Mapping Social Sciences Research in South Africa

A report submitted by the Centre for Research on Evaluation, Science and Technology (CREST) at Stellenbosch University

Part II: The Political Economy of Social Sciences Research in South Africa

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CONTENTS

LIST OF FIGURES AND TABLES

List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ANC	African National Congress
ARC	Agricultural Research Council
Armscor	Armaments Corporation of South Africa
ASSA	Association of the Sociology in South Africa
ASSAf	Academy of Science for South Africa
COGTA	Department of Cooperative Governance
CPUT	Cape Peninsula University of Technology
CREST	Centre for Research on Evaluation, Science and Technology, Stellenbosch University
CSIR	Council for Scientific and Industrial Research
CUT	Central University of Technology
CWTS	Centre for Science and Technology Studies
DACST	Department of Arts, Culture, Science and Technology
DANIDA	Danish International Development Agency
DEAT	Department of Environmental Affairs and Tourism
DFID	Department for International Development
DHET	Department of Higher Education and Training
DPSA	Department of Public Service Administration
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DUT	Durban University of Technology
EU	European Union
FOSAD	Unit Forum of South Africa's Directors-General
FRD	Foundation for Research Development
GDP	Gross Domestic Product
GERD	Gross Domestic Expenditures on R&D
HAD	Historically Advantaged
HBU	Historically Black Universities
HDD	Historically Disadvantaged
HIV	Human Immunodeficiency Virus
HIVOS	Humanist Institute for Cooperation
HSRC	Human Sciences Research Council
HUMA	Institute for Humanities in Africa
HWU	Historically White Universities
ICSU	International Council for Science
IDASA	Institute for Democracy in Africa
IDC	International Development Corporation
IDRC	International Development Research Centre
IKS	Indigenous Knowledge Systems
ISI	Institute for Scientific Information
ISTG	Interim Science and Technology Group
JICA	Japan International Co-Operation Agency of the Japanese Government
M&E	Monitoring and Evaluation
MHET	Minister of Higher Education and Training
MRC	Medical Research Council
NEPI	National Education Policy Initiative
NGO	Non-Governmental Organisation
NIH	National Institutes of Health
NMMU	Nelson Mandela Metropolitan University
NOVIB	Netherlands Organisation for International Development
NPO	Non-Profit Organisation
NRF	National Research Foundation
NSTF	National Science and Technology Forum
NWU	North-West University
ODA	Official Development Assistance

OECD	Organisation for Economic Co-operation and Development
PALAMA	Public Administration Leadership and Management Academy
PBMR	Pebble Bed Modular Reactors
PCAS	Policy Coordination and Advisory Service
PEPFAR	President's Emergency Plan for AIDS Relief
R&D	Research and Development
S&T	Science and Technology
SAC	Scientific Advisory Council
Safcol	South African Forestry Company Limited
SAIMR	South African Institute of Medical Research
SASQAF	South African Statistical Quality Assessment Framework
SIDA	Swedish International Development Cooperation Agency
SSH	Social Sciences and Humanities
StatsSA	Statistical Agency of South Africa
STEM	Science, Technology, Engineering And Management
STI	Science, Technology and Innovation
TUT	Tshwane University of Technology
UCT	University of Cape Town
UDASA	Union of Democratic University Staff Associations
UDF	United Democratic Front
UFH	University of Fort Hare
UJ	University of Johannesburg
UKZN	University of Kwazulu-Natal
UNDP	United National Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USA	United State of America
USAID	United States Agency for International Development
WISER	Wits Institute for Social and Economic Research
Wits	University of the Witwatersrand
WoS	Web of Science (Thomson-Reuters)
WTO	World Trade Organisation

Chapter 1: Introduction

This part of the report presents the political economic analysis of social science research in South Africa. Political Economy is understood as the interaction of political and economic processes in a society: the distribution of power and wealth between different groups and individuals, and the processes that create, sustain and transform these relationships over time. This report will therefore address the following questions:

- How does social science research get funded and commissioned in South Africa?
- What are the major enablers and barriers to doing research in South Africa, including social, political, cultural and economic factors that affect where, why and how research is carried out?
- What partnerships exist with UK institutions and non-UK institutions (including examples of research in LICs)?

