

Internal Brain and Its Impact on Higher Education Institutions' Capacity Building and Human Resource Development in Sub Saharan Africa: The Case of Tanzania

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Internal Brain and Its Impact on Higher Education Institutions' Capacity Building and Human Resource Development in Sub Saharan Africa: The Case of Tanzania¹

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1.0. Introduction

African brain drain, a very widely written and discussed phenomenon, has always been defined by scholars, both Africans and non Africans, as *migration* of highly-trained and skilled professionals Africans from their home countries, specifically, to *developed countries of the North* in search of better economic and professional opportunities. The above almost universal definition of the concept of African of brain has always ignored one critical aspect of brain drain, i.e. *internal brain*. Internal brain in the context of this paper is defined as internal migration or domestic movement of highly trained and skilled professionals such as university lecturers and professors, medical doctors, engineers, lawyers etc. from their professional jobs they were originally trained to do to other jobs or occupations unrelated to their original training within the country for economic and non-economic reasons. Our definition excludes internal migration of academics from public higher education institutions to private higher educations or internal migration of academics in public universities to other newly established public universities which offers much better remuneration and employment terms than “old” public universities.²

The definition of internal brain drain also encompasses moon-lighting by professionals, engaging in other non-professional activities or non-academic activities for academicians (e.g. politics and related jobs), and official work time diversion mainly for extra income generation or for some other purposes. Also in the context of this paper, internal brain is defined as engagement or involvement of academicians in higher education institutions in research and consultancy activities not related to their areas of training or professional fields for economic survival, the research and consultancy whose agenda are set by foreign donors. Internal brain through donor-financed research is caused by the donors' research and priorities which might not necessarily coincide with problems that the national government has defined as its research priorities. As Barclays (2002: 49) correctly observes, internal brain drain includes the internal loss of highly skilled professionals from the institutions that directly trained or financed their training. Barclays further argues that this loss manifested in departure of these professionals deprives the institutions concerned a return to their investment. Capacity building in the context of this paper refers to the *process* of developing and strengthening through training and other related means the institution's human resources.

While currently there has been no empirical research conducted on the impact of internal brain on the institutional capacity building and human resource development in Sub Saharan African higher education institutions-especially universities-anecdotal evidence

¹ This paper is based on an ongoing study on the subject in a larger context

² Internal movement of academics from old public universities to newly established public universities is currently eroding the human resource base of old universities, particularly the University of Dar es Salaam as a good number of experienced academicians are migrating to these newly established public universities.

and observation shows that these vital institutions have been adversely affected by internal brain through the movement/ or “internal migration” of senior academicians and researchers, scientists and professors from universities to other lucrative non-academic jobs within the country. This movement –albeit in the absence of empirical data- has thwarted or eroded African universities’ capacity building and general human resource development. As Mkude et al (2003:84) correctly observes: “*senior academics are lured into the world of NGOs, consultancy and working for government and donors, leaving a major gap in the professorial ranks that cannot be filled in the short term without recruiting expatriate teachers or consultants.*”

This paper using the University of Dar es Salaam-Tanzania’s oldest and largest public university-as case study seeks to document largely through anecdotal evidence (due to the current unavailability of data) to what extent has the internal brain drain phenomenon has impacted on institutional capacity building and human resource development in Tanzania’s higher education institutions. The paper attempts to answer the following major question: *What have been the impact and the extent/magnitude of internal brain drain on the Tanzania’s public universities’ institutional capacity building and human resource development with specific reference to the University of Dar es Salaam?*

This paper is divided into 5 sections. Section 1 is introduces the concepts of internal brain drain and brain drain in general; section 2 briefly reviews literature on the causes of brain drain in general and internal brain in particular; section 3 presents some available documentary and anecdotal evidence of internal brain in a broader national context and section 4 presents some evidence of internal brain drain at the University of Dar es Salaam and implications for the institution’s capacity building and human resource development; while the last section summarizes the paper and makes some tentative conclusions.

