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The state of social science in sub-Saharan Africa

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The state of social science in sub-Saharan Africa

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INTRODUCTION

Any review of an array of scientific disciplines as diverse as the social sciences runs the risk of easy generalization, oversimplification or selective anecdotalism. When these disciplines are practised within highly dissimilar institutions and organisations in more than forty countries on the African continent, the task is even more challenging. Our approach in this chapter has been to use a combination of quantitative methodologies (bibliometric analysis and survey studies) with more qualitative studies (case studies) in order to arrive at some broad generalizations as well as in-depth analysis. In addition we have benefitted greatly from a number of studies over the past ten to fifteen years that have presented broad-brushed analysis of the state of higher education and universities as well as the social sciences on the continent (Aina, 1998: Anugwon, 2004; Sall, 2003 and Zeleza, 2003).

BRIEF HISTORICAL OVERVIEW

The social sciences and humanities (SSH) within sub-Saharan Africa (SSA) are predominantly practised within the universities. A few countries have government-funded research institutes devoted to the social sciences (as in the case of the Human Sciences Research Council in South Africa). In addition there are also some social research institutes and research NGOs in many countries (such as the Institute for Basic Research in Kampala and again many examples in South Africa) which operate outside of the universities. The majority of these research institutes and centres are either funded through international agencies or donor organisations with little if any government support. Given these exceptions social science scholarship is conducted mostly within academic departments in the universities of the region. It is now well-known that most African universities have gone through far-reaching changes over the past two decades not least of which has been the huge increases in student enrolment numbers at the same time as international and national funding of public universities has declined. This has left many universities and their capacity to undertake scientific research in a very precarious position. This is no less true of social sciences research.

It is not surprising that the history of the social sciences is intimately related to the history of African universities. As Sall (2004) rightly observes, independence, nation-building and development euphoria of the '60s and '70s, as well as economic and social crises, and the subsequent primarily externally induced structural adjustment process, the crisis of the state and the spread of armed conflicts have all left their marks on the social sciences, on higher education and research institutions, and on researchers and research communities themselves. More recently, processes of democratization in increasing numbers of African states, the end of the Cold War, globalization, the general conversion to liberal economic doctrines, the information and communications technology (ICT) revolution and the popular and intellectual struggles that these processes have engendered have all impacted on the social sciences in various ways.

Colleges, university colleges and/or fully developed universities existed before independence in countries such as Sierra Leone, Ghana, Nigeria, Ethiopia, Uganda, Senegal, Rhodesia and Nyasaland, Egypt, Morocco, Algeria, Tunisia and South Africa. However, the development of social research and of the teaching of the social sciences is very much a postcolonial phenomenon. Even in a country such as South Africa that has had universities for more than 150 years, university-based social science research only really developed and expanded in the post-second world war era. In many African states, the postcolonial state built most of the research and training institutions (universities, institutes and centres) during the first few decades after independence (since the 1960s).

In his very useful overview of the social sciences in Africa, Ebrima Sall (2004: 20) identifies five factors that are particularly important in understanding the context of social science teaching and research in Africa: i) economic change (from developmentalism to decline and liberalization); ii) social change (changes in the status of large sections of the elite from high to low, rapid urbanization and a rise in mass poverty); iii) political change (authoritarianism, followed by liberal democratic reforms in some countries, conflicts and civil wars in others); iv) change in information and communication technologies; and v) change at the level of the university and other social research institutions (expansion of the sector and diversification of types of institutions and governance systems) (Allen 1986; Aina 1998; UNESCO 1999; World Bank 2001).

As far as the nature of knowledge production is concerned, many scholars seem to still believe and are committed to the general development effort. Even today, as we will indicate below, many social science scholars express the view that their scholarship and research should support the national developmental agenda. But as Mkandawire comments

somewhat cynically – "The social engagement of scholars was considered almost as important as their scholarship… "the 'right to development' morally overwhelmed the 'right to think'" (1999: 24).

Our review of the social sciences in SSA begins with a quantitative assessment of trends in research output – both in international ISI-journals as well as domestic journals. This assessment also identifies the country and institutional contributions to overall output. Following this discussion, we then focus on research institutes, centres and transnational networks in the social sciences. The third section of the paper addresses the different modes of social research and especially the rise of consultancy forms of applied social science. The fourth section analyses trends in post-graduate training in the social sciences in the region. Section five is devoted to a discussion on the funding of social sciences research followed by a discussion of some major themes represented in the social sciences in section six. The paper concludes with some reflections on current and future challenges.

SECTION 1: TRENDS IN RESEARCH OUTPUT

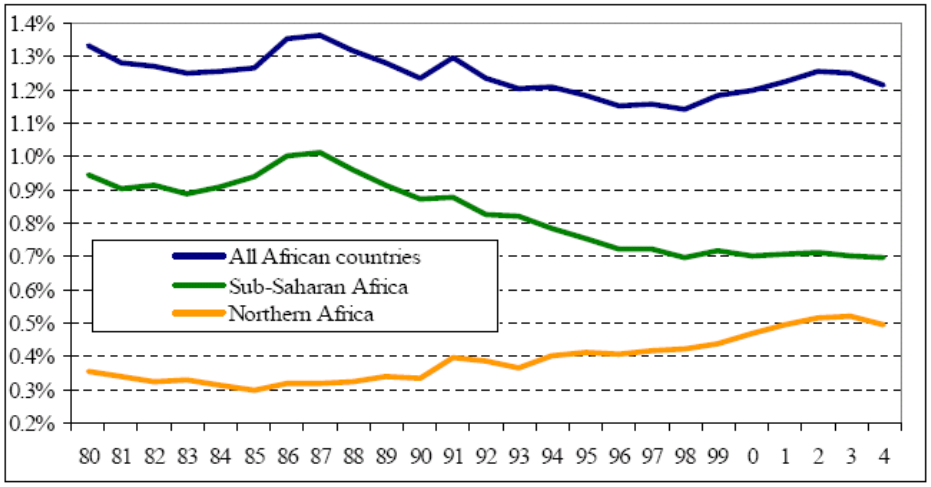
It is by now well known that Africa's share of world science as measured in papers published in ISI-indexes have been declining steadily over the past decades[1]. Various earlier studies by Gaillard and Waast (1997) and others have looked at this issue[2], but arguably the most comprehensive and up to date bibliometric analysis of these trends is captured in Robert Tijssen's (2007) article in *Scientometrics* (*Africa's contributions to the worldwide research literature: New analytical perspectives, trends, and performance indicators (id).*

In his analysis, Tijssen shows how sub-Saharan Africa has fallen behind in its share of world science production quite dramatically from 1% in 1987 to 0.7% in 1996 with no sign of recovery (Figure 1). These diminishing shares of African science overall do not reflect a decrease in an absolute sense, but rather an increase in publication output less than the worldwide growth rate. Africa has lost 11% of its share in global science since its peak in 1987; sub-Saharan science has lost almost a third (31%). The countries in Northern Africa; Egypt and the Maghreb countries (Algeria, Mauritania, Libya, Morocco and Tunisia) accounted for the modest growth of the African share of the worldwide output during the years 1998-2002.

[1] We are aware that any exclusive focus on papers published in the more than 9000 journals of the ISI/Thompson Web of Science under-represents a significant body of scholarship published elsewhere: either in local journals or journals (very often francophone or lusophone) not included in the ISI-indexes. We comment on these possible biases and attempt to address these in our further analyses.

[2] Gaillard, J.; V.V. Krishna & R. Waast (1997) *Scientific Communities in the Developing World*, Sage: New-Delhi.

Figure 1: Trends in African research article output in the international journal literature (1980-2004): % of worldwide publication output in the international peer-reviewed journal literature.



Source: CWTS/Thomson Science Citation Index database (excluding the Arts and Humanities Citation Index).

Table 1 below presents the breakdown of ISI-papers for the social sciences and humanities (SSH) for the past twenty years by country (only countries which produced more than 200 papers over this period were included). The graph shows that output over this period has increased steadily by an overall growth rate of 112%. A number of countries that did not produce many papers in the ISI-journals twenty years ago have recorded huge increases. The noticeable exception is Nigeria with a negative growth rate (-27%) presumably a further indication of the impact of high-level brain drain on the country. The domination of South Africa in SSA is evident with the country producing about half of all output in the social sciences and more than three times more than the second most productive country (Nigeria).

Table 1: SSH output by country (1987 – 2007)

	87-89	90-92	93-95	96-98	99-01	02-04	05-07	1987-2007	Col%	Overall growth rate
SOUTH AFRICA	975	1089	1196	1462	1482	1906	2785	10895	50.7%	+185%
NIGERIA	748	626	438	382	341	475	542	3552	16.5%	-27%
KENYA	182	153	189	189	259	353	414	1739	8.1%	+127%
ZIMBABWE	106	145	127	168	122	154	163	985	4.6%	+54%
TANZANIA	71	63	99	106	111	130	238	818	3.8%	+235%
GHANA	50	87	88	96	124	101	137	683	3.2%	+174%
BOTSWANA	41	42	71	119	117	137	133	660	3.1%	+224%
ETHIOPIA	42	57	42	56	65	108	147	517	2.4%	+250%
UGANDA	16	24	46	60	79	103	159	487	2.3%	+890%
CAMEROON	17	54	41	51	66	81	95	405	1.9%	+2282%
ZAMBIA	72	36	44	25	23	33	73	306	1.4%	+325%
MALAWI	25	36	54	40	22	30	48	255	1.2%	+920%
NAMIBIA	7	10	33	38	28	40	48	204	0.9%	+2814%
Grand Total	**2352**	**2422**	**2468**	**2792**	**2839**	**3651**	**4982**	**21506**		**+112%**

A breakdown of output by university is presented in Table 2 below. As one would expect, the domination of South African universities is also demonstrated at this level with 8 of the top 10 and 11 of the 30 most productive universities being located in South Africa. But the table also speaks to the critical mass (or lack thereof) of many universities in the region to maintain a steady annual output. Only the top 17 universities are able to produce on average 20 papers per year in ISI-journals. Many traditionally strong universities in countries such as Nigeria, Kenya, Tanzania and Zimbabwe struggle to maintain even these levels of output. As we will indicate below this is due to the accumulative effect of the brain drain over decades, which have stripped many of these universities of their most productive scholars, as well as the continuing de-institutionalisation of research in many countries of the region because of the lack of funding and government support, erratic performance of scientific journals, frequent upheavals and disruptions (strikes, government interference) which continue to weaken university governance and leadership.

