

SAHAN

Wetenschappelijk onderzoek & adviesbureau

Reversing the Brain Drain in Africa

**Harnessing the Intellectual Capital of the
Diaspora for Knowledge Development in Africa**

Feasibility Study for NUFFIC

**Dr. A.A. Mohamoud
SAHAN Wetenschappelijk Adviesbureau
Amsterdam, September 2005**

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Preface

This feasibility study was commissioned to SAHAN research bureau by the Netherlands Organisation for International Cooperation in Higher Education (Nuffic). The main aim of this first phase of the study is to investigate the feasibility of involving African diaspora academics and researchers in the Netherlands in a 'brain circulation scheme' designed to mitigate the adverse effects of the brain drain in Africa. The study is conducted to obtain baseline information about the profile of highly skilled African diaspora in the Netherlands in terms of their contact information, skills profile and areas of expertise, links they maintain with institutions of higher education in Africa, their readiness to impart their knowledge to Africa, and the challenges, constraints and modalities of transferring knowledge to Africa.

The information in this study has been collected through interviews with thirty highly qualified African diaspora in the Netherlands, in small group discussions, and site visits to institutions such as universities and other institutions of higher education in the Netherlands to which some of them are attached. The study has benefited considerably from the insights and experiences that these highly skilled African diaspora individuals have willingly and openly shared with us during the course of these interviews. The study also draws upon documents, reports and online publications addressing the ways to reverse the problem of the brain drain in Africa.

The thirty interviewees chosen in this study were identified through contacts with different universities that some of them attached in the Netherlands; through the organisations that their countrymen in the diaspora set up in the Netherlands; through our own networks and through internet search. The thirty interviewees selected in this feasibility study represent persons of the African diaspora in the Netherlands already integrated into the wider host society through citizenship, permanent residence, education and employment, rather than individuals on the margins of the society. They are also selected because majority of them have acquired considerable teaching and research experiences in science and technology fields that are in such great demand at many universities in Africa.

The study identifies three categories of educated African diaspora living in the Netherlands. One category is those who acquired higher qualifications such as doctorate degrees in both science and social science fields. This category is the focus of this study. The study investigates the feasibility of engaging this highly qualified category in research and development (R&D) through 'brain-circulation' in the universities in Africa. Another category is those with university degrees in both science and social sciences subjects and acquired specialised skills such as medicine, engineering, information technology, accounting and business management. A third category is those graduated from the universities of professional education (hogescholen) in the Netherlands. They have acquired vocational and technical skills very much needed in Africa today.

The number of the highly skilled African diaspora in the Netherlands that the thirty individuals interviewed in this feasibility study represent is estimated to be around 200 individuals. This is just a conservative estimation. The number is certainly more if it is added on those graduated from vocational and technical schools (hogescholen) in the country. To get a reliable figure, a compilation of a database of the skilled African diaspora in the Netherlands is indeed required.

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I am grateful to Eric Ansah from the University of Amsterdam for conducting part of the interviews used in this feasibility study. I also thank Marte Hellema for her research assistance in such matters as collecting data and tracking down some of the interviewees through extensive internet search, which contributed much to the completion of this report.

Last but not the least, I want to extend my gratitude to the African diaspora individuals whose undercapitalised wealth of knowledge, views, insights and practical experiences have significantly enhanced the quality of the report.

September 7, 2005

Dr. A.A. Mohamoud

SAHAN Wetenschappelijk onderzoek & adviesbureau

Executive Summary

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The information in this study has been collected through interviews with thirty highly qualified African diaspora in the Netherlands, in small group discussions, and site visits to institutions such as universities and other institutions of higher education in the Netherlands to which some of them are attached. The study has benefited considerably from the insights and experiences that these highly skilled African diaspora individuals have willingly and openly shared with us during the course of these interviews. The study also draws upon documents, reports and online publications addressing the ways to reverse the problem of the brain drain in Africa.

Main Findings of the Study

1. Skills Profile of the Qualified African Diaspora

The skills profile of the qualified African diaspora interviewed illustrates highly developed skills and capacities in science and technology. For instance, 7 of the 30 people interviewed have doctorates in engineering fields and in environmental, natural and agricultural sciences — skills badly needed in Africa. The profile also shows that they have considerable teaching and research experience gained through their associations (some of them for more than 10 years) with universities and research institutions in the Netherlands. Moreover, 6 of the 30 people interviewed are PhD students in science and technology fields. Furthermore, 2 of the 30 interviewees are medical doctors while one has an engineering masters degree and another has an ICT bachelor’s degree. In addition to this, 4 of the 30 people interviewed have master’s degrees in economics. In this respect, a good number of the selected African diaspora have considerable skills in the science and technology fields that are in such great demand at many universities in Africa.

2. Readiness to Impart Knowledge to Africa

In principle, the 30 highly qualified African diaspora interviewed affirmed their willingness to contribute to the development of knowledge in Africa on a voluntary basis. In only one case, where an interviewee was not employed at the time of the interview, did an individual conditioned voluntary assistance on finding gainful employment to support herself. Interviewees are also prepared and ready to offer summer courses, organise seminars and workshops, and review teaching and training curricula, etc, without charging for their services. In this respect, they all responded that their coaching and lecturing services would be free, with the view that such services would be a part of their voluntary contributions to this effort to transfer knowledge to Africa. The only condition they stipulated was to receive reimbursement for their travel and accommodation costs and for living expenses in the field.

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Some of the interviewees suggested cost-free methods to transfer knowledge to the universities in Africa. For example, it would be cost-free if summer courses could be organised to coincide with private visits to the homelands of skilled diaspora volunteers. In such cases, reimbursement of travel expenses and other related costs would not be required and no costs would be associated with the voluntary service since the individual would, in any case, be going home for holiday.

Some others proposed more sustained and structured approaches for imparting knowledge to Africa. One practical suggestion advanced which is worthy of policy consideration proposes that the African diaspora academics can transfer knowledge in a structured manner by working three months per year at universities in Africa. For example, a willing African diaspora scholar can voluntarily teach, train, develop curricula and do research in a university in Africa for three months per year while retaining his or her employment at the university or institution to which he or she is attached here in the Netherlands. In practice, this means that the salary for the three months that the African diaspora scholar would be spending at the African university would be paid by the university that employed him or her here in the Netherlands.

3. Contacts with Knowledge Institutions in the Homeland

The patterns of the contacts that the 30 highly qualified African diaspora interviewed maintain with the institutions of higher education in the homeland vary from active, to passive to non-existent. Some of them regularly engage in different kinds of services and activities involving universities in their homelands. Others maintain passive contact, sporadically undertaking limited activities with the universities in the home country. Still others maintain no contacts with the universities in their own homelands but do so with universities in other countries in Africa. Finally, some others maintain no contacts at all with the universities in the homeland for a variety of reasons. In total, out of the 30 qualified African diaspora interviewed, 11 maintain active contacts with the universities at home, 3 maintain active contacts with universities in other countries in Africa, 9 maintain passive contacts and 7 have no contacts at all with the universities in the homeland. The contacts and networks that some of the interviewees maintain with universities in other countries in Africa have been developed while those individuals were conducting research at those universities. Of the 30 highly qualified African diaspora interviewed, 17 maintain active contacts both with the universities in their homeland and with institutions in other countries.

The nature of the contacts that the 30 highly qualified African diaspora interviewed maintain also vary significantly. Most common is involvement in joint projects, short-term evaluation projects, consultancies, supervision of PhD and M.A students, regular contacts with old colleagues staying behind and intermittent contacts with the staff members in the universities in the homeland. Furthermore, they maintain contacts with universities in the homeland by engaging in curriculum evaluation and development, and by providing these institutions with journals, books, materials, software and refurbished second-hand computers from time to time.

The absence of contacts with the knowledge institutions in the homeland is the result of several factors. However, one key aspect worth noting here that interviewees repeatedly expressed is the lack of networks. It was noted that the absence of formal networks is one of the main obstacles preventing many of the highly skilled African diaspora from transferring knowledge back to the continent.

4. Challenges and Constraints in the Homeland

The interviewees noted that at the country level, the conditions which forced them to leave their homelands in the first place, including civil conflicts, bad governance, political instability and poor economic conditions are still limiting or preventing knowledge transfers to Africa. These complex challenges, often referred to as ‘push factors’, relate to the conditions in the ‘sending’ countries that compel the educated class to migrate abroad. They largely manifest themselves in widespread social upheavals, disruption of economic production, poor growth, high levels of unemployment, depressed working conditions, poor physical infrastructure, lack of adequate social services, absence of democracy and human rights abuses.

The constraints at the university level that the interviewees noted and which continue to impede knowledge transfer back to Africa include bureaucratic red tape, hierarchical structures, and poor infrastructure and facilities. According to the interviewees, the combined effects of these constraints plague most universities in Africa to one degree or another.

5. Different Modalities of Transferring Knowledge to Africa

The highly skilled African diaspora interviewed propose a range of modalities for transferring knowledge to their homelands and to Africa as a whole. The modalities suggested include 1) short-term summer courses, 2) part-time lectureships, 3) consultancy assignments, 4) knowledge networks and 5) centres of excellence. The African diaspora clearly expressed their own willingness to contribute to the transfer of knowledge to Africa through these different modalities if they are presented with the opportunity to do so. In the cases of some of the modalities such as short-term summer courses, consultancy assignments and long-distance knowledge networks, the skilled African diaspora interviewed stated that they are prepared to be engaged immediately. Part-time lectureships and the establishment of centres of excellence would require more time as well as political commitments and considerable financial backing to be realised.

