” and “brain trust” have also entered the domain. The term brain drain however is the most prevalent form built on certain preconceived context that have however molded and outmoded over the decades dominating not only the space for a better alternative and appropriate term, but also the re-conceptualization and re-configuration of the phenomenon.

It is important to delineate and re-conceptualize the terms clearly—especially brain drain and brain circulation. A brain that fails to circulate is doomed to drain and wastage. So migration of expertise can be described as having two faces depending on how they are allowed to turn or flow. Depending on how the brain is mobilized or deactivated the terms can be used alternatively: mobilization pointing to circulation whereas deactivation and inaction pointing toward drain. In this paper I would use both terms alternatively on the premise of this explanation.

Mobilization of talent is an emerging and growing global phenomenon of significant proportion and affects the socio-economic and socio-cultural progress of societies and nations across the world. In some countries this circulation has been fostered by a deliberate policy. In so many other countries however this phenomenon goes on with less or even no effective regulatory mechanisms and has been condemned for siphoning off the *crème de la crème* of nations.

In the information era we currently live in, the barriers of distance and space have been successfully conquered opening up a whole array of opportunities—and challenges—in the manner in which the whole human race communicates, lives and executes its daily routines. Instantaneous communication capabilities and their declining cost, massive movement of capital across borders and the expansion and dominance of multinational corporations (globalization), greater demand for talent to maintain competitiveness and replenish national pool, selective policy and hence relative ease in the movement of skilled personnel, shift in global geopolitics, the emergence of “greener pasture” paradigm, surge in socio-economic and political upheavals, and the decline of many Third World countries to provide commensurate and appropriate work and living standard have catalyzed the global trend in the mobility of highly trained personnel.

This paper explores, with a slight focus on Africa, the unprecedented opportunities advanced by the mobility of high-level expertise while examining its underlying and emerging challenges. The paper also attempts to scrutinize some of the outmoded assumptions embedded in our current understanding of the mobility process—brain circulation.

Unparalleled Opportunities

The transition to an information era has brought about changes of such tremendous proportions that, we are yet to witness its impact unleashed when it attains full steam. Already the barriers of communication have been conquered; the remotest parts of the world have been explored; and the time to do so has been drastically minimized to a split second. Virtual communications via the Internet, email, teleconferencing, and e-chatting have transformed the world we live in. Instantaneous and live communications have become regular household norms. Information technology

has simply changed the way we live, the manner in which we do business, and the culture in which we communicate.

The unprecedented developments in information and communication technologies (ICT) have quietly revolutionized the way in which the skilled human resource operates and mobilized—and circulated. Unimpeded by distance and space, engineers maneuver unmanned space crafts millions of miles away; physicians operate on a patient in an operating room thousands of miles away; and researchers engage in serious discussions and cooperative initiatives, across many international borders without leaving their research quarters. Endless possibilities and potentials have simply flourished.

The impact of ICT has affected all walks of life. It facilitated the mobility of high-level expertise both physically and virtually. ICT has created an unprecedented opportunities for scholars, researchers and business people located worlds apart to exchange ideas, forge alliances and engage in collaborative schemes. Remote research centers across the globe operate seamlessly with their headquarters based in major cities. University professors advise graduate students and quiz them real time thousands of miles apart. Software experts based in the Third World develop programs and input data, on behalf of associates in the developed world, and zoom to them instantaneously.

In almost all conceivable issues a loose coalition of “virtual colleges” have flourished, catalyzed by electronic discussion platforms such as listservs, emails, the Internet, chat rooms, and videoconferencing. These truly global virtual institutions debate, critique and analyze a wide array of social, political, economic, cultural, academic, scientific, and technical issues of major significance. Virtual colleges operate in such a way that the brain circulates unconstrained by barriers of political or national boundaries bouncing back and forth at a speed of light innumerable times advancing the frontiers of knowledge—consequently catalyzing the circulation of brain.

The following example captures one such virtual college in action.

The Ethiopian North American Health Professionals Association (ENAHPA) in collaboration with the School of Pharmacy, Addis Ababa University in Ethiopia and several U.S. Institutions, conducted a 6 weeks course, via videoconference on Advanced Pharmacology of Antiretroviral drugs for practicing pharmacists in Ethiopia from June 25 to July 30, 2004. This short-term course was designed as a collaborative effort by the pharmacists and HIV specialists in both Ethiopia and the United States. The course included current updates on pharmacology of antiretroviral drugs, pharmacodynamics, drug interaction & dosage and management recommendations in resource limited settings. Personnel from Howard University, University of Maryland, Columbia University, Kennesaw State University, Bethany Negash Memorial Foundation, and Mayo Clinic participated in a setting conducted from John Hopkins University. More than twenty Clinicians participated in the course and successfully passed the exam in which they all received a certificate of "HIV Expert, Training of the Trainer". The second course was a short-term conference on Malaria, conducted from John Hopkins Infectious Disease, Institute of Malaria. More than twenty Health Care Professionals also attended that course. (Press release published on People-to-People, P2P, listserv on August 5, 2004.)

