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From Brain Drain to Brain Gain: Addressing Human Capital Needs for Post Crisis Zimbabwe's Capacity Building

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Submitted to the Program of Organizational Dynamics in the Graduate Division of the School of Arts and Sciences in Partial Fulfillment of the Requirements for the Degree of Master of Philosophy at the University of Pennsylvania
Advisor: Jean-Marc Choukroun

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Abstract
The concept of brain drain has been debated for decades and is a worldwide phenomenon. It has particularly adverse consequences on capacity development and economic growth of developing countries. There has been a lot of contentious debate amongst academicians, economists and politicians on what brain drain is, its causes and consequences and strategies to redress the problem.

In order to appreciate brain drain as a problem, brain drain will be defined as the physical movement of highly skilled and educated people, human capital, from one country to another in search of better opportunities, principally in the area of employment, with the consequent loss to their country of their knowledge, intellectual richness and diverse innovative skills required for that country's economic development. The concepts in the definition are common among business people, economists and government policy makers and analysts. The key segments of the definition give an indication of the impact of the problem on a developing country that needs all the components necessary for development, especially human capital, hence the need to be addressed.

A review of the meaning of the concepts of brain drain and consequences of the phenomenon will be made. This study will also assess the applicability of return and retain focused policies and Diaspora initiatives and strategies suggested to address the brain drain problem. Some suggestions will be given regarding how the Diaspora could be utilized as key strategic assets that could respond to the development needs of Zimbabwe in its capacity building, development, reconstruction and long term growth, thus turning brain drain to brain gain.

The major form of obtaining information for this paper will be through literary works. A review will be made of scholarly publications on brain drain in general and also various documents on economic, political, social and public systems of Zimbabwe during the colonial and post-colonial periods will be examined and those relevant to this study on the country's brain drain problem selected.

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ABSRACT

The concept of brain drain has been debated for decades and is a worldwide phenomenon. It has particularly adverse consequences on capacity development and economic growth of developing countries. There has been a lot of contentious debate amongst academicians, economists and politicians on what brain drain is, its causes and consequences and strategies to redress the problem.

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CHAPTER 1

The Problem

This study is undertaken to investigate factors that lead to the emigration of educated and skilled from developing countries and the impact this has on capacity building and development. An evaluation of strategies and initiatives proposed to address this brain drain problem will be made. A review and analysis of the brain problem in Zimbabwe, the country of focus for this study, and recommendations to mitigate or resolve the problem will also be made. (Appendix A. shows a map of Zimbabwe).

The development of capacity to manage in the public and private sectors has been found to be critical for development (Rondinelli, 1998; Lusthaus et al, 1999; Eade, 1997, 2005). Zimbabwe, like other Sub Sahara countries faces the problem of building and strengthening capacities as well as maintaining and effectively utilizing them, as they continues to suffer unprecedented loss of human capital needed for growth to the industrialized world. Effective policies and strategies have to be found to address and reduce and the exodus of the highly skilled and trained as a top priority for accelerating growth and development. The exodus of skilled human capital, a vital component of economic growth, has a myriad of causes, and is an international phenomenon but whose impact is particularly hard on developing countries.

There is general consensus that between a third and half of the developing world's educated and skilled now live in the developing world (Lowell, Findlay & Stewart, 2004). According to Sriskandarajah (2005) the African Capacity Building Foundation reports that African countries lose 20,000 skilled personnel to the developed world every year. The problem negatively impacts developing countries that are already in dire need of skilled human capital, a vital asset for developing, implementing development programs, deliver key public services and drive economic growth. Before, the brain drain issue was not given much consideration, but now is on political agendas of many sub-Saharan African countries similarly affected and solutions to the problem are being sought. (Appendix B shows map of sub-Sahara African countries).

The UNDP (1991), in a briefing paper, determined that capacity building included the creation of an enabling environment and the provision of human resources for development. The World Bank, (2006) highlighted the serious problem of brain drain for the growth performance of developing countries. The argument being that it is by the knowledge, skills and expertise of human capital that planning, production and delivery of services and goods are made.

After a decade of political, economic and social crises, Zimbabwe is on a path to recovery with the Government of National Unity in place and a semblance of political and economic stability. However, the country has low retention of human capital due to brain drain and according to Adubifa (1990) and Bossuyt (1995) this presents a problem area in capacity building. It is therefore imperative to have deliberate policy on capacity building through investment in and building stocks in human capital and institutional building for the economic and political transformation of the country post crises.

The twin issues of brain drain and capacity building are not only central to Africa's development but also to the present new economic development era, in which knowledge, advanced technology, information, connectivity and brain power define the new competitive advantage. The new age is about an economy where knowledge is a core commodity and the rapid production of knowledge and innovation is critical to economic development and survival (Bettis & Hitt, 1985; Boisot, 1998). The outflow of skills from developing countries deprives these countries of much needed human capital necessary for development and it contributes to widening the gap in science and technology and development between developing countries and developed countries.

The challenge is then for developing countries to adopt appropriate policies and mobilize resources, like human capital, to enable the building of capacities and position them in the new knowledge and ideas age for competitive advantage. Also required would be the strengthening of the core institutions of government, the private sector, and civic organizations to build capacity for economic and social transition. According to Lisk, (1996) and UNDP (1991), capacity building is a dynamic and progressive process in which human and institutional capability is developed in an enabling environment, with national, organizational and community support in-order to benefit from economic interconnections within the national and global system. The outflow of the educated, intellectuals, skilled human capital that is required to help design and implement the development blue prints has to be addressed as a first step. This is what this paper is about.

Brain drain is also a problem in first world labor markets like North America, Western Europe and Canada, as they experience a shortfall in skilled and qualified labor. A Deloitte consulting survey result revealed that most employers in US organizations have a major concern of how to attract and retain talent (Deloitte, 2007). On the other hand Barbados and the Philippines are examples of unusual countries in brain drain debates. These two countries have no capacity to absorb all the human capital educated and trained in such countries because the types of economies they have. They deliberately train their citizens for export (Cervantes & Guellec, 2002) and therefore do not have a brain drain problem.

This study will focus on the Zimbabwean experience as the country prepares for a transformation of the socio-economic system after over a decade of political and economic turmoil. The new government, the government of National Unity (GNU) of 2009, between the ruling and opposition parties has embarked on a very ambitious economic recovery plan that requires huge capacity of highly educated and skilled human capital to realize it.

Capacity building efforts require human capital and for the desired change and resuscitation of the economy. There is also need to come up with strategies that could be adopted to control or reverse the brain drain that has incapacitated all the country's economic sectors. Addressing the brain drain problem would be a way of contributing to an improvement in facilitating an enabling environment for business in Zimbabwe.

According to Mankiw, Romer & Weil (1992); Lusthaus *et al* (1999) human capital is a vital input into the aggregate productivity function. This study can be a point of reference for Southern African governments that also experience unprecedented outflows of capital while they build capacities to pursue their economic and political development policies and programs.

The Background: A Review of Zimbabwe’s Political, Economic and Social History

A brief description and a review of Zimbabwe’s political, economic, education and labor history will help to appreciate the dynamics of the country’s brain drain problem. Zimbabwe’s labor history, political considerations aside, presents a series of ironies and trends that will leave any Human Resource practitioner in wonder as that all affected the nation’s human capital stocks and the quality. The Zimbabwe labor and economic history can best be understood by focusing on some of the following epochs of history and aspects: the colonial, liberation and post-independence eras; the education system and how these aspects influenced the political, economic and social systems.

Historically Zimbabwe, formally Rhodesia was a British Colony. The administration made a Unilateral Declaration of Independence (UDI) in 1965 from the UK, a move that was deemed illegal by the Commonwealth, the United Nations and the British government (Wood, 2004). The UN imposed economic sanctions in response to the UDI. The country’s economy, however, thrived due to a strong skills base and fairly well developed infrastructure and industrial and agricultural sectors (Ndlela, 1986). Up to the late 1990s Zimbabwe had one of the most industrially developed, stable and prosperous economies with an extensive agro-producing and processing industry and a diversified industrial sector, (APRODEV, 2002; and Carmody, 1998).

The rise in nationalism in the 1960s after the UDI saw a small number of educated Zimbabweans leave the country. The outflow of skilled and educated was minimal starting as a trickle, increasing as the war of liberation that led to independence in 1980, escalated and many skilled personnel went to join the war or left the country for security reasons. Table 3 gives phases of brain drain in Zimbabwe. At independence a small number of professionals did not go back to Zimbabwe for several reasons including the pessimism after witnessing the general deterioration of economic and social conditions most African countries face soon after the end of colonial rule. According to Mwakikagile (2009), upon attaining independence, African countries experience poverty and underdevelopment; adoption of alien ideologies, economic and political systems and lack of national integration, leaving the countries worse off.

Between 1980 and 1983, soon after Zimbabwe's independence in 1980 there was a major brain drain of up to 20,000 made up of the skilled and professional Europeans who had settled in the then Rhodesia and had held most of the key positions in government and all sectors of the economy. They left for South Africa, Australia and the United Kingdom because of negativity, fear, disillusionment and pessimism (Pendleton and others, 2006, Chetsanga and Tevera, 2003) resulting in a national shortage of specialist skills in sectors like education, health, engineering and public administration (Mollat, 2009). This skills outflow had been expected and countries like the USA, UK, China and Cuba had helped prepare and train Zimbabweans in preparation of transition to independence by ensuring adequate skills, qualifications and knowledge required in the different industries and keep the economy going.

The government also had to rely on the services of expatriates who had to initially get used to the political system and culture. They often left without imparting their skills to the locals, who also were displeased as they would not command the same pay as the expatriates, when they assumed the positions left by the expatriates. Some employers hired black Zimbabweans just for window dressing to meet government requirements. Because of such frustrations some Zimbabweans left to go and work in neighboring countries where they would command more responsibility, recognition and higher pay, thus depleting the country of its much needed human capital.

During the colonial period, land policies in then Rhodesia, now Zimbabwe, also racially divided the land in a highly unequal manner between the European farmers and the native farmers (Moyo *et al.,* 2000) Anderson (1999) and Potts (2000) posited that these segregationist policies concentrated Africans on marginal lands and the white majority control the best lands and led to many disputes. However, the industry contributed 11 - 14% of the GDP, 45% of the country's exports, 60% of all raw materials used by Zimbabwean industry and employment for 70% of the Zimbabwean population, (Weiner, Moyo, Munslow and O'Keefe 1985). Agricultural industry is the mainstay of Zimbabwe’s economy and largely influences the economic, social and political lives of the majority of the people of Zimbabwe.

The perceived unequal land distribution was the core issue over which the liberation struggle was waged (Cheater, 1990). This, perhaps, contributed to a radical land policy by the post colonial government of Mugabe leading to the seizure of most of the white-owned farms and redistributing it to the landless native with a lot of controversy, debate and conflict (Mbiba, 2001; Moyo *et al*., 2000 APODEV, 2002). There was also violence and bloodshed during the ‘land grab’ which led to a large number of white farmers fleeing from the country. According to EIU (2001), the agricultural sector, the mainstay of the country's economic and social systems, had contracted by 12.25% by 2001 and has been in free fall since because of the land grab.

A brief history of the Zimbabwe Education System also helps put the brain drain problem into perspective. When the European missionary settlers arrived in the country in the late 19th century they set up mission schools for the indigenous population. The colonial settlers and administrators set up and controlled education systems for their children and still prescribed and controlled the education the missionaries would provide. The colonial education system was designed to generate cheap labor for what was a colonially organized economy with the indigenous population being under educated and trained to become general laborers with skills like carpentry, building and agriculture (Asmal and James 2001; Constantine, 2000; Mosley, 1983; Kalinga, 1984). As Ashcroft, Griffiths, and Tiffin (1995) claim, education can indeed be an insidious and cryptic tool of colonialism.

According to O'Callaghan and Austin (1977) and Uchendu, (1979), Africans were to be given an education but not equal to that given to the white Rhodesians to further perpetuate colonial domination and inhibit emergence of a learned class of natives. At a British Commonwealth Education Conference held in July, 1931, participants spoke of danger of education creating an academic proletariat (Sir Percy Nunn, 1931) The argument was that it was a political and economic error for the local administrations to provide uncontrolled training facilities unless the product of university training, or indeed of any higher training, can be employed in the Colony (Mayhew, 1938).

However, writers like Seamus (2005) state that colonialism exited African countries leaving behind education systems and other infrastructure as evidence of the good work done by the empire. Seamus also quoted then British Prime Minister, Gordon Brown, calling for a moratorium on historical criticism of British colonialism declaring that the days of Britain having to apologize for its empire were over, agreeing that colonialism did a lot of good including the education systems.

Upon independence the Zimbabwe government disbanded and restructured the segregated education system. The thrust of Zimbabwe government policy on education post independence is captured in the Transitional National Development Plan Vol. 2 p. 27, this way:

> "Government recognizes that education is a basic human right. It also recognizes that education is an investment in human capital which sustains and accelerates the rate of economic growth and socio-economic development. The challenge for educational development in Zimbabwe is not only one of redressing the educational qualitative and quantitative imbalances in the inherited system but also that of meeting the exceedingly large new demands with limited resources."