Table 2: Institutional shares of SSH output in ISI-journals (1995-2007)

Rank	University	Country	Nr of SSH papers (1995 - 2007)	Col %
1	UNV CAPE TOWN	SOUTH AFRICA	3000	17.4
2	UNIV WITWATERSRAND	SOUTH AFRICA	2195	12.7
3	UNIV PRETORIA	SOUTH AFRICA	1514	8.8
4	UNIV KWA-ZULU NATAL	SOUTH AFRICA	1444	8.4
5	STELLENBOSCH UNIVERSITY	SOUTH AFRICA	1362	7.9
6	UNIV ZIMBABWE	ZIMBABWE	616	3.6
6	UNISA	SOUTH AFRICA	565	3.3
7	UNIV BOTSWANA	BOTSWANA	536	3.1
8	RHODES UNIVERSITY	SOUTH AFRICA	526	3.0
9	UNIV WESTERN CAPE	SOUTH AFRICA	518	3.0
10	UNIV IBADAN	NIGERIA	485	2.8
11	NORTH-WEST UNIVERSITY	SOUTH AFRICA	415	2.4
12	OBAFEMI AWOLOWO UNIV	NIGERIA	394	2.3
13	UNIV FREE STATE	SOUTH AFRICA	369	2.1
14	UNIV NAIROBI	KENYA	334	1.9
15	UNIV JOHANNESBURG	SOUTH AFRICA	322	1.8
16	UNIV DAR ES SALAAM	TANZANIA	306	1.8
17	UNIV GHANA	GHANA	302	1.7
18	MAKERERE UNIV	UGANDA	222	1.3
19	UNIV NIGERIA	NIGERIA	215	1.2
20	UNIV BENIN	NIGERIA	214	1.2
21	UNIV LAGOS	NIGERIA	187	1.1
22	UNIV ZAMBIA	ZAMBIA	175	1.0
23	UNIV MALAWI	MALAWI	166	0.9
24	AHMADU BELLO UNIV	NIGERIA	164	0.9
25	UNIV ADDIS ABABA	ETHIOPIA	164	0.9
26	UNIV PORT HARCOURT	NIGERIA	132	0.8
27	UNIV ILORIN	NIGERIA	120	0.7
28	KENYATTA UNIV	KENYA	113	0.7
29	UNIV JOS	NIGERIA	112	0.6
30	UNIV YAOUNDE	CAMEROON	104	0.6
			17291	100.0

The statistics presented in the previous graphs and tables only refer to publications in the social science indexes of the ISI. The advantage of using the ISI-journals as point of reference is that it allows for comparative analyses across countries and universities worldwide. However there are many criticisms of using ISI-data only and specifically when one focuses on the social sciences and humanities. The ISI-journals have a distinct

anglophone bias which leads to poor coverage of francophone and (to a lesser extent) lusiphone countries in SSA. In addition the ISI's coverage of small journals in developing countries is not good. The latter is a result of the policy of the ISI to include only the highest impact journals in the world which means that many journals in the developing countries (which have small circulation lists and hence restricted readerships) are thereby automatically excluded. All of this means that a significant proportion of African social science is simply not visible in international indexes. But what is this proportion? Our analysis below attempts to quantify the extent of the "exclusion".

In an attempt to address the lack of presence of African journals in international indexes, the International Network of Scientific Publications (INASP) in 1997 launched a project to give greater exposure to African journals – *African Journals Online (AJOL).* In line with the original funding condition, the programme was transferred to African management in August 2005, and so this report examines the development and status of the programme to the end of 2005. Funding to run AJOL comes from a variety of sources including: Danida (now RDMFA), DfID, the French Ministry of Foreign Affairs, NORAD, SIDA-SAREC (now SIDA), and UNESCO.

According to the latest figures more than 340 journals are currently indexed in AJOL (which is based in Grahamstown in South Africa and managed by NISC (National Inquiry Services Center). The vast majority of these journals do not appear in the major international databases. Of these 340 journals, approximately 100 are categorized as being SSH-journals. It is important to point out that this list does not represent all SSH-journals being published in African countries. For example, this list only includes 20 of a total number of approximately 120 SSH journals published in South Africa alone and only includes 29 journals for Nigeria. However, it is still useful to get a sense of "local" social science scholarship. Hence we counted the articles produced in the 78 AJOL-journals for the period 1999 - 2007. In addition, we also counted the number of articles published in the 120 SSH-journals published in South Africa for the period 1990 -2007[3].

[3] These statistics were sourced from an in-house database, *SA Knowledgebase*, which is housed at CREST and which is the most comprehensive database on South Africa's scientific output since 1990.

Table 3: SSH articles by source: 1990 - 2007

Distribution of articles by index		90-92	93-95	96-98	99-01	02-04	05-07	1990-2007
SSH articles in ISI-journals		2422	2468	2792	2839	3651	4982	19154
SSH articles in non-ISI journals	AJOL-journals				1136	1565	2247	4948
	South African journals	4877	5252	5058	4840	4746	5900[4]	30673
TOTAL		7299	7720	7850	3975	9962	13129	54775

By including articles published in AJOL as well as South African SSH-journals the overall picture of scholarship changes considerably. A first salient point to be made is that international publication in the ISI-journals (19154 articles for the total period 1990 – 2007) only constitutes about one third of total social science scholarship in the region. And given that these new figures exclude significant francophone journals and journals not listed on AJOL the ISI-share is undoubtedly even smaller.

Second, a small number of countries again produce the biggest shares of the AJOL-output: Nigeria (37), Ghana (7), Ethiopia (6), Senegal (5), Tanzania (4), Uganda (5) and Zimbabwe (4). Having said this, it is clear that many journals in some of these countries have not in recent times published issues. Of the total (78) number of AJOL-journals on this list, 27 have not produced any articles since 2006. Unless this points to an exceptionally long lag in indexing of articles in the AJOL-databases, it reflects a very typical feature of many African journals – the lack of sustainability. It is common knowledge (cf. Waast and Gaillard, 1997) that many journals in Africa are established (usually with donor support), but soon falter because of lack of capacity and institutional support and eventually simply die. Conversely, the "good performance" of some journals – such as the Ethiopian SSH journals in the list (cf. Appendix A) - is due to the fact that these journals are directly funded and supported by SIDA/SAREC and have been for the past number of years. Where local or international support is not available (cf. for example the decline in journal output of the Zimbabwe journals), the picture is dim.

Third, these figures demonstrate the magnitude of the "invisibility" of African scholarship in the social sciences and humanities and why initiatives to give greater exposure to these publications through support of journals, open access repositories and other measures are so important. Of course, one has to add that many of the local journals published in these countries do not necessarily conform to good practice in editorial publishing and very often do not enforce rigorous peer review. These factors, together with the fact that many of the

[4] Conservative estimate based on information in *SA Knowledgebase*

local journals appear very infrequently, are some of the reasons why international databases desist from indexing their articles.

In conclusion: Our bibliometric analysis of SSH research output in the region has revealed a number of interesting trends: although overall share of world science output (as measured in ISI-Thompson Web of Science) has declined, there is a steady overall growth in SSH output in ISI-journals in most countries; there is a concurrent increase in articles produced in local journals even though significant numbers of these journals appear quite infrequently and often depend on international support for their continued existence; the (increasing) domination of South Africa in the region is evidenced by the fact that it produces more than 50% of all research output and three times more than the second country (Nigeria whose output in ISI has been declining over the past twelve years); and finally the continuing lack of visibility of much of this scholarship in international indexes.

SECTION 2: RESEARCH INSTITUTES, CENTRES AND NETWORKS

The lack of government support for social science research in SSA translates into very little support for research institutes and centres dedicated to the social sciences and humanities whether based at universities or operating effectively as NGOs. We compiled a list of research centres dedicated to the social sciences in 25 sub-Saharan countries (excluding South Africa). Our list produced a total of 149 research institutes and centres (Appendix B). However, of these, only 79 (or 53%) had an active website in June 2009). But having an active website does not necessarily mean that the website has current contents. According to our assessment only 65 (43% of overall total) of these websites have contents that could be regarded (very charitably) as being recent: we assessed a website as being "current" when it contained news or listed events at the centre for the past three years (2007 – 2009).

Table 4: Number of social science institutes by country and recency (excluding South Africa)

COUNTRY	NR OF RESEARCH INSTITUTES	ACTIVE WEBSITE June 2009	CURRENT
KENYA	18	13	12
NIGERIA	13	11	6
GHANA	18	9	7
BURKINO FASO	9	6	3
NAMIBIA	6	6	4
ZIMBABWE	10	6	2
COTE D'IVOIRE	5	5	4
SENEGAL	8	5	5
MALAWI	6	5	1
BOTSWANA	4	4	3
ETHIOPIA	8	4	4
TANZANIA	6	3	3
UGANDA	7	3	3
BENIN	4	2	1
MALI	4	2	2
LESOTHO	2	2	0
MADAGASCAR	2	2	1
CAMEROON	7	2	1
GAMBIA	3	1	0
NIGER	1	1	1
SIERRA LEONE	1	1	1
RWANDA	1	1	0
SOMALIA	1	1	0
CHAD	4	1	0
GABON	1	1	1
	149	97	65

It is also quite clear – from a precursory scanning of these websites – that the majority of these centres have a small staff (less than 10) and are invariably funded through international donor funding. This means that the majority of these centres are heavily dependent on so-called "soft" money which poses a constant threat to their long-term sustainability. The precarious state of many of the SSH research centres in the region is indicative of a more general trend in research and scholarship in many African countries – the de-institutionalization of science.

With the "decline" in the number of robust and vibrant university-based research centres, we are witnessing an increase in trans-national and regional research networks. One could argue that such networks are emerging as a direct result of the impact of forces of globalization, greater international collaboration and with increased access to the internet. But at the same time, such networks (cf. Textboxes) are also filling the "void" left by strong national research centres. The vast majority of these networks are focusing on interdisciplinary and more applied fields in the social sciences (such as the SAHARA network for the social aspects of HIV/AIDS, and the African Labour Research Network. These networks are predominantly sustained by funding from international agencies. Most of the networks are also engaged in multiple activities including research but also capacity- building and training, networking through conferencing and other means as well as advocacy and policy-work.

African Labour Research Network

The African Labour Research Network (ALRN) is a group of trade union-linked researchers from all over Africa. The network was formed in the beginning of 2001 as an African-owned research initiative, which seeks to increase the regional/global coherence and profile of African labour and policy proposals. Initially the network covered Ghana Nigeria, Namibia, South Africa, Zimbabwe, and Zambia but has since grown and now includes Kenya, Tanzania, Malawi and Angola. The network is a voluntary, informal structure. Members are brought into the ALRN by invitation from existing members, and on the basis that members have an unambiguous left perspective (seeking alternatives to neo-liberal globalisation) (www.alrn.org). The core objectives of the network are the following: Carrying out collaborative policy-oriented research for the African labour movement on common challenges; Producing education materials for the labour movement; Capacity-building e.g. exchange programmes and training of ALRN members; Expanding the network to further high quality trade union-linked research institutes; Interacting closely with other global research and social movement networks such as the Global Policy Network and the World Social Forum.