Suggestion for a Follow-up Action:

Regarding the collaboration with the Association of African Universities (AAU), the New Partnership for Africa’s Development (Nepad), and other small associations of universities, several of the interviewees are of the view that more time is required to work out the practical modalities. According to them, the practical modalities and possible scenarios for collaboration with the AAU and Nepad are matters that require detailed discussions and deliberations with the representatives of these institutions. In any case, these issues are beyond the scope of this initial survey, which is just the first phase of the study. The second phase of the study will deal with these issues more thoroughly for further research and field work in the universities in Africa. However, to build on the momentum some of the African diaspora interviewed have suggested that Nuffic should immediately organise a follow-up expert meeting to bring together the 30 individuals interviewed for this feasibility study along with representatives of the AAU, Nepad and perhaps others from the small associations of universities such as SARUA. The aim would be to deliberate on the findings of this study and to exchange views, ideas, experiences, positive examples from the past, best practices and appropriate practical modalities for the implementation on the ground of this diaspora-oriented brain gain programme. Another aim would be to work out preliminary policy proposals that could facilitate the collaboration and partnership relations between the highly skilled African diaspora in the Netherlands and representatives of the AAU and Nepad institutions with regard to the development of knowledge in Africa.

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Harnessing the Intellectual Capital of the Diaspora for Knowledge Development in Africa

‘A globalising world makes it possible for more citizens to think, live, and act as trans-nationals for whom home and abroad are no longer fixed and immutable locations’

Richard Joseph¹

1. Introduction

If one weighs the relative progress towards the development of worldwide human resources over the past 40 years, it is impossible to ignore the fact that the continent of Africa has lagged far behind the rest of the world. Furthermore, the problem of the ‘brain drain’ has affected Africa more severely than any other region. The problem is now a matter of especially great concern, as the institutions of higher education and research in Africa face serious shortages of qualified academics and researchers.

The crisis is even more acute because Africa is losing the research and innovation capacity needed to participate in the development and exploitation of global knowledge — knowledge required to find solutions to the most pressing challenges of our time. Some of the pressing global problems that urgently demand immediate research relate to the eradication of hunger and abject poverty, disease, violent conflict, security issues, migration, the degradation of the natural environment, etc. In view of this urgency, it is inadvisable to simply ignore Africa or to consider it irrelevant to the pursuit and development of knowledge. It is an acknowledged truism that knowledge is an important prerequisite for development, progress and social advancement. This is even more generally accepted now than it ever was in the past, as the acquisition, generation, and application of knowledge has emerged as one of the most critical factors for the success of sustainable development.

The flight of the intellectual capital from Africa is alarming. The UN Economic Commission for Africa has estimated that between 1960 and 1975 an estimated 27,000 highly qualified Africans left the continent for the West. This number increased to approximately 40,000 between 1975 and 1984, and then almost doubled by 1987, representing 30% of the highly skilled manpower stock — skilled personnel whom Africa can ill-afford to lose. Africa lost 60,000 professionals (doctors, university lecturers, engineers, scientists, etc.) between 1985 and 1990, and has been losing an average of 20,000 annually ever since.² According to the International Organisation for Migration (IOM), there are now 100,000 skilled Africans living and working in the EU and North America. To offset the serious skills shortage created by the lost human capital, African countries have been recruiting about 100,000 non-African skilled expatriates at an exorbitant cost, estimated at US\$4 billion annually. There are currently only 20,000 scientists and engineers in Africa serving a population of about 600 million. It is

¹ ‘At home Abroad: Human Capital and Ghana’s Development’, a paper presented by Richard Joseph to a conference on Migration and Development organised at the Institute of African Studies, University of Ghana, Legon, September 14-16, 2004.

² See *eAfrica: The Electronic Journal of Governance and Innovation*, Published by the South Africa Institute of International Affairs (SAIIA), Volume 1, September 2003:1-16. The whole edition was devoted to the African diaspora and the problem of the brain drain in Africa.

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estimated that Africa would need at least 1 million scientists and engineers to meet and sustain its development goals.³

Brain Drain

The brain drain is depleting scarce human resources in Africa at a rapid tempo, crippling African economies and imposing huge strains on the continent. Furthermore, the brain drain is impeding potential economic growth, and remains *a handicap for sustainable development* in many countries in Africa. Given the limited stock of skilled professionals in Africa, the continued exodus of the enormous human capital, if it continues at the current rate, will condemn the continent to the unenviable status as a perpetual net loser of talent and innovative capacity. To tackle the problem effectively, appropriate and timely policy interventions and programmes are urgently required aimed at reversing the devastating effects of the brain drain in Africa. Even more telling, the outflow of the best and the brightest qualified personnel makes it impossible for Africa to train either enough or enough qualified persons to the high standards desired, nor is it able to do so in numbers sufficient to offset and replace those who have migrated from the continent. As a result of this alarming brain drain, Africa is in dire need of massive capacity building programmes. The programmes are needed to enable Africa to compensate for the losses it is suffering and to equip it with the capacity for research and innovation required for the development of knowledge.

Africa is the continent most dramatically affected by the brain drain in terms of human capital. In this respect, Africa is in a greater need, compared to other regions, of financial support to revitalise its institutions of higher education, to increase its reservoir of skilled personnel and to replenish the stock of human capital lost to migration. Yet, as compared with Asia and Latin America, Africa is not receiving priority from the European Union with respect to academic cooperation and partnerships between African and European institutions of higher education. One example is worth citing here: institutions of higher education in both Asia and Latin America receive financial support from the European Commission through formal programmes intended to stimulate the establishment of networks and to strengthen partnerships between institutions of higher education in Europe and those in other continents. Asian institutions of higher education receive financial support through the Asia-Link programme, and those in the Latin America receive similar support through the ALFA programme.⁴ Unfortunately, institutions of higher education in Africa cannot receive similar financial support making use of European Commission funds since no such formalised Africa-Link programme exists. This can only be viewed as a clear confirmation of the low priority accorded to Africa by the EU policy makers regarding higher education partnerships and academic cooperation. It is also an indication of the extent to which Africa's role in the global production of knowledge had been downgraded.

African Diaspora as Brain Reserve

The shortfall of skilled personnel is a dramatic problem that many countries in Africa are grappling with today, and which they have no capacity to overcome in either the immediate future or over the slightly longer term. On top of this, Africa as a whole is in great need of a

³ International Organisation for Migration (IOM). 'Facts and Figures on International Migration', Migration Policy Issues, No. 2, March (2003), p.1.

⁴ For a wider discussion on this aspect, see Ad Boeren and Hans Maltha, 'A Changing Landscape: Making support to higher education and research in developing countries effective', background paper for Nuffic expert meeting held in The Hague, May 24 and 25, 2005.

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massive capacity infusion in *all* sectors and at *all* levels.⁵ For example, in many countries in Africa, both public and private institutions are functioning poorly and thereby failing to deliver adequate services to the people because of the shortage of skilled personnel. Thus, to lessen somewhat the problem of the shortfall of skilled personnel in Africa in the immediate future and the slightly longer term, it is imperative to galvanise the intellectual capital of the African diaspora living in the West for 'brain circulation' purposes. This means enabling the highly qualified African diaspora to play a vanguard and proactive role for 'brain gain' directed at Africa. The urgency now is to design policies to harness the vast untapped human capital of the African diaspora in the Netherlands and elsewhere in Europe for the benefit of Africa.⁶ Perhaps, a better way to tap the comparative advantage of the African diaspora is to mainstream their intellectual capital strategically into the overall development policy proposals of the Netherlands that are being designed to address the brain drain problem in Africa, with the goal of making better use of the immense intellectual capital and the 'brain reserve' of the African diaspora for the development of knowledge in Africa.

Aim and Objectives of the Study

The main aim of this first phase of the study is to investigate the feasibility of involving African diaspora academics and researchers in the Netherlands in a brain circulation scheme designed to mitigate the adverse effects of the brain drain in Africa. The study has been conducted to obtain baseline information about the profile of highly skilled African diaspora in the Netherlands in terms of their contact information, skills profile and areas of expertise, links maintained with institutions of higher education in Africa, readiness to impart knowledge to Africa, challenges and constraints, and modalities of transferring knowledge to Africa. Within this main aim, the study has the following five objectives:

1. To map out contact information, skills profile, and areas of expertise of highly educated African diaspora in the Netherlands.
2. To explore interest and readiness of highly skilled African diaspora in the Netherlands to contribute to the efforts to reverse the devastating effects of the brain drain in Africa.
3. To assess the links they maintain with institutions of higher education in their homelands.
4. To ascertain challenges and constraints they have encountered in their earlier attempts in this effort and which still prevent them from transferring their intellectual capital back to the homeland.
5. To solicit their views and suggestions for different modalities of transferring knowledge to Africa that skilled African diaspora in the Netherlands can contribute to the development of knowledge in Africa.

⁵ The acute lack of capacity is a core problem in Africa. The limited human capacity as a chronic problem in Africa has been vividly stressed in the new UN Millennium Project report drafted by Jeffrey Sachs. According to Sachs, Africa acutely lacks the human capacity to design good policies and deliver services in all sectors and at all levels. This means that Africa will need far more scientists, engineers, accountants, health professionals, managers, teachers, economists and agricultural instructors than are currently available on the continent. For more information on this aspect, see Jeffrey Sachs, 'Investing in Development: A Practical Plan to Achieve the Millennium Development Goals', (www.unmillenniumproject.org), UN Millennium Project, 17 January 2005.