2.0. Factors Influencing External and Internal Brain Drain in Sub Saharan Africa

Dovlo (2004: 8) among several researchers on causes of external brain drain in Africa with specific reference to health professionals, cites *push* and *pull* factors as the major causes of brain drain of highly skilled African professionals to developed and other countries. Push factors “motivate” or force African professionals to leave their countries of origin (hypothetically against their will), while pull factors are according to Dovlo (ibid.) are “the deliberate and/or unintended actions from recipient countries” that attract African professionals to these countries. Several researchers (including Dovlo ibid) on causes of brain drain in Africa have cited the following as push factors: low remuneration; poor working conditions; low job satisfaction; lack of professional and career development; and political instabilities in many African countries which creates insecure conditions for the professionals. Abongo (2007) unequivocally observes that the *primary cause* of (external) brain drain is “unreasonably low wages paid to African professionals.” Other push factors cited in literature on brain drain in Africa include lack of technology and basic equipment to perform professional tasks. Low remuneration and poor working conditions of African professionals have prominently featured as the major push factors influencing brain drain among African professionals.

Pull factors, inter alia, include attractive remuneration and good working conditions which leads to job satisfaction; opportunities for professional and career development; job security; advanced technology and availability of basic and necessary equipment to perform professional tasks. Dovlo (2004:9) makes a valid observation that an individual's decision to migrate is a combination of push and pull factors reflected in terms of *gradients* in the influence of these factors between source and recipient countries. The key gradients in Dovlo's view are: (a) income gradient, i.e. the difference in remuneration and living conditions between the home and recipient countries; (b) job satisfaction gradient which refers to the perception of good working conditions and professional and technical efficiency that allows international peer recognition; and organizational career opportunity gradient which reflects how fair and accessible career opportunities for advancement and promotion are. The push and pull factors discussed above largely explains the causes of external brain drain of African professionals thus creating a vacuum on the specific causes of internal brain drain, a phenomenon which requires its own model of push and pull factors. In the following sub section, we attempt to briefly explain the causes of internal brain drain of the Tanzania academics using the push and pull factors model.

2.1. Factors Influencing Internal Brain Drain of Academics in Tanzania Higher Institutions of Learning

One of the primary causes of internal brain of the academics in Tanzania's public universities-as in other African countries-is low remuneration and to some extent poor working conditions as manifested by inadequate teaching/learning facilities; large classes; inadequate office space; among others. All these relatively poor working conditions in Tanzania's public institutions can be attributed to funding cuts by the Government. Compared to what is paid to similar professionals with the same or at times less academic qualifications and experiences in the non-academic private sector and in politics; academics in the majority of Tanzania's public higher education institutions receive meager pay despite their stressful job characterized by long working hours.³ While compiled data on salary scales in private and public sectors and in politics for professionals with similar academic qualifications to academicians in public higher education institutions is currently unavailable and very difficult to obtain; anecdotal evidence shows that politics pay more than academics, regardless of academic qualifications and work experiences of some of the politicians. For example, of the 171 current members of Tanzania parliament surveyed, 18.1% have certificates after ordinary level secondary education while 2.9% have basic primary education without any certificate. The fact politics pays more than academics explains why-as we shall demonstrate later-that a good number of reputed Tanzanian senior academics and professors have joined politics. **Table 1** below summarizes the academic qualifications of 171 current members of Tanzania parliament. The number of parliamentarians

³ From casual observation, a two-hour undergraduate lecture requires at least minimum of three hours of preparation. Assuming that a lecturer has 15 lecture hours per week, he/she need a minimum of 45 hrs of preparations, plus 15 lecture hours. These hours excludes marking students' assignments and other related tasks.

surveyed is equivalent to % of the total United Republic of Tanzania parliamentarians joining the parliament through different arrangements including direct election by voters, special seats and presidential nominations.

