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## **The Developing World: Beneficiary of the Global Knowledge-Society in the 21st Century**

### **FOREWORD**

This paper revisits the much debated issue of brain drain and its heralded nefarious consequences on the Developing World. We take an objective look into the effects of brain-drain on developing societies, past, present and future, and suggest how this also has the potential of making the Developing World a beneficiary of the global knowledge-society in the 21st century.

We are principally concerned with the causes and operation of brain drain as well as the ethical aspects of imparting knowledge to brains from developing countries: is it solely for the benefit of developed economies or seen also as a moral responsibility to train scientists from the Developing World to help their local economies? What are the responsibilities of the 'trained brains' or scientists as regards taking up the challenge to return and develop their home economies? On the other hand, what role do decision-makers in the Developing World play to make their societies conducive for scientific and technological development and maturity?

This paper mostly dwells on the migration of Africans, (students and scientists) in the post-independence years and the consequences on present day sub-Saharan Africa and the foreseeable future. While looking at the commitment of African decision-makers in creating a suitable environment for the brains to return and prosper, we also look at the initiatives in certain developed countries like Germany to help trained Africans return home and be integrated. Although it has been proven in the past that every developing economy needs its talented and skilled citizens, statistics on the contributions of these 'brains' to their home economies, and also the number of professionals trained at little or no cost to the developing economies show that, for the Developing World, brain drain certainly could flip to brain-gain in the 21st century.

### **I. WHAT IS BRAIN DRAIN?**

Brain drain is an old plight popularized in the 1960s with the loss of skilled labor-power from a number of poor countries (COHEN 1996–97). It can be described as a situation where the most educated and skilled personnel loss is greater than the ability to replace or produce these personnel, resulting in a shortage of skills<sup>1</sup>. Human history is marked

<sup>1</sup> Report on strategic skills seminar for Africa, Johannesburg South Africa, September 2004.

by movements of populations from one region to another in search for a better life. From early Homo sapiens moving out of Africa some 60 thousand years ago, to the Huguenots moving to England; the Germans, Italians and Irish moving to the United States; and the Chinese moving to Australia, all shared a dream of greener pastures. These movements caused exceptional 'brains' to leave their ailing home countries and apply their genius to newly adopted and often more advanced societies. They have made enormous contributions to science, academia, sports, the arts and government of their host communities.

How extensive then is brain drain, and what proportion of the pool of skilled workers do these brains represent from their countries of origin? As pointed out by Carrington and Detragiache, it is difficult to measure precisely the flow and levels of education of immigrants.

## 2. THE CAUSES AND OPERATION OF BRAIN DRAIN

Despite the recent favorable economic prospects of developing countries, including a projected growth rate of 5.2 percent in 2005 and 5.1 percent in 2004<sup>2</sup>, most developing countries, especially in Sub Saharan Africa, are still unlikely to meet the anti-poverty targets set out by the United Nations (The Millennium Development Goals). Incomes are still very low and sometimes not paid for several months, there is still acute lack of infrastructures and facilities, and worse, lack of political will. As such, students and professionals hardly find sufficient motivation to pursue studies and carry out research in their developing home countries. The lofty stories about Western universities and work environment take precedence over the little and sometimes coerced efforts of governments of developing countries to overhaul infrastructures and promote investment and growth. The direct consequence is that intellectuals and budding intellectuals (thereon referred to as 'brains') of the developing countries leave, and their creative power and natural abilities, crucial resources to the growth performance, are lost to the developed world. This drain of the brightest, most educated and talented individuals from developing countries has direct economic, political and socio-cultural consequences.

This paper, however, seeks to establish that, although the developing world loses most of its best talents in the contemporary process of brain drain, the long-term perspective may be more positive for the developing world than previously thought and deplored. Brain drain could de facto make the developing world the beneficiary of the global knowledge-society of the 21st century, because those 'brains' working and studying in developed nations are being held in trust for developing countries. This is true if we take into consideration 1. remittances sent and other contributions made in kind to the developing world by these 'trained brains'; the fact that 2. the 'brains' are sometimes trained or their skills perfected at little or no cost to their home countries, where they may later on return to work; and 3. in most cases, they receive training which is crucial but unavailable in their home countries.

<sup>2</sup> Business Report International – IMF Strikingly Positive About Africa, published in *The Star, Cape Times, The Independent Media*, 14 April 2005.