Energy, Environment and Development Network for Africa (AFREPREN/FWD)

AFREPREN/FWD is a registered Non-Governmental Organisation based in Nairobi, Kenya, with vast expertise on energy in East and Southern Africa and some experience in West and North Africa. It brings together expertise, experience and skills of two past regional energy initiatives/programmes namely: The African Energy Policy Research Network (AFREPREN) and Foundation for Woodstove Dissemination (FWD).AFREPREN/FWD brings together 106 African energy researchers and policy makers from Africa who has a long-term interest in energy research and the attendant policy-making process. AFREPREN/FWD has initiated policy research studies in 19 African countries namely: Angola, Botswana, Burundi, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Rwanda, Seychelles, Somalia, South Africa, Sudan, Tanzania, Uganda, Zambia and Zimbabwe. AFREPREN/FWD also maintains close collaborative links with energy researchers and policy makers from Cote d'Ivoire, Ghana, Nigeria, Sierra Leone and Senegal (www.afrepren.org).

One of these networks, the African Economic Research Consortium (AERC), is often hailed as an exemplar of how a collaborative, transnational initiative can overcome some of the main challenges regarding weak institutions and capacity-building in sub-Saharan African. The

AERC was established in 1988 as a public not-for-profit organization devoted to the advancement of economic policy research and training in sub-Saharan Africa (cf. their website at http://www.aercafrica.org).

Donor governments, private foundations, and African and international organizations provide support to the AERC programme, which has two primary components: research and training. The AERC Research Programme uses a flexible approach towards improving the technical skills of local researchers, allowing for regional determination of research priorities and strengthening national institutions concerned with economic policy research. The programme also fosters closer ties between researchers and policymakers. The Training Programme supports both master's and doctoral level studies in economics and helps improve the capacities of departments of economics in public universities across the continent.

Publication and dissemination of AERC research results receive considerable attention. Over the decade-plus of its existence AERC has built a critical mass of highly credible research that has enhanced the professional stature of the network both locally and internationally - and that has, moreover, focused attention on issues critical to African development. Apart from the highly regarded series of refereed AERC Research papers and other publications, many collections of project papers have been published in joint ventures with esteemed academic presses.

In a modern science system there are typically a multitude of scientific institutions that perform clearly articulated functions and roles and together constitute what could be termed the “national mode of scientific production” (according to Roland Waast and Jacques Gaillard, 1997). The “national mode” means that science is conducted for the public good and that the direction of science is shaped and steered by a nation’s most pressing socio-economic needs. It also implies that the state assumes a major responsibility for financing research and development activities. Unfortunately, few or none of the features of the modern science system apply to many countries in sub-Saharan Africa. Many of the scientific institutions in these countries are fragile and susceptible to the vagaries of political and military events and are severely under-resourced and suffer because of a lack of clarity and articulation of science governance issues (demonstrated by constant shifts in ministerial responsibility for science). Besides the effect of a lack of state support for university research on the sustainability of scientific journals and research institutes,

another major consequence of the lack of resources for social science scholarship is to be found in the nature and modes of knowledge production[5].

SECTION 3: MODES OF KNOWLEDGE PRODUCTION

This section addresses the following question: What kind of social science is being practised in African countries? We distinguish between three "types":[6]

- Academic science in the universities and associated research institutes
- Consultancy science for international (overseas and locally based) organisations
- Mission-oriented research mostly present in state supported social research agencies (such as the HSRC in South Africa) or in larger centres and networks (such as CODESRIA) funded by international donors.

Academic research as individualistic scholarship

"Academic" science refers to science done by individuals or groups of scientists within universities. We have already discussed this form of research in some detail in the previous section. As we have indicated, much of this research is under-funded because of the lack of public funding for individual and collaborative research projects. In addition, research within academic institutions is very often driven by the individual scholar's priorities and interests and is ultimately aimed at advancing his or her career. Given the lack of research infrastructure (strong research centres with a critical mass, sustained funding and institutional continuity) scholars end up engaging in projects that do not convert into building institutional capacity. This has been referred to as "individualistic research" (Zeleza, 2002). It is very rarely linked to the work of other scholars or doctoral students (of which there are few anyway). It is therefore not accumulative over time and does not culminate in the building of a programme or centre of excellence that can act as a node for future research and post-graduate training.

One of the more obvious consequences of this mode of individualistic research is that it does not have much influence in society. Such research rarely carries much weight.

[5] Although we believe that all the sciences are affected significantly by the general lack of state support in SSA, one could make the case that the social sciences are most affected. This is simply because highly visible fields such as agriculture, food security and health sciences research (especially public health and infectious diseases) are very heavily funded by overseas agencies (such as the Welcome Trust, the Gates Foundation, PEPFAR, the National Institutes of Health and the CGIAR network of institutes).

[6] This typology is similar to an earlier analysis by R. Waast and J. Gaillard R. Waast & VV Krishna "Science in Africa; From Institutionalisation to Scientific Free Market- What Options for Development?" in *Science Technology and Society* 8(2) 2003: 153-182.

Governments and decision-makers – but also university bureaucrats - are impressed and influenced by size (large centres, networks and think tanks) and continuity in scholarship over time. Where social science scholarship is primarily of an individualistic nature it is unlikely to be taken seriously or influence policy – hence, its status will be low and negligible.

Perhaps even more serious are the intellectual consequences of this form of research: it leads to fragmentation of effort, lack of (critical) dialogue within a community of scholars and often lack of rigour in methodology. Discipline-based work will eventually decline and basic scholarship (such as social theorizing) will also suffer. Individualistic research is one side of the coin of which the other side is consultancy research, i.e. where university professors resort to consultancy work to augment their poor academic salaries.

Social scientists for hire

"Consultancy" social science is self-explanatory and refers to the wide-spread occurrence of academics engaging in consultancy work – mostly for international agencies and governments – to augment their rather meagre academic salaries. This is perhaps more prevalent in certain disciplines – health sciences, business studies, ICT, monitoring and evaluation work – but is still widespread and on the increase.

In an interesting "case study" of the role of African social scientists in health related projects in East Africa, Daniel Wight (2008) argues that there is a special shortage of senior social scientists for example in research on sexual health. According to him, large-scale HIV/AIDS research programmes in both Tanzania and Uganda have been unable to recruit local social scientists to senior posts on international salaries, despite having trained local junior social scientists for over 10 years.

According to Wight, this lack of capacity is problematic for different reasons. First, it means that non-local researchers are generally unfamiliar with local life, reliant on interpreters, and prone to cultural misunderstandings with local fieldworkers. This means that international service providers and policymakers have to base decisions on more superficial analyses, with the result that such ex-patriate-initiated research is less likely to have practical application anyway. At the broadest level, limited social science capacity restricts intellectual sovereignty (Zeleza, 2003) and undermines political autonomy.

The main explanations for limited research capacity listed by Wight are not new but his list is a useful reminder of the scope of the problem: inadequate resources for education at every level (Nchinda, 2002; Sall, 2003; Sitthi-amorn & Somrongthong, 2000); the drain of

expertise to the North (Pang, Lansang, & Haines, 2002; Ramsay, 2002; Sall, 2003; Zeleza, 2003); dependence on Northern research funding (Jentsch & Pilley, 2003; Lansang & Dennis, 2004); inequitable access to the literature (Lansang & Dennis, 2004); unbalanced North–South research collaborations (Costello & Zumla, 2000; Jentsch & Pilley, 2003) and poor support from government (Nchinda, 2002; Sall, 2003; Sitthi-amorn & Somrongthong, 2000). Some see the perpetuation of inadequate research capacity as replicating the imbalance in global trade relationships (Zeleza, 2003); others assume the good intentions of funders and research partners, but identify the perverse consequences of North–South collaborations (Edejer, 1999), such as poaching senior researchers from local institutions.

Like most previous studies, Wright's analysis points to global economic inequalities as the primary cause of limited research capacity. However, these findings also suggest that the problem is perpetuated by the highly individualised character of research in many countries in SSA driven by the burgeoning consultancy "industry". As Wright correctly comments: 'Most of our social scientists are not institution-based, whether NGO or private. They are there for hire.' There are many consequences to the widespread and growing prevalence on consultancy work in the social sciences: consultancy work typically is not concerned with building (institutional) research capacity: reports are generally not disseminated, thus not contributing to the body of scholarship in a field, and staff are diverted from teaching, supporting colleagues, or publishing. Furthermore, consultancies exacerbate the narrow policy orientation of African social science research (Allen, 1986; Rossi, 2004; Sall, 2003).

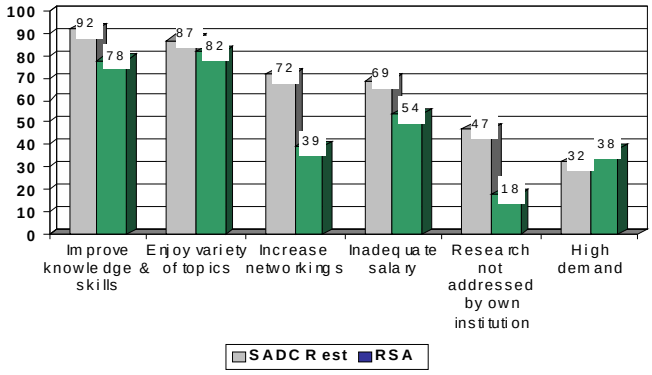
In an attempt to quantify the extent of consultancy work in many African countries, and also to shed more light on the underlying reasons, CREST recently completed a study in the SADC region[i] which included a number of questions aimed at this issue. The results show that more than two thirds of all academics in the fourteen SADC countries regularly engage in consultancy.

What are the main reasons respondents provided for engaging in consultancy? Figure 2 below presents a comparison of the South African and other SADC responses. There are some noticeable (and statistically significant) differences. In two areas we notice very little difference: first, the fact that consultancy is undertaken because the respondent enjoys the variety of topics that this brings (87% vs. 82%); second, that consultancy is done because of the demand in the market (32% vs. 38%).

But the other reasons provided demonstrate large differences between the South African and other respondents:

- Inadequate salary is cited as a reason by significantly more SADC respondents: Republic South Africa (RSA) (54%)/ SADC Rest (69%)
- Consultancy advances my networks and my career: RSA (39%)/ SADC (72%)
- My research interests are not addressed by my own institution: RSA (18%)/ SADC (47%)
- Consultancy improves my knowledge and skills: RSA (78%)/SADC (92%)

Figure 2: Reasons for consultancy



A further breakdown by scientific field revealed significant field differences but mostly in the expected direction. Large percentages of respondents in the more applied scientific fields (where there are close links with industry and also government) such as applied sciences and technologies, earth sciences, engineering and material sciences engage in different forms of consultancy. Not surprisingly, we also find that academics in economics and other social sciences also reported high percentages of consultancy engagement. In both cases, these percentages are higher than 50%. Perhaps the most surprising result is that a majority of academics in the humanities (61%) also indicated that they do some form of consultancy work. The overall picture points to the wide prevalence of consultancy work across all scientific disciplines.