Table 1: Academic Qualifications of Tanzania Parliamentarians by Educational Level, September 2007

N=171

Academic Qualifications	Number	%
PhD ⁴	25	14.6
MA/MSc/MBA	37	21.6
BA/BSc/LLB/MD	30	17.5
Advanced Diploma	10	5.8
Ordinary Diploma	17	9.9
Post-Secondary Education Certificate	32	18.7
Secondary Education Only	10	5.8
Primary Education Only	5	2.9
Qualification Not Indicated	5	2.9
Total	171	100

Source: Adapted from “Who is Who” www.parliament.go.tz accessed on September 1st 2007

Apart from low remuneration being a major local push factor as far as the internal brain drain of academics to politics and other domestic “greener pastures” are concerned; there is also the question of self-fulfillment and grandiose (although not acknowledged in literature on brain drain) on the part of academicians who have reached the highest levels in their academic careers e.g. full professorship. This group of academics-albeit financially ‘liquid’ - on reaching the top-most level in their careers they would like to move into national positions which puts them into the society’s limelight for the sake of self-fulfillment and grandiose which might not necessarily include financial gains, although financial gains as motive cannot be completely ruled out; considering the irreconcilable differences between what a Tanzanian full professor gets as a monthly and what cabinet minister gets, excluding higher social status compared to a reputed professor in a certain discipline.

While it is tricky in the context of empirical research to cite funding cuts by the Government for public higher education institutions in Tanzania as one of the local push factor for internal brain drain of the academics to domestic greener pastures; it is worth acknowledging that budgetary cuts to public universities particularly for development expenditure is also one of the indirect local push factor. Funding cuts to public universities which consequently affects academic infrastructure and related areas has been acknowledged elsewhere as push factor to internal brain drain.

budgetary approval of the University of Dar es Salaam's Main Campus (only) budgetary requests from 1990/00-2005/06 was 56.7%. In this context of almost systematic budget cuts of public universities' budgetary allocation, it makes sense to posit that reduction in budgetary allocations to public universities one of the push factors behind internal brain drain in Tanzania higher education landscape.

Table 2: University of Dar es Salaam (UDSM) Budgetary Request vs. Government Approval, 1999/00-2005/06 (TZS mill.) [Recurrent Budget]

Institution	Year	Budgetary Request	Government Approval	Request vs. Govt. Approval Ratio
UDSM-Main Campus	1999/00	35,928,810,522	15,909,010,234	44.2
	2000/01	26,971,097,194	22,295,585,316	82.6
	2001/02	23,950,500,000	12,962,933,600	54.0
	2002/03	22,703,220,309	13,112,908,820	54.7
	2003/04	29,442,119,596	16,869,293,885	57.0
	2004/05	30,142,200,195	17,861,103,881	59.0
	2005/06	44,524,155,229	28,416,449,520	64.0
MUCHS	1999/00	14,592,031,187	5,352,082,300	36.6
	2000/01	12,306,194,720	6,072,368,200	49.3
	2001/02	13,862,429,628	6,072,368,200	43.8
	2002/03	10,903,237,118	6,204,186,800	56.9
	2003/04	11,391,441,768	6,824,605,480	60.0
	2004/05	12,401,250,008	6,841,105,000	55.1
	2005/06	6,345,249,546	4,448,233,700	70.1
UCLAS	1999/00	3,609,723,263	2,048,276,500	56.7
	2000/01	4,211,566,222	2,587,680,510	61.4
	2001/02	4,060,795,959	2,829,670,520	69.6
	2002/03	4,927,370,176	2,842,827,422	57.6
	2003/04	4,002,679,505	3,078,483,303	77.0
	2004/05	4,601,509,400	3,508,311,103	76.2
	2005/06	5,103,194,896	3,375,885,576	66.1

KEY=MUCHS=Muhimbili University College of Health Sciences (now an autonomous university with effect from September 2007; UCLAS=University College of Lands and Architectural Studies, also an autonomous university with effect from September 2007. Source: Adapted from UDSM (2006) & (2004) Facts and Figures 2005/06 and 2003/04 Dar es Salaam: University of Dar es Salaam, Directorate of Planning and Development pp. 164-165; 155-156; Ishengoma, J.M. 2007) "Access and Equity in Higher Education: Assessing Financing Policies-A Comparative Study of Seven African Countries. Tanzania Report." Research report presented to the Sizanang Research and Development Center, Pretoria, South Africa p. 30.