Because questions about brain drain are at the center of moral and ethical debates around the world, this paper also addresses the ethics of training 'brains' from the developing world and taking advantage of their genius, as well as the responsibility of the 'trained brains' towards their home countries. We will also take interest in the responsibility of decision-makers to ensure that these 'brains' return home to an enabling environment that fosters their contribution to society, and are integrated.

### **3. THE ETHICS OF TRAINING 'BRAINS' FROM DEVELOPING COUNTRIES**

At what level is the issue of brain drain an ethical problem? Joseph Cardinal Ratzinger (now Pope Benedict XVI), former dean of the College of Cardinals, who served as the Vatican's doctrinal watchdog for 23 years, contended that 'in the hour of its greatest success, Europe seems to have become empty inside, paralyzed by life-threatening crisis to its health and depending on transplants'<sup>3</sup>. His Holiness was no doubt referring to Europe's low birth rate and dependence on immigrant labor. European population growing smaller and older has been the cry of recent years. Koffi Anan in his famous Sakharov speech at the European Parliament on January 29th 2004 said, without immigration, countries like Italy, Austria, Germany, Greece, Japan and South Korea would see their populations drop by a quarter by 2050. Microsoft chairman, Bill Gates is also urging the US government to eliminate immigration limits on foreign engineers who can be hired by US companies. Prior to May 2005, the limit was 65,000 for overseas workers who can be hired each year under the H1-B visas<sup>4</sup>. On December 8, 2004, President Bush signed the Omnibus Appropriations Act (OAA) for Fiscal Year 2005, Public Law 108-447, 118 Stat. 2809. Among the provisions of OAA is the H-1B Visa Reform Act of 2004. The Act makes available an additional 20,000 new H-1B numbers in FY 2005, limited to H-1B nonimmigrant aliens who possess a U.S. earned master's or higher degree seeking work start dates during FY 2005. Filing started effective May 12, 2005.

The above statistics means that the need for skilled and unskilled immigrant labor is felt more than ever, and developed countries undertake to train 'brains' from developing countries or perfect immigrant skills in order to meet their own needs. Between 1985 and 1990 for example, Africa lost over 60,000 middle-level managers to Western economies. It is also estimated that, every year, about 23,000 lecturers from African universities emigrate, with the same amount of graduates leaving Africa for opportunities overseas. This means that from post independence years, upwards of 5 million doctors, teachers, engineers, technicians and managers are living and working elsewhere. This emigration of technically skilled people has left 20,000 scientists and engineers in Africa, servicing a population of about 600 million<sup>5</sup>.

This unfettered market-driven solution to let brain drain from poorer countries to replace lost skill is wrong because there is more demand for these 'brains' in their developing home countries. It is an egoistic perspective, serving only the interests of the developed economies.

<sup>3</sup> Values in Times of Upheavals, published by Munich's *Sueddeutsche Zeitung* newspaper in April 2005.

<sup>4</sup> *Boston Metro* of 28 April 2005.

<sup>5</sup> CBCAfricaRecruit memorandum.

On the other hand, however, the flow of emigrants into developed countries is often more than they are needed, which is exacerbated by the annual population growth rates in the world<sup>6</sup>. Emigrants often come with different cultures and languages, a source of conflict, as well as sometimes indulge in crime. Developed economies thus have an interest that a good number of 'brains' return to their home countries after a period of time. Some have instituted programs that assist the 'brains' to return to employment in their home countries. When such happens, the initial problem of brain drain becomes brain gain for the developing countries. Still, from the perspective of the developed countries, it remains a self-serving motive for the return of emigrants to their home country.