Table 5: Extent of consultancy by scientific field

Scientific field	Yes		No	
	Count	Row %	Count	Row %
Engineering sciences	48	84.2%	9	15.8%
Material sciences	18	81.8%	4	18.2%
Economic and management sciences	31	77.5%	9	22.5%
Earth sciences	42	76.4%	13	23.6%
Social sciences	98	76.0%	31	24.0%
Environmental sciences	102	73.4%	37	26.6%
Agricultural sciences	91	69.5%	40	30.5%
Applied sciences and technologies	76	68.5%	35	31.5%
Health sciences	77	67.5%	37	32.5%
Arts and humanities	43	63.2%	25	36.8%
Information and communication technologies	30	61.2%	19	38.8%
Biological sciences	88	57.1%	66	42.9%
Medical sciences: clinical	24	57.1%	18	42.9%
Marine sciences	11	55.0%	9	45.0%
Physical sciences	21	53.8%	18	46.2%
Medical sciences: basic	27	52.9%	24	47.1%
Chemical sciences	33	51.6%	31	48.4%
Mathematical sciences	14	36.8%	24	63.2%

Being highly prescribed, consultancies have also been said to exacerbate the way African social science research is narrowly policy-bound, and increase Northern dominance of the research agenda (Mkandawire, 1998 cited in Wright, 2008). Although we agree with this assessment, we would argue that the influence of the North is even more pronounced and also finds its way into local research agendas in various other ways - including in the way that "mission-oriented" research is funded in organizations, in social research NGOs, monitoring and evaluation consultancies and even transnational networks referred to above.

Mission-oriented or strategic research is conducted within the frameworks of international agencies. This is typically Mode 2 science driven by concerns of application and innovation, where the research agendas are set by non-academics (including foreign boards).

The end result of this picture is clear: lack of funding and interest in classic fundamental science which builds a knowledge-base in a discipline, very little output in academic journals and insufficient attention to the reproduction of scientific capacity through doctoral and post-doctoral programmes.

A noticeable exception to the trend outlined above is the state support for the Human Sciences Research Council (HSRC) in South Africa. The HSRC is a parastatal body, more correctly one of nine science councils, that receives core funding from the South African government under the national science vote. Its mission is to conduct strategic and applied social research in support of national developmental goals. It has in recent years, because of cuts to its parliamentary grant, been forced to increasingly compete with other research institutions in the country (including the universities and NGOs) for international and national contracts. It remains, however, a significant national asset with a complement of research staff of nearly 165 social scientists working in areas such as: democracy and society, education and science, HIV/AIDs and health systems, poverty and development, the world of work and others. More information can be obtained from its website: www.hsrc.ac.za

SECTION 4: TRENDS IN GRADUATE AND POST-GRADUATE TRAINING

In addition to the well-known flight of high-level human capital (academics and scholars) from the African continent over the past four decades, there has been another equally devastating "secondary brain drain" - not at the level of scholars and scientists but at the level of post-graduate students. Many students in the region do not study in their home country because of the lack of adequate endogenous facilities, expertise and very often simply (in the case of post-graduate students) because there are no master's or doctoral programmes for them to enrol in. The extent of this problem is clearly illustrated by the increasing numbers of students from African countries who do not study in their home country. The "outbound mobility rate" (a measure used by UNESCO) is a useful indicator of the proportion of a country's student population which is studying overseas at any given time.

Table 6: International flow of students at the tertiary level - 2006

Country	Students from a given country studying abroad			Top five destinations for outbound mobile students
	Total	Out-bound mobility ratio (%)	Gross outbound enrolment ratio	
Botswana	9246	87.3	4.3	South Africa(6889)[-1], Australia (765), UK (688)
Ghana	8336	7.4	0.4	USA (3252), UK (3035), Germany (621)
Kenya	13913	13.4	0.4	USA (7027), UK (2977), Australia (1233)
Lesotho	3995	52.6	1.7	South Africa (3826), USA (43), UK (30)
Malawi	1635	30.7	0.1	South Africa (559), UK (440), USA (392)
Mauritius	7331	40.8	7.3	France (1940), UK (1660), South Africa (1553)
Mozambique	2884	10.7	0.2	Portugal (1345[), South Africa (906), USA (111)
Namibia	6369	64.9	3.1	South Africa (6061), USA (69), UK (71)
Nigeria	18210	1.2	0.1	UK (8147), USA (6617), Germany (562)
Swaziland	2703	49.8	2.1	South Africa (2423), USA(100), UK(72)
Tanzania	3913	8.1	0.1	USA(1391), UK(986), South Africa (385)
Uganda	2373	2.8	0.1	UK (890), USA (660), Germany (12)
Zambia	3680	14.7**	0.3**	South Africa (1311), USA (829), UK (547)
Zimbabwe	15667	30.6	1.1**	South Africa (9507), UK(2658), USA (1770)

Source: UNESCO (2007) *Global Education Digest*. UNESCO Institute for Statistics: Montreal.
The outbound mobility ratio is the number of students from a given country studying abroad as a percentage of the total tertiary enrolment in that country

The countries with the highest outbound mobility rates in sub-Saharan Africa are: Botswana (87%), Namibia (65%), Lesotho (53%), Swaziland (50%), Mauritius (41%), and Zimbabwe (31%). Students from Mozambique tend to go and study in Portugal; students from Mauritius prefer studying in France as first choice. In both cases, South Africa is the second preferred destination. For the other countries on this list, South Africa is one of the top three

preferred educational destinations (together with the USA and UK). Conversely, South Africa has the highest inbound mobility rate with nearly 50 000 foreign students studying in the country in 2005.

As the largest "receiving" country of students from other African countries, it is useful to look more closely at recent statistics of non-South African graduates and specifically as far as post-graduate students are concerned. A disaggregation of non-South African graduates in terms of their country of origin is provided in Table 7.

- Of the non-South African BA Honours graduates, the largest proportion comes from SADC countries (64% in 2000 and 72% in 2005)[7].
- As with Honours, for Master's qualifications, non-South African graduates came mostly from SADC countries (47% in 2000 and 45% in 2005, which shows a slight decline).
- The share of Doctoral graduates follows similar patterns to the other two qualifications where the largest share of graduates are from SADC countries (43% in 2000 and 32% in 2005), although there is a difference in that 37% of non-South African Doctoral graduates come from Other African Countries.

Table 7: Percent of non-South African graduates by country and qualification, 2000 and 2005

Countries	Honours		Masters		*Doctoral*	
	2000	**2005**	**2000**	**2005**	**2000**	*2005*
SADC	64%	72%	47%	45%	43%	*32%*
Other African Countries	11%	11%	21%	27%	16%	*37%*
Europe	19%	10%	22%	14%	19%	*15%*
Rest of World	6%	7%	11%	14%	22%	*16%*

Source: CREST (2008) *The state of public science in the SADC region*. Report commissioned by SARUA. Final report is available from the SARUA website: www.sarua.org

Many commentators have observed that an increasing number of universities in SSA are now reliant on South Africa and universities in the North for the training of their doctoral students in particular[8]. As Kwesiga et al (2001) comment, "Among the faculty at Makerere,

[7] The "Honours" degree, a residue of the British influence on South African higher education, typically follows on from a three-year bachelor's degree. It is completed within one year before a student would consider a Masters degree.

[8] It is likely that the increasing numbers of students studying at South African universities is driven by considerations of cost. Tuition fees at South African universities are much lower than is the case at European universities or universities in North America. It is also worth emphasizing that many South African universities have in recent years entered into bilateral agreements with other African universities to facilitate the mobility of students and staff on the continent.

over the last few decades, Ph.D.s in the social science fields were obtained outside Uganda. Sending junior faculty to universities in South Africa, Europe, North America and other places outside Uganda is one of the strategies for "staff development" and institutional and individual social science research capacity-building". Sall (2003) refers to the fact that only a few people are currently pursuing their doctoral studies at distressed universities such as the University of Sierra Leone. In the academic year 2001-2002 the university's Department of Political Science had only one new doctoral candidate who was also a junior lecturer at the university. Its Department of Economics does not offer a Ph.D (Sall, 2003: 31-32). Clearly, most students who wish to pursue higher degrees in political science or economics are going abroad, and during the years of civil war (which ended in January 2002) there was always a risk that those who went to the industrialized countries for their postgraduate training would stay in those countries.

In a recent paper, Teng Zeng (2005, *Research infrastructure and innovation systems in Africa: Enhancing higher education sector research*) has highlighted the challenges that many countries in Africa face as far as post-graduate research training is concerned. For example, on the issue of foreign postgraduate training, he refers to a recent Universities UK report which reveals that over 13,000 students from Africa were engaged in postgraduate research and taught programmes in the UK alone in 2003/2004. In all, African students accounted for the second highest number of international students outside the European Union (EU) enrolled in the UK higher education institutions, as seen from Table 8 below. In addition, Table 9 shows the ten top African countries supplying students to the UK universities system[9].

[9] France should be mentioned too, as it is the most popular host country in Europe, which receives 34 % of the African people studying abroad… This situation is particularly marked in doctoral studies, whose graduates very often remain in the host country…75 % of the citizens of developing countries attending doctoral studies in France are Africans (i.e. about 1500 people per year), and 77 % of those obtaining post-graduate vocational qualifications… Barré & Meyer, *Scientific diasporas*, Paris: IRD (2003) p. 129

Table 8: International students in UK universities domiciled outside the EU, by level and region 2003/2004

World region	Postgraduate Research	Postgraduate Taught	First Degree	Other Undergraduate	Total
Africa	3,315	10,415	9,505	3,545	26,780
Americas	6,230	10,450	5,505	3,850	26,035
East Asia and Pacific	12,140	37,890	40,750	8,560	99,340
Europe (non-EU)	1,940	4,970	5,385	810	13,105
Middle East	3,600	4,025	4,435	930	12,990
South Asia	2,595	13,695	6,305	1,215	23,805

Source: Universities UK Patterns of higher education institutions in the UK - Fifth Report, 2005 p. 31.