⁶ From a development perspective, Titi Banjoko asserts that African diaspora constitute Africa's greatest offshore asset because of the potential of their considerable human and financial capital that, creatively and purposefully tapped, could make a big difference to the situation on the continent. Banjoko, Titi. 'Harnessing the Power of the African Diaspora' a PowerPoint presentation placed on the internet. Online at <http://www.odi.org.uk/speeches/africa2004/index.html> [accessed 30 November 2004].

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Data and Methods

The primary data in this study has been collected through interviews with thirty highly qualified African diaspora in the Netherlands, small group discussions and site visits, to such institutions as universities and other institutions of higher education in the Netherlands to which some of them are attached. The study also draws upon documents, reports and online publications addressing the ways that the problem of the brain drain in Africa can be reversed. Furthermore, in this study attempts have been made to gain first hand knowledge and learn from other initiatives undertaken elsewhere aimed at reversing the loss of professional skills from Africa.

There are terms used in this study such as ‘brain drain’ ‘brain gain’ and ‘brain circulation’ that need to be explained beforehand. *Brain drain* describes a situation by which a country loses its most highly educated and skilled individuals in its workforce at a rate faster than they can be replaced, resulting in serious skills shortages. *Brain gain* denotes a situation in which the destination country in which highly skilled migrants end up receives this valuable intellectual capital for free, benefiting from investments in human resources made by the country from which the immigrants originated. *Brain circulation* describes a situation of two-way flows of highly skilled personnel between the technologically advanced countries where those diaspora individuals reside and the less developed countries where they were born or their parents originated.

2. Profile of the Qualified African Diaspora

Baseline Data

The focus group of the feasibility study is highly qualified⁷ African diaspora in the Netherlands who are already integrated into the wider host society through citizenship, permanent residence, education and employment, rather than individuals on the margins of the society. In the research survey, 30 persons were interviewed composed partly of university scholars/researchers engaged in academic work and research in Dutch universities and research institutions, and partly university graduates employed in both the public and private sectors in the country. The university graduates chosen had a minimum of five years professional experience and had acquired specialised skills badly needed in Africa such as engineering, information technology, accounting and business management.

The 30 highly qualified African diaspora interviewed are between the ages of 30 and 55 and most of them have been in the Netherlands between 10 and 25 years. Interviewees had between 5 and 18 years of work experience. Some have acquired Dutch citizenship while others have permanent residence permits. Some others have work or study visas granting permission either to stay in the Netherlands indefinitely or on a temporary basis depending on the nature of employment and the area of specialisation. For instance, 14 have Dutch nationality and one has French nationality. Furthermore, 3 have permanent residence, 6 have work visas and 6 have student visas.

Table 1

Status of Residence	
Dutch citizenship	14
French citizenship	1
Permanent residence	3
Working visa	6
Student visa	6
<i>Total number</i>	<i>30</i>

Most of the 30 African diaspora interviewed were awarded their first university degree (typically a bachelors degree) from their home countries before leaving Africa. Only 4 earned their first degrees in the Netherlands. The rest of their subsequent post-graduate diplomas, be they master's degrees or a doctorates, were acquired abroad.

17 of the 30 interviewees are attached to universities and research institutions in the Netherlands including 3 at Delft University, 5 at Wageningen University, 3 at the Institute of

⁷ Highly qualified or highly skilled personnel interchangeably, used in this study, denote those with university degrees or extensive experience in a given field. See further OECD, 'International Mobility of the Highly Skilled', Paris 2002.

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Social Studies (ISS), one at the University of Amsterdam, 2 at Leiden University, one at the Institute for New Technologies (INTECH) of the United Nations University in Maastricht and 2 at the Transnational Institute in Amsterdam.

Contact information for the skilled African diaspora who were interviewed is listed in the annex of this study. Furthermore, the curriculum vitae (CV's) of most of the interviewees have been compiled in a separate file.

Skills Profile of the Educated Diaspora

The skills profile of the qualified African diaspora illustrates high levels of capacity in science and technology. For instance, 7 of the 30 people interviewed have doctorates in engineering fields and in environmental, natural and agricultural sciences — areas of proficiency badly needed in Africa. The profile also shows that they have considerable teaching and research experience gained through their attachment (some of them for periods exceeding 10 years) to universities and research institutions in the Netherlands. Moreover, 6 of the 30 people interviewed are PhD students in science and technology fields, 2 of the 30 people interviewed are medical doctors, one has a master's degree in engineering and another has an ICT bachelor's degree. In addition to this, 4 of the 30 people interviewed have masters degrees in economics. In this respect, a good number of the selected African diaspora have considerable skills in science and technology — skills areas in great demand among African universities. With regard to social science research and teaching skills, 6 of the 30 people interviewed have doctorates in disciplines such as economics, political science, educational policy studies, development studies and linguistics with considerable teaching and research experiences in the universities and research institutions in the Netherlands. Furthermore, 3 of the 30 people interviewed have masters degrees in development sociology and communication media. Thus, the assessment of the skills profile of the 30 highly qualified African diaspora clearly shows that enormous knowledge, teaching and research capacities exist that could be tapped to further knowledge development in the universities in Africa.

Table 2

Skills profile	
Doctorate in science and technology fields	7
PhD students in science and technology	6
Medical doctors	2
Masters in engineering	1
Bachelors in ICT	1
Masters in economics	4
Doctorate in social sciences	6
Masters in social sciences	3

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Some of the highly qualified African diaspora who were interviewed admitted that their skills and intellectual capacities are either under-utilized in the Netherlands, as they are employed in jobs far below their qualifications, or not utilized at all as they are unemployed. A suggestion that one of the interviewees put forward was that, 'The under-utilized and the un-utilized knowledge capital of the African diaspora in the Netherlands should be made available to Africa where it is badly needed through appropriately designed schemes and programmes before becoming wasted'. The concern of some of the interviewees is that if their skills are not used they might ultimately lose them and that would make them unable to contribute to development both in the host country and in the homeland upon returning.

Shortfall of Critical Science and Technology Skills in Africa

Some of the highly skilled African diaspora interviewed suggested that the critical areas that Africa gravely lacks are science and technology. Sufficient appropriation and application of these scientific skills can move Africa forward, as they are vital to stimulate and accelerate economic growth and development. More importantly, advanced technology and skills equip countries with capacities allowing them to find their own solutions to their domestic challenges such as agriculture and food production, water supply, health, etc. However, because of low levels of scientific skills, Africa find it impossible to extricate itself from the poverty trap under which it currently suffers. There are two reasons advanced by some of the interviewees to explain the limited scientific capacity in Africa.

The first reason is that most of the skilled personnel have emigrated from Africa largely because those trained as scientists, engineers, medical doctors and accountants have skills which are needed and valued abroad. The second reason is the low levels of enrolment in scientific and technical fields in African universities. This is both to the limited capacity of the universities in Africa to accommodate more students in the scientific fields due to the scarcity of facilities and equipment, and also because of the migration of lecturers, teachers and instructors trained to teach in those fields. The low levels of scientific skills have already marginalised Africa with respect to the global development of scientific knowledge.⁸ The problem is grave, as the recent report entitled, 'Our Common Interest' published by the Commission for Africa has argued. The report stated that, 'Skilled professionals are key to building improvements in the administration and technical ability which Africa so gravely lacks'. Thereafter, the report recommends that, 'the international community should commit in 2005 to provide US\$500 million a year, over 10 years, to revitalise Africa's institutions of higher education and up to US\$3 billion over 10 years to develop centres of excellence in science and technology, including African institutes of technology'.⁹

Verwijderd: due

⁸ As Gaillard & Waast (1993) noted, 'Africa as a whole has not been a major factor in world scientific production. The continent accounts for less than a half of a percent of the globe's R&D expenditures, mainstream published research, or research-trained personnel'. However as a World Bank report suggested, strengthening tertiary education in Africa substantially and scientific and technology education in particular is essential to long-term economic and social development on the continent. See further J. Gaillard and R. Waast. 1993. 'The Uphill emergence of scientific communities in Africa', In A. Ahmed (ed.), Science and technology policy for economic development in Africa. New York: E.J. Brill. For World Bank see World Bank. 2002. Constructing knowledge societies: New challenges for tertiary education. Washington, D.C.: World Bank.

⁹ See further, 'Our Common Interest: Report of the Commission for Africa', (London, March 2005).

3. Readiness to Impart Knowledge to Africa

In principle, the 30 highly qualified African diaspora interviewed affirmed their willingness to contribute to the development of knowledge in Africa on a voluntary basis. Only one interviewee, currently unemployed, conditioned a willingness to voluntarily contribute to the development of the African knowledge base on her ability to find a job and support herself. These individuals are also prepared and ready to offer summer courses, organise seminars and workshops, and review teaching and training curricula, etc, without charging for their services. In this respect, they all responded that their coaching and lecturing services would be free, as this would be a part of their voluntary contribution to this effort to transfer knowledge to Africa. As one interviewee eloquently expressed it, ‘This is a way of giving something back to the society we have come from’.