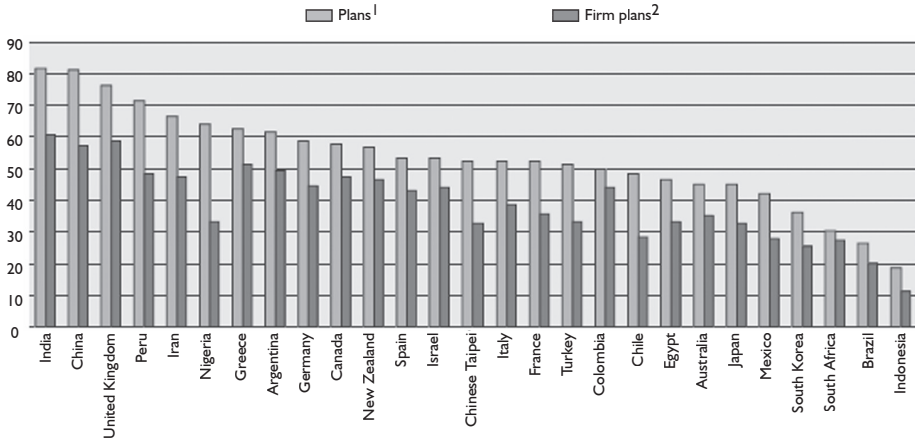
There are, however, examples of initiatives that are purposely intended to train and assist in the integration of national expatriates into the home countries. German DAAD scholarships, British Shell and Chevening scholarships are educational research bursaries and scholarships provided by institutions and governments of developed countries for 'brains' of the developing world to be trained and then return and apply their skills to their local economies. To the extent that these semblance altruistic initiatives are emulated by others and are sustained, the prevailing view of the ill-effects of brain-drain will require revisiting.

Training 'brains' from the developing world can, therefore, be judged as wrong, when done to help developing economies have skilled citizens; and as the right thing to do, when done for the egoistic reason of filling the gap left by the ageing populations. In either scenario, the drain of brains in the last century could become brain gain for the developing countries in this century if these trained brains on the whole continue their return as well as their distant contributions to their respective societies. Nevertheless, the current trend shows that the proportion of brains that are retained in developed countries after training far surpasses those that return to their home countries (see *Figure 2* for US data). At this stage, we will have to address yet another issue: at what level should we attribute blame, collectivist or individualistic view? Much has already been said about the collectivist argument for putting the blame at the country level, both developed and developing. Can we also attribute blame to the individual 'trained brain'? Put differently, are there reasons why the trained brain cannot be held as a morally responsible agent in this case? Is inability of these trained 'brains' to return to their home countries, or ignorance on their part about opportunities available in these countries to contribute sufficient to excuse their culpability?

Let's examine the concrete case of sub-Saharan countries that, we think, brings out much of what is at stake in debate over the culpable parties to the brain drain issue.

<sup>6</sup> From -1.1% in the Republic of Latvia to +8.6% in Liberia. (McCONNELL – ABEL 2002)

Figure 1. Percentage of total students (all fields of study), by country of origin



Source: Science and Engineering Indicators, 2000

<sup>1</sup>Proportion of foreign doctoral students who intend to stay in the United States on completion of their studies.

<sup>2</sup>Proportion of foreign doctoral students who received an offer of work from an American employer on completion of their study.

#### 4. SUB-SAHARAN AFRICA (SINCE 1960) AS CASE STUDY

Africa, particularly Sub-Saharan Africa, is the only continent in the world yet to enter a period of strong and sustained economic expansion. Per capita income growth is lowest and was negative over the previous two decades; labor costs are high, and so is inflation. Most African governments cannot provide basic amenities like health care and education, and the ambient anguish fuels tribal and political feuds, human rights abuse, corruption and totalitarianism<sup>7</sup>. There cannot be better incentives for populations to emigrate. Few Sub-Saharan Africans leave school with prospects of obtaining jobs, no matter how excellent their results are. The tendency over the past two decades has been to leave for the reputed universities and highly industrialized societies of the developed West.

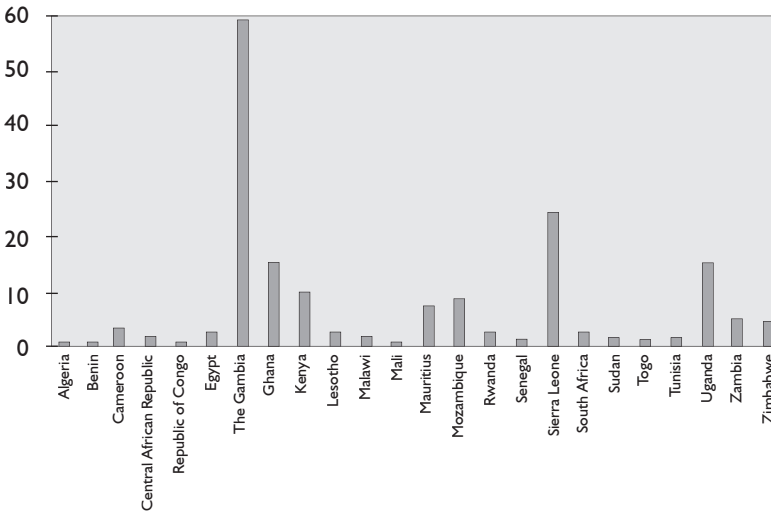
Sub-Saharan countries are relatively very young<sup>8</sup>, and it is normal that they are still grappling with issues of democracy and good governance in order to create a suitable environment for sustained economic growth. During the 1960s and 1970s, many African countries, however, enjoyed a brief economic success, and emigration to the developed