The aggressive policies by the government resulted in high standards of education and the country producing the professionals to work in the public and private sectors of the economy. According to the United Nations Development Program (UNDP), (2003) and Chetsanga and Muchenje (2003) the country had a literacy level of 90.7% as of 2002, the highest in sub Saharan Africa. The country became a major source of quality educated manpower in Southern Africa. This made Zimbabwe one of the favorites in global and regional labor markets. Today thousands of Zimbabwean teachers, engineers, doctors, scientists and nurses and other professionals work in neighboring countries and overseas (Kanyongo, 2005). Of note is also the fact that Zimbabwe was the first sub Africa country to have a university after South Africa. The success story of the Zimbabwe education system was coupled with poor economic and political policies that created a hostile environment that contributed to the massive brain drain of the country’s professionals.

Zimbabwe Political and Economic Problems - Post Independence Era.

The Republic of Zimbabwe was born in 1980 as a nation working to build a socialist society at one and the same time reassuring private capital that its interests would be protected and even promoted (Gordon, 1984). By 1990, there was an "about-face" and government appeared to be turning to a capitalist model of development. Neo-liberalism was also on the rise and Marxism was close to its demise globally. The global political and economic structure changed along with the 1991 collapse of socialist ideology as the USSR disintegrated. According to Jenkins and Knight (2002), this was a disaster to Zimbabwe as the country struggled with the trade-offs between growth oriented policies and redistribution of resources policies. There was high government spending that stifled private investment, inhibited employment creation and had negative impact on capacity building for the economy.

Beginning 1999 Zimbabwe experienced an intensified period of considerable political upheaval as an official opposition party had also been formed in what had become a de facto one party state under the dictatorship of President Mugabe. According to Tevera (2008), after the 2000 constitutional referendum and general elections there was political violence and intimidation against the opposition that resulted in a wave of emigrations. The 2002 elections that the UN Election monitors concluded were rigged; also saw a lot of violence, intimidation and bloodshed against supporters of the opposition party (Raftopolous, 2004; Block, 2005; Tevera and Crush, 2003). By then, Zimbabweans had started to leave the country en masse mostly for South Africa, Botswana, UK, USA, Australia and other countries.

There was a lot of international criticism of the Mugabe regime amidst the political instability and repression of the people resulting in Zimbabwe becoming an international pariah. The International Crisis Group (ICG) in a report in February, 2002 stated that it had documented and analyzed strategies used by the government to maintain power at all costs and called on the UN, EU, US and the Commonwealth to intervene as the country was in a crisis.

The Zimbabwe economic growth slowed by 50% between 2002 and 2008 as political chaos deepened and economic difficulty increased. Table 4 on page 44 gives a glimpse of the progression of the economy between the years 1990 to 2011. This period also saw the highest and unprecedented emigration of the skilled, professionals and intellectuals. They left the country because of the hostile political environment and terrible economic and social conditions (Chetsanga & Muchenje, 2003; Bloch, 2005; Crush & Tevera, 2008, 2010). The once popular economic powerhouse of Southern Africa now faced foreign exchange shortages, erratic gas and fuel supplies. Infrastructural provision declined drastically and industrial inputs were increasingly impossible to secure in the current environment resulting in loss of production, a negative GDP, loss of jobs and unprecedented skills outflow.

Zimbabwe's Post Independence Economic Reform Programs

Table1. Zimbabwe's Economic Plans Since 1997: Their Implementation and Impact

Year	Economic Plan/Blueprint	Results/Impact
1997	Vision 2020 for period 1996 – 2020	Failed to achieve virtually all planned targets • Efficient public sector resource management • Industrialization/competitiveness • Infrastructure development • Privatize and commercialize PEs • Human Resource Development • Better health delivery
1998	The Three Year Medium Term Development Plan (TYMTDP)	• Planned macro-economic indicators not achieved • Planned growth not achieved • Land reform not achieved • Infrastructural provision declined • Human Resource & skills development not achieved
2000	Millennium Economic Recovery Programme (MERP) – presented as a continuation of the commitments and targets of ESAP and ZIMPREST	• Actual capital budget in the millennium budget was only 8% of total expenditures, down from 11% in 1999 • All plan targets remained on paper and ignored by government • Under high inflation, heavy distortions – Adjustment costs inequitably borne by the poor- education, health care and social welfare budget slashed
2003	National Economic Recovery Program (NERP)	• Never implemented until abandoned without trace
2006	National Economic Development Priority Program (NEDPP)	• Average GDP growth at -4% (2004 – 2005) • Budget deficit peaked from 0.3% in 2003 to 24.9% of GDP in 2005 • Interest rate increased from 500 – 600% • Major mines closed down leaving 40,000 people unemployed – • Estimated ¾ million people have migrated
2007	Zimbabwe Economic Development Strategy (ZEDS) 2009 – 2013	• Abandoned. Never implemented • Announced outside framework of the national budget

Source: Public Finance Management (PMF) system for the government of Zimbabwe Report (2009) by Daima Associates Ltd. Tanzania. By Development Management Consultants for MEFMI

Between 1991 and 2007 several different economic plans were drawn up for implementation to manage the Zimbabwe economic crisis. (See Table 1.p.10 for Zimbabwe Economic Plans and their impact). The Economic Structural Adjustment Programs (ESAP), were implemented on the advice of the International Monetary Fund (IMF) and the World Bank, the Brettonwood Institutions. The objective was to develop the capacities of institutions, address national and people's needs, strengthen the abilities of organizations and human capital to mobilize the resources necessary to overcome and solve the nation's economic and social problems and achieve the nation's objectives. The goal of the Zimbabwe government was to revive the economy and improve the standard of living within the country by instituting institutional reform and developing new policies (Rondinelli, 2007, Maiese, 2005). To achieve this, the IMF and World Bank pressed the government to liberalize trade, remove import controls and reduce expenditure.

The Zimbabwe government would not agree to meet some of the IMF mandated provisions and conditions (Bond, 1998), and the IMF suspended disbursement of structural adjustment credits to Zimbabwe in 1995 when the Mugabe government could not meet the stipulated conditions (Bond, 1998).
During this era of attempted economic reform, many of Zimbabwe's educated and skilled left the country because of the adverse effects of ESAP that included high unemployment rates, scarcity of basic needs and services (Makina, 2007; Pasura, 2008; Tevera, 2008).

According to Jackson, (2004); Gibson, (1995) and Raftopolous, (2001) the effects of the programs on the nation were devastating. ESAP undermined

Zimbabwe's industrial base, and the urban sector was particularly affected. The inflation rate rose and real wages decreased and income distribution shifted away from urban unskilled labor increasing unemployment and poverty levels. Wages and salaries as a percentage of GDP fell from 57% in the 1980s to only 45% by 1995, and also affected was the manufacturing's share of GDP which declined from about 20% to 16% during the first phase of ESAP (Mumbengegwi and Mabugu, 2001). Records show that during this era of attempted economic reform, many educated and skilled Zimbabweans left the country because of the adverse effects of the ESAP that included high unemployment rates, scarce basic needs and services (Tevera, 2008).

An evaluation of structural adjustment programs in many African countries reveal a lot of deficiencies and lack of capacity and management skills (Phillips and Ndekwu, 1987). A 1998 IMF review cited in Robinson (2001) argued that the Zimbabwe ESAP was poorly designed from the start and that the required scale of public sector cutbacks was likely to put the program under "great political strain," adding that ESAPs generally compounded the plight of the sub-Saharan African middle class as living standards declined drastically. Gordon (1998) and Abouhard and Cingranelli (2008) also addressed the impact of World Bank and IMF structural adjustment programs. Their analysis showed that the programs actually had adverse effects on a range of human rights practices in aid recipient developing countries. They argue that ESAP loan conditions reduce public sector size, open the economy to foreign competition, increase inflation, lower wages, remove subsidies of basic commodities and reduce spending on health, education, social care and development, while debt repayment and other economic policies become the priority.

The Structural Adjustment Participatory Review International Networks (SAPRIN), a not-for-profit organization set up to challenge policies of the IMF and the World Bank, conducted research in 2004. The research demonstrates the concrete negative consequences of adjustment policies. The general consensus is that the IMF and World Bank development loan conditions have resulted in negative effects which may very well have undermined capacity building efforts and attempts to establish the social and political institutions necessary for good governance and economic development and growth of the country (Gordon 1998).

These programs also gave rise to trade union militancy in Zimbabwe (Raftopolous, 2001) as workers unionized and revolted against the decline of the country's economy. The emergence of the first formidable opposition party, the Movement for Democratic Change (MDC) has its origins in the trade union movement as the workforce became more disgruntled and suffered economic hardship mostly from unemployment and declining wages under ESAP austerity measures, with the blame being placed on the government and its policies.

Post Crises Political Reform

During 2008 presidential elections, the Mugabe regime faced its biggest political challenge. The main opposition political party, MDC, was projected to win the election. The election was reportedly stolen once again by the dictatorial Mugabe regime even after a run off (Raftopolous, 2004; Hammar & Raftopolous, 2003; Rich-Dorman, 2002). The political uprisings and international pressure after the elections in 2008 brought some political reforms with the recognition of opposition political party, MDC, and its leader, a former Trade Union leader. In 2009 the ruling party entered into a Government of National Unity (GNU) agreement with MDC, also referred to as government of inclusion. The country has been experiencing an unusual calm after the GNU agreement since, but there is still a lot of uncertainty as the country works at recovering from the crisis.

The new Zimbabwe government has embarked on a very ambitious recovery plan that requires sizeable human capital to realize it. There is therefore the need to address the unprecedented massive brain drain problem the country experienced during the crisis, as human capital expertise, with great talent, knowledge and skills necessary for economic production was lost.

Data on emigration rates of skilled people from sub Saharan African countries is unavailable, incomplete or unreliable. According to Carrington and Detragiache, (1998) the IMF estimates the annual rate of skilled emigration to be over 30%. There are also no accurate, systematic or verifiable figures on how many Zimbabwean citizens have fled their homeland since the turn of the 21st Century. This is mainly because a significant proportion crossed into neighboring countries through unofficial border posts. Many host countries do not know how many Zimbabwean nationals are in their country, as no such records are kept. In addition many lack legal papers authorizing them to be in the host countries.

A United Nations Development Program funded study undertaken by the Scientific and Industrial Research and Development Centre (SIRDC) in 2003 revealed that 479 348 skilled Zimbabweans were now working outside the country. According to the CIA 2008 Fact Book, an estimated 3.4 million, mostly skilled and qualified

Zimbabweans migrated in search of better conditions of life, stability and security. In an OECD study, Salt (1997) stated that despite the importance of emigration of the skilled to the development and management of international economies, knowledge and processes of their movement is poor. There are no accurate records on migration making even empirical studies impossible.

Table 2. Major Destination Countries and Estimates of Immigrants from Zimbabwe

Country	Estimated % of Zimbabwe Migrants
South Africa	55.8%
Botswana	27.8%
Western Europe	18.4%
Mozambique	8.8%
North America	4.6%
Australasia & Pacific	4.1%
Zambia	3.6%
Malawi	1.5%
Tanzania	0.4%

Source: United Nations Migrant Stock database/SAMP 2004

This Information is for 2001, and with world economic and political dynamics, the numbers may now be higher in some affected countries and lightening up in countries like India, Taiwan, South Korea and China, where the brain drain trends are reportedly currently reversing.

The foregoing background helps give a perspective to the Brain drain problem in Zimbabwe, its causes, its consequences and possibly how the problem could be addressed. The rest of this paper will be structured as follows:

Chapter 2 will give a short review of some of the literature on brain drain which focuses on the different theories or models put forward in the identification, definition and causes of the problem. A review of the different perspectives put forward to address the brain drain problem and strategies for addressing the problem will also be made. Areas of agreement, debate or controversy as well as gaps in the literature put forward to address the brain drain problem and strategies for addressing the problem will also be defined as well as terms and subject specific terms.

Chapter 3 will present an evaluation of the brain drain situation in Zimbabwe, its causes, impact and consequences and attempts at mitigating, addressing or solving the problem. Approaches proposed or in practice, as solutions or models to solve brain drain problem and their applicability to Zimbabwe will be examined. Some comparable demographics from other countries that are currently experiencing or have experienced the same problem will also be presented.

Chapter 4 will recommend solutions applicable to the Zimbabwean situation. A model will be recommended that is applicable to resolving the Zimbabwean brain drain problem based on the nature and peculiarities of the problem in Zimbabwe as analyzed.

Finally chapter 5 will give my perceived shortcomings in brain drain literature and recommendations of areas of further research to address this problem of brain drain for capacity building in Zimbabwe.

CHAPTER 2

BRAIN DRAIN: A REVIEW OF THE LITERATURE

Many theories have been put across since the late 1960s to define the brain drain problem, its detrimental and long term impact and consequences and how to address it. The literature on Brain Drain to be reviewed here focuses on the scale of skilled emigration from developing to developed countries. It analyzes the relationships between skilled migration and economic growth and policy options for solving the problem of brain drain, or at least for working positively with the fact that apparently seems inevitable.

It is generally agreed that the migration of highly educated and skilled workers across national and international borders has adverse economic, social, and cultural implications for both the country of origin and destination countries (World Bank 2009). In 25 years, Africa will be empty of brains, is a dire warning, from Dr. Lalla Ben Barka of the UN Economic Commission for Africa (ECA). This reflects the growing alarm over Africa's increasing exodus of human capital. This continuous outflow of skilled labor contributes to a widening gap in science and technology between Africa and other continents.