Communication technology plays a crucial role in the contribution of Diaspora communities by facilitating their interaction and enhancing their involvement with their institutions at home, in the process catalyzing the brain circulation process. A personal observation of one virtual alumni association corroborates this inference. Sometime back

an issue was raised—on an electronic forum owned and moderated by Ethiopian scholars in Diaspora—on a particular honey-producing insect considered to have numerous traditional medicinal values. A serious and engaging scholarly discussion ensued that brought about many issues far and beyond the thread of the initial discussion which triggered reflections from research, medicinal, economic, social, cultural, and global perspectives. This virtual college has started publishing an occasional electronic bulletin.

ICT have fostered the creation and proliferation of global virtual intellectual nodes. In the last decade, ICT-based initiatives for Diaspora mobilization have simply mushroomed around the world sanctioned by committed individuals, university alumni, scholarly communities, businesses, NGOs, governments and international bodies as the capability of the technology has improved, as the socioeconomic potential of the intellectual Diaspora is realized, and as the movement of talent has escalated owing to the contemporary global economic paradigm.

It should be however noted that ICT can also serve as instrument of migration if not necessarily brain drain. There is no insinuation that ICT directly causes serious “hard” brain drain problems—at least not yet. There are however some signs towards that. According to Mark Davies, the founder of Ghana’s largest Internet café, BusyInternet, “four out of five [online customers] are trying to find ways to get out of Ghana” (Zachary 2002).

It is true that the major driving force behind brain circulation is the unprecedented developments in ICT. Numerous other potent forces have also harnessed brain circulation. As the world ushered into the new millennium, what is now termed the information era, demand for high-skilled force for the knowledge-based economy has escalated international competition necessitating the mobility of high level expertise. Enhancing competitiveness, increasing revenue, and expanding market share and global outreach through the flow of capital and human resources—what is now called globalization—have simply added more thrust to elements shaping the information era.

The information era, or otherwise known as the knowledge era, thrives through massive knowledge creation, knowledge manipulation, knowledge consumption, and knowledge dissemination. Those with high skills manage, drive, and shape the information era playing critical roles. In response to these developments some countries such as the United States have relaxed their immigration policies to attract high level expertise in IT, Biotech, pharmaceutical and drug manufacturing, and other high-level fields—at least prior to September 11. The United States, for example, doubled its H1-B visas from 65,000 to 130,000 largely due to great lobby by the IT and other industries. This of course does not include the 586,000 students that are attracted to the US institutions from around the world (Altbach, 2004).

That so many countries are positioning themselves to attract high level migrants is now commonplace, fostering the brain circulation process. Even in one of the smallest and somewhat isolated developed countries, New Zealand, critics were accusing the government for not putting in place a clear and consistent policy to expedite the processing of 50,000 migrants it has targeted to absorb for the year. One of the critical organizations wrote: “Why should would-be migrants with internationally marketable skills expose themselves to this rigmarole when other affluent countries offer more straightforward, welcoming and dependable procedures?” (Young, 2004). The same recruitment drive is apparent in many European countries, such as the United Kingdom

which was considering the introduction of green-card like entitlements comparable to the one in the United States.

The opportunities of mobility have become increasingly apparent as high-level experts in health care, such as medical doctors, nurses and other health care specialists migrate—for better remuneration and conducive work environment—to developed countries whose population is aging and its health care system remains understaffed. For instance, the United States has had serious shortages of registered nurses in hundreds of thousands; and government figures show that the nursing shortage could grow to more than 800,000 by 2020 (USDHHS, 2002). In 2003, according to the UK General Medical Council, over 20,000 Indian, 7,400 South African, and 1,900 Nigerian registered doctors were working in the United Kingdom (Dovlo, 2004 forthcoming).

Confronted by declining birth rate, aging and less productive population, slow economic growth, and major global competition, some countries in the developed world have introduced selective and somewhat aggressive migration policy alternatives. Though the traffic on the opposite side of the highway has been rather light, and its state remain shaky and uncertain, some notable developments have taken place in some developing and emerging countries.

A number of these countries in Asia, for example, have made serious efforts to attract their best and brightest from major institutions in the developed world to staff their academic, research and business institutions. Some of these returnee experts have either joined the intellectual track or ventured in establishing their own businesses effectively competing with the already established ones (they left behind) internationally. Many examples could be recited of leading IT and software companies founded by those who resigned from their lucrative jobs in the West to open competitive or joint ventures at home.

High-level experts who are moving in both directions have been major catalysts for expanding knowledge, businesses and venture initiatives as a consequence enhancing the knowledge transaction across borders. The information era is being catalyzed through free, open, and massive circulation of brain without due consideration to physical relocation. This has opened great opportunities for skill mobility. But many challenges confront the tapping of these opportunities which I examine below.

Underlying Challenges

The barriers to brain circulation are numerous and complex. Collaboration efforts between Diaspora communities and home country intellectuals and their institutions confront a plethora of challenges as the two bodies engage, in the brain circulation process, from a variety of political, social, academic, inter-generational, infrastructural, economic, and cultural platforms. I examine each of these domains under a separate subsection below.