The only condition they stipulated was that the costs of their travel, accommodation, and living expenses in the field should be covered. A justification that one interviewee put forward was that, ‘A personal financial burden can reduce the interest of any volunteer and can even discourage a committed and pro-active volunteer’. Some of the interviewees stated that they are prepared to go to any university and to any country in Africa where their skills and expertise are most needed and valued. According to them, it is not necessary only to help their home countries; they are prepared to help any country or region in Africa where there is an enabling environment on the ground that makes it possible. The interviewees indicated the need to set up a diaspora organisation particularly tasked to facilitate and properly coordinate the collaboration efforts between the diaspora experts in the Netherlands and institutions of higher learning in Africa.

Thus, the 30 qualified African diaspora interviewed have indicated a clear interest, expressed a commitment and are very much motivated to impart skills and contribute to the development of knowledge in Africa. More importantly, they are prepared to undertake this task on a *voluntary basis* if they are afforded the opportunity, as some of them put it, to share their knowledge and professional experiences with the people back home. While gathering information for this study, we sensed a concern and a growing realisation among the highly educated African diaspora living in the Netherlands that they have a responsibility to provide more help to the continent they physically left behind but which they have not abandoned emotionally.

Free Transfer of Knowledge to Africa

Some of the interviewees suggested a cost-free way that they could transfer knowledge to the universities in Africa. In particular, they suggested that it would be cost-free if summer courses were organised to coincide with the private visits of skilled individuals who are part of the diaspora and willing to volunteer to knowledge development activities while in the homeland. In such cases, there would be no need to cover travel expenses and other related costs because the individual would be travelling home for holiday in any case. What would be required however would be proper coordination beforehand. As one interviewee suggested, it would require the existence (or establishment) of a network (or networks) in the host country that compiles, along subject lines, a skills database of the diaspora experts and makes that database available to the different departments and faculties at the universities in the homeland. The departments would then establish e-mail contact with the skilled native diaspora scholars or academics overseas and provide regular updates about the workshops, lecture seminars and conferences planned during the whole year. With this formal contact established, diaspora scholars would be able, when planning to return to their home countries,

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to give a prior notice to the departments that specialise in their areas of expertise, informing them that they are coming and letting the appropriate authorities and/or individuals know that they would be willing to give lectures, short trainings, workshops, seminars, etc. Such an effort would, therefore, require active involvement and collaboration among the departments in the universities in the homelands, diaspora networks and organisations in the host countries, and in some cases, the embassies of the African diaspora homelands in the host countries.

The readiness of the highly qualified African diaspora to transfer their skills to the universities in Africa on a voluntary basis and to provide cost-free services is an opportunity that should be seized and effectively harnessed. However, this type of engagement, despite its attractions, remains an ad hoc, limited and sporadic approach to dealing with the enormous brain drain problem in Africa. Accordingly, some of the interviewees suggested that in addition to this ad hoc engagement, a more sustained and structured manner of dealing with the problem is required. This is due to the simple fact that universities and other knowledge institutions in Africa today are in a great need of a massive infusion of capacity which can not be easily and meaningfully addressed through limited and irregular initiatives alone. Below, therefore, a practical proposition is outlined in brief for transferring knowledge to Africa in a structured manner, making use of the skills of those in the diaspora.

Structured Transfer of Knowledge to Africa

A practical policy proposal advanced which is worthy of consideration suggests that African diaspora academics can transfer knowledge in a structured manner by working three months per year in African universities. For example, an African diaspora scholar who is willing can voluntarily teach, train develop curricula and carry out research at a university in Africa for three months per year while retaining his or her employment at the university or other academic institution to which he or she is attached here in the Netherlands. In practice, this means that the salary for the three months during which the African diaspora scholar is at a university in Africa would be paid by the university that employed him or her here in the Netherlands. It is through this sustained and structured engagement that the transfer of knowledge through the African diaspora academics could have the desired impact of improving the educational standards of universities in Africa. This therefore makes it imperative to actively pursue the possibility of establishing such a structured approach to the transfer of knowledge to Africa, in view of the fact that it is likely to result in greater benefits than would sporadic and periodic efforts.

Such a structured approach to knowledge transfer is applicable not only to African diaspora academics but also to other skilled African diaspora working in other institutions and sectors in the Netherlands who might also be able to transfer know-how to Africa, help to develop or improve networks, and bring their experience to Africa. For instance, a medical doctor in a hospital could go and work in a hospital in Africa for 3 months per year while earning his salary from the hospital to which he is attached in the Netherlands. This is perhaps the most appropriate way, as numerous and diverse Dutch institutions and sectors both public and private can be mobilised on a greater scale to contribute skills development in Africa. The skills development and the capacity building needs of public and private institutions in Africa are tremendous and can only be addressed through sustained and massive engagement over a long period of time. This considerable task will therefore require the mobilisation not only of skilled African diaspora but also the mobilisation of those institutions in the Netherlands and other Western countries with which they are associated. The involvement of the institutions in the host countries in the process is of paramount importance, as they are endowed with rich

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resources, abundant human capital, equipment and materials which can be tapped for the development of Africa. Furthermore, the active collaboration of the institutions with which the African diaspora are employed in the host country in arranging part-time placement in a particular sector in Africa will facilitate the work undertaken to further development in Africa.

4. Contacts with Knowledge Institutions in the Homeland

The patterns of the contacts that the 30 highly qualified African diaspora maintain with the institutions of higher education in the homeland varies from active to passive to non-existent. Some of them maintain active contacts, as they regularly engage in a variety of services and activities with the universities in the homeland. Others maintain passive contact, sporadically undertaking limited activities with the universities in the home country. Still others maintain no contacts with the universities in their homeland but do so with universities in other countries in Africa. Finally, some others maintain no contacts at all with the universities in the homeland for various reasons. Of the 30 qualified African diaspora who were interviewed, 11 maintain active contacts with universities at home, 3 maintain active contacts with universities in other countries in Africa, 9 maintain passive contacts and 7 have no contacts at all with the universities in the homeland. The contacts and networks that some of the interviewees maintain with universities in others countries in Africa have been developed while those individuals were conducting research at those universities. Of the 30 individuals interviewed, 17 maintain active contacts both with the universities in their homeland and with those in other countries on the continent.

Table 3

Contacts with universities in homeland	
Active contacts with universities in homeland	11
Active contacts with universities in other African countries	3
Passive contacts with universities in homeland	9
No contacts with universities in homeland	7
<i>Total number</i>	<i>30</i>

Nature of the Contacts

As the contacts maintained with the knowledge institutions in the homeland vary, so too does the nature of the contacts. The nature of the contacts that most of the African diaspora interviewed maintain with universities in the homeland include joint projects, short-term evaluation projects, consultancies, the supervision of PhD and M.A. students, regular contacts with old colleagues staying behind and intermittent contacts with the staff members. Furthermore, they maintain contacts with universities in the homeland by engaging in curriculum evaluation and development, and by providing these institutions with journals, books, materials, software and refurbished second-hand computers from time to time. These contacts are, in general, informally and privately initiated by the individuals themselves and are of relatively small scale and irregular in frequency. Other contacts are formally undertaken through collaborative efforts between universities and institutions in Africa and those in the Netherlands with which some of the African academics interviewed are linked. These formal contacts involve joint projects and programmes aimed at transferring knowledge and building the capacities of the African universities.

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In this context, the African diaspora academics linked with universities and institutions in the Netherlands have been in a position to play an important role in this effort. Some of them have been transferring knowledge to Africa in this formal way through their respective academic institutions. This is the reason that some of the African diaspora academics attached to knowledge institutions in the Netherlands stated that they are already engaged in *brain circulation* activities, since they are involved in collaborative projects with different universities in Africa. However, not all the highly skilled African diaspora have associations with academic institutions in the Netherlands. Indeed, only 9 of the 30 individuals interviewed are officially linked with academic institutions in the Netherlands. Accordingly, the involvement of the highly skilled African diaspora individuals in formal and institutionalised structures of knowledge transfer to Africa has been very limited. Likewise, the informal and largely individual initiatives that some of the skilled African diaspora have undertaken involving the transfer of equipment and knowledge to the universities in Africa have not been effective because of the informal nature of such activities. This is the reason that some of the interviewees suggested that it is imperative to develop a workable diaspora-oriented programme that would enable many of the highly skilled African diaspora resident in the Netherlands to transfer knowledge to Africa in a collective, coherent and formal manner. As Africa urgently needs to develop greater capacity through knowledge transfer, the involvement of the skilled African diaspora in large numbers is not only necessary but is, in fact, critical.