Table 9: African countries supplying significant numbers of students to UK Higher Education institutions

World region	Postgraduate Research	Postgraduate Taught	First Degree	Other Undergraduate	Total
Nigeria	470	2,795	2,210	470	5,940
Kenya	205	965	1,710	200	3,085
Ghana	270	1,610	645	275	2,800
Zimbabwe	125	395	810	1,410	2,740
Mauritius	105	365	960	220	1,645
South Africa	320	600	315	175	1,410
Libya	455	595	75	95	1,220
Tanzania	90	515	380	70	1,055
Uganda	110	445	240	90	885
Egypt	435	225	115	25	800

Source: Universities UK Patterns of higher education institutions in the UK - Fifth Report, p. 31

Despite the good intentions of overseas training, the usefulness of the acquired knowledge to the local research and innovation systems has sometimes been questioned. And at times such overseas training has also served as a conduit for the migration of the scientific workforce, particularly in many developing countries, weakening the already fragile knowledge base due to the lack of a critical mass in many sub-fields in the research and innovation systems. However, this situation is not helped by the immigration policies formulated by developed nations, including Australia, Canada, United Kingdom and the United States, etc., which have sought to attract highly educated professionals in order to boost their competitiveness and to fill domestic skills gaps.

SECTION 5: FUNDING OF SOCIAL SCIENCE RESEARCH

State funding of social science research in SSA is the exception rather than the rule. The majority of social scientists in the region depend for their research funding on international donors such as SIDA/Sarec, NORAD, DANIDA and the Dutch, French and British governments in Europe as well as various American foundations (most notably Ford, Rockefeller, Mellon, Kresge, Kelogg, Atlantic Philanthropies and Carnegie) as well as the IDRC in Canada. A distinction should further be made between those grants that support social science research more directly (as is the case with donor support of CODESRIA, OSSREA) and more indirect institutional support which is aimed at strengthening scientific institutions, such as SIDA's support of journals in Ethiopia and Carnegie's support of libraries and ICT-networks in East and West Africa. With the exception of South Africa, we are not aware of any significant state funding of social sciences research in the majority of sub-Saharan African countries. In fact, state funding of scientific research at universities in most of these countries is very weak to negligible.

A recent study of the role of international funding in countries in Southern Africa confirms these trends and, perhaps for the first time, indicates how dependent academics in the region are on such donor funding. The study of the SADC countries evoked responses from more than 600 academics. Table 10 presents the responses to a question on the proportion of research funding that is sourced from international funding agencies. Given the huge disparities between South Africa and the rest of SADC, we have split the responses. The results show that a very substantial 42% of all respondents from SADC (RSA excluded) indicated that they source between 70 and 90% of their research funding from overseas compared to only 6% of South African respondents. The responses very clearly show the dependence of SADC scientists on international funding for their research; and conversely how little domestic funding is available for research. We should also point out that this picture is even worse if one keeps in mind that the scientists in our sample were identified because they are the most active and productive scientists in their fields in their countries.

Table 10: Proportion of total research funding sourced from international funding agencies

Proportion	Nr of responses (n=634)	Total Valid Percent	RSA (n=236)	SADC rest (n = 342)
0-30%	366	63%	82%	50%
40 -60%	57	10%	12%	8%
70 - 90% +	157	27%	6%	42%

Source: CREST (2008) *The state of public science in the SADC region*. Report commissioned by SARUA. *The South African case*

Why are South African scientists less dependent on international funding than their colleagues in the region? It is worth focusing on this issue as the answer lies in a unique system of state subsidization of university research which functions to maintain satisfactory levels of research output in South Africa – also in the social sciences.

South African universities are directly rewarded for the number of publications in accredited journals that their staff produces. This system was established in 1985 by the then National Department of Education as a way of incentivising South African science amidst its growing international (including scientific) isolation. The original system entailed that research publications (articles in peer-reviewed journals, books, chapters in books and peer-reviewed conference proceedings and research reports) by South African academics (with an address at a university) qualify for a subsidy to be determined each year as part of the "block subsidy" granted to each of the public higher education institutions. Articles were subsidized if they appeared in a list of accredited journals.

In September 2003, the Department of Education published a revised policy on SA research output – "Policy and Procedures for the Measurement of Research Output for Public Higher Education Institutions", which came into effect on the 1 January, 2005 for the 2004 research outputs. The policy listed the following journal categories as qualifying for subsidy purposes. Journals listed in the following:

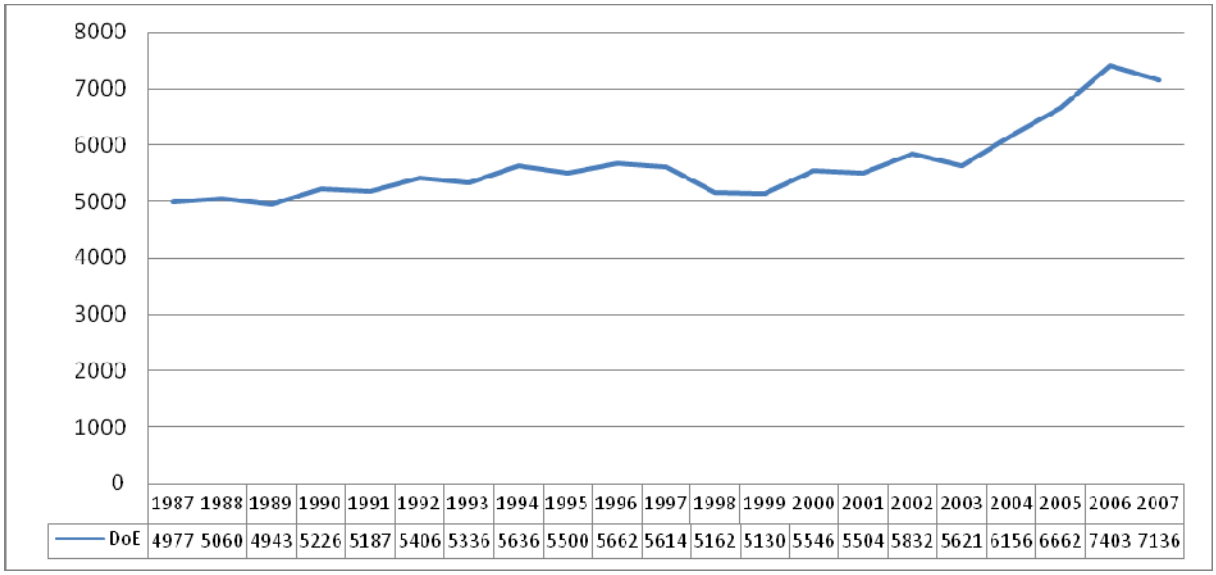
(a) The Sciences Citation Index of the Institute of Scientific Information (ISI)
(b) The Social Sciences Citation Index of the ISI
(c) The Arts and Humanities Citation Index of the ISI
(d) The International Bibliography of Social Sciences (IBSS)
(e) The Department of Education (DoE) List of Approved South African Journals

One of the most far-reaching consequences of the implementation of the new framework (which came into effect in 2005) relates to the monetary values of publication units. In the

period between 1987 and 2003 (under the former framework) the subsidy amount awarded for a research article averaged approximately $2 500. This meant that the total amount paid out to the HE sector would be in the region of $15 million per year (5000 publication units @ $2 500). Under the new framework, the original so-called blind funding component of the General University Fund (block grants to universities) earmarked for research, was removed. This meant that as of 2005, an amount of approximately $180 million was available (on a competitive basis) for rewarding research output – now also including research master's and doctoral graduates. The monetary awards for publication units increased significantly from approximately $9 000 in 2005 to nearly $12 000 in 2009. As we will show below, this increase in unit awards has had a major impact on research output in the sector.

As indicated in Figure 3 below, total article output (fractional counts) remained very stable from the inception of the funding framework in 1987 until the revision of the original policy in 2003. With the promulgation of the new policy framework in 2003 (which came into effect in 2005), we witness the first significant upward trend – a trend that has continued until 2006 (when the system reached its recent peak of 7400 article units). The increase in output from 2004 onwards is such that it calls for an explanation. The increase is not due to any increased academic capacity in the system. The higher education system has not seen any significant growth in permanent academic staff numbers over this period, although there is some anecdotal evidence that would suggest that universities are managing to mobilize their postgraduate students as well as visiting scholars and fellows as "new" authors in order to increase their research output. There has also not been any increase in the number of locally accredited journals which could have explained, at least in some part, an increase in output. The most plausible explanation for the substantive growth in output since 2004 must be found in the huge increase in monetary values to be earned by such units. Many universities have subsequently also increased the monetary amounts that are passed on to individual authors as reward for publishing in accredited journals further encouraging production. In fact there is some emerging evidence that those institutions that pay the higher amounts of these subsidies into the research accounts of their staff are amongst the universities recording the highest growth rates in article production.

Figure 3: South African university output (1987 – 2007)



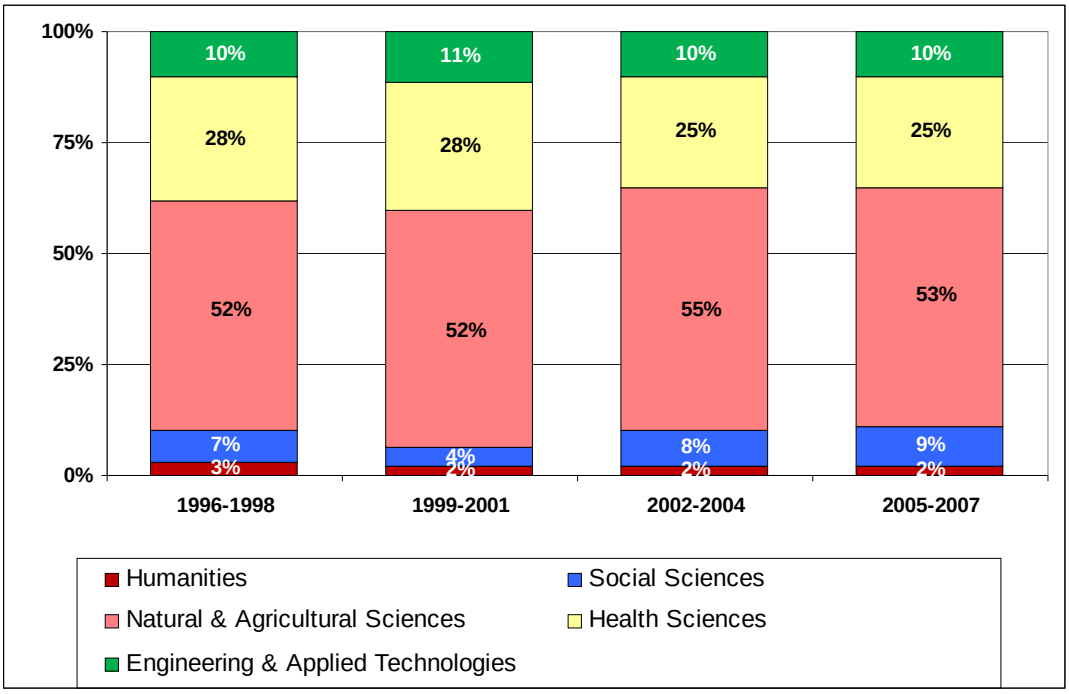
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
DoE	4977	5060	4943	5226	5187	5406	5336	5636	5500	5662	5614	5162	5130	5546	5504	5832	5621	6156	6662	7403	7136

The obvious concern must be that this increased output does not lead to a concomitant decline in quality and specifically a tendency to submit more papers to local rather than foreign journals where acceptance rates are usually much lower. There are already indications that increasing numbers of authors reduce the length of their papers and are more likely to write two (shorter) papers on their research results where one paper would have been the norm in the past.