Political factors

One of the most serious challenges constraining the promotion of brain circulation is political in nature. It is common for two or more partner institutions—of the Diaspora and those at home—engaged in cooperative initiatives to hit political brick walls that threaten budding efforts of brain circulation. Political setbacks often interfere with or even neutralize initiatives as partnering bodies vow their allegiance to different political

forces. This indicates that the political platform in which the two forces operate stand in unequal footing which creates disparity in reflection and discourse, molded by political persuasions. It is a common pattern for those in the Diaspora to reflect, comment, or criticize freely without fear of persecution or personal wellbeing. And yet their counterparts at home have to be vigilant and conscious of the consequences of their words and their implications.

The composition and history of the “critical mass” of an intellectual Diaspora community often determines the conditions in which interactions between these communities take place. For those who immigrated for political reasons, high sentiments often color their point of views and shape their positions. In a highly charged political environment, the circulation of brain could face considerable challenges as the following poignant exchanges between Diaspora intellectuals (who are engaged in improving the healthcare system of their native country) and their counterparts at home, on the issue of inviting political leaders to a major conference organized by the Diaspora leadership.

A medical doctor based in the home country who harshly criticized the organizers wrote:

Nobody argues the good work XXX did with its medical mission, however the way they conduct their business is wrong. They provide service; [and] the government will beg that service; why do they [therefore] beg the government? The government will not refuse free medical services. This has been done for years. This is not new. It seems they [the leadership of XXX] are excited to meet officials. They sell their mission ...and goals....We live with the [government officials] every day; we have no luxury to have every day red wine and draw pictures on the sky like most of you do..we live everyday in pain....We could live the country like you do and live a comfortable life but we choose to be with our people. At least you could respect that. I don't think we need lectures...but we need some one to voice for us to make [the] situation better...ask simple question how can one disrespect the intellectuals at home and try to respect the ones in the diaspora? Don't you think that is wrong? Why are you blinded with lies...? (Message posted on a listserv, 2004)

Another physician who reported to have left the country due to difficult work and living conditions in concurrence seriously criticized the Diaspora leadership as follows:

I cannot believe the foreign minister is one of the distinguished guests at the conference. I am sure this is a sad day for many doctors who are serving our people under difficult situations and who left the country, like me, when the hardship reached the point that could not be tolerated any more. Just a few years ago many of our colleagues were dismissed, the country follows the principle of loyalty, not the value of good education. So, is XXX trying to be loyal to the government? Is it becoming the new wing of the political system? Is it not possible just to focus on the medical diseases and leave politics for others? What is it trying to achieve? (Message posted on an anonymous listserv, 2004)

These criticisms drew a critical response from a member of the organizing body who wrote:

I do not think it is logical to stay away and criticize. I speak of myself and I know that I have no political interest and I am a professional who has a burning desire to contribute my share in addressing some of our people's health issues. Thank God that I make a good living here in the US and have no intention to be compensated in any way or another for my contributions by any party. (Message posted on an anonymous listserv, 2004)

The avalanche of criticisms, reactions and counter reactions came to an end in large part due to a forceful and persuasive piece by someone unaffiliated with either the institution, its leadership, or the government.

Across the world over when independent institutions attempt to do what they hold dear to their heart, labeling and criticism are commonplace. It is naive to think that you can EFFECTIVELY operate in a country without the goodwill and blessing of an incumbent government. One has to remember that they have all the power to do what they deem is right—and to their best interest—within their jurisdiction; and for all we know they are capable of doing that. This is a lesson that is overlooked by many critics and skeptics of Diaspora alike. For politicians there is a political forum to unseat incumbents; for others, they have to always find the operating space and culture of governments—of today and tomorrow. (Message posted on an anonymous listserv, 2004)

As the foregoing attests, there is a widespread naïveté and misconception among some in the Diaspora on the role and authority of host governments as they engage in initiatives with their professional colleagues at home. On the side of many Third World governments, especially Africa, there appears to have been a veiled attitude towards Diaspora, at least until recently that could be unflatteringly summed as “We have no cravings for your poisoned brains rather your sweet hard cash.” It should be noted that appearance of governments to be engaging with, but not necessarily heeding to, Diaspora advice and opinions, creates such tensions as above.

In the absence of supportive governmental policies, the effort of Diaspora communities and individuals is prone to disruption or simple ban under the guise of concocted allegations—that often have a flavor of national security. As we know, political persecutions, fear of expressing ones opinion, lack of academic freedom, and suppression of human rights remain some of the major push factors of migration of intellectual Diaspora especially from Africa. Governments and those persecuted are therefore often staunch adversaries who would not even talk to each other let alone work together as the following remark demonstrates.