Absence of Contacts with the Knowledge Institutions in the Homeland

The absence of contacts with the knowledge institutions in the homeland is the result of several factors. However, one key aspect worth noting here that several of the interviewees repeatedly expressed is the lack of networks. It was stated that the absence of formal networks is one of the main obstacles impeding many of the highly skilled African diaspora from transferring knowledge back to the continent. We put this question to the selected interviewees in order to assess their reactions: what are the obstacles preventing you from transferring knowledge to the continent? The answer that a good number of them provided differed from the response we had anticipated. We thought that they would respond to the question by raising such issues as personal insecurity, political problems, conflicts and unemployment. Some of them indeed raised these issues, but many of them also responded to the question by lamenting that they had not been given the opportunity to share their knowledge and experiences with the people back home. Moreover, they do not know how to go about undertaking such activities or where they could begin since they were not familiar with either the issue of brain drain or with concrete activities undertaken around this issue. Furthermore, they stated that they lacked formal structures and networks through which they could connect with the continent as a collective force and thereby transfer their skills to the continent.¹⁰

¹⁰ The creation of knowledge networks (acting as valuable strategic links) in the host countries where the diaspora academics are located are of a prime necessity, as such networks could facilitate the transfer of appropriate knowledge and skills to Africa. Furthermore, the networks are vital in connecting more closely the diaspora population in the host countries with the homelands for various purposes ranging from business investment to the transfer of high-tech skills. A good example of a network worth noting here which can be instructive is the South African Network of Skills Abroad (SANSA). This network facilitates the efforts of professional South Africans abroad to remain in touch with universities in South Africa. SANSA has a database of more than 2,000 skilled South African professionals who have migrated and encourages these expatriate South Africans to lend their skills to efforts to advance scientific developments back home. See further Mercy Brown, 2000. 'Using the intellectual diaspora to reverse the brain drain: Some useful examples'. (Cape Town: University of Cape Town)

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Similarly, the lack of the formal structures and networks in the Netherlands has been one of the primary reasons impeding the highly skilled African diaspora from pooling their efforts and undertaking initiatives collectively. As one of them said, ‘This is the reason that some of us opted to undertake small-scale individual initiatives in order to assist in the development of the continent.

However, individuals efforts, although important, are based on ad hoc activities, and remain small, limited, fragmented, thinly spread, sporadic and neither coordinated nor well organised’. As a result, some of them suggested that before anything else occurs, what is now urgently required is the setting up of a diaspora network or, as someone put it, an African *Diaspora Policy Centre* in the Netherlands tasked to coordinate the activities here. The primary activities of the Centre would be the mobilisation of highly educated African diaspora for knowledge development in Africa, the development of proposals to appropriately tap their intellectual capital, and the identification of mechanisms and channels that those in the diaspora can utilise to more readily connect for development on the continent. Some said that the establishment of a body that could coordinate knowledge transfer and development activities is necessary simply because individually they are very busy with their own work and involved in many different activities, and therefore have no time left even if they want to do something.

5. Challenges and Constraints in the Homeland

There are a number of challenges as well as constraints that the highly skilled African diaspora interviewed stated that they have encountered in their earlier attempts to transfer knowledge to their respective homelands and to Africa as a whole. Furthermore, these problems still persist and continue to impede the transfer of their intellectual capital to the continent. The challenges described vary from one country to another while the constraints raised differ from one university to another. But whatever these problems and constraints may be, the net effect in many countries in Africa has been devastating for developments within the knowledge institutions on the continent.

Challenges at Country Level

The challenges at the country level that, according to the interviewees, forced them to leave their homelands in the first place, and are still limiting or preventing the transfer of knowledge to Africa include such factors as civil conflicts, bad governance and political instability, and poor economic conditions. These complex challenges, often referred to as 'push factors', relate to the conditions in the sending countries that compel the educated class to migrate abroad. They largely manifest themselves in widespread social upheavals, disruption of economic production, poor growth, high levels of unemployment, depressing working conditions, poor physical infrastructure, lack of adequate social services, absence of democracy and human rights abuses.

Civil Conflicts:

Conflicts and civil wars constitute the foremost challenge that has pushed some of the African diaspora interviewed to leave home and seek refuge abroad. Some of the interviewees stated that they left home to escape enduring civil wars and persistent conflicts in countries such as Mozambique, Somalia, Sudan, etc. Moreover, enduring domestic conflicts have destroyed the rudimentary physical infrastructures existing in those countries and badly weakened the viability of social institutions, including the knowledge institutions. Although some of the long drawn-out civil wars have now been resolved, the deleterious effects of these conflicts have left painful legacies, which can only be redressed over a period of many years. The result is that living conditions are very bad, and the enabling environment conducive to attracting skilled diaspora scholars from abroad is absent. This is the reason that some of the interviewees stated that although they now face less personal insecurity in their homelands than before, the situation on the ground is still a barrier which discourages them from making a professional sacrifice and returning home for good.

Bad Governance:

Bad governance and absence of the rule of law are also factors that originally prompted the skilled African diaspora individuals to emigrate from Africa. Bad governance is still a problem in many countries in Africa and makes it impossible for many members of the educated class to participate in knowledge development in their homelands. Some of the interviewees mentioned that they still lack an enabling environment in their homelands featuring such conditions as personal freedom, basic civic rights, democracy and the rule of law, all of which they see as preconditions for them to engage actively in knowledge transfer initiatives to the continent. As one interviewee stated, 'Well governed, Africa will persuade a lot of us to return home and contribute to knowledge development of the continent, since this provides the basis for a nation both individually and collectively to use its creative potential optimally and to prosper economically, intellectually and culturally even if the country is poor'. This remark is of particular significance, judging from the growing motivation among

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the interviewees to return, impart knowledge and contribute positively to the development of Africa. There can be no gainsaying that better governance will create an enabling environment that will persuade some of the skilled African diaspora to return to the continent. As *The Economist* explains, ‘Given opportunities and political stability, good leadership and the rule of law, many of those who would otherwise leave a developing country will stay—and some of those who left will return’.¹¹

Poor Economic Conditions:

Some of the skilled African diaspora interviewed migrated from their homelands due to poor economic conditions and the lack of employment opportunities. In this respect, economic stagnation and decline is still a problem in most of the countries of the interviewees. In some countries, the economic crisis has even worsened since these individuals left home. This is manifested in low wages, widespread unemployment, high inflation, increased financial burdens on individual households and poor living conditions. It also evident in the deterioration of social services such as health care, schools and many other social amenities, and the lack, therefore of a working environment that would be attractive for African diaspora professionals who have been living in the Netherlands for quite some time. Some of the interviewees stated they viewed the extremely poor social services in the homelands to be obstacles preventing them from returning home for good.

In addition to this, the diaspora interviewees related that the prevalence of nepotism and the importance of political connections are additional reasons why they left home — conditions which, they say, still prevail across much of the continent. These problems can be largely attributed to the scarcity and the shrinking supply of economic resources. Thus, competition for limited employment opportunities creates situations in which personal and political connections instead of professional qualifications and merit prevail. As one interviewee stated, the problem in Africa is not so much the lack of highly skilled people but rather the lack of *economic capacity* to absorb educated people and give them incentive to remain on the continent. Similarly, he observed, it is the scarcity of economic capacity that results in poorly funded and resourced institutions of higher learning in many countries in Africa and which makes them insufficiently attractive to retain their own academic staff, let alone to entice those who are already abroad. This interviewee further argued that boosting the economy should be the primary pre-condition for redressing the brain drain problem in Africa. It should be noted, however, that although economic growth is imperative, development itself is impossible when, as is the case in many African countries today, many of the skilled personnel are abroad. For instance, a study by the International Organisation for Migration reported that 30% of the highly skilled manpower stock from Africa are already abroad, a powerful illustration of the grave human resources deficit with which the continent is grappling today.¹² Thus, many African countries face a cruel dilemma: without economic development, skilled personnel cannot be retained, and without skilled people, economic growth is not possible. Simply stated, a vicious circle exists from which many countries in Africa cannot escape since the loss of human capital holds back potential economic growth.

In this respect, the situation in Africa is indeed alarming. Africa is more vulnerable than other regions in the developing world since even a minimum loss of skilled and educated personnel can have a detrimental effect on development and well-being, given the limited stock of its human capital. For instance, World Markets Research Centre noted that, ‘Africa's ongoing

¹¹ The Economist. ‘Outward bound: Do developing countries gain or loss when their brightest talents go abroad?’, September 28, 2002: 24-30.

¹² International Organisation for Migration. *World Migration Report*. (Geneva, 2003).

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development efforts will continue to be undermined as long as the current phenomenon of human capital flight, or 'brain drain' as it is commonly known, continues. The trend, which sees thousands of highly skilled professionals leave the continent every year for opportunities in the developed world, has the twin effects of poor African economies losing their best human capital, while spending precious money on educating and training replacements. The need to reverse this ongoing problem, as well as build and effectively utilise capacities, is now widely acknowledged as a major challenge for African development in the 21st century'.¹³

Creating an Enabling Environment:

Despite the prevailing complex challenges noted above, positive developments unfolding in Africa are worth noting here. This is an aspect that some of the diaspora interviewees raised. According to them there are now attempts aimed at creating an enabling environment that will entice the diaspora Africans to participate in the overall development of the continent. For instance, there are policies in place at both country and continental levels geared to reconnect African diaspora with their homelands in order to enhance the intellectual capital, transnational networks, financial resources and business acumen of the African countries. These policies have been put in place in response to the sharp increase in the migration of skilled personnel and the serious human resource constraints that many countries in Africa are now facing.

The brain drain not only cripples development of the economy but also depletes human resources on the continent. A study by the World Bank reported that some 70,000 highly qualified African professionals, experts, scholars and managers with internationally marketable skills leave the continent every year, mainly migrating to developed countries for better employment opportunities.¹⁴ Thus, to address the problem, certain countries in Africa such as Ghana and Eritrea have made policy concessions that grant these emigrés dual nationality and voting rights in their respective countries.¹⁵ Ghana in particular is one of the African countries in which a third of its highly educated and trained human capital live abroad.¹⁶ Similarly, the Nigerian president Olusegun Obasanjo has now appointed a special advisor for the Diaspora.¹⁷ Likewise, the governments of Mali and Senegal have created Ministries of Foreign and Diaspora affairs, particularly devoted to managing and facilitating relations with nationals living abroad. Furthermore, a number of other countries on the continent such as Liberia, Rwanda and Sierra Leone have already held several diaspora conferences to discuss and explore ways in which the diaspora can contribute meaningfully to development in the homelands.