South Africa's output in *ISI-journals* is dominated by the natural sciences (43 – 46%), followed by the health sciences (25 – 28%) and engineering sciences (10%). The social sciences and humanities combined constitute between 9 and 11%[10] of all output.

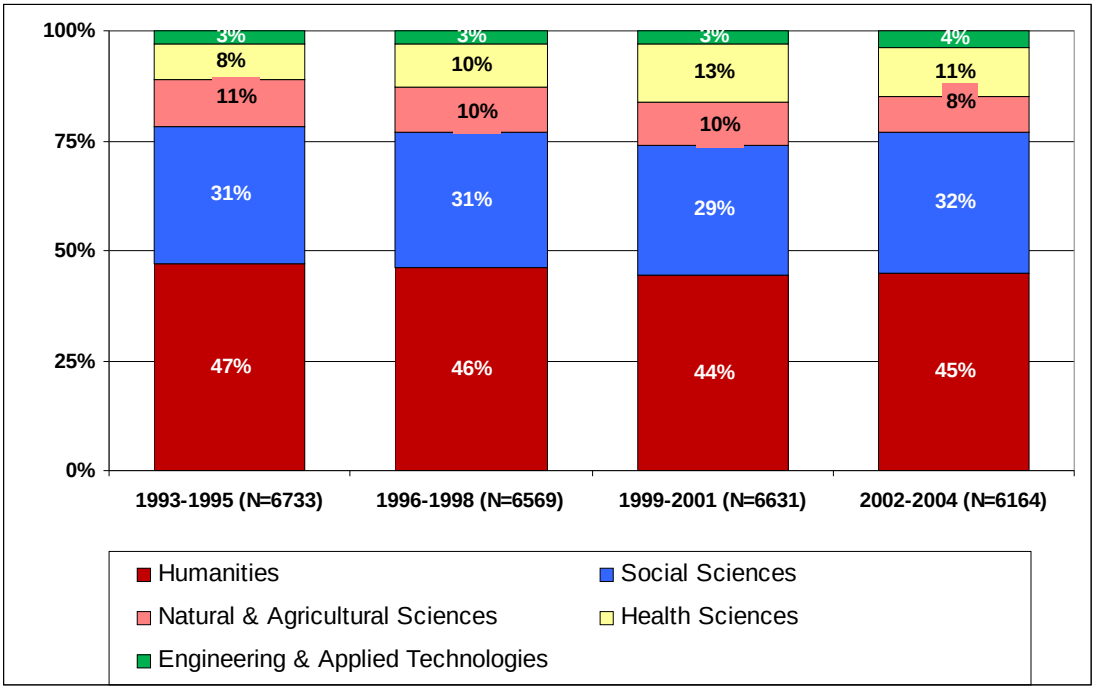
[10] However, we need to point out that the majority of South African journals that are in the ISI Web of Science are indexed as either natural or health sciences journals. This means that publications in these "local" ISI-journals tend to skew the picture especially in some fields such as Botany, Medicine, Zoology and others where large proportions of SA scholarship are published in these local ISI-journals.

Figure 4: Broad scientific field distribution of South African article output in ISI- journals (1996 - 2007)



The distribution of output in *non-ISI journals* (all South African journals) is a near mirror image of the previous figure. The social sciences and humanities represent approximately three quarters of the output in local non-ISI journals.

Figure 5: Broad scientific field distribution of South African article output in non-ISI journals



These figures suggest the existence of two ˝publication cultures˝: scholars in the social sciences and humanities publish predominantly in South African journals; scholars in the natural and health sciences publish much more in foreign journals. From the point of view of the social sciences and humanities the standard argument is that these publication patterns re-affirm the fact that social science scholarship is typically more embedded in the local social and cultural context of a specific country.

Although one can certainly make a persuasive case for the advancement of local social science scholarship in many countries (and more so perhaps in developing countries), the consequence is that much of this scholarship is not readily accessible to an international audience. The vast majority of the social science journals published in the country have very small subscription and circulation lists. Inclusion of South African social science journals in the ISI Web of Science is also quite limited.

Finally, it is also worth drawing attention to one other effect of the journal subsidy system on scientific publishing in the country and especially for the social sciences. If one focuses on local South African journals (254 in total) a breakdown by broad scientific field shows that approximately 44 journals of these can be classified as social science journals and a further 76 as humanities journals. That means that although the social sciences and

humanities have consistently produced about 37% of total national output, they have access to nearly half of the local journals (120 out of 254). This means that scholars in the social sciences and humanities in the country have more opportunities to publish in local journals than their colleagues in the natural and health sciences. Coupled with the fact that the average acceptance rate of articles in many of these journals is high (estimated at more than 70%) it is easy to see why many social scientists continue to publish in local journals rather than attempting to get accepted by internationally indexed journals which have much more rigorous acceptance rates. We believe that the dominance of South African social science in sub-Saharan Africa is, at least in part, due to the government subsidization of local journals which over a period of more than twenty years has created a "protected space" for local social science research.

SECTION 6: THEMES IN SOCIAL SCIENCE RESEARCH

> *…African social scientists and, more generally, the African intelligentsia are both trying to "make sense" of the increasingly complex local and global phenomena, and are actively involved in the processes of "development" and of creating a modern public sphere, which may or may not overlap with the sphere of the state or of individual communities* (Sall, 2003:13)

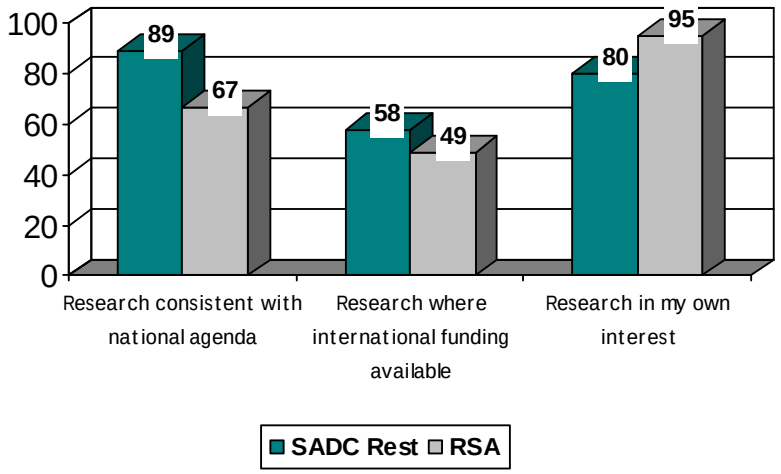
According to Ebrima Sall (2003), there was, and still is to a large extent, a sense of social responsibility amongst social scientists on the continent, a sort of moral obligation to contribute to the general development effort in their respective countries.

In a recent survey of the fourteen SADC countries (CREST, 2008), we were able to "test" this proposition empirically. We were interested in finding out to what extent science in the region (including the social sciences and humanities) are addressing or attempting to address the most important development goals of the respective countries? Do scientists pursue research topics and projects that are consistent and supportive of national socio-economic priorities in the country or are these of secondary concern?

The survey included a cluster of three statements to respondents to determine what motivates their own research: a fairly "self-centric" concern (My own interests largely determine my research agenda); a more "altruistic" interest (I prefer researching topics

that are consistent with the national agenda in my country) or a very pragmatic interest (I prefer doing research in areas where there is international funding available).

Figure 6: Research and development link



The results show that scientists in all fields and in all countries are primarily driven by their own interests and preferences but with an interesting difference of 15% between RSA and the rest of SADC respondents. Respondents across all countries are motivated by the availability of international funding but this is more the case (not surprising given our previous results) of scientists from other SADC countries. Perhaps the most significant result is the fact that a much bigger proportion of respondents from other SADC countries (89% compared to 67% of RSA respondents) are motivated by a concern for the development agenda of the country.

A breakdown by scientific field shows, however, that one always needs to keep in mind differences between scientific fields. We have selected two of the statements discussed above.

Table 10: Research consistent with national agenda by scientific field

Scientific Field	I prefer researching topics that are consistent with the national agenda in my country							
	Strongly agree		Agree		Disagree		Strongly disagree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Agricultural sciences	66	50.8%	53	40.8%	9	6.9%	2	1.5%
Applied sciences and technologies	45	41.3%	51	46.8%	10	9.2%	3	2.8%
Arts and humanities	21	31.3%	29	43.3%	16	23.9%	1	1.5%
Biological sciences	46	30.7%	73	48.7%	24	16.0%	7	4.7%
Chemical sciences	24	39.3%	29	47.5%	8	13.1%	0	.0%
Earth sciences	16	30.2%	21	39.6%	12	22.6%	4	7.5%
Economic and management sciences	17	43.6%	17	43.6%	2	5.1%	3	7.7%
Engineering sciences	15	25.9%	36	62.1%	6	10.3%	1	1.7%
Environmental sciences	56	41.2%	66	48.5%	10	7.4%	4	2.9%
Health sciences	56	50.9%	38	34.5%	13	11.8%	3	2.7%
Information and communication technologies	17	37.0%	21	45.7%	7	15.2%	1	2.2%
Medical sciences: basic	20	38.5%	22	42.3%	10	19.2%	0	.0%
Medical sciences: clinical	24	57.1%	13	31.0%	4	9.5%	1	2.4%
Social sciences	50	38.8%	57	44.2%	18	14.0%	4	3.1%

The results show that significant proportions of scholars in all fields either strongly agreed or agreed with the statement that their research agendas are consistent with the development goals of their countries. For scholars in the arts and humanities, this percentage was 75%, for the economic and managements sciences (87%) and the social sciences (83%). These proportions compare favourably with fields such as agriculture and health sciences that are traditionally seen as the more applied sciences.

The social sciences and HIV/AIDS research

Another thematic area in which the social sciences are making an increasingly significant contribution is to the burgeoning scholarship on HIV/AIDS in Africa. A bibliometric assessment of the number of HIV/AIDS related articles with SADC institutional affiliation has shown a steady increase over the past 17 years (from 2156 in 1990 to 3305 in 2007), especially between 1999 and 2006. This trend is mainly due to an increased output in the Medical and Health Sciences. However, as Figure 7 below shows, publications in the field of the Social Sciences and Humanities have also increased since 2000 (with a small decline in 2007).