In the following section we present available anecdotal evidence on internal brain drain in a larger context of the component of the current Tanzania cabinet in terms of the number of academics, i.e. holders of doctorates and professorial ranks vs. other non academic cabinet members. **Table 3** summarizes the above scenario.

3.0. Some Empirical Evidences of Internal Brain at the National Level

Table 3: Internal Brain Drain in Tanzania Cabinet: Cabinet Ministerial Positions Held by Academics/Professionals with Doctorates or Equivalent and Professorial Ranks, 2007

Ministry/Ministerial Portfolio	Minister/Deputy Minister's Academic Qualification & Rank	Area of Specialization
Vice President	PhD	Clinical Biochemistry & Metabolic Medicine
Union Affairs	MMED	Internal Medicine
Environment	Professor	Electrical & Electronics Engineering
Parliamentary Affairs	PhD	Economics
East African Cooperation	PhD	International Relations
Planning, Economy & Environment	PhD	Regional Economics
Natural Resources & Tourism	Professor	Research & Training
Water	PhD [Senior Dev. Engineer]	Engineering
Health & Social Welfare	Professor [M.B., Ch.B]	Medicine
Higher Education, Science & Technology	Professor	Veterinary
Lands, Housing & Human Settlements	PhD (Candidate)	Chemistry
Defense & National Service	Professor	Botany
Deputy Cabinet Ministers		
Disaster & HIV/AIDS	MMED	Ophthalmology
Foreign Affairs & International Cooperation	PhD	Economics
East African Cooperation	PhD	Economic Planning
Agriculture, Food Security & Cooperatives	PhD	Agriculture
Labor, Employment & Youth Development	PhD	NA
Livestock Development	PhD	Engineering
Infrastructure Development	PhD	Materials Management/Procurement and Supplies
Infrastructure Development	MD	Medicine

Source: <http://www.parliament.gov.tz/bunge/Ministers3.asp> accessed on September 1st 2007

Our findings in Table 3 reveals that of the 61 total cabinet ministerial positions, 20 or 32.7% positions are held by academicians/professionals with doctorates and professorial ranks, the majority of these-if not all-were teaching in Tanzania higher education institutions for many years before they “internally migrated” to lucrative politics. With few exceptions, most of the academics/professionals cum politicians surveyed in Table 3 are employed or performing tasks unrelated to their professions or areas of specializations. This scenario perfectly fits in our conceptualization of internal brain drain. Of the 20 politicians surveyed, 5 or 25% have attained the academic ranks of full professorship in their respective specializations before they joined politics. This number of full professors is equivalent to 7.4% of total number of full professors employed by the University of Dar es Salaam in 2005/06 (See Table 4). Whether these professors have been replaced in their respective universities is very difficult to determine in this paper, but definitely their departure from their respective higher education institutions has dented the professorial ranks and specializations in concerned institutions.

Anecdotal evidence also reveal that cases of internal brain drain are also abundant in Tanzania’s bloated bureaucracy particularly at district and regional administration levels, where military officers (retired or active) are not in short supply as regional and district commissioners and medical doctors working as district executive directors. There also instances of regional commissioners with doctorates and university professors employed as directors of Government departments or units. In the following section we present available anecdotal data of internal brain at the University of Dar es Salaam from 1995-2007

4.0. Internal Brain Drain in Higher Education Institutions in Tanzania: The Case of the University of Dar es Salaam, 1995-2007