She now holds the highest office in the institution that makes major global decisions on her area of expertise. She now travels everywhere and do work closely with many experts all over the world—except her own. Her colleagues—with the tacit support of some in the government—ganged up to remove her from her position. She eventually left the country and landed this executive and high profile position. Or else she would have been thrown to jail for her affiliation with a former government (overthrown by force). (Teferra, 2003b)

Social factors

It is common knowledge that these days partnership initiatives that originate from the West on behalf of developing countries are treated with some form of suspicion and resentment. By the same token, certain initiatives that also originate from developing countries are treated with some degree of reservations, if not contempt. There is an undercurrent of unspoken perceptions and a tinge of resentment among those intellectuals based at home that migrant intellectual Diaspora feel academic superiority over them. Such tendency fans tension and undermines the spirit of cooperation as groups engage in not-so-constructive actions as they maneuver to assert their authority and hone their positions.

Lest we assume that what really matters in the mobilization and tapping of the intellectual Diaspora and circulation of talent are interest and commitment of the Diaspora, the following grim remark by Professor Augustine Esogbue, a renowned Nigerian NASA engineer who spoke with the incumbent president of his native country, has mountains to say. He notes:

I have spoken to President Obasanjo and he is aware of my capabilities, but some suggestions I gave him were channeled to people who were supposed to implement the next step, but did not....There are many Nigerian experts in different fields in the Diaspora, who are willing to offer their expertise. I had offered mine freely, but there are too many red tapes; there are so many people who feel threatened by our presence." (*emphasis mine*) (Teferra, 2004b).

Not only a feeling of competition and threat, but envy, jealousy, rivalry, turf-protection, arrogance, personal animosity, inferiority/superiority complex, and resentment hamper the effective circulation of talent and skills and consequently the effective mobilization of the Diaspora.

We know that many individuals have made it big outside their home countries. They have, with other colleagues in the Diaspora, established major and respectable national, regional, and international forums—such as African Studies Programs—that are often envied by those at home—who claim that those should have been owned and run by them. Furthermore, those who left their country are not always seen in a positive light by their country folks, and that stigma and attitude hangs over them as the following example illustrates.

They deserted us living behind their institution that invested on them; and now they are gesturing the possibility of working together. What they really want is not really a genuine relationship and cooperation; just to aggrandize their academic stature in their host institutions. (Teferra, 2003b).

Academic factors

The liberty to express opinions and views freely, what is generally termed as academic freedom, could turn into a matter of contention and worry that may frustrate brain circulation efforts. The intellectual Diaspora are often under no constraints to watch their words and worry their consequences. And yet home-based folks lack an intellectual space in par with their fellow Diaspora which as a consequence could trigger some tensions when issues that especially dictate critical opinions on host governments arise. Tone of expressions in joint works, depth and breadth of critiques, and direction of intellectual discourse may turn into a considerable concern for brain circulation efforts—depending on the kind of partners and the nature of partnership. The culture of self- or externally-imposed censorship at home and the guaranteed freedom of expression abroad create tensions among the partners constraining the free flow of brain circulation.

Establishing academic caliber and recognizing scholarly excellence might also become a cause for tension. The following episode illustrates confrontations between the leadership of an intellectual Diaspora group and its home-based chapter and their consequences.

A major scientific society which had been active for several years fell out with its local chapter not so long ago ceasing all its communication and interaction. The Society is

based in the US and composed of prominent and successful Diaspora of that country. The Society has made significant and highly visible contributions and activities in promoting science and technology in the country. It had launched joint activities with home institution and also honored several professors at home institutions. The Society's activity with the local chapter came to an end over serious disagreement in honoring, what the Society considers, non-deserving individuals at home as its awardees. The local chapter went ahead with honoring the controversial individuals which led to the severing of the relationship. (Teferra, 2003b)

Academic culture in the West is fundamentally shaped by the publish-or-perish maxim. The promotion and progress on the academic ladder depends on the quality and quantity of one's scholarly output. Even though many African academicians feel that way (Teferra, 2003a), this culture, if it is well understood, is not seriously observed. Such disparity in interest and drive could be a bone of contention between those based in the West, driven by academic success, and those at home where these count much less. The denomination of intellectual currency of research productivity is subject to fluctuation depending on the academic culture of respective transacting institutions, countries, or personalities.

Interactions between intellectual Diaspora communities and those based at home take place among dissimilar—if not always unequal—academic and scholarly leagues. The level and extent of these interactions as well as their viability are contingent upon the compatibility of the communication variables between the two entities.

Inter-generational factors

Diaspora is not a monolithic entity. Diaspora is a community as complex as varied, regimented by educational status, economic class, ethnic background, political, religious, and ethnic predilections, field of specialization, interest, concern, commitment, and capacity to contribute to home country development. It ought to be underscored that a variety of Diasporic forms exist—the outcome of the variations that make up the identity of each group (Teferra, 2003b). Brain circulation has to also address inter-generational gaps to maintain its effectiveness.