¹³ For more information, see World Markets Research Centre: Africa In Focus 2002. 'The Brain Drain – Africa's Achilles Heel'. http://www.worldmarketsanalysis.com/InFocus2002/articles/africa_overview.html [accessed 15 May 2005].

¹⁴ World Bank, 2002.

¹⁵ Eritrea is one of the most advanced, perhaps because about 90% of eligible Eritreans abroad voted in the 1993 referendum on independence. Diaspora Eritreans then helped to draft the constitution, which guarantees them voting rights in future elections' (*The Economist* January 4, 2003: 27)

¹⁶ See Special Report Diasporas: A World of Exiles, (*The Economist* January 4, 2003: 26)

¹⁷ Olusegun Obasanjo himself is initiator of the Nigerians In Diaspora Organization (NIDO). The initiative was prompted by the recognition of the huge reserve of knowledge and expertise accumulated by the Nigerians residing outside Nigeria and the contributions they could make to the socio-economic development of their country. In order to tap these offshore talents and resources, the Nigerian Government in 2001, through its Embassies and High Commissions around the globe, set out to encourage Nigerians in the diaspora to come together under an independent umbrella, to contribute to development efforts in Nigeria. For further information, see <http://www.nido-nl.org/about.html>.

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At the continent-level, the African Union (AU) and Nepad are now courting the African diaspora.¹⁸ This means that the continent as a whole is adapting to changing times and wants to reap the benefit from the resources available within its huge diaspora population abroad. For instance, one of the policy goals of the AU is to involve the diaspora more actively in its endeavour to promote democracy and development in Africa. In so doing, the AU recognises the diaspora as a force for positive change on the continent and is attempting to forge a partnership for the benefit of Africa. Addressing an African diaspora conference held in Washington, DC, Amara Essy, Interim Chairman of the AU, aimed to galvanise and reach out to the diaspora with these words:

'The African Union wants to work with the diaspora to create a better Africa that would make them proud of their heritage. The fundamental idea is that we are seeking partnership and it is different from the previous partnership. The AU is not just interested in financial contribution from the diaspora. All we are looking for is for your intellectual capacity to be put at the disposal of the African Union. Thus, our collaboration is not expected to be a one-way activity in which we take from the diaspora and offer nothing in return. Continental Africans and African diaspora must collaborate so that we can support each other. To tell you how important the diaspora are for the African Union, certain member states have even suggested that one of the commissioners should be a member of the diaspora. The diaspora will therefore be the sixth region of the African Union', (West Africa, 20- 26 January 2003:25).

This high-level solicitous approach clearly indicates the value and premium placed on the economic, intellectual capital and transnational networking links that African diaspora possess, and which need to be effectively harnessed for the development in Africa.

Similarly, the New Partnership for Africa's Development (Nepad), attempting to reach out to the diaspora, also calls for the establishment of a reliable and continental database on the brain drain to determine the magnitude of the problem and promote collaboration between the diaspora and those on the continent. An important Nepad priority that is of particular interest to this project is the proposal to develop the human resources capacity of Africa and reverse the brain drain. Furthermore, under Nepad, African leaders explicitly call for the creation of the 'necessary political, social and economic conditions that would serve as incentives to curb the brain drain'.¹⁹

Thus Africa, at both the country and continental levels, is addressing vexing policy issues that have previously frustrated the diaspora and made it impossible for African diaspora to contribute to economic and intellectual development on the continent. The change in policy is creating an enabling environment, badly needed to entice the diaspora, in a number of countries on the continent.

Constraints at the University Level

The highly skilled African diaspora interviewed noted that the constraints at the university level that forced them to leave their homelands in the first place, and which are still limiting or preventing knowledge transfer to Africa, include issues such as bureaucratic red tape, hierarchical structures, poor infrastructure, and inadequate facilities. The combined effects of

¹⁸ See the article of James Butty, 'African Union: Reaching out to the Diaspora', *West Africa* (20th- 26th January 2003:25

¹⁹ See further the original document of the New Partnership for Africa's Development (Nepad), October 2001.

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these constraints plague most universities in Africa to one degree or another as clearly stated by the interviewees.

Bureaucratic Impediments:

Most of the interviewees stated that bureaucratic obstacles in the universities in Africa are constraints that frustrated their earlier efforts to transfer knowledge to their respective homelands and to Africa as a whole. Likewise, bureaucratic red tape constitutes a problem still impeding the transfer of intellectual capital to the continent. Bureaucratic impediments result in lengthy decision-making processes that delay the implementation of projects. Some of the interviewees stated that several initiatives intended to provide support to the knowledge building capacities in the universities of their homelands which they had undertaken earlier on an individual basis were practically killed by the prevalence of bureaucratic red tape. Thus, bureaucratic obstacles are problems that should be kept in mind while implementing this diaspora-oriented programme in the universities in Africa. Some of the African diaspora interviewed suggested that to ensure that this diaspora-oriented programme is able to avoid bureaucratic trappings at the university level, it should have autonomy.

Hierarchical Structures:

According to the diaspora interviewees, hierarchical structures are also problems that frustrated their earlier attempts at knowledge transfer. In many universities, especially the old ones, the hierarchical power structures have not yet been decentralised. Vice chancellors, some of them as old as the institutions in which they work, still retain total control. This means that every initiative must go through the vice chancellor and in most of the cases, if the vice chancellor of the university is not in a lead position on the project, it is not likely to be realised. An experience that one interviewee related provides an example. The interviewee stated that he was once involved in a project at a university in Africa that the European Union (EU) funded. He visited the university to discuss how the project could be implemented, who would be responsible in the implementing process and other related arrangements such as financial management, monitoring and evaluation regimens. During the discussion, the vice chancellor of the university was adamant that his office would execute the project and that he would be the lead person in this endeavour. However, on his next visit to the university, this diaspora scholar saw the vice chancellor driving a brand new car and when he enquired he was told that the vice chancellor bought the car with the money designated for the project. This is thus an example of how the rigid hierarchy can compromise accountability and squander the project money for private purposes.

Another example related by another diaspora scholar interviewed is also worth noting here. In certain cases, universities and vice chancellors can be powerful enough to refuse collaboration with projects initiated abroad. This particular diaspora scholar was once involved in the UNDP's Transfer of Knowledge through Expatriate Nationals (TOKTEN) project. When the details of the project arrangement were finalised between the UNDP and the education ministry of that particular country, the local university for which the programme was intended refused to cooperate. The reason was that the authority of the university was not initially consulted as the idea was conceived, nor during the formulation of the procedures followed and the practical implementations required. As a result, the project failed before it ever started. The best way to avoid this resistance at the university level, as this diaspora scholar suggested, is to link up directly with the staff through joint projects: initiated jointly, worked out jointly in all the needed details, and jointly implemented.

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Another constraint, not directly related to the problems of the hierarchical structures but noted by some of the interviewees, is the vendetta among the colleagues at the university. For instance, some of the interviewees stated that they have initiated personal projects in collaboration with some of their old comrades at the universities in the homeland but certain of their colleagues worked against the initiatives and sabotaged the projects. Another factor contributing to the failure of initiatives is that they are undertaken as personal initiatives and have not been imbedded in institutions abroad. Thus, if in the future, the personal initiatives of the skilled African diaspora are imbedded in institutions abroad they may perhaps succeed, as some of the interviewees convincingly asserted.

Poor infrastructure and facilities:

Poor infrastructure is a problem common to most universities in Africa, as stated by the skilled African diaspora interviewed. Poor infrastructure manifests itself in dilapidated buildings, failing electricity, bad housing conditions and lack of proper services at university sites. The poor infrastructure is also a problem beyond universities sites in many cities in Africa, such as dilapidated and unpaved roads and bad transportation systems. Thus, poor infrastructure discourages most of the highly skilled African diaspora from going to Africa and staying there for longer periods. However, for a temporary return they are prepared, as one interviewee put it, 'to make a short professional sacrifice'.

In addition to poor infrastructure, poor facilities are also a problem common to many universities in Africa. The lack or the shortage of basic facilities such as libraries, internet access, equipment and laboratories are constraints existing in many universities on the continent. Particularly, the shortage of equipment and laboratories needed for conducting experiments and testing results is badly felt in areas such as science and technology that are critical for solving problems in agriculture, medicine, education, growth, economic development, and so on. As a result, the interviewees are of the view that the low levels of scientific skills make it impossible for Africa to extricate itself from the poverty trap in which it finds itself at moment. Furthermore, the lack or shortage of basic facilities is a primary reason that few students enrol in science and technology — precisely the subjects where Africa needs expertise. As one interviewee explained, higher education institutions in Africa, like other social sectors, are severely affected by the economic crisis on the continent, and this is creating a vicious circle. More gravely, even the scarce resources which are available for education are invested substantially in the primary and secondary sectors to the disadvantage and deterioration of the tertiary sector.²⁰ Furthermore, sub-Saharan Africa as a whole spends a very meagre amount on strengthening science and technology, the very skills needed to be competitive in global knowledge production.²¹ Thus, the poor condition of infrastructure and lack of adequate facilities in most universities in Africa are constraints that limit or prevent the highly skilled African diaspora from transferring knowledge to their homelands and to Africa as a whole.