4.1. The University of Dar es Salaam: Some Basic Facts and Figures

The University of Dar es Salaam- currently composed of one main campus, two constituent colleges of education and one semi-autonomous Institute of Journalism and Mass Communication- was first established as a College of the University of London in 1961 and later as an autonomous national university in 1970. The University is one of the nine (9) public universities. Until the beginning of this September, the University was composed of two more constituent colleges, i.e. the University College of Lands and Architectural Studies (UCLAS) and Muhimbili University College of Health Sciences (MUCHS) which have now become autonomous universities in a larger context of misplaced academic drifting currently taking place in Tanzania higher education landscape. The “graduation” of UCLAS and MUCHS into autonomous universities and the establishment of a new public university-University of Dodoma-have inevitably exacerbated the problem of internal brain drain already endemic at the University of Dar es Salaam as some of the senior professors have been appointed to take leadership positions and some senior academics have migrated to these new universities in search of

more greener pastures. However, this pattern of migration is positive or productive, because at least these migrating academics will still be working and employed in the academic industry and hence continue to promote the core mission of a university, i.e. teaching, research and consultancy. This internal migration, its negative impact on the respective academic institutions notwithstanding, is positive internal brain drain. In 2005/06 academic year the University of Dar es Salaam with its two constituent colleges employed a total of 869 academic staff. The distribution of the academic staff by rank is summarized in **Table 4**.

Table 4: Distribution of UDSM Academic Staff by Rank, 2005/2006

Academic Rank	Number	%
Professor	67	7.8
Associate Professor	136	15.8
Senior Lecturer	95	11.0
Lecturer	218	25.4
Assistant Lecturer	309	36.0
Tutorial Assistant	33	3.8
Total	858⁵	100.0

Source: Adapted from: UDSM (2006) *Facts and Figures 2005/2006*. Dar es Salaam: University of Dar es Salaam, Directorate of Planning and Development p. 148

4.2. Internal Brain Drain at the University of Dar es Salaam: Some Anecdotal Evidence

The University of Dar es Salaam-probably unlike any other public university-has experienced both external and internal brain drain, the major push factor being low remuneration and poor working conditions, among other factors. Available documentary evidence-not disaggregated by academic ranks-shows that from 2001/2002-2005/2006 a total of 71 academic staff or 8.2% of all total academic staff employed by the University of Dar es Salaam in 2005/2006 left the institution “greener pastures.”⁶ It is not indicated in our source whether these academics left for domestic or foreign greener pastures, an anomaly necessitating further comprehensive study on the subject matter. However, these figures are doubtful given the fact one of the then constituent college of the University of Dar es Salaam (the University College of Lands and Architectural Studies) did not submit data on academic staff leaving the institution during that period.

In Table 5 below we present available anecdotal evidence on the internal brain drain at the University of Dar es Salaam, which we have lightly illuminated in Table 3.⁷

⁵ This total does not include the number of tutorial assistants at the UDSM Main Campus which is not available for 2005/06

⁶ This figure has been extracted from UDSM Facts and Figures 2005/2006

⁷ Two of the five professors in the current cabinet were employees of the University of Dar es Salaam in the faculties of Engineering and Science respectively.

Table 5: Internal Brain Drain at the University of Dar es Salaam, 2000-2007

Faculty	# of Academics Leaving	Rank	Destination	New Greener Pasture
Law	# 1	Senior Lecturer	Parliament (Politics)	Member of Parliament
	# 2	Senior Lecturer	Parliament (Politics)	Member of Parliament
	# 3	Senior Lecturer	Parliament (Politics)	Member of Parliament, now Deputy UN Secretary General
	# 4	Senior Lecturer	Private Sector	Private Practice
	# 5	Senior Lecturer	Private Sector	Private Practice
	# 6	Senior Lecturer	Private Sector	Private Practice
	# 7	Senior Lecturer	Private Sector	Chief Executive
	# 8	Senior Lecturer	Government/Civil Service	High Court Judge
	# 9	Associate Professor	Government	Executive Chairman of Govt. Commission