Part II The Political Economy of Social Sciences Research in South Africa

- Chapter 1 gives a brief introduction
- Chapter 2 presents a historical overview of social sciences in South Africa
- Chapter 3 provides a brief overview of social sciences research post-1994 and the current state of the social sciences in South Africa today
- Chapter 4 elucidates that main enablers to doing research in South Africa as reported by the web-survey and the individual interviews
- Chapter 5 presents the main barriers to doing social sciences research particularly with reference to inadequate funding, lack of government support, tensions between modes of knowledge production and so forth
- Chapter 6 concludes with a description of existing partnerships and collaborations between South African research centres and individual researchers within the social sciences with the United Kingdom and other low income countries, particularly sub-Saharan Africa
- Chapter 7 presents the final conclusions and recommendations

Chapter 2 History of social sciences research in South Africa

2.1. Toward a political economy of social science research in South Africa

For the purposes of this report "political economy" is defined as the systematic study of the interactions of individuals and institutions in political and economic context. In our view the economic embraces the technological since they are in constant interaction. History and historical forces inform political economy. In the South African research and innovation system this expresses itself in the distribution, form and function of its component institutions, organisations and spaces that continue to reflect the historical legacies of colonial and post-colonial (especially apartheid) forces. Institutional norms and practices reflect power relations and their expression in allocation, leading to resultant imbalances within and among individuals and institutions. These imbalances will echo and may amplify those in the larger society.

This discussion is structured around the three critical junctures of the political history of South Africa: the process of Union (1902-1910); the inception of the Afrikaner Republic (1948); and the birth of the Rainbow Nation (1990-1994). These critical junctures allow for four periodisations: Development 1910-1948; Consolidation 1948-1990; Interregnum 1990-1994; Reconfiguration 1994 onwards. The structure and relations of polity and society, and with science and technology, demonstrate distinct features in each period.

2.2. Development: 1910-1948

The 1910 Union of South Africa brought together the British Colonies, Boer Republics, and African chieftaincies into a contiguous geographic entity, though the future of the British Protectorate remained uncertain. British rule was imposed: the 'Anglos' controlled the economy; the former Boer Generals assumed *de facto* political control; the African majority were restricted in movement, abode, property and opportunity. As Sol Plaatje wrote: "Awaking on Friday morning, June 20, 1913, the South African Native found himself, not actually a slave, but a pariah in the land of his birth". The defeated Afrikaners now acted as compradors for Capital, ensuring the steady flow of Black labour to industry and agriculture. Labour relations were already polarised and institutions equally so.

The Botha government decision to support the Crown in the First World War brought considerable opportunity to the new state. The 1915 defeat of German South West Africa doubled its landmass; war industries expanded manufacturing industry. After the death of Botha, Jan Smuts, whether in government or not, was the key figure of this period, strategist, moderniser, academic and amateur scientist (Dubow, 2006). He assembled a team of technocrats including the towering figure of German-educated H J van der Bijl. Their joint efforts established what might be termed Developmental State 1 (Kahn, 2013). By the late 1920s this comprised electricity generation, ports and railways, iron and steel manufacture, and coal supply, and even support for university researchers through the Research Grants Board (1918). This Board gave its main focus to the natural sciences and engineering and most of the grants awarded during the period 1918 to 1929 went to natural scientists.

South African social science (especially in such disciplines as sociology, anthropology, social work, education and psychology) emerged as academic disciplines during the 1920s and 1930s when these disciplines found institutional homes at South African universities. The country's first sociology course was taught at the University of South Africa (UNISA) in 1918. The first professor of sociology, appointed at Stellenbosch University in 1932, was Hendrik Verwoerd, renowned as the architect of

apartheid. But we also need to remind ourselves that the earliest universities in the country (UNISA, Cape Town, Stellenbosch, Pretoria, Natal and Rhodes) were initially mainly devoted to teaching and the reproduction of knowledge. Original and organised academic research was not the first priority: the education and training of teachers, social workers, lawyers and other highly skilled professionals was seen to be the primary responsibility of these institutions.

This was equally true of the natural sciences where research did not emerge within the universities but mainly in government-based departments and laboratories which were driven by the mining engineering, agricultural, veterinarian and health demands of the newly formed South African union in 1910. The first organised scientific endeavours in South Africa came about as a direct result of increasing industrialisation and subsequent urbanisation in the wake of the discovery of gold and diamonds between 1867 and 1875. The pastoral era was over. Highly concentrated populations agglomerated in search of these precious materials. In order to cope with such masses, rail and road communications had to be developed rapidly, enclosed or isolated farms had to be opened up, mass food production had to be ensured, and unprecedented shortages had to be coped with (for instance a lack of timber for pit props). This situation necessitated industrial as well as scientific capacities which had hitherto been non-existent.