In the collective effort to mobilize the circulation of Diaspora skills and talent, attention should be paid toward generational diversity of constituent members, especially when communication extensively relies on virtual means of interaction where established hierarchy are not binding and underlying norms of cultural predisposition are not that clear and solid. The following interaction of a listserv member to a comment made by another fellow member affirms this observation:

If the starting point to anything you want to share [in terms of contributing towards the development of the country] is Dr. Tadesse's* article, then you are counting out everyone below age 40. I should reply to Tadesse himself but since you raised the issue I do not personally care what went wrong during the 60s or 70s. In my view all of Tadesse's articles and essays are fixated at the wrong doings of the students of the 60s and 70s. Today is a new day and today's Ethiopia belongs to a new generation.... Having said that I respect your decision to go about achieving whatever good you intend for our country, because I think that all of us have to do what we know best on how to succeed on what ever we believe in. (Message posted on an anonymous listserv, 12 August 2004)

Intergenerational differences in opinion, if not conflict of interest, are commonplace. This may not be a bad thing after all; but the challenge is to diffuse the

differences and morph the rich diversity of opinions into a collective good to enhance the brain circulation.

Infrastructural factors

Reliable communication infrastructure is instrumental in enhancing and expediting interaction and collaboration between the intellectual Diaspora and their colleagues and institutions at home. The following comments by African academicians succinctly attest the significance of communication in the process of brain circulation.

An organic chemist at the University of Dar es Salaam wrote:

The Internet has optimized communication which makes collaboration with other institutions abroad more viable. Certain [chemical] analyses are done abroad and this is communicated fast thanks to the Internet. This communication leap has also increased the scientific credibility of African scientists. (Teferra, 2003a)

A young biologist from Addis Ababa University, Ethiopia, who was pursuing postgraduate studies in Scandinavia wrote:

The email is very important for communication between friends and research counterparts in different parts of the world. We exchange data and manuscripts for comments. The Internet is also important to learn about current research activities of certain universities, download useful software, satellite maps, among others. (Teferra, 2003a)

By the same token poor communication on one end and sound and reliable at the other could frustrate collaborative efforts that are intended to foster brain circulation, as a section of a memo from a head of institution in Africa to counterparts in the US reflects:

We want to place on record the flow of information which has taken place between us since our joint effort started. Although there have been glitches and slips here and there, overall, we are broadly satisfied. On account of the glitches and slips that occur on both sides of the information traffic, we feel it is not appropriate to assume that “silence” from either party means consent; indeed, in a partnership of this nature, a balance has to be struck between the necessary speed that has to be built and the inevitable investment, sometimes time-consuming, that needs to be made in partnership building. (Message sent from an anonymous institution in Africa to colleagues in the US, 2003)

Economic factors

Needless to say, all Diaspora entities are not born equal. The capacity of the Diaspora community to participate in the circulation of talent and skill is shaped by their socio-economic and professional state in the host country. Those who are involved in research, academia, and advocacy and other related areas are better placed to greatly contribute toward brain circulation process.

Cultural factors

Institutional culture, personal expectations, and operational procedures vary from country to country. These variations are all the more serious between developing countries and developed countries. Cultural distinction between engaging partners—in terms of promptness, bureaucratic approaches, sensitivity and psychological make-up, openness, commitment, and responsiveness—abound.

Outmoded Presumptions

The discourse surrounding brain circulation is yet to displace the long standing perceptions and attitudes defining brain drain. In the contemporary world, for brain drain to take place, or even better, for brain to circulate, it needn't be governed by the dynamics of physical movement. This development, of course, has its own merits and disadvantages.

Talent migration in the contemporary world needs to be re-conceptualized as distance and space, as variables of brain drain, have shifted their positions and lost their luster. Brain drain can now take place irrespective of distance and time and this is an opportune time—for those who are looking to address the high imbalance of migration as well as those who are positioning to tap from the fluid nature of talent migration—to undertake a much deeper analysis of the evolving development.

Intellectual Diaspora can now be tapped wherever they are located. Potentially, any intellectual can turn into a virtual Diaspora for the purpose of skill migration. Outsourcing is an emerging and growing development of overseas expedition in search of talented, yet cheap, labor. The skilled laborers are relieved the task of travel and migration to hunt for jobs in this instance; rather the companies go out seeking them out for cheap labor and high skill to ensure their competitiveness and increase revenue consequently participating in the act of brain circulation. According to a recent NBC (2004) news report, outsourcing has now grown into a 300 billion US dollars business benefiting some home countries which have been confronted by severe skill migration.

The mode of circulation of talent has a variety of facets. When the developed world goes out looking for high skill and cheap labor in developing and emerging economies, it triggers a serious national sentiment. For instance, the upcoming presidential election in the United States is expected to revolve around “shipping jobs outside the borders” whereby the term “outsourcing” has come to be a dreaded tone in the current highly charged political environment. Countries that are against outsourcing urge their governments to put some barriers to arrest the phenomenon; at the same time governments are actively encouraging “in-sourcing”—advancing selective immigration policies to attract highly-skilled talent from other countries.