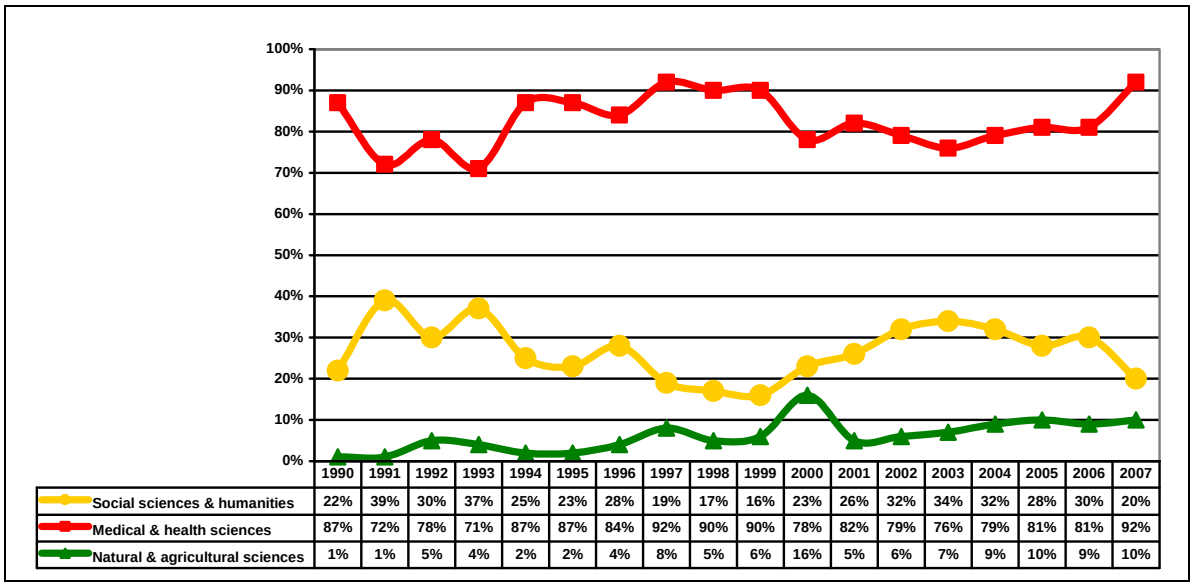
Social Aspects of HIV/AIDS and Health Research Alliance (SAHARA)

The Social Aspects of HIV/AIDS and Health Research Alliance (SAHARA) is an alliance of partners established to conduct, support and use social sciences research to prevent the further spread of HIV and mitigate the impact of its devastation in sub-Saharan Africa. SAHARA is a vehicle for facilitating the sharing of research expertise and knowledge, and conducting multi-site and multi-country research projects that are exploratory, cross-sectional, comparative or intervention-based. SAHARA's activities include:

- Identifying key stakeholders in sub-Saharan Africa and increase wider dissemination of the research papers and reports to policymakers, programme planners and other researchers
- Interacting with key users, including respective government departments to identify gaps and develop a systematised and integrated agenda for HIV/AIDS social and medical research in sub-Saharan Africa
- Facilitating prioritisation of the HIV/AIDS social research agenda through a consultative mechanism
- Facilitating networking and information sharing within the wider research community in South Africa and the sub-Saharan region, with a view to increase the number of multi-country, multi-research teams to conduct research
- Identifying and making case studies public to form the basis of 'best practice' research and intervention
- Identifying those skills required for research and ways of strengthening institutions and international partners to dedicate time to social science research
- Identifying baseline information necessary for planning targeted intervention programmes and agreeing on harmonising standard monitoring and evaluation tools in the region.

South Africa is the leading country in the SADC in producing HIV/AIDS-related articles in the Social Sciences and Humanities. The second place is shared by Zimbabwe and Tanzania, each producing 7% of the total pool of Social Sciences and Humanities HIV/AIDS- related articles over the past 17 years. Swaziland, Lesotho, Namibia and Mozambique each only contributed 1% to the total pool of HIV/AIDS-related articles in these fields. The DRC, Madagascar, Mauritius, Angola and the Seychelles produced no HIV/AIDS-related articles for the Social Sciences and Humanities during this period. Swaziland and Lesotho are the two countries that published most of their articles on HIV/AIDS in Social Sciences and Humanities publications (75% and 73% respectively). Only 9% of Madagascar's total article output on HIV/AIDS was in the Social Sciences and Humanities.

Figure 6: Broad field distribution (%) of HIV/AIDS-related articles with SADC affiliation (1990 to 2007)



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Social sciences & humanities	22%	39%	30%	37%	25%	23%	28%	19%	17%	16%	23%	26%	32%	34%	32%	28%	30%	20%
Medical & health sciences	87%	72%	78%	71%	87%	87%	84%	92%	90%	90%	78%	82%	79%	76%	79%	81%	81%	92%
Natural & agricultural sciences	1%	1%	5%	4%	2%	2%	4%	8%	5%	6%	16%	5%	6%	7%	9%	10%	9%	10%

Note: Fields are not mutually exclusive due to multiple field classification of journals in which articles appear. Percentages were calculated out of the total for each year (e.g. 22% SSH in 1990 = 17/79*100; 39% SSH in 1991 = 26/67*100, etc.).

We conclude with these two examples (social sciences for development and social aspects of HIV/AIDS). There are many other thematic areas that can be highlighted, for example the growing body of interdisciplinary studies on gender issues at many African universities, the work in such applied areas as trade law, human rights, democratization and citizenship). However, it is still fair to say that much of this scholarship – as we have argued in various sections in this report – still struggles to achieve a critical mass of institutional and national support. In many cases (with the possible exception of South Africa), such research efforts remain heavily dependent on external support.

SECTION 7: CONCLUSIONS AND MAJOR CHALLENGES FOR SOCIAL SCIENCES IN SSA AT THE BEGINNING OF THE XXIst CENTURY

This review has demonstrated how the social sciences in sub-Saharan Africa continue to operate in conditions that are seriously under-resourced. The fact that there is still sustained and vibrant social sciences research in many countries (with a few exceptions) with little government support, poor institutional facilities and many other challenges say much about the resilience and resolve of the scholars concerned. One should also add that most of the official science policy statements and national research plans make little mention of the social sciences. The emphasis is on the health sciences (especially HIV/AIDS, TB and Malaria), "popular" priorities such as biotechnology and nanotechnology and the more applied sciences. Where reference is made to the social sciences and humanities this is usually done as an "appendix" and in support of or as service to the natural sciences. A noticeable recent exception is the latest strategic thrusts of the Department of Science and Technology in South Africa where the humanities/social sciences are identified as one of their five main priorities.

We would argue that building individual and institutional research capacity remains the biggest priority for the social sciences in the region. And although there are many examples of research capacity-building initiatives sponsored and supported by various international agencies, donor organisations and foreign governments, there is still very little consensus about the most effective approach (Simon, 2000). Debates continue over, for instance, investing in individuals or institutions (Costello & Zumla, 2000; Nchinda, 2002), whether post-graduate training in the North exacerbates the brain drain (Nchinda, 2002), and Southern control of research budgets (Lansang & Dennis, 2004; Nchinda, 2002).

Although it seems as if the peaks of brain drain trends are behind us, the long-term effects of the very substantial losses of high-level human-power will persist for some time to come. According to the United Nations Economic Commission for Africa (UNECA-ECA) and the International Organisation for Migration (IOM), an estimated number of 27,000 skilled Africans left the continent for industrialised countries between 1960 and 1975. During the period from 1975 - 1984, the figures increased to 40,000. Since 1990, at least 20,000 qualified people have left Africa every year (*Education Today*, 2006:4).

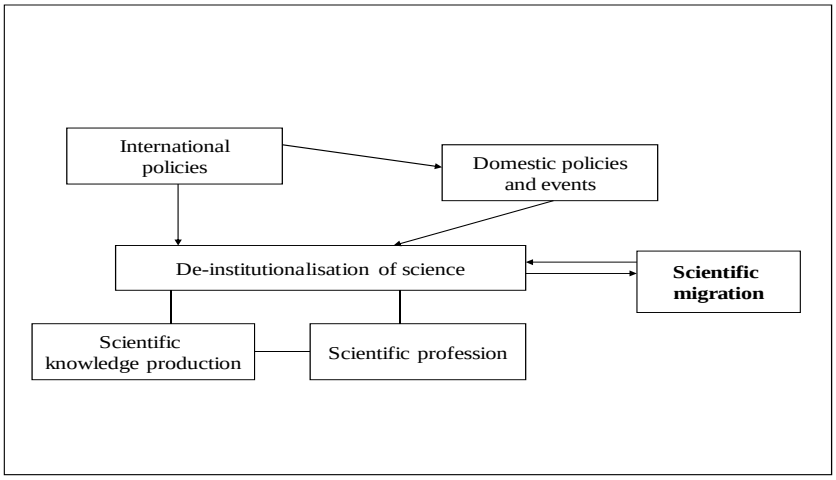
A more recent United Nations report on International Migration presented before the 61st UN General Assembly in August 2006 points out that "Between 33 and 55 per cent of the highly educated people of Angola, Burundi, Kenya, Mauritius, Mozambique, Sierra Leone,

Uganda and the United Republic of Tanzania live in the countries of the Organisation for Economic Co-operation and Development (OECD).

It is important to understand that the effects of the brain drain from Africa are generally much more severe than similar migration processes elsewhere. Some scholars working in the field have argued that the international migration of (social) scientists eventually benefit the "sending' country when such scientists return to their home country. They are now better trained, have more experience and acquired significant academic capital (new networks). But we would argue that this "brain circulation" thesis, as it has been referred to, is premised on (incorrect) assumptions about equal and symmetrical flows of highly skilled personnel (HSP) between countries. The circulation and mobility of scientists across different countries and institutions occurs where there are reasonably strong and well-resourced institutions. Scientists returning to a country where there is a science system that is well-funded, properly governed and where research institutions are properly managed as well as adequately resourced are in fact able to "give something back". This is why many South African scientists on return, are able to invest their newly acquired knowledge and experiences in their institutions. The South African science system is in most respects a modern and self-sustaining research system with many strong and internationally acclaimed universities. But this is not the case for many countries in the rest of Africa. Our argument, then, is that the effects of scientific mobility on weak and dysfunctional institutions are quite different and the worst effects of "brain drain" are apparent in these systems.

As we have shown above, the institutions of science in many sub-Saharan countries have been systematically eroded and broken down over the past three decades through various international economic policies as well as the devastating effects of domestic policies and events. The cumulative effect of these policies over time has had various impacts – a decline (at least in relative terms) in scientific output, changes in modes of scientific work, the devaluing and degrading of the profession of science and, of course, the brain drain.