The mining enterprises found that they needed engineers, geologists, later on geophysicists, chemists and even doctors of occupational medicine or parasitologists. The colony could not supply such professionals, so qualified people had to be brought over from Europe. Government, confronted by a series of recurring disasters (plant diseases, animal parasite attacks, linked to the transformation of agriculture for mass production or the opening up of frontiers and increased circulation of people), began to expect science to come up with solutions.

A good example of this is veterinary research. There was certainly no shortage of diseases among livestock, which were recorded a long time before. Some of these are legendary (1719: massive mortality in horses; 1780: all herds were hit; 1854: loss of half of the horse population; 1882-86: anthrax decimated both domestic and wild animals and was transmitted to humans through eating meat). At the same time, the Transvaal called on its own experts to combat rinderpest. This province put its faith in the Pasteur Institute, whose delegated scientists (J. Bordet and T. Danysz, in 1897) were to help develop a serum. These missions by expert scientists forged the durable links necessary for cooperation. They strengthened the position of the local scientists who recommended such interventions by outside specialists. A good example of one such expert was Arnold Theiler, a young Swiss immigrant, who would eventually become the founding director of the world famous Onderstepoort Institute for Veterinary Science established in 1908.

The institutionalisation of South African social science

The first major and organised social science study in South Africa was the Carnegie-funded investigation (1929 - 1932) into the plight of the poor white Afrikaner. In the wake of the First World War and due also to increasing employment of cheap black labour on the mines, the position of many white Afrikaners deteriorated rapidly. This was further aggravated by the world depression of the early thirties and poverty became endemic. The Carnegie study of the poor white problem (as it would subsequently become known) is recognised to be the first major inter-disciplinary, applied and policy study in the social sciences in South Africa which involved both academics and government policy-makers.

It is generally recognised that the person who identified the poor white problem as a major object for social investigation was EG Malherbe although the role of Charles T. Loram in getting Carnegie support for the study was equally decisive (cf. Bell, 2000). Malherbe had studied at Columbia University in the 1920s and on his return became lecturer in Education at the University of Cape Town. In 1927 the Carnegie Corporation of New York undertook a study tour to Africa. During this

visit, Malherbe met with Fred Keppel, the President of Carnegie, and convinced him to provide the much-needed funds for a study of the poor white Afrikaner. As Saul Dubow observes, the involvement of the Carnegie Corporation in this study was not entirely unexpected as this commitment resonated with their overall philanthropic ideals as well as local experiences back home.

> *The Corporation's espousal of progressivist ideas was marked by a commitment to the preservation of Anglo-Saxon Protestant institutions which, in the case of several of its influential trustees during the 1920s, easily translated into an interest in white poverty and social degradation, issues with obvious parallels in America, as were the similarities between racial segregation in South Africa and the American South* (Dubow, 2006: 225).

But the role that the Carnegie Corporation and other foundations such as Rockefeller and Ford played during this period should be understood against the background of broader international developments. We again quote from Dubow:

> *The Carnegie Corporation exuded a progressive and strikingly modern developmentalist ethos that reflected the rise of the New World over the Old and presented the United States as an alternative international force to Britain. Unencumbered by accusations of imperialism, the Corporation travelled abroad with light ideological baggage; it was eagerly embraced by ambitious educationalists like Malherbe, Loram and Cook, who all sought scientific solutions to South Africa's urgent social and political problems* (idem, 225).

The first three decades of the twentieth century not only witnessed major shifts in international geopolitical arrangements, but was also a period which saw the rise of scientism and positivism – the belief in the progressive power of science to solve all societal and natural problems. Science was seen as a neutral site of universal truths that transcends all political, cultural and geographical divides. This new epistemology (even ideology) was equally influential in the early days of the establishment of South African (social) science and perhaps not surprisingly also the South African state.

Dubow shows convincingly how the advent of institutionalised and state-funded science in South Africa in the 1920s and 1930s occurred against the backdrop of a new political ideology – South Africanism. It was always to be expected that the unification of the South African colonies which was brought about by the establishment of the Union of South Africa in 1910, would trigger new attempts to forge a truly South African state and nation that would overcome the colonial legacies. Political leaders such as General Botha (the first prime minister of the Union) and Field Marshall JC Smuts believed that science could and should be mobilised to help forge this new identity.