This paper argues that the brain drain, the dramatically increase in the outflow of human capital, from Zimbabwe of the last decade has adverse effects on capacity building for economic transformation and that until addressed, the shortage of skilled professionals and intellectuals will hinder the development of the country.

Exploring the Concepts

This section will focus on the definition of key concepts and terms that will be used in this paper as they refer to the subject matter. Most of the definitions will be taken from a review of literature on brain drain.

Brain Drain

The term brain drain was coined by the British Royal Society in the 1960s. This was before this became a problem of developing countries, when a high proportion of highly skilled Britons and other Europeans migrated to Northern America. Implied in current definitions of brain drain is the extent of its impact on innovation, technology, wealth and growth of developing countries. In an OECD report (1987) one brain drain definition given was:

> "Brain exchange implies a two-way flow of expertise between a sending country and a receiving country, Yet where the net flow is heavily biased in one direction, the terms "brain gain" or "brain drain" is used".

The loss of these skilled professionals necessary for planning, innovation and delivery of services and needed reform and development is also the loss of their country of origin's human capital in which the country has invested resources through education and specialized training, and for which it is not compensated by the recipient country (Avveduto and Brandi, 2008).

Johnson & Regets (1998) introduced a new definition of brain drain they termed brain circulation:

> "This refers to the cycle of moving abroad to study, then taking a job abroad and later returning home to take advantage of a good opportunity. The authors

> believe this form of migration will increase in the future, especially if economic disparities between countries continue to diminish. Such circular migration has been observed amongst Malaysians who had studied in Australia, for example."

This is a phenomenon is in recent years being reported more among Chinese, Indian, Taiwanese and South Koreans who go back to their countries after studying abroad, in high percentages as their countries have enabling environments that pull back their educated and skilled (Mollick, 2011).

Brain drain, a loaded and pejorative term suggestive of loss of vital resources, is the mobility of human capital, without compensation (Adams, 1969; Salt, 1997). The implication is that the flow of economic benefits from human capital is heavily biased in one direction leaving the developing country at a greater disadvantage and the host developing country benefiting.

The paper will look at brain drain as the physical movement of highly qualified, skilled and educated people from one country to another with the resultant loss of their diverse intellectual richness and innovative skills that would contribute to economic development. Despite clarity of definition of the term most of efforts to halt the brain drain pay little attention to economic and social imperatives to brain drain and most appeals are on nationalism and patriotism.

What is Human Capital?

According to new growth theorists such as Lucas (1988); Romer (1990); Mankiw, Romer, and Weil (1992); Barro and Sala-i-Martin (1997), the accumulation of human capital fosters economic growth by improving labor productivity, promoting technological innovation and adaptation. From a macroeconomic perspective, the accumulation of human capital improves labor productivity; facilitates technological innovations; increases returns to capital; and makes growth more sustainable, which, in turn, supports poverty reduction. Thus, human capital is regarded as a key factor of production in the economy wide production function.

According to Snell and Dean (1992), the concept of human capital explains that people possess skills, experience and knowledge, and these represent capital because they enhance productivity and add value to the organizations. Savvides and Stengos (2009) argue that since the 1990s a lot of empirical work shows the central role of human capital and its important input into aggregate production function in economic growth has been identified. They add that human capital determines the pace at which a country can adapt and implement technologies domestically. Therefore if the skills, knowledge and expertise people have are vital capital for a nation's development, then the loss of such, through emigration, is seen to have negative consequences on economic growth and negatively affects growth of a country's GDP.

The Link between Human Capital and Economic Development

Interest in the contributions of human capital to the process of economic growth was pioneered by Becker, G.S. (1964) and Schultz, T.W. (1960). Recent writers like Mankiw, Romer & Weil (1992) and Lucas (1988) theorize that human capital is a vital input in productivity that actually propels all the other inputs to productivity, like knowledge, technology and physical capital and in the presence of an enabling environment. They also argue that in developing countries other aspects like the political and social environments must be conducive for human capital to effectively contribute to economic development.

In another study, Mamuneas, Savvides and Stengos (2006) found a positive correlation between human capital and economic growth in a group of high, middle and low income countries in several continents. They also argue that human capital activities also determine pace by which a country can adapt and implement foreign technologies domestically. This positively affects growth of the Gross Domestic Product. The growth of human capital is, therefore, both a condition and a consequence of economic growth, and also functions to generate worldwide economic growth regardless of its initial geographic location.

What is Capacity Building?

According to Maiese (2005) and James (1998), capacity building involves building quality human capital stocks, skills transfer, training and human resource management to implement sustainable development strategies. There is general consensus that capacity building is an important part of development work. (Lusthaus, Adrien & Perstinger, 1999; Eade, 1997, 2005; Rondinelli, 1998; FAO, 2007). The UNDP (1991); Oxfam International (2005); United Nations Committee of Experts on Public Administration (2006), believe that capacity building involves the use and development of a country's human, scientific, technological, organizational, and institutional resource capabilities and also includes the creation of an enabling environment and that denial of such right is at the heart of poverty and suffering.

Why is capacity building Important?

Theorists like Lusthaus *et al.* (1999) regard capacity building as an important part of development. The World Bank (1998) reported that research now shows that indicators of low levels of capacity building in Africa are linked to Africa's underdevelopment. Proponents of this theory, like Rondinelli (1998) believe that through the process of capacity building, individuals and organizations strengthen their abilities to mobilize the resources necessary to develop new policies and reform institutions to overcome the nation's economic and social problems.

In recognition of the importance of capacity building to development, the UN set up the United Nations University Comparative Regional Integration Studies (UNU-CRIS) to sponsor and promote various capacity development activities that build capacities for human resources enhancement and management through skills transfer and training for the benefit of developing countries. It is important to build human capacity by having qualified and adequate human capital stocks to serve in national or international technical assistance programs; and also to train policy makers and practitioners to implement sustainable development strategies.

Mansell and When (1998) argue that the recent rapid economic development of the countries of Southeast Asia in the latter part of the 20th century has been due largely to the deliberate policies directed at capacity building, both human and institutional. The Word Bank, (1998; 2005) and Oni, (1999), advocate capacity building for the development of the African continent. Their argument is that under-development on the African continent has been attributed to many interrelated causes by different social science researchers and other scholars but that in the last decade the low level of capacity building indicators has emerged as the major cause of Africa's under-development. There is lack of consensus on the building, strengthening and utilization of capacities and this has perpetuated the problems found on the continent. African countries may have to adapt and adopt the successful models used in capacity building in the S.E. Asian to come up with programs that address their peculiar problems long-term.

Diaspora

The International Organization for Migration (IOM) (2009) and the African Union (AU) (2003) refer to African Diaspora as people of African origin living outside the continent who maintain links with their country of origin and are willing to contribute to the development of the continent. Although empirical evidence is hard to come by, there is the assumption in the literature on the African Diaspora networks that most diasporas are constituted by a large number of intellectuals, academicians and scientists and highly skilled personnel who left their countries because of existing repressive political conditions or lack of viable and progressive academic and economic opportunities (Tefera, 2004; Tettey, 2003; Gordon, 1995; Gyimah-Brempong and Traynor 1999; Whande, 2004; McGregor, 2010). According to Ravinder Rena (2005) it will be impossible to achieve an African renaissance without the contributions of the talented Africans residing outside Africa. The debate on how the Diaspora can affect their home country's development has been gaining momentum and many writers and agencies argue that those in Diaspora are a key strategic asset that possesses the social, financial and intellectual capital and have the capacity and potential to respond to development needs of the continent (Kapur, 2010; UN, 2000 and AU, 2003).

As the movement to engage the Diaspora as a key stakeholder progresses, there are obvious policy and resource commitments by all stakeholders that need to be addressed for the initiative to be successful. Matters to be addressed include improving relations between the Diaspora and their governments, provision of infrastructure, technology, resources and working conditions to lure back those in Diaspora or tap into their knowledge and skills virtually. Development agencies from the government, foundations and aid agencies must also be held accountable to ensure that their strategies for Africa's capacity building include and integrate the use of Africans in Diaspora.

What Causes Brain Drain?

Political and Economic Causes of brain Drain

The identification and analysis of the causes of emigration of highly qualified, skilled and trained scientific and technological personnel is essential if effective national and international policies and strategies to address the problem are to be formulated. The causes of brain drain have been debated since the 1960s. For Europe the brain drain problem was caused by political, racial, religious and demographic pressure and differences. The immigrants then came from all social strata. In the nineteenth century and up to time of First World War, adventurers, explorers, fortune seekers, and bread winners moved on a large scale from Europe to North America, South America, Australia and Southern Africa. The modern day brain drain pattern shows a reversal of the flow as skilled labor and scientific and intellectual personnel move from the less prosperous countries to some of the most developed countries including the United States, United Kingdom and Canada. This is usually for economic, political and social reasons.

It follows then that emigration of skills is caused by a variety of underlying social, political and economic forces and these differ from country from time and from era to era and strategies to address the problem therefore cannot be generalized.

Political Causes of Brain Drain

Chimanikire (2005) states that the brain drain phenomenon in developing countries can best be explained using factors like the globalization of the economy, lack of economic development, political instability and the need for labor in developing countries. Gyimah-Brempong and Traynor, 1999;Barro & Lee 1994; Chetsanga & Muchenje, 2003; Bloch,2005; Makina, 2007, found that while many variables impact economic development, political instability is a particularly important factor in the observed low growth of African economies.

Most Sub-Saharan countries have unstable political structures, rampant gross mismanagement of resources, corruption, political conflict and persecution and all this has negative impact on human and economic development in developing countries (Hassan, 1997; Noyoo, 2003; and Davidson, 1992). According to McGregor, J. (2010)

Zimbabwe's brain drain problem was due to the broader global, political, economic and cultural trends that all migrants in the world have to navigate. Gordon (1995) concurs by saying countries like Uganda, Zimbabwe, Kenya and Mozambique suffer a high rate of emigration of their highly educated because of political conflict, instability and wars within those countries.

Barro and Lee (1994) researched on the growth rates in 116 economies for the period 1965 to 1985 and found out that there are different variables that impact on economic growth including political instability and concluded that political instability negatively affects economic growth.

In another study, Gyimah-Brempong and Traynor (1999) investigated the relationship between economic growth and political instability of 39 Sub-Saharan African countries and found out that political instability had an extensive impact on economic development. Economic growth was found to be significantly lower in these countries with volatile political atmosphere that probably generated a great deal of uncertainty and discouraged investment local decisions and Foreign Direct Investments necessary for economic development and this leads an outflow of the essential human capital from affected countries.

According to Connely, J. and Gruttner, M. (editors) (2005), dictatorships found in some sub Saharan African countries subject universities to rigorous political control and with lack of intellectual freedom, research and innovation is affected. With such a background scientists, researchers and intellectuals are not professionally able to produce indispensable knowledge and scholarly productivity and innovation suffers. Intellectuals therefore leave for countries where they have intellectual freedom and can freely exercise their opinion, research and contribute to policy and solution of problems.

While there is general consensus on political and economic causes of brain drain that subsequently has a negative impact on capacity building for development, Glickman (1995) argues that political conflict inherent in some of the developing countries is a necessary part of the process towards liberalization and democratization.

Economic Causes of Brain Drain

According to Widgren and Martin (2002) labor market imbalances; unemployment and under employment, play a greater part as people move to seek a livelihood. Economists postulate that factors including; price inequality, demand supply imbalance in manpower and unequal development patterns cause brain drain in developing countries. Ghosh and Ghosh (1982) refer to the over production of highly qualified manpower and it's under utilization in developing countries. Education systems in developing countries are usually heavily subsidized by the governments and keep churning out graduates who cannot all be employed because there is also a lack of technological development and economic growth that would absorb and utilize the human capital. When individuals have no possibility to work they are motivated to migrate to where jobs may be available (Wolburg, 2001).

Russel (2002) draws from the world systems theory to explain skills migration caused by the new world market economy where the traditional system has been disrupted. World system theorists posit that capitalist production, global trade, and market relations are driving forces of contemporary globalization and that brain drain is a logical off shoot of capitalism that propels intellectual and technical skilled people to become mobile globally as they seek the best rewards for their skills regardless of consequences.

Russell (2002) drawing further from the world systems theory further explains brain drain as a consequence of the dualistic structure of the world economy with its dual labor market. The two parties are defined as the economies of the technologically advanced and highly industrialized developed countries on one hand, and the other part being made up of the economies of the developing countries that are mostly capital poor and with little technological and industrial development. The dualistic economy approach explains brain drain in terms of how the more economically under-developed a country is, the more it loses its human capital to developed countries. The brain drain is generally stimulated by the higher living standards, enabling immigration laws, better research and working opportunities offered by the developed countries.

Social and Public Causes of Brain Drain

Social and public causes of brain drain are usually tied with political and economic status of the country as with poor economies the social and public services also decline leading to a lot of dissatisfaction and disillusionment, negativity and pessimism that work as push factors. Some key reasons for emigrating are personal ones and include security, the threat of violence and the wish to provide a good education for their children (Pang, 2002). As the economy suffers many public and social services also crumble, medical, educational and housing facilities deteriorate and the professionals and intellectuals seek elsewhere for better working and living conditions, higher income opportunities, improved medical and living conditions as well as greater professional career development.