Our anecdotal data in Table 5 reveals that the favorite local destination for academics leaving the University of Dar es Salaam is politics, which accounts for 48.1% of all cases surveyed, followed by private sector and Government/civil service each accounting for 22.2% of all cases. As we pointed out earlier, the major push factor for academics to join politics is high remuneration (both tangible and intangible) and other “fringe benefits.’ A member of parliament, even for the novice Parliamentarian joining the Parliament for the first time earns more (on a monthly basis) than what a 20-year experienced university professor earns. It is no wonder that now Tanzania academics have developed a special “appetite” for politics at all levels. Our survey also shows that senior academics (senior lecturers and professors) are more vulnerable to internal brain drain than any other academic rank because of their long experiences and accumulated expertise. Senior lecturers accounted for 55% of the total; while professors accounted for 40.7% in our case study anecdotal sample. This means, the University of Dar es Salaam is losing a substantial number of its senior academic staff implying adverse impact on its human resource base and capacity building.

At the University of Dar es Salaam-as in other public universities-internal brain drain is not necessarily manifested only in internal physical migration, but also in other forms such as private consultancy and research⁸; part-time teaching and general moon-lighting and other non-academic income generating activities to make ends meet. We have earlier argued that donor-driven research in institutions of higher learning is another subtle manifestation of internal brain drain although not widely acknowledged in literature on brain drain. In Table 6 we summarize available data on government and external donor research funding at the University of Dar es Salaam from 1999/00-2003/04.

Table 6: Government and External Donor Research Funding at the UDSM, 1999/00-2003/04 (TZS)

Year	Govt.	External Donor	Other Sources	Total	% Donor
1999/00	403,100,000	1,995,900,830	0	2,399,000,830	83.2
2000/01	36,748,010	2,309,464,000	0	2,346,212,010	98.4
2001/02	42,988,630	2,309,164,000	0	2,352,152,630	98.1
2002/03	52,176,820	1,459,599,000	0	2,013,024,820	72.5
2003/04	302,036,001	3,266,655,000	0	3,977,519,501	82.1

Source: UDSM (2006) *Facts and Figures* pp. 100 & 135

Our data in Table 6 reveals that whereas Government funding for research declined from TZS 403,100,000 (1999/00) to TZS 302,036,001 (2003/04) (a decline of 25%); external donor research funding increased from TZS 1,995,900,830 to 3,266,655,000 (38.9% increase) during the same period. While the external donor support for academic research is important in the internationalization process, heavy donor-dependence for research

⁸ At times, as a survival strategy, academics “trespass” into research areas where basically they do not have the expertise.

funding might lead to some form of internal brain drain because at times donor research priorities might not necessarily coincide with nation's research priorities.

5.0. Summary and (Tentative) Conclusions

In this paper we have attempted to document the hitherto undocumented internal brain drain problem largely using anecdotal evidence and limited available documentary evidence from the University of Dar es Salaam. Our data-albeit limited and anecdotal-shows that internal brain drain adversely impacts the limited and precarious human resource and general capacity building at the University of Dar es Salaam and in some other public universities. Senior academics with vast research and teaching experience are migrating to other greener pastures mainly for economic reasons. Ironically, even newly-established public universities have also turned into even greener pastures for academics at the University of Dar es Salaam. Anecdotal evidence and observation reveals that some senior faculty members of the University of Dar es Salaam who could not get promotions or positions they have been aspiring for, for many years have joined these nascent public universities and got their promotions and leadership positions as soon as they arrived or even before reporting for work. This means, the University of Dar es Salaam will continue to be vulnerable as long new universities continue to be established. Our findings also show that the favorite domestic greener pasture is politics because of the perceived economic benefits. The stakeholders, particularly the Government need to do something in terms of improving remuneration and working conditions of the academics before it is too late to do anything. Internal brain of the academics to politics is likely to continue for many years, if deliberate measures are not taken to address the problem. Meanwhile, while we are not being pessimistic, internal brain drain is likely to remain until academics pay more than politics.

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