Our brief review has revealed how these early years of organised social inquiry in South Africa were influenced by a variety of interrelated factors – the concern for the upliftment of the poor white Afrikaner (already to the exclusion of the poor Black in the country), the role of international philanthropic agencies in advancing a new world order ultimately to be dominated by the USA as well as the growing commitment to a scientific positivism and universalism that viewed science as a progressive and unifying force world-wide. The internationalisation of South African social science in this period was clearly not simply a matter of local scientists trying to establish themselves within the "commonwealth" of knowledge. But it was certainly one of the primary motivations and the evidence provided by Dubow clearly shows that prominent social scientists of the time were intent on demonstrating the universality of the social problems they faced. In the biggest social science meeting to be held to date in the country, Malherbe in 1934 organised an international conference to "showcase" the emerging capacity and scholarship in the country. The conference was attended by more than 4000 delegates and included such eminent scholars as John Dewey, Bronislaw Malinowski, Beatrice Ensor and Pierre Bovet (Dubow, 2006: 229).

The role of the sciences and technology in the pursuit of Allied victory convinced Smuts of the need to consolidate wartime experience in the sciences. In 1944 Smuts duly mandated Basil Schonland to set up the Council for Scientific and Industrial Research (CSIR) modelled on Empire institutions such as NRC (Canada), CSIRO (Australia), and CSIR (India). CSIR was proclaimed in 1945 with Schonland as first President and CEO based on the National Physical Research Laboratory, National Chemical Research Laboratory, Institute for Personnel Research (the only Institute within the CSIR dedicated to the social sciences), and National Building Research Institute, the latter two having shown value in the selection and housing of wartime personnel. The fifth component, the Telecommunications Research Laboratory was located at Wits.

But this period did not constitute a uniform *zeitgeist.* The divisions within the White community ran deep, turning on language, religion and culture, and perceived exclusion. For those of colour, exclusion was a daily reality. Trade associations and professional institutions reflected these divisions and exclusions. There was a single South African Institute of Mining and Metallurgy, but parallel learned associations – the Royal Society of South Africa, and the *Akademie vir Wetenskap en Kuns*[1]. Anglo domination of the public service remained a cause of resentment for Afrikaners; Africans were essentially excluded and their opposition consolidated within the increasingly militant African National Congress. Smuts stood tall on the world stage – respected in the United States and Europe as an architect of the charters of the League of Nations, and the United Nations. At home he enjoyed partisan support, respected among Anglos; derided by Afrikaner nationalists.

What then might be said of the social contract between science and society at the time? Smuts and his acolytes of the South African Association for the Advancement of Science argued the case of South African exceptionalism, expressed in South Africanism, a formal of Anglocentric nationalism. Not only did South African science constitute a key part of the European civilising mission in Africa, it also offered a laboratory for social experimentation. Indeed South Africa hosted cradles of humankind and was blessed with unique flora, fauna, geology and hydrogeological features that made for a southern scientific advantage. Science was above politics. Africa bridged 'the great divide' among the continents, and South African science would lead the way in such reconciliation. But internal divisions remained and were exacerbated during World War II hardening into Afrikaner Nationalism.

2.3. Consolidation and Isolation: 1948-1994

The year 1948 saw the defeat of Smuts at the polls and the beginning of four decades of Afrikaner Nationalist rule. Whither science and technology? The African Regional Conference Scientific Conference took place as the move for Indian independence matured; South Africa's race policies were now an international matter; the tide was turning especially for the humanities and social sciences in anthropological works.

According to plan Schonland departed in 1950 from a CSIR that he had positioned at arm's length from government. After a short interregnum Stefan Meiring Naudé took office and led the CSIR to 1971, when he joined the office of Prime Minister B J Vorster as Scientific Advisor. Following the Sharpeville massacre and the ANC adoption of the armed struggle, CSIR gradually took on the role of a national weapons and operations research laboratory. Under Naudé it became the centre pivot for technology development: it incubated and spun out a plethora of institutions – the National Institute for Water Research (1957), Atomic Energy Board (1959), Medical Research Council (1969), and later the National Research Institute for Oceanology (1974), and the Foundation for Research Development (1990). It also enabled subscription-based industry research associations in leather,

[1] Academy for Science and Art

paint, fish processing and sugar milling that worked with their neighbouring universities. Walwyn and Scholes (2006) document the continued semi-independence of CSIR in that it consistently earned income from contract research.