According to the World Bank Economic Monitor (2011) social injustice is one of the top three reasons behind the developing countries brain drain. The World Bank report states that 60 per cent of Diasporans indicate social injustice as their main concern to migrate or return-migrate. In some developing countries access to education, jobs or services heavily depends on cronyism and nepotism.

Some writers on the brain drain problem argue that exact knowledge of the causes of the emigration of highly skilled is not known, (Salt, 1997). Focus usually is on a country's point of view (AUN Report 2002) and this coupled with lack of empirical research makes it difficult to arrive at a conclusion on causes, the subsequent consequences and how the problem could be resolved.

Consequences of Brain Drain on Capacity Building Efforts

From the assumption that there is a relationship between human capital and capacity building for development, then it should follow that if the main driver of an economy's growth is human capital accumulation, then brain drain as a consequence must hurt the growth rate of the economy of countries affected. There is a lot of debate among development and migration economists about the impact of brain drain on economic growth and relationship between emigration and national productivity.

Economists such as Mountford, 1997; Wang, 2002; Beine et al., 2001, 2003; Stark, 2005; Easterly & Yarko, 2008, have presented an optimistic view of the brain drain phenomenon, referred to as the new economics of brain drain. They see brain drain as beneficial to developing countries through future human capital accumulation and capacity building in the source country as the professionals bring back to their home countries new skills, knowledge and ideas to help develop the economies of their countries. Wallsten (2003) stated that brain drain should be embraced as an effective and immediate way to bring relief and stability to poor nations, far faster than many government programs could. This view sees such benefits or return on investment outweighing human capital loss through brain drain.

On the other hand new growth theorists like Miyagawa, (1991); Docqueir & Mafouk, (2004); Hague & Kim, (1991) and Wong and Yip, (1999), criticize this new economics theorists' view of brain drain being beneficial, re-iterating the cumulative negative impact and effect of skilled migration on capacity building, productivity and development of a nation. Conte (1984) concurs with this view adding that brain drain perpetuates diverging growth trajectories between rich and poor nations and is a matter that needs urgent attention. Wong and Yip (1999) add that brain drain adversely affects economic growth rates of developing countries in the present and future generations, increasing risk of the country becoming home to even greater mass poverty.

Docquier and Rapoport 2005) Cervantes & Guellec (2002) argue that brain drain would be beneficial for capacity development when skilled emigrants bring back valuable management experience, enterprise skills, venture capital and ability to access global networks that is beneficial to country of origin. According to Fangmeng, (2011) certain conditions have to be in place between host and country of origin so that both can benefit from this triple win situation between the two countries and the individual (Fangmeng, 2011).

Grubel and Scott (1966), believe in a ‘brain gain’, a situation where the country of origin benefits from remittances from emigrants, knowledge and skills acquired during stay in host country that could then be brought back into the country. Patikin 1968; Johnson 1968; Adams 1991, 1998; Bhagwatu and Wilson 1989; Harmele, 1997; Ammassari & Black, 2001, contend that the value of migrant remittances can significantly exceed that of national export earning or foreign aid in some countries where they become the largest source of foreign capital and national income. Economists Easterly & Nyarko (2008) argue that remittances to Africa are likely undercounted but could make up to 81% of the Foreign Aid received by an individual country. Studies by SIRDC in 2004 and by the World Bank in 2005 showed that remittances from skilled workers to their families in developing countries helped reduce poverty in those countries.

Chami et al, 2003; Emeagwali, 2006; Tanner, 2006; question remittances being beneficial, saying they are not an effective source of capital for development or sustainable economic growth as they are not spent on investment but mostly on basic needs. They also say, not only are remittances insufficient to compensate for human capital losses, they also increase dependency, contribute to political instability, engender economic distortions, and hinder development because they are unpredictable, undependable. Emeagwali (2006) reiterated that in any country human capital is much more valuable than financial capital because it is only a nation's human capital that can be converted into real wealth.

According to Fujita et al (1999) skilled labor is instrumental in attracting Foreign Direct Investment (FDI) and fostering Research and Development (R & D). FDI benefits the host country by providing among other things; new markets, access to new technology, capital, management skills, a strong impetus to economic development. The exodus of human capital has a negative impact on FID and R&D, innovation, infrastructure, education and productivity. Rodrik (2004) points out that the technology and learning spillovers that are used to justify FDI subsidization have not been substantiated empirically.

The official view expressed by Bulgarian governments since 1997 is that the emigration of highly qualified persons would deter economic and social development, particularly as it would hinder the promotion of the knowledge-based society (Sretenova, 2003). The new economic age is driven largely by globalization and the technological revolution, where knowledge is a core commodity and the rapid production of knowledge and innovation is critical to economic development and survival (Bettis & Hitt, 1985; Hitt, 1998; Boisot, 1998). With brain drain, knowledge and skills get concentrated in developed countries leading to a widening of the gap in science and technology advancement, innovation and development between developing countries and developed countries is attributed to the continuous outflow of skilled labor (Conte, 1984).

While diverse explanations of the impact of brain drain exist, and how it hurts the economy, an evaluation of the exact impact of the emigration of human capital on capacity building is a complex task. A shortage of human capital can give a theoretical indication of the impact of brain drain. But empirically verifiable indications would be impossible because of the scarcity of and the usually poor data collection and storage on international migration. It would be possible to indirectly measure impact of brain drain by using proxy measures. For instance, assessing the impact of migration of talent on the number of new inventions, creation of new types of businesses, innovations in work related tasks and subsequent improvement in performance could give measures and then the individual and cumulative economic value of these things could be estimated.

Acknowledging and accounting for the perceived positive spin-offs and beneficial aspects of the emigration of the highly skilled would also be an important first step in getting to the bottom of the dilemmas brain drain poses. Those perceived benefits would be harnessed and maximized in efforts to address the problem.

Strategies, Interventions and Initiatives to Address Brain Drain

Various strategies, interventions and initiatives have been put forward to address or arrest brain drain and the focus has been on strategies that look at promoting the return or retention of expertise lost and building networks of expertise and access to resources beneficial to developing countries. Among the list of initiatives and interventions that follow at least one sounds like it is modestly effective.

Return of Human Capital Initiative

Many countries and international organizations have come up with several other initiatives and incentives to facilitate the return of highly skilled personnel who had settled abroad. Most of the initiatives have been hampered by budgetary constraints, frustrations with bureaucratic delays and bungling. Some authors on the subject, (Cao, 1996; Meyer & Brown, 1999) have argued that the return option as a policy usually fails since it is based on shaky theoretical foundations, like that governments can manipulate or control mobility of labor. Carter & Trimble, 1995; Lowell, 2004; Fangmeng, 2011; Mutume 2003 postulate that in a globalized economic paradigm that promotes the free movement of capital, skilled labor has also become increasingly mobile and it would be increasingly difficult to restrict movement of skilled labor.

The International Organization for migration (IOM) has been at the forefront with initiatives for alleviating the brain drain problem. It established Return and Reintegration of Qualified African Nationals (RQAN) program in 1983 as an initiative for returning and re-integrating of skilled personnel from ten African countries that include Angola, Ethiopia, Ghana, Kenya Zambia and Zimbabwe. By year 2000, the program had facilitated the return of 2,565 professionals to their countries of origin or to where their skills were needed the most (Economic Commission for Africa, 2000). There, however, has not been any systematic studies, monitoring or evaluating actual impact of this program and if the returns were permanent or not. Of note too is that for country like Zimbabwe this program was operating at the beginning of the period when high instability and disruption were escalating.

According to Lowell (2004) return initiatives may work in situations or nations where trans-national professional networks are in place as they are conducive to professionals returning and staying. Parthasarathi (2006) attributes the success of the return initiatives for South Korea and Taiwan to already established, well-resourced and advanced Research and Development facilities and programs in those countries that lure back its skilled nationalities.

Countries can try to create opportunities and conditions for researchers at home to stay that can also inspire a return flow of migrants and human capital. Returnees also can bring valuable management experience, entrepreneurial skills and access to global networks. The circumstances and conditions conducive require political support, sufficient funding, developed infrastructure, and a scientific community; which are not readily available in developing countries. Researcher and other professionals require financial and non-financial rewards as well as a culture that is supportive of their efforts.

Retention of Human Capital Initiative

One key point raised in the brain drain problem is that more attention should instead be on retaining the professionals and experts who are still in the developing countries by providing an environment conducive for conducting research and growth so that they do not get lured by better environments, and conditions in other countries. In the quest to retain local talent and build capacities for a knowledge-based economy some programs have been implemented at national or institutional level with reported success.

According to Harvard Magazine issue of May/June 2011, Harvard University, through Dr. Bangsberg, decided to do a partnership with the medical school at Mbarara University of Science and Technology (MUST) in Uganda to alleviate shortage of healthcare providers. The MUST vice Chancellor had requested for a program to help retain the best and brightest and curb brain drain. The Global Health Scholars programs pairs select MUST faculty members with Harvard University mentor and provide funds for research locally and help in building local capacity and the initiative. The program has had positive impact on the country's healthcare by helping retain physicians as and exposing them to research, funding and opportunities. A similar program has been established in Mali.

The African Economic Research Consortium (AERC) is one retention initiative established in 1988 for the advancement of economic policy research and training. The objective is to strengthen and promote the retention of the local capacity so that they can conduct inquiry and shape public debate on pressing issues and articulate reform in sub-Saharan Africa. AERC comprises of about 30 universities, 15 research centers and institutes from 19 sub-Saharan countries. AERC's success reports on meeting its goals have not been made available.

According to Juma (2005) the usual response to brain drain has been retain policies that seek to curb the flow of skilled people to other countries. He criticized this approach for missing the point saying the real perceived policy challenge for Africa is learning to tap the expertise of those in Diaspora for national and regional development.

Retention policies and strategies generally seek to address push factors that result in brain drain by providing an environment that is conducive to conducting research and growth and are not pulled by offers elsewhere. Other retention initiatives are at regional and continental levels and promote collaborative programs in capacity development, through joint academic, research programs and projects.

Diaspora Networks and Bridges

Recent literature on brain drain and international migration gives prominence to the role of Diasporas and expatriates in the development, reconstruction and long term growth of their home countries (Lowell & Gerova, 2004: Meyer, 2003; Mutume, 2003; Teferra, 2004; Tettey, 2003).The focus is on formulating strategies and devising plans to mobilize attract and exploit the human capital in Diaspora for the benefit of their countries of origin. Also implied is the perception that most return and retain policies and strategies to address the brain drain problem have failed. The World Bank, in an effort to build capacity and implement development, has a section called Diaspora Relations in its Africa Region department and the current head, Richard Cambridge, stated in a 2010 report that the World Bank and many other agencies and organizations are working with governments to encourage those in Diaspora to come back and contribute to the development of their countries.

Bhagwati and Rodriguez 1975; Santos and Vinay, 2003, argue that migrants could help their countries converge towards the technological and income levels of the countries that hosted them, through the transfer of knowledge and technologies they acquired abroad. The implication is that the Diaspora’s impact can be maximized by getting as many migrants as possible to be involved in the development of their countries, thus recovering lost human capital, plundered investment in education, and wasted skills (Bhagwati, Jagdish and Rodriguez 1975. According to Kuznetsov (2006) the idea is to leverage knowledge of the best and brightest in Diaspora for the benefit of sending countries.

Initiatives that follow are based on the premises that Diaspora networks can serve as crucial bridges between global state-of-the-art in policy, technological, and managerial expertise and the situation and conditions in their home countries.

IOM has a project called Migration for Development in Africa (MIDA) that is short term return program to enable Ghanaians in Diaspora who have skills in health care delivery to transfer their knowledge, skills and other resources through short assignments while on holiday back in their country and enhance capacity building. IOM reports that the MIDA project in Ghana is an important project that links the Ghanaian Diaspora to the development of Ghana as it contributes to the Ghanian Health sector in the area of capacity building for health personnel to promote effective health care delivery. The project would also be applicable in other African countries to help in building networks between health organizations between them and developed countries.

The United Nations Development Program (UNDP) has a global program similar to MIDA called Transfer of Knowledge Through Expatriate Nationals (TOKTEN). TOKTEN was first introduced in Turkey in 1977 as a cost-effective technical service to enhance national capacities by mobilizing and utilizing the expertise of the country's Diaspora. The UNDP (1996) reported that the program had a slow start but has been gaining traction as most post-conflict program countries, for example Sudan, have turned to this model to address brain drain problem, capacity building, recovery and reconstruction effort.

In 2006 Hewlett Packard (HP) and UNESCO came up with project “Piloting Solutions for Reversing Brain Drain into Brain Gain for Africa.” This initiative aims at providing grid computing technology to universities and connects international and local colleagues to promote collaborations. Algeria, Ghana, Nigeria, Senegal and Zimbabwe are involved in the project. According to UNESCO (2006) the project initiates and promotes research networks and funding opportunities and work on major collaborative research projects with other institutions worldwide. This harnesses the Diaspora and promotes collaborations that provide access to inventions, research and knowledge and also help retain valuable skills in their countries of origin. Under this joint HP and UNESCO project, HP is responsible for providing training, equipment, servers and grid enabling technology. UNESCO provides administration, coordination, monitoring, evaluation and promotion functions of the projects and programs.