But the relationship between the state of the institutions of sciences and the brain drain is a reciprocal one – the continuing decline of human capital in science and technology through the brain drain has become itself a major cause of the de-institutionalisation of science. We are indeed witnessing a spiralling of effects (a true "vicious circle") where the continuing drain of high level human resources in many developing countries continues to weaken the institutions of science which in turn cause more scientists to turn away from "normal" scientific practices and increasingly to seek employment elsewhere. We can represent this in the following diagram:



In a 2007 survey of the state of public science in the fourteen countries of the SADC region, the results showed that about 20% of scientists and scholars seriously have given some consideration to leaving their universities and countries to look for employment elsewhere. When the results were disaggregated and South African respondents compared to the other thirteen SADC countries (Angola, Botswana, DRC, Lesotho Madagascar, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe), it revealed that nearly 25% of respondents from other SADC countries responded in the affirmative to the question

At the more "intellectual level", African social scientists have been accused of not living up "to expectations in tackling some of the problems confronting African society. ... social scientists in Africa, with the possible exception of a few, have been comfortably playing second fiddle roles to Western social scientists. Thus, both the corpus of theoretical leanings and methodological orientations in African social sciences are mostly abstractions of Western models produced by the scholars there. This situation can be seen as the outcome of three factors, namely: the gripping circle of intellectual laziness enveloping most of African scholars; a deep-rooted proclivity towards a semantic rehash of old ideas; a lack of courage to challenge prevailing notions of the world and a subconscious deference to ideas originating from outside Africa" (Anugwom, 2004).

Anugwom also points to the fact that many social scientists are often more interested in acquiring political or government appointments or consultancy jobs that have created the very negative perception that portrayed African social scientists as "mercenaries with eyes on the short-run goals". Anecdotal, rather than systematic and rigorous, evidence is also often cited in debates about the poor methodological quality and theoretical poverty of much of social science scholarship in the region.

Many commentators (Aina, Zeleza and Mkandawire to mention a few) have commented on the lack of indigenous African theories and conceptual models to address the social dynamics and challenges of the region. This is not a new observation. What is clear is that this call for theoretical innovation and more sociological imagination is even more relevant in the age of globalization and internationalization, the continuous decline of key scientific institutions (research centres, societies, journals) in many countries and the widespread lack of government support for social sciences research in SSA.

About the Author

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Appendix 1

Table 1: List of SSH research institutes/centres[11]

Country	Institute/ Centre	URL ACTIVE?
BENIN	Centre Cunicole de Recherche et d'Information	NO
	Centre Pan Africain de Prospective Sociale	NO
	GERDDES Afrique	YES
	Institut de Recherche pour le Development	YES
Burkina Faso	Centre pour la Gouvernance Démocratique - Burkina Faso	YES
	CAPES - Centre for the Analysis of Social & Economic Policies	YES
	Center for Sudies, Documentation, and Economic and Social Research	NO
	Centre International de Formation en Recherche-Action	YES
	Centre d'Etudes Economiques et Sociales de l'Afrique Occidentale	NO
	Centre d'Analyse des Politiques Economiques et Sociales- CAPES	YES
	Institut de Recherche pour le Developpement - Burkina	YES
COTE'DIVOIRE	Panafrican Institute for Development	YES
	African Institute for Economic and Social Development – African Training Centre (1)	YES
	Cellule d'Analyse de Politiques Economiques	NO
	Centre Ivoirien de Recherches Economiques et Sociales	YES
	GERDDES - Cote d'Ivoire	YES
	Institut de Recherche pour le Development - Cote d'ivoire	YES
	Interdisciplinairy Group for Social Science	NO
Gambia	Institute for Human Rights and Development in Africa	NO
	African Centre for Democracy and Human Rights Studies	YES
Ghana	Ghana Center for Democratic Development	YES
	Africa Trade Network	YES
	Centre for Development Studies	NO
	Centre for Energy Research and Development	NO
	Centre for Policy Analysis	YES
	Centre for Policy Research and Social Engineering	NO
	Gender Research and Documentation Centre	NO
	Ghana Research and Advocacy Programme	YES
	Institute for African Development	YES
	Institute for Policy Alternatives	YES
	Institute of Economic Affairs	NO
	Institute of Human Settlements Research (2)	NO
	Institute of Statistical, Social & Economic Research (15)	YES
	Integrated Social Development Centre (1)	YES
	Regional Institute for Population Studies	NO
	The Centre for Humane Education	NO
	Training, Research and Networking for Development	YES
	Union for African Population	NO
	CERFOD	NO
Mali	Institut de Recherche pour le Development - Mali	YES
	Research and Development Institute of Mali	NO
	Sahel Institute	YES

[11] The status of each website – whether it is active or not – was tested during the week of the 4th of May 2009.

	Institut de Recherche pour le Development	YES
Niger	Centre for Democracy and Development	YES
Nigeria	African Centre for Development and Strategic Studies	NO
	African Institute for Applied Economics	YES
	African Strategic and Peace Research Group	YES
	Center for Policy and Development	YES
	Department of Planning, Research & Statistics	NO
	Development Policy Centre	YES
	Institute for African Alternatives	YES
	Michael Imoudu National Institute for Labour Studies	YES
	National Institute for Policy & Strategic Studies (1)	YES
	Nigerian Institute of Social and Economic Research	YES
	Trade Policy Research and Training Programme	YES (site temporary unavailable)
	African Institute for Economic Development and Planning	YES
	Association of African Women for Research and Development	YES
Senegal	Center for Research on Social Policies	NO
	Centre de Recherches Économiques Appliquées	YES
	Council for the Development of Social Science Research in Africa	YES
	ENDA Sahel and West Africa - Research Action Training Group	NO
	Institut de Recherche pour le Development - Senegal	YES
	National Institute of Research & Action for Development of Education	NO
	National Long-Term Perspectives Studies	YES CURRENT
Sierra Leone	National Institute of Development Research & Documentation	YES, CURRENT
	Botswana Institute for Development Policy Analysis	YES, CURRENT
Botswana	Department of Demography	YES, CURRENT
	Southern & Eastern Africa Policy Research Network	YES, 2003
	Institute of Labour Studies	YES, 2001
	Institute of Southern African Studies	YES, 2006
Lesotho	Centre for Educational Research & Training	YES, 2005
	Centre For Social Research	YES, CURRENT
	Institute for Policy Interaction	YES (site under construction)

Malawi	Malawi Economic Justice Network	YES, 2006
	Malawi Institute of Democratic & Economic Affairs	NO
	National Research Council of Malawi (14)	NO
	African Labour Research Network	YES,
	Institute For Public Policy Research	YES, CURRENT
Namibia	Labour Resource & Research Institute	YES, CURRENT
	Multi-Disciplinary Research & Consultancy Centre	YES, CURRENT
	Namibian Economic Policy Research Unit	YES, 2008
	National Institute for Educational Development (15)	YES, CURRENT
	Centre for Population Studies	YES, 2005
	Electronic & Communication Institute	NO
Zimbabwe	Institute of Development Studies	YES, 2004
	Southern African Political Economy Series Trust	YES,
	Women & Law in Southern Africa Research Trust	NO
	Centre for Applied Social Sciences	NO
	Institute of Peace Leadership & Governance	NO
	Macroeconomic & Financial Management Institute of Eastern & Southern Africa	YES, CURRENT
	Trade & Development Studies Centre	YES, CURRENT
	Zimbabwe Economic Policy Analysis & Research Unit	YES, 2006
	African Trade Policy Centre	NO
	Center for Policy Research and Dialogue	YES, CURRENT
	Development Policy Management Forum	NO
Ethiopia	Ethiopian Development Research Institute	NO
	Ethiopian Economic Policy Research Institute	YES, CURRENT
	Forum for Social Studies	YES, CURRENT
	Institute of Development Research	NO
	Organization for Social Science Research in Eastern and Southern Africa	YES, 2009
	Institute of Policy Analysis and Research Project	YES, 2008
	African Centre for Technology Studies	YES, CURRENT
	African Economic Research Consortium	YES, CURRENT
KENYA	African Population and Health Research Center	YES, CURRENT
	African Technology Policy Studies Network	YES, CURRENT
	Centre for African Family Studies - HQ (1)	YES, CURRENT
	Centre for Training and Integrated Research for ASAL Development	YES, CURRENT
	Energy, Environment and Development Network for Africa	YES, CURRENT
	Institute for Development Studies	NO
	Institute of Economic Affairs	YES, CURRENT
	Institute of Policy Analysis and Research	YES, 2008
	Kenya Institute for Public Policy Research and Analysis	YES, 2006
	Kenya Medical Research Institute (5)	YES, CURRENT
	Participatory Methodologies Forum of Kenya	NO
	Regional Centre for Socio-Economic Studies and Development	NO
	Resource Conflict Institute	YES, 2007
	Social Science and Medicine Africa Network	NO
	Steadman Research Services	NO
	National Centre for Applied Research of Rural Development	YES, 2008
	National Institute of Statistics	YES
Madagascar	Institut Africain et Mauricien de Statistique et d'Economie Appliquée	NO
	Institute for Practical Research and Training	YES, 2004
Rwanda	Research on Poverty Alleviation	YES, CURRENT

	Centre for Peace and Economic Development	NO
Somalia	Economic & Social Research Foundation - Tanzania	YES, CURRENT
	Economic Research Bureau	NO
Tanzania	Tanzania Gender Networking Programme	YES, CURRENT
	Tanzania Industrial Research and Development Organization	NO
	African Centre for Trade and Development	YES, CURRENT
	African Research and Documentation Centre	NO
	Center for Social-Economic Research and Training	YES, 2008
	Centre for Basic Research	YES, CURRENT
UGANDA	Development Research and Training	NO
	Economic Policy Research Centre	NO
	Makerere Institute of Social Research	NO
	Centre for Action-Oriented Research on African Development	NO
	Centre for Independent Development Research	YES, 2003
	Groupe de Recherche en Economie Internationale et Croissance	NO
	Institut de Recherche Pour le Developpement (1)	YES, CURRENT
CAMEROON	Panafrican Institute for Development - ISP	NO
	Private Sector Research Institution	NO
	Research Institute for Development, Communication and School Partnership	NO
	National Institute of Human Sciences	NO
	National Office for Rural Development	NO
	Centre de Recherche et d'Étude en Sciences Sociales et Humaines	NO
Chad	Institut de Recherche pour le Développement	YES, 2005
	Institut de Recherche en Sciences Humaines	YES, 2008

[i] Study conducted by the Centre for Research on Science and Technology at Stellenbosch University under commission for the Southern African Regional Universities Association (SARUA). Final report to be released by the end of 2008.