The National Council for Social Research (forerunner to HSRC) an advisory body of the Department of Education was soon under Afrikaner domination. Within Afrikaner academic and cultural circles, *volkekunde ("ethnology")* or group studies emerged as part of their linkage with and legitimation of apartheid. Universalist science was now dead as part of the 'national' glue of the Smuts days. Yet by 1989 the HSRC, on behalf of the SAC, was able to harness the intellectual energies of academics across the universities seriously to address the matter of Implementation of Research Findings, compromised as this would be by apartheid divisions (De Beer, 1991).

The economy had grown fitfully from 1948 to the late 1960s; boom and bust jostled with gloom and mistrust. The 1970s provided the turning point – the four oil shocks, collapse of Portuguese rule in Africa, irruption of worker militancy, and the Soweto Revolt. Fuel supply was critical and the decision was made to expand Sasol tenfold, no simple task as the finance and skills were unavailable. Accordingly Sasol was privatised and US Fluor Corporation contracted to do the construction. But the tide was turning and a belated process of reform commenced – trade union rights were expanded, the ethic Tri-cameral Parliament founded. Rebellion continued and the townships became ungovernable, though the neighbouring states bore the brunt of the conflict. War production now constituted some 25% of industrial activity.

While some foreign company subsidiaries encouraged upward mobility for Blacks; others disinvested. Skill shortages intensified, through emigration, the withering of immigration, and refusal to extend opportunity to Blacks. These difficulties focused the efforts of planners who came up with a set of measures designed to support and encourage university scientists: the FRD rating system, new local journals of the Bureau for Scientific Publication, and the journal article subsidy. The implicit message was that one could perform normal science in an abnormal society.

Where then did the country stand in the world of science and technology? From as early as 1968 the government had been measuring the inputs to R&D according to the Frascati Manual guidelines. For 1989/90 expenditure of 0,71% of GDP was recorded (OECD, 2009) – a level comparable with Norway and Spain. Fully 21% of expenditure went to basic R&D (DNE, 1993), a higher proportion than Spain, and Portugal, and on par with Russia. Its schools and universities educated four of its sons to gain Nobel prizes in the sciences. All four prospered abroad; none returned home to found a research group. Over the period 1963-1989 South African inventors gained a similar number of US patents to Norway and Spain, and above New Zealand. In the arena of plant cultivars the country was a leader. Acemoglu and Robinson (2012) see it as a classic example of a polity with extractive political and extractive economic institutions. A pariah among nations; a country retrograde in Balkanisation; poised to achieve technological catch up; this was South Africa c. 1990.

The growing isolation of the social sciences during the apartheid years

The history of the social sciences during the apartheid years have been well documented (Dubow, 2006; Jansen, 1991, Rex, 1980 and Sharp, 1981). Our aim is not to revisit this history. We focus here on one crucial theme: how the rise of the apartheid ideology and state would gradually lead to the external isolation and internal insularity of South African social science.

Although the National Party came into power in 1948 South Africa's political isolation can be traced to various critical events that occurred in the late 1950s and early 1960s only – the banning of the ANC in 1960, Verwoerd's decision to leave the Commonwealth in 1961, the Sharpeville massacre in 1962 and Nelson Mandela's incarceration in the same year and subsequent United Nations arms embargoes in 1963. The latter was soon followed by comprehensive cultural sanctions (which were

only enacted for the most part in the 1970s and 1980s) which included severing academic links and contacts with South African scholars and scientists. The results are well-known: South African scientists could not for the most part attend international conferences and meetings and visits by foreign scholars to South Africa dwindled and scholarly exchanges became negligible. International scientific collaboration became impossible as increasing numbers of South African societies and professional associations were banned from being members of international bodies (such as UNESCO, ICSU and many others). The South African government, through its censorship laws further contributed to academic isolation by banning books by authors (mostly Marxist and neo-Marxist) that it saw as a threat to the civil order. The pariah status that was attributed to the government spilled over to its citizens and also its scientists.

But the ideology of apartheid also had major negative effects on the state of South African science itself: on the one hand, it led to increasingly polarisation within the so-called "white" academic community at the historically white universities; on the other hand, the creation of the historically black universities or so-called "bush colleges", led to huge inequalities within the Higher Education System with very little or no contact between white and black academics.