Classic evidence for Diaspora development theories comes from the example of the remarkable economic growth of countries like China and India, which is attributed to the positive effects of the Chinese Diaspora’s networks on trade and technology. The economic return of contributions of Chinese in Diaspora in terms of contribution to China greatly surpasses the state's level of investment over the past twenty years (Chen and Liu 2003). Similarly, Taiwan’s Diaspora is widely credited with aiding the development of its successful electronic industry (Rauch and Trindande, 2002).Countries like Singapore. Ghana and Dominican Republic have been inspired by such success and have begun to focus on the latent potential of Diasporal economic participation by making formal efforts to connect with their Diasporas and encourage their involvement in capacity development (Juma, 2005). International organizations are following suit.

In November 2007 the World Bank Africa Region completed its first “Open House for African Diaspora” focusing on ways the Bank could help the Diaspora contribute to home country development (World Bank, 2007).

For the mobilization and involvement of the Diaspora in development there is need for other stakeholders including the national governments, NGOs, bilateral and multilateral organizations whose support is strategic in influencing collaborations and networks or policy formulation. Many strategies have been formulated that involve participatory projects of collaborations between those in Diaspora and their counterparts in country of origin, at the same time imparting knowledge and skills that are beneficial to the home country.

CHAPTER 3

THE BRAIN DRAIN ISSUE IN ZIMBABWE

Compared to other sub-Saharan African countries, Zimbabwe has had an unprecedented brain drain problem, both in terms of numbers and quality of the human capital during the period 1999 to 2009 when the country was experiencing major political, economic and social crises. A 2009 assessment report on Public Finance Management system for the Zimbabwe Government (PFM) stated that Zimbabwe had experienced an unprecedented brain drain such that the remaining skills base was not adequate to carry out the responsibilities expected of them in the new order being formulated.

To stabilize and rehabilitate the economy the government implemented a new policy and recovery program called Short Term Emergency Recovery Program (STERP), whose objective is to promote growth and increase capacity utilization in all sectors of the economy. The nation of Zimbabwe has to come up with policies, programs and strategies to build capacities and address the shortage of skilled personnel in the country caused by the mass emigration of its skilled and educated nationals to support such recovery programs.

Capacity building is one element of development that has been debated a lot in development approaches as it has been found to be critical for development in developing countries (World Bank 1998; UNDP 1991; Rondinelli, 1998). Mannumeas, Savvides & Stengos 2006; Snell (& Day 1992 and Mankiw Romer & Weil 1992 all recognize the positive importance of human capital in capacity building for economic growth. According to the Organization for Economic Co-operation and Development

(OECD) (2006), the migration of human capital is one aspect that has not had much intervention but has made the development of capacity un-achievable in developing countries. There is general consensus on the impact of a shortage of skilled manpower on development.

This chapter will examine the causes and consequences of the brain drain problem in Zimbabwe. Approaches put across as solutions or models to address the brain drain problem and how these could be applied to Zimbabwe situation will be examined. Some writers state that while the importance of the impact of brain drain varies from country to country over time it is impossible to generalize as these are peculiar from country to country. Some comparable demographics from other countries that are currently experiencing or have experienced the brain drain problem and initiatives and strategies used to address the problem will also be presented.

A Review of the Zimbabwe Brain Drain Problem.

Chapter 1 outlined a brief economic and political background of Zimbabwe to give an exposition to the brain drain problem. There is very limited published academic literature or case studies specific to the Zimbabwe brain drain problem. Pasura (2008), drawing from results from primary research and unpublished sources identified five phases of brain drain the nation of Zimbabwe has experienced since the 1960’s. Table 3 below gives the five phases of skills migration in Zimbabwe and the nature of the migration.

Five Phases of the Zimbabwe Brain Drain Problem

Table 3. Zimbabwe's Five Phases of Migration

Period	Nature of Migrants	Size of migrants based on Secondary Sources	Main Destinations
Phase 1: 1960 – 1979	Migration of political exiles and labor migration to S. Africa	210.000 – political exiles 75,000 – labor migration To South Africa	Zambia. UK Botswana, Mozambique South Africa
Phase 2: 1972 - 1989[1]	Flight of white Zimbabweans	142,000	South Africa UK, USA Canada Australia New Zealand
Phase 3: 1982 - 1987	Ndebele migration	5,000	South Africa Botswana, UK
Phase 4: 1990 - 1998	Migration of skilled professionals	200,000	South Africa, Botswana, UK USA Australia
Phase 5: 1999 – Date	The mass exodus following political and economic crisis	3-4 million	South Africa, Botswana, Australia, UK New Zealand, Canada, USA

[1] Note the flight commenced when the war for liberation escalated in 1972

Source: Pasura 2008 p98

The first phase of labor and skills migration from then Rhodesia, now Zimbabwe between 1960 and 1979 had political and economic motivations. According to O'Callaghan (1977), Africans were to be given an education but not equal to that given to the white Rhodesians and political and educational policies were to help support the supply of cheap labor and capacity building did not involve native human capital development. These colonial policies pushed many to leave and seek economic opportunities in the South African gold mines during this phase.

The 1960s also saw an emergence of the nationalist movement with activists, intellectuals and university students facing reprisals and detentions from colonial regime and fleeing into exile to countries across the borders or abroad (Mungazi, 1998; Ndlovu-Gatsheni, 2011). According to Makaya (1994) the exodus of Zimbabweans escalated as the country's war of liberation also escalated during the later parts of this phase. The exodus reached a peak in the period between 1977 and 1978 and the United Nations High Commission for Refugees (UNHCR) in 2000 estimated that Zimbabwean refugees in neighboring and other countries then exceeded 210,000.

The second phase involved the exodus of European white settlers as the Zimbabwe war of liberation escalated between 1976 and 1980. The exodus was because of fear of the war and bloodshed going on, pessimism and disillusionment, personal security reasons and fear of retribution at attainment of independence Selby, (2006). Upon the country gaining independence from British rule in 1980, the exodus of white Zimbabweans peaked. Between 50,000 and 60,000 white Zimbabweans left the country soon after independence from British rule in 1980, (Tevera & Crush, 2003 and Godwin, 1993). There was a major brain drain as the white Zimbabweans held most of the key positions in government, industry and in sectors like education, health, agriculture and engineering.

The third phase of migration occurred between 1982 and 1987 during a government sponsored ethnic persecution called Gukurahundi, meaning the cleansing, that resulted in over 2000 civilian deaths. The objective was to force the opposition to submit to Mugabe's rule and hold onto power solely and indefinitely (Sisulu, 2007; Catholic Commission for Justice 2008). The conflict and political persecution is estimated to have led to an estimated 5,000 people from the Ndebele tribe fleeing the country for Botswana, South Africa and other neighboring countries (Jackson, 1994).

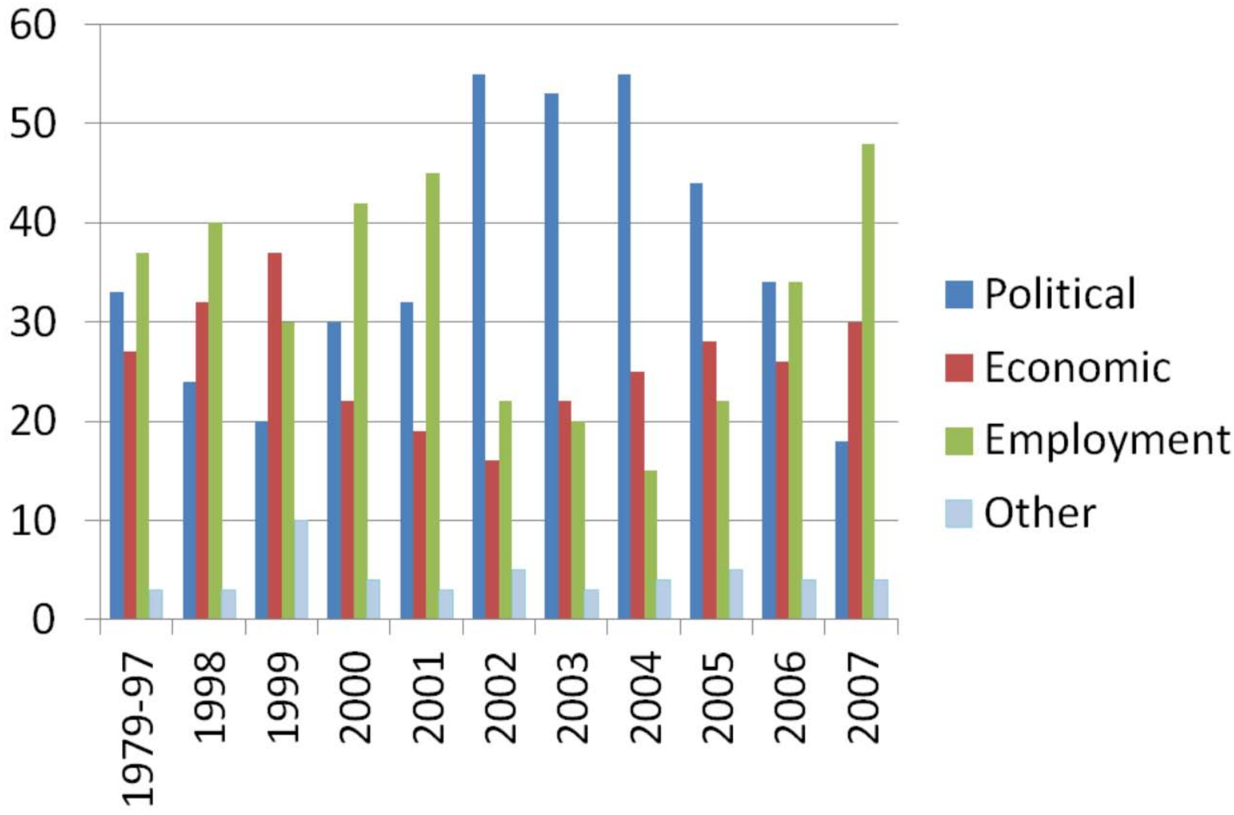
The period 1990 to 1998 ushered in the fourth phase of major skills migration for Zimbabwe. An estimated 200.000 intellectuals, skilled and educated Zimbabweans left for neighboring countries and as far away as the USA, Canada, UK and Australia. The skills outflow was attributed to the negative effects of the IMF/World bank ESAP introduced in 1997 that led to austerity measures and widespread economic hardships. Many professionals left the country in search of greener pastures across the boarders and abroad (Chetsanga & Muchenje 2003, Tevera & Crush, 2003).

The fifth phase of migration from Zimbabwe started in 1999 and is still ongoing to date. This phase was unprecedented in quantity and quality of human capital that emigrated and was in response to the political and economic environment prevailing in the country. Presidential and parliamentary elections during that period were widely regarded as stolen (Hammer & Raftopolous, 2003; Raftopolous, 2004) causing a lot of political turmoil and an outflow of Zimbabwe’s human capital.

Causes of Zimbabwe's Brain Drain

Migration of high quality human capital from developing countries is usually due to several different sets of unique underlying social, political and economic forces prevailing in a country (Kazilauskiene & Rinkevicius, 2006). Economic and political analysts and intellectuals argue that the migration of people as a phenomenon differs from country to country and from time to time and any generalizations on causes and effects, as has been done in contemporary literature would be misleading.

Figure 1. Summary of the Reasons Given for Leaving Zimbabwe by year of Departure.



Source: Makina (2007)

Figure 1.reveals that main reasons given for leaving Zimbabwe are dominated by political and economic/employment factors. According to McGregor, J. (2010) Zimbabwe's brain drain problem was due to the broader global, political, economic and cultural trends that all migrants in the world have to navigate. A study of the Zimbabwe brain drain by SIRDC also saw the Zimbabwe brain drain as a practical application of the free market economic principles that now allows professionals to go global with their skills. With the advent of globalization and the removal of some of the constraints that had prevented one from leveraging one's earning capacity anywhere in the world Zimbabweans also went global.

Crush (2002) argues that a study found that some Zimbabweans were leaving the country because of dissatisfaction with the country's political, economic and social situation. The same study reported that South Africans had similar dissatisfaction but most did not migrate because they were more positive than Zimbabweans about the future of their country. UNDP (2011) working paper 11, states that motivators for migration may be identified but it is difficult to understand factors that make one leave and one choose to stay.

Many studies show that political and economic factors are intertwined and that economic decline, political instability and unrest are factors that drive skills outflows in Zimbabwe (Chetsanga & Muchenje, 2003; Bloch, 2005; Makina, 2007). In a study of growth rates for 116 economies for the period 1965 to 1985, Barro and Lee (1994) observed that there are different variables that impact on economic growth including political instability. They concluded that political instability negatively affects economic growth. In another study of 39 Sub-Saharan African countries, Gyimah-Brempong and

Traynor (1999) found out that political instability had an extensive impact on economic development. Economic growth was found to be significantly lower in these countries and in Zimbabwe economic and employment reasons for migrating were given in 82% of a survey (Chetsanga & Muchenje 2003).