<sup>7</sup> Between 1960 and 1985, there were 131 attempted coups in Africa, of which 60 were successful. Out of 54 independent African countries, only six countries have not experienced an attempted or successful coup since they became independent.

<sup>8</sup> 29 African countries had independence in 1960, 5 before 1960, 15 after 1980.

West was lowest<sup>9</sup>. Few ‘brains’ left Africa (comparatively), as universities and industries were built and new opportunities created. Sadly, the proceeding decade outlived the success story, and the ‘brains’ trained at home were seemingly not of much help. Africans, young and old, talented and skilled, have left the continent in the millions since then, their destination being the developed world.

Figure 2. Migration rates (tertiary education only) of some selected African countries to the United States in the 1990s



Source: Carrington – Detragiache 1999

Surprisingly, the biggest migration from Africa to the United States for example, flows from Egypt, Ghana and South Africa, Africa’s best economies and democracies (except for Egypt). More than 60 percent of immigrants from these three countries have tertiary education (see Figure above), and statistics show that African immigrants to the United States boast some of the highest educational attainments of all immigrant groups, while the migration of Africans with only primary education is almost nil<sup>10</sup>.

This exodus has been deplored over the years as a major impediment to economic growth, since some of the finest talents and skills are working for the development of other regions. The trends show that migrants to the developed world tend to be better educated than the average person in their home (source country), and African universities actually train more than a third of their graduates for export to the developed nations. On the flip side, ‘brains’ staying at home have not helped the continent much, especially when emigration was rock bottom in the post-1960s (independence years), and there is little chance that they can be of any help to the continent now. The major problems

<sup>9</sup> For example, there are 23,056 Africans presently studying in German universities. The number has multiplied by five from the 4,109 African students in former West Germany in 1983 and multiplied by two from the 10,245 African students in unified Germany in 1992 (Statistisches Bundesamt Deutschland 2004).

<sup>10</sup> More than 10,000 Africans (mostly educated) left for Europe or America in 2003 alone. (OKOAMPA-AHOOF 2005)

are the very ones that cause the 'brains' to leave: dictatorship, mismanagement, political persecution and ethnic cleansing. Africa has invariably been referred to as the 'dark continent' or 'place of doom' or 'the coming anarchy' by Western media. Despite recent IMF statistics predicting a 5.2 percent growth this year, Sub-Saharan Africans are still immersed in these problems and consequently, the continent is being drained of the 'brains' which it direly needs.

## **I. HOLDING THE 'BRAINS' IN TRUST FOR SUB-SAHARAN AFRICA?**

When we keenly observe the present situation, we realize that draining Sub-Saharan Africa of its brains may not have been such a bad idea after all, if the historic phenomenon of 'brain drain' is turned into 'brain gain'. Africans are currently utilizing the experience and knowledge of the Diaspora in revitalizing Africa, with some countries enjoying short-term benefits. It is more likely that in the near future, with a good number of African countries having reformed their economies and improved the quality of their economic and institutional governance, they will call this plight a 'blessing in disguise'. African economies will receive highly qualified 'brains', whom they spent little or nothing to train or have had their skills perfected and could never have trained in the first place, for example Burkinabe petroleum engineers or Rwandan surgeons and PhDs in Economics. This wealth of entrepreneurial talent, if harnessed, can help the continent move from dependency to partnership, which in the long term will be brain gain for the developing Africa.