While outsourcing may be a great employment opportunity and even a gateway for access and transfer of (advanced) technologies, the pressure from political activists and those whose job is purported to have been lost to a Chinese or Indian or Russian may have some repercussions. Some risks are also inherent in totally relying on elusive multinational corporations—that are often aggressively driven by profit maximization and revenue growth. There is also a great tendency of concentrating the pool of talent—critical mass—of a nation on limited areas of business and research. Of course, effective tapping and long-term channeling of outsourcing opportunities to foster socio-economic development of home countries depends on the consciousness of institutions and host governments. Many of the so called Asian tiger countries—whose economic growth and competitiveness have emanated from tapping Diaspora talent as well as outsourcing—set very good precedence for many other developing countries.

It should also be noted that active measures such as the one pursued by China to attract high-level expertise—repatriation—is paying dividends in terms of national socio-economic development. The Chinese government has for years tried to attract high-tech

professionals who left China to study overseas. According to official statistics, 400,000 Chinese students have gone abroad since China's opening to the world in 1978; fewer than half have returned. In particular, China's most talented technicians overseas ignored the government's pleas, seduced by the opportunities available in such technology hotbeds as Silicon Valley. But now a growing number of these people are returning to China, spurred by better prospects in the Middle Kingdom and by the technology slump in the United States. The Chinese government is also recruiting more energetically. Though there are no official statistics tracking this trend, Shanghai's Pudong special economic zone reports that the number of returnees working there rose from 500 in 1999 to 3,200 last year. The number of companies set up by returnees almost tripled, to 330, in this time (Yatsko, 2002).

Silicon Valley's Taiwanese engineers have built a vibrant two-way bridge connecting them with Taiwan's technology community. Their Indian counterparts have become key middlemen linking U.S. businesses to low-cost software expertise in India. These cross-Pacific networks give skilled immigrants a big edge over mainstream competitors who often lack the language skills, cultural know-how, and contacts to build business relationships in Asia. The long-distance networks are accelerating the globalization of labor markets and enhancing opportunities for entrepreneurship, investment, and trade both in the United States and in newly emerging regions in Asia (Saxenian, 2002).

ICT and virtual technology have enabled and fostered cooperation and collaboration among researchers and institutions located in different parts of the world. As much as ICT facilitates interaction, that very possibility also enables institution-unsanctioned engagements that may divert attention and resources from these institutions. It should be however recognized that the boundaries between institutional and non-institutional duties have grown vague that imposes a challenge on institutional leadership in many countries (Teferra, 2003b).

Institutions are known to have been used by individuals as a launching pad for interaction, consultancy, business, research, and other cooperative and joint initiatives. This is due largely to the presence of requisite communication infrastructure as well as the credibility associated with such institutions to make such initiatives possible. With increasing possibility of effective private work environment, this might as well shift enabling home-based experts (without a particular institutional affiliation) to do it on their own (Teferra, 2003b).

Even though, not known by similar nomenclature, companies in the North are penalizing employees who misuse, abuse, or engage in private activities during their work hours using the Internet, instant messaging, and email. The point here is that the idea of brain drain and the way we conceptualized it have significantly shifted and evolved and we should be able to keep track of its development. We have to put to test our assumptions and presumptions and scrutinize views that have been with us for a long while.

Before closing this section, I would like to raise, without much analysis, the essence of expanding multinational educational entities, what is widely known as borderless education, and the so called technical assistance in the context of brain circulation. These issues should be explored further in-depth within the realm of the changing landscape of brain mobility and the overall discussion surrounding brain drain.

The Emergence of a Virtual Intellectual Diaspora

A form of brain circulation unimpeded by physical borders and unconstrained by national boundaries or even better a new form of brain drain that does not directly involve motility has emerged recently and grown in importance as outsourcing and overseas consultancy have emerged as current day avenues of knowledge migration.

The mobilization of talent and skills across borders and time zones without physical mobility is a growing phenomenon. Talent migrates at a speed of light crisscrossing multiple boundaries in virtual space creating a phenomenon which I would describe as “Virtual Intellectual Diaspora”. This term tries to capture the emerging phenomenon of potential talent migration irrespective of the homestead of the talent.

Talent and skill mobility without involving physical movement—virtual intellectual Diaspora—have evolved remarkably. This phenomenon has grown increasingly beyond the jurisdiction of national governments and institutional managers. Experts can effectively engage in research and business initiatives that take place half a world away without leaving their quarters. These communities can interact readily with others located far and beyond their institutional confines, business precincts, and national boundaries evading the watchful eyes of superiors and minders as a consequence catalyzing the invisible circulation of brain.

The very individuals that can engage in the intellectual exercise without leaving their offices can do so without any form of control or regulation. The fluid nature of brain drain is such that it can take place without experts leaving their corners and without awareness of local employers—and policy makers. Simply put, the era of virtual moonlighting has dawned as virtual intellectual space has expanded and virtual colleges emerged. The long-standing position that physical relocation is a prerequisite for brain to circulate or to drain or to migrate is now out of vogue.