²⁰ For an informative and comprehensive account on this issue, see Teferra Damtew. 2003. *Scientific Communication in African Universities: External Assistance and National Needs*, (New York: Routledge Falmer).

²¹ For instance as was noted in eAfrica that 'Across sub-Saharan Africa, only South Africa and Seychelles spend more than 1% of GNP on science and technology research and development – and most economists consider even that too low to attract significant foreign investment or retain the most highly skilled Africans'. See further eAfrica: The Electronic Journal of Governance and Innovation. August 2004. 'Special Feature: The tragedy of Africa's Education'. Online at: www.saiia.org.za

6. Different Modalities of Transferring Knowledge to Africa

There are different modalities proposed by the highly skilled African diaspora for transferring knowledge to their homelands and to Africa as a whole. The modalities suggested include short-term summer courses, part-time lectureships, consultancy assignments, knowledge networks and centres of excellence. The highly skilled African diaspora clearly expressed their willingness to contribute to the transfer of knowledge to Africa through these different modalities if they get the opportunity to do so. In some of the modalities such as short-term summer courses, consultancy assignments and long-distance knowledge networks, the skilled African diaspora interviewed are prepared to be engaged immediately, while with part-time lectureships and the establishment of centres of excellence, these modalities would require more time as well as political commitments and considerable financing to be realised.

Summer Courses:

Provision of regular short-term summer courses is considered by the interviewees to be an ideal way of transferring knowledge to the homeland for several important reasons. Summer courses provide direct links and useful knowledge, as well as networking opportunities between the staff and students at universities in the homeland and the African diaspora experts. Moreover, if the summer courses are offered by a team of highly skilled African diaspora experts, they can bring in new and advanced knowledge and professional experiences that would, as one interviewee put it, bring a 'breath of fresh and valuable new ideas' to the staffs of local universities. Furthermore, ongoing summer courses can enable the African diaspora scholars to transfer not only advanced knowledge but also academic materials such as textbooks, unpublished manuscripts and research results not available on the internet. More importantly, engaging highly skilled African diaspora experts as instructors for summer courses would have a comparative advantage as they would appear as role models for local students, which could inspire them to pursue higher education and thus raise skill levels in the home country. Lack of role models for the young students across the universities in Africa has been a problem since the best and brightest lecturers and instructors have migrated abroad in large numbers. One interviewee suggested that, in order to make the summer courses more attractive and appealing, the summer session should be called '*brain gain summer courses*' and should be specifically undertaken under a framework of a diaspora programme. Another interviewee suggested that the whole initiative should be dubbed as a '*brain gain diaspora programme*' in order to emphasise the unique nature and the specificity of the initiative. He then went on to state that 'brain gain' has positive connotations and the initiative should clearly indicate that it is a diaspora-oriented programme.

Part-time Lectureship:

Part-time lectureship is also a modality that the highly skilled African diaspora interviewed proposed as a channel for transferring knowledge to Africa through the diaspora. Part-time lectureship would enable the African diaspora academics to fill in personnel gaps at the universities and in this way impart knowledge and experiences to the continent in a more structured manner. Thus, part-time lectureship as suggested is an option that should perhaps be explored and actively pursued. This is important, as one interviewee suggested, because it would make it possible to institutionalise the ad hoc and sporadic activities that the skilled African diaspora currently undertake with African universities. Furthermore, regular part-time lectureships would give African diaspora academics an opportunity to deepen their involvement in the development of knowledge on the continent, so as to make better use of the immense intellectual capital and the 'brain reserve' of the African diaspora for the development of knowledge in Africa.

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Consultancy Assignments:

Consultancy assignments are yet another modality suggested by the interviewees that can result in a transfer of knowledge to universities in their homelands and to Africa as a whole. This however requires, as they suggested, that they should be involved more often in consultancy assignments to Africa. They would bring with them added advantages, as they are sensitive to the applicability and the appropriateness of the ideas and knowledge transferred to the continent from the advanced world. More importantly, highly skilled African diaspora have a great comparative advantage deriving from their intimate knowledge of social situations, local conditions, important networks, subtle cultural practices and intellectual capacities and skills existing on the continent. Thus, these comparative advantages and benefits make it imperative to strategically mainstream the highly qualified African diaspora academics into consultancy assignments.

Knowledge Networks:

The highly skilled African diaspora academics and researchers interviewed stated that they are particularly valuable in facilitating contacts and knowledge networks between the knowledge institutions here in the Netherlands and those in Africa. This is because of the unique strategic positions they occupy, in this globalised world, enhancing the links between the advanced world and Africa. The interviewees are of the view that this strategic position enables them to initiate projects and mediate knowledge networks to which they belong in the Western countries such as the Netherlands for the benefits of African universities. However the interviewees stated that this knowledge networking potential among the African diaspora scholars is an area that has not yet been sufficiently exploited for the development of knowledge on the continent. The knowledge networking roles that the diaspora experts are prepared to play can be of considerable benefit if they are sufficiently utilized for academic and research partnership purposes between universities and institutions in the Netherlands and those in Africa. Some of the interviewees related that they have undertaken individual initiatives to transfer knowledge back home, such as running rapid teaching courses and setting up training programmes in collaboration with some of their old colleagues who have remained behind. However, they admitted that individual initiatives, though needed, are small drops in the ocean relative to the considerable capacity needs of the universities in the homeland — needs that can only be tackled by mobilising more collective resources and knowledge networks. This therefore makes it imperative that the rich knowledge networks be tapped to which diaspora academics have access in the Western countries.

Centres of Excellences:

The highly skilled African diaspora academics and researchers interviewed clearly expressed a view that there is a need to establish centres of excellence designed to mitigate the devastating effects of the brain drain in Africa. This is necessary, they suggested, to concentrate the meagre resources available and the intellectual capital existing in Africa and among skilled African diaspora at a small number of institutions where it will be possible to achieve high rates of return in the generation of knowledge. The centres of excellence can be both physically based institutions and virtual networks of research that are internationally competitive. Furthermore, the highly skilled African diaspora favour the idea of setting up special centres of excellence in Africa for several important reasons.

The first reason is to address the inability of most existing institutions of higher education in Africa to accommodate and absorb the diaspora, due to poor physical infrastructure and the very limited facilities, such as internet access, libraries, equipment and laboratories, available at these institutions. Some interviewees suggested that either the infrastructures and facilities

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at some of the knowledge institutions on the continent should be upgraded, or that new ones be set up modelled on the Taiwan Hsinchu Science-based Industrial Park.²²

A second reason for the establishment of centres of excellence is that it is desirable to pool the intellectual capacity of the diaspora, in order to increase its effective impact on knowledge development in Africa compared to the current situation. Some of the Africans in the diaspora interviewed stated that the individual activities that some of them undertake to transfer skills and knowledge back to Africa have very low rates of return, since current activities are small in scale, fragmented, sporadic and thinly scattered over the entire continent. Thus, the establishment of centres of excellence would make it possible for them to join forces and pool their intellectual capital in the generation of advanced knowledge in Africa.

The third reason to establish centres of excellence in Africa is the low level of educational quality in many institutions of higher education in Africa. This problem has also been emphasised by Nepad in the draft document on education produced in 2004. The Nepad draft document on education has unequivocally stated that many institutions of higher education in Africa are producing inadequate numbers of skilled personnel and with inferior skills relative to the quality required, and that the skills developed do not match the needs of the job market and cannot, accordingly, deliver real benefits to national economies.²³ It should be noted, nonetheless, that there are a few excellent centres, institutes and universities operating in Africa, including the African Economics Research Consortium (AERC), the Biosciences Facility for Central and Eastern Africa (both based in Kenya), and CIDA City Campus in South Africa, to name just three.

Collaboration with the Universities in Africa:

Some of the diaspora interviewees suggested that it is imperative to link up the initiatives of setting up centres of excellence with the Association of African Universities (AAU) as this will give the diaspora programme a solid partnership and wider coverage on the ground. More importantly, the AAU can facilitate the process by identifying the needs and priorities on the ground and can undertake monitoring required during the implementation of the diaspora projects. However, some of the interviewees cautioned that it is important to be aware of the limited capacity of the AAU on the ground in the practical terms. They also expressed a need for a cautious approach to linkages with the New Partnership for Africa's Development (Nepad) at this moment. According to them, Nepad has made a lot of promises but it remains a policy framework. Nepad has succeeded in mobilising strategic networks both in Africa and abroad, but to date it has not yet transformed these valuable resources into tangible and concrete educational programmes. Perhaps, at a later stage this could become possible. These interviewees have thus suggested that it is more appropriate to link up with the small associations of universities on the continent that are regional and sub-regional since they are

²² Taiwan suffered a serious brain drain in the second half of the 20th century, similar to that which African countries have been enduring in the last several decades. To tackle the brain drain problem effectively the government of Taiwan adopted a policy with the goal of benefiting considerably from the human capital of the diaspora. With this objective in mind, the government undertook sponsorship, at its own expense, of national development conferences that brought many diaspora Taiwanese to participate and to contribute to the formation of multi-national networks oriented toward building Taiwan's business and technological competitiveness. Furthermore, the government constructed Western-style housing and developed industrial clusters in places like Hsinchu Industrial Park in order to build a critical mass of highly skilled diaspora returnees. For further information, see Kevin O'Neil, 'Brain Drain and Gain: The Case of Taiwan', in Migration Information Source (www.migrationinformation.org), Migration Policy Institute, September 2003.