According to Gordon (1995) countries like Uganda, Zimbabwe, Kenya and Mozambique suffer a high rate of emigration of their highly educated because of political conflict, instability and wars. Survey studies on Zimbabwe by Chetsanga & Muchenje, 2003; Bloch, 2005; Makina, 2007, confirm that economic decline and political unrest were the major drivers of migration. The surveys show that 58% were motivated to emigrate for political reasons, while 82% were motivated by economic and employment reasons.

Economic Structural Adjustment Programs (ESAP) are programs recommended by the World Bank and IMF to stimulate the economies of developing countries and set targets for economic advancement. Gordon (1998) argues that ESAPs have, instead of solving and correcting the economic problems of developing countries, compounded the plight of Africa's middle class where living standards have declined drastically leading to high levels of brain drain. Zimbabwe's ESAPs are reviewed in chapter 1.

A study by Mutizwa-Mangiza (1996) documents dissatisfaction by government employed professionals, which was common knowledge and could be translated to other sectors of the Zimbabwe economy. Muchenje (2003) reports on a study that reveals that Zimbabweans were leaving the country because of poor execution of capacity building and development policies. These unpopular political decisions were blamed for imbalances between labor supply and demand and the brain drain problem

The challenges to the ruling political party, ZANU (PF), by emerging opposition party, MDC which had a wide support base, resulted in national politics becoming polarized (McGregor, 2010). This signaled the onset of a new era marked by intense political repression and any elections held were widely regarded as stolen (Raftopolous, 2004; Hammar & Raftopolous, 2003; Rich-Dorman, 2002). The shocked government launched into a strategy of highhandedness and excessive repression to force out political opposition. Violence in Zimbabwe was once again elevated in 2005 because of a government mandated program called Operation Murambatsvina (Clean Up or Restore Order) that resulted in 700,000 people losing their homes and the informal sector being obliterated (Potts, 2006, Solidarity Peace Trust, 2005).

A snap shot of the Zimbabwean economy in table 5, shows progressive decline of the nation's economy between years 1990 to 2011. The regression matches the phases of Zimbabwe's brain drain depicted in tables 3 and figure 1 where as the economy became worse the number of emigrants also increased. The progression of the GDP, unemployment and inflation rates indicate an economy in free fall resulting in 82% of Zimbabwean migrants giving the economy as their reason for leaving the country (Chetsanga & Muchenje, 2003; Bloch, 2005; Makina, 2007).

Table 5. Progressive Decline of the Zimbabwe Economy: A Snap Shot

Year	Unemployment	Inflation	GDP (per capita) in US$	GDP (real growth)
1990	20%	7.4%	$470	5.3%
2000	35%	22%	$1400	5.5%
2004	70%	383.4%	$1,900	-13,6%
2005	80%	1,216%	$1,900	-5.1%
2008	94%	516 quintillion % (516 & 18 zeros)	$400	-14.4%
2009	95%	5.9%	$400	-1.3%
2010	97%	5.3%	$400	4.1%
2011	95%	5.03%	$400	7.3%

Source: 2011 CIA World Fact book

According to CIA World Book (2007) the collapse of the Zimbabwean economy had reached its peak by 2005 with 90% of the manufacturing sector unable to cover their costs and increase capacity utilization, resulting in many laying off workforce while some were forced to shut down production. The mining sector, the backbone of the country's economy was in free fall and by 2006 most mines had closed down and were out of production due to lack of inputs.

Agricultural industry is the historical mainstay of Zimbabwe's economy and largely influences the economic, social and political lives of the majority of the people of Zimbabwe. According to Weiner, Moyo, Munslow and O'Keefe (1985) the Zimbabwe agriculture industry has major contributions to the national GDP, exports and national employment. A Land issue has always been a source of contention because colonial policies had racially divided the land in a highly unequal manner between the European farmers and the native farmers (Moyo *et al*., 2000) Anderson (1999) and Potts (2000).

Upon independence from colonial rule the government of President Mugabe went on a land redistribution exercise that was deemed by many as controversial (Mbiba, 2001; Moyo *et al*., 2000; APO DEV, 2002). There was also violence and bloodshed during the ‘land grab’ which led to a large number of white farmers fleeing from the country and according to EIU (2001 because of this, the agricultural sector, the mainstay of the country’s economic and social systems, had contracted by 12.25% by 2001 and has been in free fall since. The exit of the experienced professional farmers had impact on productivity and employment rates.

The education and health systems also were in near collapse and the country’s unemployment rate was over 80%. The non-functioning of these sectors that make up the Zimbabwean economy also resulted in lack of foreign currency coming into the country or income to service national debt and buy services and goods on the international market.

<u>Social Causes of Skills Emigration</u>

Some key reasons for emigrating are personal and family ones and include security, the threat of violence and the wish to provide a good education and healthcare for children (Pang: 2002). According to a 2003 study by SIRDC some

Zimbabweans indicated that they left their country in order to maintain or improve their standards of living after the educational, health, social and public services had progressively deteriorated. The greater part of those who left Zimbabwe was mostly motivated by the need to generate sufficiency of income to meet their needs and to support their extended families and dependents back home.

Consequences of Brain Drain on Capacity Building in Zimbabwe

Empirical analyses on the impact of the brain drain on human capital formation and growth for Zimbabwe do not seem to be widely published. This is due to lack of verifiable data sources and has resulted in a lack of precise, accurate and comprehensive data in the study of skills emigration. Information on what caused the people to emigrate and where they settled or the exact impact on the country's capacities is not precise. The brain drain problem is also recent in Zimbabwe and the full effects are now just becoming more apparent. An evaluation of the impact of brain drain on Zimbabwe's economy, healthcare system, educational and social capacities will be derived from the scarce literature available, comparative case studies and experiences of other affected countries, the estimated size and extent and the composition of highly qualified emigrants.

There is general consensus that the mass exodus of Zimbabweans has severely compromised the country's skills base (Chetsanga & Muchenje, 2003; Hill, 2004; Chikanda, 2005; Clemens and Patterson, 2006). According to IOM 2002 report, the migration of trained professionals from African countries has caused a massive brain drain that has led to economic and technical stagnation and regression in the affected countries. Various divergent approaches have been put across to explain the consequences of the brain as it affects a country.

According to Cervantes & Guellec, 2002; Gencler (2002), brain drain is not a problem as skilled emigrants bring back valuable management experience, enterprise skills, venture capital and ability to access global networks. The argument is that the innovation, knowledge and skills brought back would prop up same levels of development as in developed countries and the developing country like Zimbabwe would catch up with developed countries and globalization resulting in a convergence of the world economies.

On the other hand, the divergent school of thought views brain drain as highly detrimental due to the flight of intellectual and technical skills from developing countries and its cumulative effects that weaken capacity for development (Miyagawa, (1991). Wong and Yip (1999) also believe that brain drain adversely affects the welfare of the non-migrants in the present and future generations, so having long term effects on the development of the country.

Zimbabwe adopted Economic and Structural Adjustment Programs in the 1990s on the advice of the IMF and World Bank were to revive the economy, institute reforms and build capacities (Maiese, 2005 and Rondinelli, 2007). According to Gibson, 1995; Raftopolous, 2001; Jackson, 2004, ESAP undermined Zimbabwe's industrial base instead of boosting economic development. Inflation rate rose, GDP fell from 57% in the 1980s to only 45% by 1995, and also affected was the manufacturing's share of GDP which declined from about 20% to 16% during the first phase of ESAP (Mumbengegwi and Mabugu, 2001). The economy was in a tail spin as all economic sectors were affected and ground to a halt and unemployment levels rose to above the seventy per centum. Table 4 refers.

In spite of the perceived negative impact of the skills outflow, (Grubel and Scott, 1966; Patikin 1968; Johnson 1968; Adams 1991, 1998; Bhagwatu and Wilson 1989; MPOI, 2007; Sachikonye, 2006; Gupta et al 2007), posit that remittances from emigrants contribute to national stability and economic development as they are a source of foreign currency and so are a beneficial offset of brain drain. The International Association of Money Transfer News (IAMTN) reported in a 2007 press release that Zimbabwe's economy was kept going by remittances and that US$1.5 million a day was moved into the country through remittance companies (Mukwedeya 2009). The actual total figure of remittances to Zimbabwe may never be known as remittances were also made through informal and unregulated channels.

Docquier and Lodigiani (2006) found empirical evidence of business networks driven by skilled migrants stimulating Foreign Direct Investment to flow to their countries of origin. Examples they give are China and India where 50 – 70% of FDI originated from those in Diaspora. This tapping into its nationals in Diaspora would be an interesting example for a country like Zimbabwe to follow. There are however considerations that should be factored to stimulate beneficial remittances (Connell and Brown, 2005).

Chami *et al*, 2003; Hugo, 2006; Bourder & Falck, 2006; Magunha *et al* 2009, observed that in some countries remittances increase income inequality and promote dependency, discourage modernization and divert attention from the need to attract FDI in manufacturing and so do not promote sustainable economic and social change.

Parsons (2007) postulated that remittances from emigrants in the presence of rapid declines in aggregate supply in Zimbabwe could have contributed to inflation in the country. UNDP (2008) and Magunha *et al*. (2009) add that remittances would be beneficial if negative externalities are removed through market reform, capacity building, addressing political conditions and involving the Diaspora in national development.

Impact of Brain Drain on the Zimbabwe Education Sector

Zimbabwe had one of the highest literacy levels on the continent of Africa as of 2002 (Chetsanga and Muchenje 2003). Carrington & Detragiache, (1999) argue that among the immigrant populations living in the USA, those from sub Saharan Africa are among the groups with the highest education qualifications. One consequence of brain drain presented is that a country loses critical human capital in which it has invested resources through education and specialized training and for which it is not compensated by the recipient country. UNCTAD has estimated that one highly trained African migrant between 25 – 35 years, the age group into which most of the Africans going abroad falls, represents a cash value of US$184,000 at 1997 prices. Zimbabwe suffered a net loss because it funds the education and training of professionals who, precisely at the moment they should have become productive, decided to emigrate.

According to Connely and Gruttner (2005), dictatorships destroy intellectual freedom and subject universities to rigorous political control and with autonomy restricted most intellectuals and professionals leave. The political situation in Zimbabwe resulted in erosion of the quality of education, training, research and development activities in the country (Mutume (2003), as teachers, college professors and other educators left the country, leaving most educational institutions operating with less than half of required staff and faculty.

Universities like all institutions of higher education have an important role in human capital development, research and technological innovation, which are critical components of national capacity building and development effort. Universities increase knowledge, ideas and skills for the benefit of the nation, (Solinamo, 2001; World Bank, 1997; OECD, 1996). According to a UNDP report (2008) the decline in the Zimbabwean education system resulted in the inability to regenerate skills for capacity building. The economic, political and social environment and policies necessary for transformation and sustained growth could not be effectively maintained as the country lacked the necessary human and institutional capacity for that. Due to the nature of the dynamics of the political and economic environment, the capacity building potentials of most African universities have become unsustainable (Oni, 1999).

According to Chetsanga and Muchenje (2003) most Zimbabweans scientists, engineers and other professionals left because there were no resources and budgeted support granted for R&D necessary for scientific and technological development. They added that for Zimbabwe R&D was then at about 0.2% of Gross National Product (GNP) where the normal minimum of a country is usually 1% of GNP.

Impact on Health Care

A study conducted by Kirigia et al (2006) for BioMed Central Services Research on impact on emigration of healthcare professionals estimate that African countries incur losses of about US$517,931 when one doctor emigrates and US$338,868 when one nurse emigrates. The study also points out that the emigration of healthcare professionals also exacerbates the human resource shortages in the nation's health care system, reducing the capability of such systems to fully perform their core functions. SIRDC (2003) reported that over 80% of Zimbabwe's doctors, nurses, pharmacists and other therapists had left the country since 1980 and that by 2003, the country had lost 2100 doctors and 1950 certified nurses to neighboring countries and to the UK, Australia and USA. A study by Chetsanga & Muchenje (2003) found that 24.6% of Zimbabwean emigrants were trained doctors, nurses or pharmacists. This has had negative impact on the stock of healthcare workers and provision of services in the country to the extent of compromising the capacity of the national institutions supposed to produce the necessary skilled personnel to replace emigrants.

According to Abdou, 2003; Mutume and Gumisai 2003, loss of Public health professionals and researchers in Zimbabwe also stifles innovation and invention in finding solutions to the population's health problems. Loewenson and Thompson, 2003; Upadhay, 2003, point out that healthcare systems in Southern Africa face a shortage of healthcare personnel, limiting health interventions for the public health sector and the poorest populations. The capacity of the public health sector to deliver services is therefore compromised by the brain drain at precisely the time at which the HIV/AIDS epidemic is seriously increasing the burden on the systems in these countries. According to World Health Statistics 2009, issued by the World Health Organization Zimbabwe has one of the lowest life expectancies in the world at 44 years because basic health and other services no longer exist and in the face of prevalent HIV/AIDS infections.

Impact of Brain Drain on Zimbabwe's Skills Base and Capacity Efficiencies

Survey studies have attempted to estimate the magnitude and impact of the brain drain in Zimbabwe resulting from the migration. Hill (2004) estimated that between 70% and 90% of all Zimbabwean university graduates had emigrated. Mutume (2003) stated that 1500 of the country's 3000 trained social workers emigrated to the UK during a period of 10 years. The United Kingdom Home Office Skills Audit (2004) reported that Zimbabweans who emigrated to the UK had a high skills base. SIRDC (2003) and Chetsanga & Muchenje (2003) found that:

a.) 24.6% of Zimbabwe emigrants were trained doctors, nurses or pharmacists

b.) 23.1% were engineers or scientists

c.) 20% were teachers

d.) 16.9% were accountants.