Also, the contributions in kind (cars and electronic devices) and remittances that these 'brains' send home each year because of the opportunities they have been given in the developed world to apply their genius, are already a booster to some African economies. The UN Secretary General, Kofi Anan, revealed to the European parliament that migrants from developing countries in 2002 sent home 88 billion US dollars, 54 percent more than the 57 billion US dollars those same countries received in official development aid. An estimated \$3 billion is received in Africa in remittances each year from Africans in the Diaspora through official and formal channels; with as much again through informal person to person transfers (informal sources associated with the Central Bank of Uganda being estimated to be more than \$650 million in 2004 from Ugandans in the US alone<sup>11</sup>). This accounts for half the national income in some countries. As such, it is obvious that a good number of 'brains' abroad are cognizant of their responsibilities towards their developing home economies.

The IMF in its twice-yearly world economic outlook report notes that the encouraging growth performance in recent years in Sub-Saharan Africa has renewed optimism that this region is already entering a period of economic expansion. Per capita income has picked up and become positive for the past five years, and the growth of Africa's largest economy, South Africa, is expected to rise to 4 percent this year. More so, growth of the Nigerian economy is expected to soar to 7.4 percent this year from 3.5 percent in 2004 as a major offshore oil field and two gas liquefaction facilities entered operation. Other

<sup>11</sup> Bill Tita: personal communication.

African countries like Angola, Chad and Equatorial Guinea that export oil are expected to enjoy the best growth performances this year. Although the whole picture is still gloomy, these statistics are a source of great optimism that Sub-Saharan Africa is on the right track, and coupled with initiatives to find permanent solutions to tribal and political conflicts, as the South African president Thabo Mbeki is doing with Cote d'Ivoire, it is only a matter of time for these countries to enjoy some form of economic and political stability.

Such stability would no doubt serve as an incentive for the millions of African 'brains' to return home. The demand for highly skilled labor would be met by the supply from developed countries. During the Tony Blair/UK-led Commission for Africa in South Africa, March 2005, it was disclosed that there are more African engineers in the United States than there are in Africa; during his visit to the United States early this year, Nigerian President Obasanjo revealed that a great majority of medical doctors (more than 5000) trained in Nigeria emigrate and practice in the U.S. This number, added to Nigerians graduating from medical schools each year in the U.S. also means that the U.S. holds more Nigerian medical doctors than there are in most sub-Saharan African countries. The impact these trained engineers, doctors and other scientists might have on a vibrant African economy cannot be overemphasized.

From the above, it may not be precocious to assume that the developed world holds the trained African 'brains' in trust for Africa. There are, however, two implied but strict conditions on this trust relationship: the African 'trained brains' must accept their duty as citizens and 'sons of the soil', and African Leadership, at all levels, must improve the type and quality of their economic and institutional governance.

## **II. THE DUTY OF 'TRAINED BRAINS' AS CITIZENS AND 'SONS OF THE SOIL'**

From 13th to 19th September 1999, there was an online discussion on the role of the African Diaspora in accelerating Africa's movement into the information age. The moderator of the discussion gave a brief definition of African digital Diaspora as Africans now living in developed countries who by education and work experience have acquired skills and/or perhaps capital or ready access thereto that could be helpful in accelerating Africa's movement into the information age. Most participants from the Diaspora asserted that they were a highly undervalued resource quite willing to contribute to Africa's growth, but shied away because of current political will and social policies in the continent. The confidence rating by these 'trained brains' was so low that a good number maintained they would only work in collaboration with home governments within a given sector mandated by the law.<sup>12</sup>

Despite the pessimism of many 'trained brains' abroad, as well as the half-hearted efforts of African governments to entice them back home, poverty, corruption and ethnic divide continue to cause suffering in Africa. Contributing to the development of the continent must, therefore, not be conditioned on African governments' responsibility

<sup>12</sup> For more information about African Diaspora Organizations, see: <http://www.sul.stanford.edu/depts.ssr/africa/elecnet.html>. Web information on Development Initiative in Africa: [www.undp.org/tcdc/index2.html](http://www.undp.org/tcdc/index2.html).



alone. It has been established with facts that these 'trained brains' abroad are Africa's largest donors, and thus the survival of many is hinged upon them. This implies that the erstwhile brain drain becomes a huge brain gain if the 'trained brains' take responsibility towards the development of their societies as citizens or 'sons of the soil'.

A citizen is a person legally recognized as a national of a state or commonwealth. This may be due to different reasons depending on the law of the state in question (since the recognition is by law): he/she was born of parent(s) who are citizens of the state; has lived in the state for several years; is married to a citizen of the state; or is honored because of special circumstances. The reasons why any state or commonwealth would recognize a person as citizen: because of your parents, spouse or because it has provided you haven for so many years in order for you or your relations to prosper, provide enough moral impetus for action. This is how the 'brains' abroad ought to see their relationship with their home countries. The deplorable state of affairs in Africa shames their status and origin, and because statistics show that they have the power to accentuate change, they should act.