For those whose physical mobility has been curtailed—either due to lack of travel documents or authorization from local institutions or aversion to migration or some other reasons—a great potential to virtually migrate remains at their disposal owing largely to the emergence of global telecommuting. Research collaboration, remote consulting, and “in-sourcing” with those in distant lands are some of the growing and attractive incentives that broke a new ground on the debate and discussions surrounding brain drain and brain circulation.

Mobility of Skills: Institutional Response

In this discussion, it is apt to concisely note existing policy issues and initiatives around the world that are related to the mobilization of the intellectual Diaspora. This section tries to capture some of the major initiatives currently underway.

To boost its economic edge and competitiveness, much of the developed world has embarked on selective policies to attract highly skilled workers from developing and emerging countries. Many of the recipient countries have been formulating favorable immigration policies targeting highly trained personnel. As a result, a large number of skilled migrants have moved from Eastern Europe, Asia and Latin America to North America, Australia, and Germany (OECD, 2002). It is interesting to note that even the most conservative countries, such as Germany, are opening up their borders for high skilled migrants, at times at the consternation and reluctance of their populace.

No serious effort has been made by developed countries to establish a fair game in the movement of talent as they march to maintain their competitiveness and socio-economic hegemony, at times visibly at the expense of the socio-economic progress of developing countries. The poaching of nurses and medical doctors from developing countries and the debates to close loopholes to address the issue are cases in point (BBC, 2004). Most of the developing countries, especially Africa, that face serious migration challenges of their talented personnel have yet to put in place effective and appropriate policies to curb it.

In recognition of contributions of the high-skill Diaspora not only to the host countries but also home countries, some countries are taking active measures to keep track of emerging developments in migration. Not so long ago the French ministry of foreign affairs commissioned the Institute for Research Development to undertake a comprehensive study on intellectual Diaspora. The study, which involved leading international experts on migration, brain drain and Diaspora, was published in 2003 (Barré et al, 2003).

The African Union, the predecessor of the Organization of African Unity, and the New Partnership for Africa's Development (NEPAD) appear to be taking the intellectual Diaspora rather seriously. A number of ministerial meetings have recently taken place and a major conference, that is expected to foster the contribution of the Diaspora for African development, will have taken place before the end of this year. In fact, the recently established African Union's Pan-African Parliament, based in Johannesburg, has slated seats for African Diaspora.

It is to be recalled that the United Nations Economic Commission for Africa (UNECA), in 2000 organized a major conference on brain drain in collaboration with the International Organization for Migration (IOM) and the International Development Research Center (IDRC, Canada). While the conference made numerous recommendations to enhance and strategically reverse brain drain (and enhance brain circulation) such as creating a database of expertise in Diaspora, these recommendations are yet to be fully implemented.

Remittances from immigrant communities have in recent years soared dramatically. In some countries, such as Ghana which reports to have earned over one billion dollars in 2002 (Sophism, 2004), remittances have outpaced total development aid and other foreign direct investments combined. Some reports also indicate that Nigerians remit several billion dollars a year. This has attracted the attention of many development agencies, regional organizations, national governments, policy makers and analysts, international financial institutions, and businesses each of them positioning themselves to either benefit from it or address some of the bottlenecks.

Conclusion

Brain circulation only attains full circle—and the term can live up to its name—only if the host and home countries benefit from the spoils of motility in somewhat equitable and comparable manner. Understanding well the manner, speed, and intensity in which knowledge circulates could help formulate a cocktail of panaceas that harness brain circulation. Mounting deliberative policies and effective strategies can help maneuver to tip the balance and direction of the (virtual) flow and circulation of brain in favor of those countries that are currently complaining of hemorrhaging. There is no

illusion that even with successful brain circulation schemes, developing countries, especially Africa, will continue to face serious challenges of massive outflow of talent and skill until such time that the socio-economic and socio-political environment improves significantly.

Enhancing the tapping of the intellectual Diaspora to develop their home countries is an important issue of discussion and debate. I would like to reiterate, in conclusion, the questions I raised on the piece I wrote on *International Higher Education* (2004) that highlights the complex web which confronts brain circulation by scrutinizing the implicit and tacit assumptions embedded in capitalizing from the intellectual Diaspora and the rhetoric surrounding brain circulation.

Gauging capital

What is the extent of the intellectual capital maintained by specific Diaspora groups? What are the forms of skill and talent manifestations?

Mobilizing platforms

How can intellectual communities in the Diaspora—in their amorphous and unorganized form—be mobilized? What effective mechanisms need to be put in place to integrate them?

Government commitment

What is the extent of governments' interest and commitment to genuinely engage their intellectual Diaspora—often considered their fierce critics on social, economic, and political discourse? To what extent could the intellectual Diaspora cooperate with the very governments that many allege forced them to exile?

Perception of home communities

To what extent are communities in home countries interested and prepared to engage with the intellectual Diaspora? What are the psychological, intellectual, and emotional attitudes of potential partners at home institutions? How is the intellectual Diaspora perceived by colleagues at home? Are the dynamics of cooperation between the Diaspora community and those at home well understood?