It is against this backdrop of human capital flight from Zimbabwe and the implication of this for development capacity that the question of brain drain has to be addressed. Although Zimbabwe is not totally devoid of the knowledgeable, proficient and able, the numbers with those attributes have markedly reduced, and are far below that required to meet the economy's needs. The insufficiency of the skilled is a major constraint upon the operations of commerce and industry, the financial, tourism, mining, and other sectors, and upon those of government, local authorities, and other entities engaged in, or critical to the economy.

CHAPTER 4

REDRESSING THE ZIMBABWE BRAIN DRAIN PROBLEM

Chapter two gave causes and consequences of the brain drain problem as well as strategies and initiatives countries affected by the exodus of their native professionals could use to address the problem. Most of those strategies and initiatives have been found to be lacking and ineffective as the problem has escalated in affected countries and Zimbabwe continues to experience an unprecedented skills outflow.

The objective of the preceding Chapter 3 was to analyze the factors that contributed to the Zimbabwean brain drain, as well as determining the forces responsible for these conditions. This chapter will address Zimbabwean policy makers and other stakeholders as they design and develop programs and interventions to address the brain drain problem. Return and retain strategies have been far from successful, and strategies to effectively engage the Diaspora and transform brain drain into brain gain for the development of the country of Zimbabwe will be reviewed. Conditions that would allow for the effective leverage of the expertise and knowledge of Diasporas for the benefit of country will also be reviewed.

A Strengths, Weaknesses Opportunities and Threats (SWOT) approach will be used to analyze the Zimbabwe brain drain situation and its peculiarities as part of an overall strategy to address the brain drain problem. From the analysis a more appropriate and viable way and means of stemming the exodus of Zimbabwe's skilled manpower, recalling those who left, and retaining those still in the country can be arrived at. Recent political events in the country have resulted in many investors seeking detailed risk analysis before participating in the business in Zimbabwe and the SWOT analysis can help identify some of these risks so that investors will invest with confidence.

Since some of the factors are at a macro-level, the analysis will also incorporate a Political, Economic, Social and Technological analysis of the problem. The SWOT analysis is a qualitative analysis that concentrates on complex issues that potentially have the most significant impact and require urgent attention, like the skills shortage in Zimbabwe as the country transforms and develops its capacities for development.

Table 6. SWOT Analysis of the Zimbabwe Brain Drain Problem

	Helpful	Harmful
Internal	**Strengths:** - Educated skills base - Global competitive advantage - Skilled People - Reputable educational institutions/systems - Innovative culture - Abundant natural resources - Rich agricultural base - Established industrial base - Existing infrastructure	**Weaknesses:** - Vulnerable education, health and social systems - Lack of key skills - No local or Foreign Direct Investment - Lack of reliable data on brain drain - Inherent non-conductive processes and systems - Negative political/economic environment - Negative social factors - Unpopular leadership style - Lack of Technological development
External	**Opportunities:** - Globalization of the economy - Partnership agencies - Collaborations Networks - Vital supportive organization/agencies - Brain drain now policy matter in many countries - Accessible global markets - Diversified world-demand products	**Threats:** - Lack of competitive ability - Daunting legislative requirements - Environmental threats - Globalization - Sustainable Financial support - Global competition for skills

Source: Compiled by writer, Angela Chimboza. 2011

The SWOT Analysis.

Strengths:

The strengths identified are the factors or attributes internal to the country that should be exploited and help the drive towards strategies to redress the skills shortage caused by the brain drain. These strengths are controllable and are evidence of hope of meeting the strategic objective.

Zimbabwe is well known for its well established education system and other infrastructure, (Seamus, 2005; Ndlela, 1986; Siaciwena, 2011; Kanyongo, 2005). According to the United Nations Development Program (UNDP, 2003) the country had a literacy level of 90.7%, the highest in sub Sahara Africa. Ndlela, (1986) also lauded the Zimbabwe's fairly well developed infrastructure, industrial and agricultural sectors that made Zimbabwe up to the late 1990s Africa's second most developed, stable and prosperous country after South Africa. These factors gave the country a strong skills base and made Zimbabwe a favorite in global and regional labor markets and today thousands of Zimbabwean teachers, engineers, doctors, scientists and nurses and other professionals are easily working in neighboring countries and overseas (Kanyongo, 2005).

The emigrated highly qualified human capital of Zimbabwe should be harnessed for building and strengthening the nation's human and national capacities for development. This is also very pertinent in the new age economy Zimbabwe has to perform in, where knowledge is a core commodity and the rapid production of knowledge and innovation is critical to economic development and survival (Bettis & Hitt, 1985; Boisot, 1998).

Weaknesses:

Weaknesses are controllable activities or factors that can impair or detract Zimbabwe's ability to attain desired goal. Recognizing and minimizing the impact of internal weaknesses is vital in effectively addressing the brain drain problem, this includes addressing the factors that were identified to have caused the emigration of skilled manpower. Zimbabwe skills outflow problem has largely been explained in terms of usually intertwined political, economic and social factors (Gordon, 1995; Crush, 2002; Chetsanga & Muchenje, 2003; Pang, 2003; Bloch, 2005; Makina, 2007).

The declined political, economic and social conditions and the effects created including lack of investment, high inflation and the collapse of many systems of the country led to mass exodus of professionals. Such conditions would militate against any strategies to address brain drain and must be managed so that the environment is conducive for the return or retention of citizens. The Zimbabwe government must adopt elements of good governance as provided by the UN (2005) that include, accountability, transparency, rule of law and citizen participation and create politico, socio and economic settings that accommodate dissent and criticism.

Opportunities:

Zimbabwe stands a great chance of addressing its brain drain problem since it has so many strengths in its favor and weaknesses that can to be managed and capitalized on. There are also many opportunities external to the country that once harnessed and maximized upon can impact the country positively and help in propelling the country towards achieving the objective of retaining and recovering its dispersed skilled manpower for capacity building.

One major opportunity to be harnessed in solving the brain drain problem is the new importance and recognition given to the problem by other countries and agencies making it a major policy matter in many countries and agencies (Deloitte 2007; World Bank, 1998; AU, 2003; IOM, 2009). There is therefore bound to be a lot of support, cooperation and collaborations from external organizations, all necessary for success of any strategies put in place. Zimbabwe was also a country of world renown because of its precious minerals, mining being the backbone of the country, export grade agricultural/horticultural produce, the agriculture sector being the mainstay of the country's economy (Economic Intelligence Unit 2001) as well as being according to (Newlands 2000), one of Southern Africa's major tourist destinations because of the many resorts, natural wonders and national monuments. These factors make it an attractive country with a lot of potential for its emigrated citizens and for investors, while also placing the country on the global platform to compete with other countries.

One advantage Zimbabwe already has is that many scientific and intellectual networks have already been established between several international organizations and agencies, the Diaspora and some with the government, with some verifiable impact. Organizations like the IOM or UN have more capacity than the government to manage such initiatives. These organizations have the advantage of the significant investment and experience in determining development needs and tracking the skills that exist in the Diaspora, resources that improve the success of networks meeting their objectives.

Threats:

Threats are external forces that negatively impact on the efforts to solve the problem at hand. It is important that the country recognizes the threats and develop strategies that minimize the impact of the threats on the effort to address the brain drain problem. One challenging threat would be the global competition for skills to meet the new world market economy where the traditional system has been disrupted and a new world market economy now exists (Russell, 2002). There has been a revolution in the world economic order while the Zimbabwe government held on longer to some socialist principles. In addition there were also restrictive conditions and a reluctance to open up the economy to foreign investment. The national crises also created a wider technological gap between Zimbabwe and other countries. This worsened the problem of attracting and retaining skilled manpower

Brain Drain Redress Solutions and Initiatives: An Assessment.

Many interventions and initiatives at national or global levels have been put forward to address or arrest brain drain. Most of these focus on strategies that look at promoting the permanent return of expertise lost and some look at tapping into the Diaspora from wherever they will be. Such initiatives have created a lot of debate.

The concept of return is now deemed outdated because the new world economic order does not accommodate return policies (Lowell, 2004; Fangmeng, 2011). Mutume (2003) argued that in a globalizing world where the dominant economic paradigm promotes the free movement of capital, it will become increasingly difficult to restrict the free movement of skilled labor. With open markets there is freedom of movement and free choices of employment. The IOM's Return of Qualified African National program did not live up to its potential and Kapur (2001) observed that the program only integrated slightly more than 100 African nationals between 1983 and 1999. Most of the return initiatives have also been hampered by budgetary constraints, and conditions not conducive for the return of the emigrants, in countries of origin.

Bhagwati and Rodriguez, (1975); Santos and Vinay, (2003) argue that the return of all in Diaspora would help the growth of countries like Zimbabwe affected by the brain drain through the transfer of knowledge and technologies they acquired abroad. Cao, 1996; Meyer & Brown, (1999) argue that initiatives that focus on return of the highly skilled personnel who have settled abroad, usually fail because they are based on shaky theoretical foundations and also assume that governments can manipulate or control mobility of labor. Ghosh & Ghoshi, (1983); Widgren & Martin, (2002) and Russell (2002) explain brain drain as a consequence of factors like the dualistic structure of the world economy and labor imbalances. As long as the more developed countries offer better pay and working conditions, security, stability and access to resources and facilities for intellectuals and the skilled to work with, brain drain will prevail and return initiatives will fail.

Return and retain policies do not work as Africa's policy challenge is to tap into the Diaspora, a key strategic asset that possesses the social, financial and intellectual capital and has the capacity and potential to respond to development needs of the continent (UN, 2000 and AU, 2003; Juma, 2005; Kaipur, 2010). Current literature on addressing brain drain problem seeks to formulate strategies and devise plans to mobilize attract and exploit the human capital in Diaspora for the benefit of their countries of origin, while also acknowledging that most return and retain focused policies and strategies to address the brain drain problem have failed. The literature gives prominence to the role of Diasporas and expatriates as key strategic assets that have the potential to respond to the development needs of sub Saharan Africa in capacity building, development, reconstruction and long term growth (Lowell & Gerova, 2004: Meyer, 2003; Mutume, 2003; Teferra, 2004; Tettey, 2003).

Diasporas and Strategic Positions

Much debate is on how to harness the Diaspora, a strategic group that has the capacity and potential to respond to development needs of the continent (Kapur, 2010; UN, 2000 and AU, 2003). The assumption in the literature on the African Diaspora networks is that most diasporas are constituted of a large number of intellectuals, academicians, scientists and highly skilled personnel who left their countries because of existing repressive political conditions or lack of viable and progressive academic and economic opportunities (Tefera, 2004; Tettey, 2003; Gordon, 1995; Gyimah-Brempong and Traynor 1999; Whande 2004 and McGregor, 2010). According to UN, 2000; AU, 2003; Rena, 2005; Kapur, 2010, it will be impossible to achieve an African renaissance without the contributions of the talented Africans residing outside Africa who have the necessary knowledge and proficiencies to engage in capacity building.

In focusing on Zimbabwe Diaspora in reversing brain drain it is also necessary to take into account the fact that not all Zimbabweans in Diaspora will readily return. Most have settled abroad in excellent conditions which make it unrealistic to call them back home successfully. Research indicates that the highly skilled Zimbabweans in Diaspora are still interested in their country of origin, and if conditions were not yet right for return, would be eager to connect in other ways to get involved in the development of their country of origin without having to make the difficult choices over lifestyle (Logan, 1999; Weddel, 2008). The assumption is that the highly skilled Zimbabwean human capital in Diaspora can facilitate knowledge, technology, trade and capital flows from developed countries that benefit the country of Zimbabwe. The foundation of this idea is in the importance of abundant knowledge networks, collaborations and social capital that can generate, according to Meyer (2001) and Logan, (1999), positive Diaspora externalities.

According to definitions of capacity building given by the UNDP (1991), Rondinelli (1998) and Eade (2005), local capacities can only be developed through learning, co-operation and co-ordination between institutions and countries. National and international partnerships, networks and collaborations are agents of development that can help convert brain drain to a brain gain. A skilled individual can go abroad and continue working with local network therefore creating real possibilities to participate in development processes and enrich such processes with knowledge gained abroad.

The key word here would be professional networks. In other words, structures which can be initiated created and maintained by a university or other agencies and those in Diaspora for the dissemination of innovations, knowledge, experience and solutions to problems encountered. Such networks would strengthen relations with foreign research foundations and promote cooperation and information flow between home country and global networks. Hart (2006) contends that these bilateral networks, which may be scientific, financial, or commercial, tend to become self-reinforcing and therefore beneficial long term.

The dramatic improvements in communications technologies, especially the internet would enable the Zimbabwe Diaspora to help their countries virtually. Such networking does not require the massive investment required by retention and repatriation policies and initiatives that attempt to address brain drain and capacity building issues. Networking capitalizes on existing resources; therefore, it is a more feasible strategy for developing countries. With Diaspora networks, the country of origin has access to the global expatriate's previously unattainable knowledge and expertise and the knowledge networks formed in the host country. As a consequence according to Guelle & Cervantes (2002) information, knowledge and even services can be easily exported.