We must nevertheless acknowledge that their efforts, no matter how good and well-intentioned, are almost futile as regards reforming the continent in the absence of political will and purposive actions of the leadership.

### **III. THE MORAL RESPONSIBILITY OF DECISION-MAKERS (BOTH DEVELOPED AND DEVELOPING WORLD)**

The decision-makers of both the developed and developing world are at the driver seat with regard to helping the developing world take advantage of the brain gain in the 21st century. For decision-makers in the developing world, the task is simple: make their societies conducive for economic prosperity. It has often been posited that political considerations determine economic rationality, and therefore, where the players in the political stage do not agree, there will hardly be any scene for economic growth. Africa today is an expanse of diverse conflicts because African decision-makers do everything but agree. Laws and enforcement agencies ignore corruption<sup>13</sup> and property rights, and governments fail to enforce the rule of law. The environment where wealth can be created is thus absent.

The recent visits of Nigerian president Obasanjo, South African president Thabo Mbeki and Ugandan president Museveni to the United States, partly intended to convince 'trained brains' abroad to invest or return home, are commendable efforts but not enough. Such attempts have been geared solely at disseminating positive and optimistic information about Africa, although the true situation is the contrary. African governments often rather spend billions of dollars annually to recruit and pay 100,000 expatriates to work in Africa, but fail to spend a proportional amount to recruit the 250,000 African professionals working outside Africa. There is so much to gain

<sup>13</sup> According to the Transparency International Corruption Perception Index compiled at the University of Passau in 2004, two of the five most corrupt countries in the world are African (Nigeria and Chad); the three others being Haiti, Bangladesh and Myanmar. All African countries studied but for Botswana and South Africa scored less than 5.0 on 10.

from these major donors, and decision-makers should institute programs using these 'trained brains' as a consortium for exchanging ideas and experiences directly related to the development of African economies, in line with the truncated success of the Economic Commission for Africa to stage the African Development Forum in 1999. African governments should make an inventory of Africans living abroad, promote joint research and teaching, and use medical specialists and other professionals in periodic return visits and short-term training assignments. Encouraging responses are now coming from the Commonwealth Business Council and NEPAD Secretariat, which have jointly established AfricaRecruit to provide a platform for debate with the African Diaspora on how to contribute to an Africa-wide human resources/skills strategy, and ensure that governments and employers work together to make skill transfer and employment opportunities easier to match. The African Union (AU) has expressed its appreciation for the initiative, which supports the AU's policies on the role and contribution of the Diaspora.

Because it is obvious that decision-makers of the developing world are doing little to take advantage of the brain gain, the decision-makers of the developed world must also act. These 'brains' have been crucial to the functioning of healthy economies in the developed world, and as Koffi Anan told the European Parliament, '[you] cannot extract labor of immigrants and ignore other aspects of their humanity'.

These 'brains' originate from different societies, which are in dire need of their talents and skill, and it is a moral duty of the developed world to ensure that they also apply these skills to the development of home economies. This opens vistas of international cooperation because African economies need to attract emigrants back home, and developed countries have an interest in immigrants returning after a period of time. We support Koffi Anan that the Tampere framework<sup>14</sup> is a basis on which a common European policy should be set.

The International Organization for Migration also has Africa Programs assisting African countries' catch-up in the fast growing international market by using the services of citizens abroad. The Return and Reintegration of Qualified African Nationals Program offers assistance to African nationals returning in employment or self-employment in sectors of priority to the country's development. Although the resources are not always sufficient to support the projects of returning 'trained brains', this is, no doubt, a commendable initiative that enables African economies to benefit from the brain drain of last century.

We can thus find ways to turn this historic phenomenon of the 'brain drain' into a 'brain gain' – utilising the experience and knowledge of the Diaspora in the revitalization of Africa – therein lies our challenge of the 21st century.

<sup>14</sup> The first Inter-governmental Conference on Emergency Telecommunications held in Tampere, Finland in 1998, provided the framework for the unhindered use of all available and appropriate means of telecommunications in the service of international humanitarian assistance.

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