Inherent ecology

Are appropriate policies, sound infrastructure, and commensurate resources in place to actively involve the intellectual Diaspora communities in home development initiatives? Can outmoded and ineffective policies and their executive bodies be transformed to implement new policies to provide them more room and thrust?

Technical and logistical issues

What are the potential logistical and technical challenges that may be encountered in mobilizing and tapping the intellectual Diaspora? What strategies need to be put in place to circumvent these challenges that may undermine Diaspora initiatives?

Collaborative environment

How compatible is the social, cultural, academic, and economic environment of the Diaspora with home country, so as to mount effective cooperative and collaborative engagements? Do avenues of collaboration and cooperation between the Diaspora communities and host countries already exist? If so, what lessons can be drawn?

The host factor

What policies are in place in host countries to help engage intellectual Diaspora with their counterparts at home? If there are any such policies, what issues confront the provisions? What incentives exist for the intellectual Diaspora to engage with home country other than the common nationalistic drive? What needs to be done at the host front to address the issues that impede “equitable” brain circulation?

Brain circulation is an excellent antidote to chronic brain drain. However the potency of the treatment, as in virtually all other cases, depends on a vast array of complex variables. A clear understanding of these multitude variables is at the root of fostering brain circulation.

References

- Altbach, P.G. (2004). Higher Education Crosses Borders: Can the United States Remain the Top Destination for Foreign Students? *Change* (March-April) 1-8.
- Barré, R., Hernandez, V., Meyer, J. B., and Vinck, D. (2003). *Diasporas Scientifiques – Scientific Diasporas*. Paris: IRD Editions.
- Department of Health and Human Services, USDHHS (2002). Health Resources and Services Administration, Bureau of Health Professions. (2002). *Projected Supply, Demand and Shortages of Registered Nurses: 2000-2020*. Washington, DC: U.S. Department of Health and Human Services.
- Dovlo, D. (2004, forthcoming). The Brain Drain in Africa – An Emerging Challenge to Health Professionals Education. *Journal of Higher Education in Africa* 2 (3).
- Mutume, G. (July 2003). Reversing Africa's 'Brain Drain': New Initiatives Tap Skills of African Expatriates. *Africa Recovery* 17(2), p. 1.
<http://www.un.org/ecosocdev/geninfo/afrec/vol17no2/172brain.htm>
- NBC (2004). NBC Nightly News. Sunday 19, 2004.
- Organization for Economic Cooperation Development, OECD (2002). International Mobility of the Highly Skilled. <http://www.oecd.org/dataoecd/9/20/1950028.pdf>.
- People-to-People (P2P). (2004). Distance Learning: Advanced Pharmacology of Antiretroviral (ARV) for Pharmacists—“Training of the Trainer”. P2P listserv on August 5, 2004, 9:35 AM, posted by Bisrat Hailemeskel.
- Saxenian, A. (2002). Brain Circulation: How High Skill Immigration Makes Everyone Better Off. *The Brookings Review* 20 (1). 28-31.
<http://www.brookings.edu/press/REVIEW/winter2002/saxenian.htm>
- Sophism, Y. (2003). Harnessing Remittances for Economic Development: A Case for Remittance Policy in Ghana.
<http://www.ghanaweb.com/GhanaHomePage/features/artikel.php?ID=42857>
- Tapsoba, S. J. M., Kassoum, S. Houenou, P. V., One, B., Sethi, M., and Ngu, J. (Eds.). (2000). *Brain Drain and Capacity Building in Africa*. Joint publication of the Economic Commission for Africa, the International Development Research Centre, and the International Organization for Migration.
- Teferra, D. (2000). Revisiting the Doctrine of Human Capital Mobility in the Information Age. In Sibry Tapsoba et al. (Eds.) *Brain Drain and Capacity Building in Africa*. IDRC (International Development Research Center), IOM (International Organization for Migration), and ECA (Economic Commission for Africa), 62-77.
- Teferra, D. (2003a). *Scientific Communication in African Universities: External Assistance and National Needs*. New York: RoutledgeFalmer.
- Teferra, D. (2003b). Unleashing the Forces of the Diaspora: Capitalizing on Brain Drain in the Era of Information and Communication Technologies. In *Diasporas*

- Scientifiques--Scientific Diasporas, part II* (CD-ROM), Chapter 6. Collection "Expertise Collégiale". Paris: IRD Editions. 226-243.
- Teferra, D. (January-February 2004a). Intellectual African Nomads in the Information Wonderland. *International Association of Universities Newsletter*, 10(1-2), 1-3.
- Teferra, D. (Spring 2004b). Mobilizing the African Diaspora. *International Higher Education*, 35.
- Yatsko, P. (2002). Brain Circulation. *Forbes*.
<http://www.forbes.com/global/2002/0916/058.html>
- Young, A. (2004). Entry Rules Eased for Migrants. *New Zealand News* 08.07.2004.
<http://www.nzherald.co.nz/storydisplay.cfm?storyID=3577158>
- Zachary, G. P. (July/August, 2002). Ghana's Digital Dilemma. *Technology Review*. 66-72.