The following section will focus on best practices of how Zimbabwe Diaspora could become a bridge between global state-of-the-art in policy, technological, and managerial expertise and conditions in the home country and turn the brain drain into a brain gain.

Diaspora Networks Contribution to Recovery and Development

Many initiatives and strategies have been formulated that involve participatory projects of collaborations between those in Diaspora and their counterparts in country of origin that focus on building networks of expertise, knowledge and access to resources and technologies beneficial to developing countries. Examples of success of trans-national professional networks are South Korea, Taiwan and Chinese

Diaspora's networks on trade and technology. Taiwan's Diaspora is widely credited with aiding the development of its successful electronic industry (Rauch and Trindande, 2002). Countries like Singapore, Ghana and Dominican Republic have been inspired by such success and have begun to focus on the latent potential of Diasporal economic participation by making formal efforts to connect with their Diasporas and encourage their involvement in capacity development (Juma, 2005). International organizations are following suit. In November 2007 the World Bank Africa Region completed its first "Open House for African Diaspora" focusing on ways the Bank could help the Diaspora contribute to home country development (World Bank, 2007).

Many scientific and intellectual networks have already been established between several international organizations and agencies, the Diaspora and some with the government, with some verifiable impact. Some may be too recent to provide empirical certainty about Diaspora impact, but they can provide useful models and offer hope for post crisis Zimbabwe in its effort to build capacities for reconstruction and growth. One advantage Zimbabwe already has is that some organizations like the IOM or UN have more capacity than the government to manage such initiatives and have the advantage of the significant investment in determining development needs and tracking the skills that exist in the Diaspora.

Networks to be Exploited

Hewlett Packard (HP) and UNESCO have a joint project called "Piloting Solutions for Reversing Brain Drain into Brain Gain for Africa." According to UNESCO

(2006) the project initiates and promotes research networks and funding opportunities and work on major collaborative research projects with other institutions worldwide and Zimbabwe is among the countries involved in the project.

IOM Migration for Development in Africa (MIDA) has the objective is to enable Ghanaians in Diaspora who have skills in health care delivery to transfer their knowledge, skills and other resources through short assignments while on holiday back in their country and contribute to the health sector in the area of capacity building. Such a program could also be beneficial to Zimbabwe.

The UNDP set up TOKTEN in1977 as a cost-effective technical service to enhance transformational national capacities by utilizing the expertise of a developing country’s expatriates living abroad to increase the participation of the professional and skilled in Diaspora in ongoing capacity building, recovery and reconstruction and in addressing the brain drain problem.

The UN set up the United Nations University Comparative Regional Integration Studies (UNU-CRIS) to sponsor and promote various capacity development activities including building capacities for human resources enhancement and management through skills transfer and training for the benefit of developing countries. This would be another agency Zimbabwe could use to address its skills shortage.

The Zimbabwe Diaspora Development Interface (ZDDI) was founded in 2006 in the UK. Its objective is to serve as a Think Tank and have collaborations with organizations committed to serving Zimbabwe from abroad.

Another agency, Global Zimbabwe Forum (GZF) a non-partisan organization established in 2009 with the objective is to mobilize the Zimbabwe Diaspora to find ways and means to help their home country. The belief is that those in Diaspora are able to look in from outside and are in the best position to be change agents.

The Development Foundation of Zimbabwe (DFZ) was launched in South Africa in 2010 with the aim of harmonizing and strengthening Diaspora networks more effectively as they strive towards Zimbabwe's economic return to prosperity and development. DFZ's other objective is to ensure that the Zimbabwe government's engagement with the Diaspora takes place within a coherent and coordinated policy framework for a speedy and sustainable irreversible transition. DFZ aims to work closely with other Diaspora network groups, like the Global Zimbabwe Forum, and to draw on experts from various sectors, in ensuring that the Diaspora better coordinates resources to meet needs.

The Zimbabwe Diaspora Focus Group (ZDFG), the Coalition of UK based Zimbabwean organizations was formed in 2010. The need for this umbrella organization followed an identified need for the various Zimbabwean networks in the UK to speak with one voice when engaging with the UK government and agencies on development issues for Zimbabwe.

The Association of African Universities (AAU) is an NGO that aims to promote cooperation among African universities as well as increased contact between AAU members and the international academic world. At its 2007 conference in Tripoli whose theme was 'brain drain' the AAU called for a better conceptual understanding of the brain drain. The group also proposed an advocacy program with key organizations such as the African Union and the African Capacity-Building Foundation, and continued research in the field as well as removal of schisms between governments and higher education that militated against finding solutions to problems such as brain drain.

Zimbabweans could also emulate the South African Network of Skills Abroad (SANSA). South Africa has also lost priceless human capital and is trying to recover its emigrated skills by harnessing the capital from where ever it now resides. SANSA's aim is to build a worldwide network or "brain bank" of the best and brightest minds in the South African Diaspora and connect them to where they can be a part of the country's development. The Zimbabwe Diaspora could, likewise, using the web, social media or other means, be recruited and mobilized globally into a brain bank so that their knowledge, technical skills, useful and influential contacts, and the capacity to mobilize resources can be put to work for the country. According to Bloch, 2005; Makina, 2007 and Weddel, 2008, the highly skilled Zimbabweans in Diaspora have indicated an eagerness to connect in other ways, and such networking would be one way to connect and contribute their human capital to their country and help build capacities.

Most of these organizations and networks formed are global, apolitical and have chapters in countries with the highest concentrations of the Zimbabwean population, countries like the USA, the UK, Australia, South Africa and Botswana. For any engagement to yield meaningful results there ought to be a well-coordinated strategy and mutually reinforcing approach between those in the Diaspora and the government. Also needed would be guidelines on how to relate and interact with all the government departments, private organizations and non government organizations who are all stakeholders in recovery of the country. There would be need for policy and protocols on how the Diasporans could be addressed and involved in how to enable the country to harness investment and skills it lost. It is therefore important to specify how to bring the knowledge and prosperity back to Zimbabwe.

These networks and others still to be formulated could with immediate effect, go a long way to help ease brain drain's symptoms and encourage some benefits through networks and collaborations. They do not however address political instability, lack of economic and social development, factors that cause brain drain and exacerbate the disparity between a developing country like Zimbabwe and developing nations.

Enhancing Diaspora Contribution: Brain Drain to Brain Gain

As the movement to engage the Diaspora as a key stakeholder progresses, there are obvious policy and resource commitments by all stakeholders that need to be addressed for the initiative to be successful. The peculiar nature of the Zimbabwe brain drain problem requires a multi-pronged approach in order to find a solution to the problem and involve the Diaspora in recovery and development of the country. Recovery of Zimbabwe’s human capital is contingent upon several positive and constructive actions that are necessary to involve the Diaspora and provide an environment conducive for conducting research imparting their knowledge and expertise, (Kasrelis, 2002; Lowell, 2004; Fangmeng 2011). The Zimbabwe Diaspora Focus Group points out that it is incumbent on those who wield political influence and power to create a stable and enabling environment for those in Diaspora to be involved in economic development.

Economic and political considerations that include, lack of investment in manpower, poor work environment and rewards, political instability are cited as causes for originally migrating (Bloch 2005). Mollick (2011) also confirms the importance of environments conducive to addressing brain drain by giving examples of the higher percentages of Chinese, Indian, Taiwanese and South Koreans Diaporans who are engaged in the development of their countries.

The SWOT analysis also showed some threats and weaknesses that impede finding a solution, and have to be managed and opportunities and strengths that are to be maximized in the drive towards redressing the brain drain problem. An analysis of the brain drain problem showed that causes were political, economic and social. According to Bloch (2005) radical political, economic and social transformation is required for absolute democracy, respect of the Constitution and law and compliance with human and property rights. This is in accordance with the UN 1948 universal declaration of Human rights that stipulates that every human being has personal, civic, political, economic, social and cultural rights and freedoms (Carter and Trimble 1997).

The UNDP (2005) specifies that it is essential for the government to create socio-economic settings that are free from politically motivated harassment and persecution, corruption, and to accommodate dissent and criticism to adhere to the dictates of good governance, elements of which are accountability, transparency, Rule of law and Citizen Participation. The country's political and economic governances have to be revised to make the environment conducive for participation of those in Diaspora networks in capacity building.

According to Mutume, 2003; the UNDP, 2008 and Oni, 1999, brain drain impacted on and eroded the quality of Zimbabwe education. The capacity building potentials of the universities have become unsustainable. Universities and the rest of the education system are critical components of national capacity building and also increase the productive capacity of the labor force through increasing knowledge, ideas and skills for the benefit of the nation (Solinamo, 2001; World Bank, 1997; OECD, 1996). The analysis showed that education, health and social systems as sectors needing to be controlled as they can impair or detract Zimbabwe's ability to attain desired goal. Restoring Zimbabwe's secondary and tertiary education to previously pertaining high levels, is also of utmost and urgent necessity. This would motivate and incentivize those completing their education to remain in Zimbabwe and apply their acquired knowledge and skills to the development of the economy and to imparting the knowledge they have gained to others.

Most Zimbabweans left the country because of political conflict, persecution and instability (Mutizwa-Mangiza, 1996; Gordon, 1995; Raftopolous, 2004; McGregor, 2010). The research and SWOT analysis reveal that the political system of the country may be hostile to Diaspora Networks working efficiently. The Zimbabwe Diaspora originated as political refugees and asylum seekers, leading to hostilities between the government and the Diaspora which does not sustain return, retain or Diaspora collaborations for development.

Technology and research facilities and resources are almost non-existent or are under-funded and the government has to re-establish relations with the international community and the Diaspora, where an ample supply of donors, would fund reconstruction initiatives and be more receptive to other Diaspora networks and their efforts. Development agencies from the government, foundations and aid agencies must also be held accountable to ensure that their strategies for Zimbabwe's capacity building include and integrate the use of Zimbabweans in Diaspora.

CHAPTER 5

RECOMMENDATIONS FOR FURTHER RESEARCH

This study reviewed research papers, reports, publications and other secondary sources of information relevant to brain drain. During this review and analysis gaps in the available data were identified and from these gaps, types of data to be generated to increase knowledge on the subject can be ascertained. In this chapter I will give my recommendations of areas of further research to address and increase knowledge on brain drain problem and its impact on capacity building in general and specifically for Zimbabwe.

There appears to a scarcity of published scholarly literature to ascertain the exact magnitude of the brain drain problem in Zimbabwe. Migration scholars concede that the scarcity and poor quality of data sources hamper the study of international migration. There is also the problem of the varied interpretations of the phenomenon, and the diversity of data sources and theoretical constructs that hamper a rigorous analysis of international migration (Oucho, 2007).

This lack of information on brain drain does not provide a solid base on which effective policies on brain drain could be based to solve this problem with huge negative impact on Zimbabwe. The challenge would be to come up with a methodology for understanding the overall net impact of the loss of human capital on capacity building and any development prospects and how to mitigate such a loss.

Systematic and comprehensive data needs to be kept on the extent of the brain drain by examining data in the country and in major host countries. There is also need for a manpower audit that would give an inventory of the emigrated skills base and keep track of them. The potential for return of the emigrants would also need to be established through surveys or other data collecting means.

The exact impact and implications of the brain drain on the different sectors would have to be assessed. This may be quite a formidable task given that there is no collected or verified data on Zimbabweans who have migrated, and that many developed countries now have emigration policies specifically targeting qualified personnel from other countries to reside and work in their countries. Zimbabwe like most developing countries cannot afford to put in place packages of incentives that allow its human capital to stay.

Professionals could be encouraged to stay in the country if the government provided a more politically, economically and socially attractive environment. Clear development policies designed to improve standards of living and encourage maximum participation in the development process should be well articulated and effectively implemented.

These measures would go a long way in ensuring that structural causes and the impacts of skills migration are understood better as a first step towards a quest for workable and effective policy interventions that can effectively address the brain drain problem.

CONCLUSION

I have made a modest attempt in this paper to contribute to the current discourse on the brain drain and capacity building in Africa, with specific reference to Zimbabwe. There is far less published literature on the Zimbabwe brain drain problem and its specifics, which has made the paper rather difficult to write. The issue of the brain drain is now just being given the due attention it deserves in Zimbabwe after the country suffered an unprecedented loss of skilled and educated human capital in during the last decade. This may be due to the fact that the realities, relevance and implications of the situation are now grabbing national attention as the country stabilizes politically and embarks on economic transformation programs.

Evidence from available literature, reports and from the magnitude of quality and quantity of emigrants suggests that a serious problem exists, one that has adverse impact on any development programs if current trends continue unabated and no redress measures are implemented. Some consequences of the flight of prime human capital on the different economic and social sectors of Zimbabwe have been visited. A thorough analysis of the problem must be made in order that effective and realistic strategies are advanced. Human capital remains the most valuable asset of a country pertinent for sustainable economic development and progress.

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Appendix A. Map of Zimbabwe Showing Major Cities and Neighboring Countries

Appendix B. Sub-Saharan Africa is not the whole African region. It is all the countries in Africa except for Morocco, Algeria, Libya and Egypt