²³ See further the draft document on education produced by the New Partnership for Africa's Development (Nepad), July 2004.

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more practically oriented on the ground than the Association of African Universities. The small associations of universities suggested include the Southern African Regional University Association (SARUA), the Inter-University Council for Eastern Africa (IUCEA), and African Francophone Universities (AFU).

Several interviewees are of the view that the practical modalities and possible scenarios of collaboration with the AAU and Nepad are aspects that require detailed discussions and deliberations with the representative of these institutions. Nonetheless, these issues are beyond the scope of this initial survey, which is just the first phase of the study. The second phase of the study will deal with these issues more thoroughly by means of further research and field work at universities in Africa. However, to build on the momentum, some of the African diaspora suggested that Nuffic should immediately organise a follow-up expert meeting that brings together the 30 highly skilled African diaspora interviewed for this feasibility study along with representatives of the AAU, Nepad and perhaps other smaller associations of universities such as SARUA. The aim would be to deliberate on the findings of this study and to exchange views, ideas, experiences, positive examples in the past, best practices and appropriate practical modalities for the implementation of this diaspora-oriented brain gain programme on the ground. Another aim would be to work out preliminary policy proposals that could facilitate the collaboration and partnership relations between the highly skilled African diaspora in the Netherlands and representatives of the AAU and Nepad institutions with regard to the development of knowledge in Africa.

**ANNEX
Institutions visited and
persons interviewed**

Dr. Adil Mohamed Ali
Consultant for International Organisation for
Migration (IOM)
Melissekade 65
3544 CT Utrecht
Tel. 030 67 04 496
Fax. 030 67 04 496
Email: a.m.ali@wbmt.tudelft.nl

Drs. Afaf Rahim
PhD Student
Environmental Economics
and Natural Resources
Social Sciences Group
Wageningen University
P.O. Box 8130
6700 EW Wageningen
Tel. 0317 48 20 01
Email: Afaf.Rahim@wur.nl

Dr. Auma Okwany
Lecturer
Institute of Social Studies
Kortenaerkade 12
2518 AX The Hague
Tel. 070 42 60 578
Fax. 070 42 60 799
Email: okwany@iss.nl

Prof. Dr. Banji Oyeyinka
Senior Researcher
United Nations University
– Institute for New Technologies (INTECH)
Keizer Karelplein 19
6211 TC Maastricht
Tel. 043 350 6342
Fax. 043 350 6399
Email: oyeyinka@intech.unu.edu
www.intech.unu.edu

Dr. Basker Vashee
Former Director of the Transnational Institute
(TNI)
and Fellow of TNI
De Wittenstraat 25
1052 AK Amsterdam
Tel. 020 662 66 08
Fax. 020 675 71 76
Email: Africa@tni.org
www.tni.org

Drs. Caroline Aura
PhD Student
Technology and Agrarian Development
Wageningen University
127 Mansholtlaan 10-12
6708 PA Wageningen
Tel. 0317 48 50 29
Email: nyageri@yahoo.com or
Caroline.Aura@wur.nl

Prof. Dr. Edward Olatunji Akinyemi
Senior staff member and lecturer
International Institute for Infrastructural Hydraulic
and Environmental Engineering (IHE), Delft
Karolusgulden 1
2353 TB Leiderdorp
Tel. 071 54 16 075
Fax. 071 54 16 075
Email: e.akinyemi@unesco-ihe.org

Drs. Fiona Dove
Director of the Transnational Institute (TNI)
De Wittenstraat 25
1052 AK Amsterdam
Tel. 020 66 26 608
Fax. 020 67 57 176
Email: tni@tni.org

Drs. Geoffrey Kamau
PhD Student
Technology and Agrarian Development
Wageningen University
127 Mansholtlaan 10-12
6708 Wageningen
Tel. 0317 48 27 76
Email: Geoffrey.Kamau@wur.nl

Dr. Kwame Nimako
Director of Obee Consultancy
Operations for Business and Economic Efficiency
Lecturer at Department of Political Science,
University of Amsterdam
Postbus 511
110 AM Diemen
Tel. 020 4020764
Fax. 020 4020764
Email: obee@open.net

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Dr. Kofi Makinwa
Assistant Professor and Senior Researcher
Electronic Instrumentation Laboratory
Delft University of Technology
Faculty of Electrical Engineering, Mathematics and
Computer Sciences
Department of Micro-Electronics and Computer
Engineering
Mekelweg 4, Room 13.270
2628 CD Delft
Tel. 015 27 86 466
Fax. 015 27 85 755
Email: k.makinwa@ewi.tudelft.nl

Dr. M.M.B. Konter-Katani
Lecturer
Department of Linguistics
University of Leiden
P.O. Box 9515
2300 RA Leiden
Tel. 071 52 72 208
Email: M.M.B.Konter-Katani@let.leidenuniv.nl

Dr. Nicholas Awortwi
Lecturer
Institute of Social Studies
Kortenaerkade 12
2518 AX The Hague
Tel. 070 42 60 704
Fax: 070 42 60 799
Email: awortwi@iss.nl

Drs. Norbert Sonne
PhD Student
Institute of Environmental Sciences
Department of Environment and Development
P.O. Box 9518
2300 RA Leiden
Tel. 071 52 77 469
Fax. 071 52 77 496
Email: sonne@cml.leidenuniv.nl or
sonne@caramail.com

Prof. Dr. Pacelli L.J.Zitha
Associate Professor, Scientific Director of the
Dietz-Laboratory, Delft University of Technology;
Department of Applied Earth Sciences; Section
Petroleum Engineering, Delft
Mijnbouwstraat 120
2628 RX Delft
Tel. 015 27 88 437
Fax: 015 27 86 123
Email: P.L.J.Zitha@citg.tudelft.nl

Drs. Atnafu Tola
Senior Consultant
AAE Development Management Consult
Postbus 15370
1001 MJ Amsterdam
Tel/Fax: 020 4650192, 06 24427165
Email: atnafutola@cs.com

Drs. Lulessa Abadura
Freelance Consultant
Gillis van Ledenberchstraat 48-2
1052 VJ Amsterdam
Tel. 020 7746 398, 06 1268 16 80
E-mail: Dureti@hotmail.com, l.abadura@freeler.nl

Dr. Bashir Mohamed Hussein
Consultant
Kasteeldrift 17
3436 TL Nieuwegein
Tel. 030 604 0182, 06 4308 2608
Email: shakiib@hotmail.com

Dr. Michael Oneka
Consultant for the United Nations
Rotterdamsedijk 28c
3112 BC Schiedam
0628103003
Fax: 0847104324
Email: info@acoli.net

Prof. Dr. Mohamed Salih
Senior Lecturer
Institute of Social Studies
Kortenaerkade 12,
2518 AX Den Haag
Tel: 070 4260573
Fax: 070 4260799
Email: Salih@iss.nl

Drs. Chudi Ukpabi
Senior Consultant
Chudi Communication Consult
Linnaeusparkweg 8hs., Postbus 95016,
1090 HA Amsterdam
Tel/Fax: 020-6639862
Email: ukpabi5@xs4all.nl /
chudicommunication@yahoo.com

Drs. Ing. Rachel Tocklu
Director
Teampro
Diernaardesingel 103
3014 AH Rotterdam
Tel. 010-433 29 02
Email: tocklu@teampro.nl
www.teampro.nl

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Drs. Philip Idoniba
PhD Student
University of Wageningen
Hollandseweg 1
6706 KN Wageningen
The Netherlands
Tel. 0317 482776
Fax. 0317 485616
Email: Philip.Idinoba@wur.nl

Drs. Chris Opondo
PhD Student
University of Wageningen
Hollandseweg 1
6706 KN Wageningen
The Netherlands
Tel. 0317 482776
Fax. 0317 485616
Email: Chris.Opondo@wur.nl

Drs. Mulugeta Asmellash
Director
DIR Foundation
Waterlooplein 205
1011 PG Amsterdam
Tel: 020-618 06 13
Email: mulugeta@xs4all.nl
www.dirnet.nl

Ing. Redwan Haroon
IT Constant
SAP Netherland B.V.
Bruistensingle 500
5203 DG s-Hertogenbosch
Tel. 06 53 105059
Email: Redwan.haroon@sap.com

Dr. Osondu Ogbuli
Medical Docter
Amsterdam Medisch Centrum (AMC)
Kantershof 203
1104 GK Amsterdam
Tel: 020 6903395, 06 26760527
Email: o.f.ogbuli@zonnet.nl

Dr. Igenemo Ikhenemoh
Medical Docter
Amsterdam Medisch Centrum (AMC)
Kwakersplein 3 - III
1053 TZ Amsterdam
Tel: 020 7775217
Email: ikhenemoh@hotmail.com

Ing. Paul Mbikayi
Civil Servant
Ministerie van Wegen en waterbouw
Provinciehuis
Zuid-Hollandplein 1
Postbus 90602
2509 LP Den Haag
Tel:070 4418228, 06 50827784
Email: mbikayi40@zonnet.nl

Drs. Salih Kaki
Co-Director
Sudan Civil Society Center
Guntersteinweg 231
2531 JW Den Haag
Tel. 06 23596527
Email: salihkaki@hotmail.com