As to the former, the relations between Afrikaans and English-speaking or between the more conservative and more liberal academics within universities and science councils became extremely ideologised and polarised. A significant number of Afrikaans scientists and academics had sided with the government and supported state institutions such as the *Broederbond* (a secret society of government supporters who exerted major influence in all spheres of society and government) and the *Akademie vir Wetenskap en Kuns* (an exclusively Afrikaans *Academy of the Sciences and Arts)*. Some Afrikaans scholars in such fields as education, anthropology, history and sociology not only publicly supported the apartheid ideology, but provided scientific and academic justifications for it.

Most English-speaking academics on the other hand dissociated themselves from the apartheid state and engaged in varying degrees of critique, dissension and protest. These divisions would soon spill over into a form of internal academic isolation which was most clearly manifested in the social sciences. Afrikaans and English academics in such fields as sociology, anthropology, psychology and education soon split along ideological lines. Liberal and progressive English-speaking scientists refused to apply for funding from government or to collaborate with Afrikaans-speaking academics in conservative institutions. Professional societies split over issues of membership of black academics. This would – during the 1960s and 1970s – soon lead to the establishment of two professional societies for anthropology, sociology, education and psychology respectively. In each case one society (the conservative and Afrikaans-dominated one) would not allow black academics to join and would often be closely aligned to the political leadership of the day; the other society (more liberal and critical and English-dominated) would be a society for open members and would encourage critique and dissension of the apartheid state.

This also meant that separate journals would be established in most of these fields which coincided with these ideological divisions. So, for example, the *South African Journal for Sociology, the South African Journal of Ethnology* and the *South African Journal of Psychology* were seen as the mouthpieces of the conservative state-supported and predominantly Afrikaans-speaking scientific societies whereas alternative journals (*Transformation*, *Social Dynamics* and *Psychology in Society*) were established in the 1970s and 1980s by liberal English-speaking and some black academics.

The creation of the historically black universities (HBUs) and its under-funding by government led to a different kind of polarisation, i.e. between privileged white universities and disadvantaged black universities. The HBUs integrated with the apartheid government's policy of establishing homelands for each ethnic group. Hence, the University of Zululand was established to serve the Zulu community, the University of Bophuthatswana to serve the Tswana ethnic group. They were also

viewed as predominantly teaching institutions with little investment and encouragement to engage in research and scholarship – lest these endeavours could bring them in confrontation with the state!

In summary then: because of international bans and boycotts, many South African scientists had little scientific contact with their international colleagues during the seventies and eighties. Equally, if not more seriously, however, was the lack of contact within the scientific community in South Africa. Collaboration with colleagues across political and racial divides was minimal to non-existing leading to an isolationist scientific culture that produced a system that was compartmentalised to the extreme.

It is worth pointing out, however, that despite the hegemony of the apartheid state, the late 1980s and early 1990s also witnessed the rise of a powerful critical social science tradition within South Africa. Some scholars refer to this – with regard to sociology specifically – as the phase of public sociology. For many of today's leading South African sociologists, these were indeed the 'golden years' of social science in the country. ASSA (Association of the Sociology in South Africa) conferences linked academics – who came from various disciplines, not just sociology – with radical students and organic intellectuals. Eddie Webster (2004: 30), professor of sociology at the University of the Witwatersrand (Wits) and one of the key figures in this movement, recalled:

> *ASSA became an academic forum for a rich and vibrant sociological community in close dialogue with the new social movements struggling against apartheid ... instead of limiting the possibilities of genuine scholarship; this ... seems to have provided the impetus for a flowering of original sociological studies. Furthermore, the engaged nature of these studies inspired a generation of graduate students to work in these new social movements and to establish developmental NGO and alternative publications.*

The inspiring memory of a public sociology that was intellectually invigorating and politically influential was one legacy of the last years of apartheid. But, there was another – its flip side. As a consequence of the intensity of the struggle and the impact of academic boycotts, South African sociology had been weakened by its lack of participation in international debate. So, when Immanuel Wallerstein visited South Africa in 1996, he noted 'a certain parochialism and South African exceptionalism' (Webster, 2004). Social scientists liked to believe that the problems of race, ethnicity, class, power relations and so on that were pervasive to the apartheid society were somehow unique and required specific South African solutions. This cultivated a belief – ironically amongst conservative and progressive scholars alike – in the extraordinary nature of the South African case. Given more than twenty years of scientific and intellectual isolation, this was perhaps not entirely unexpected or surprising.

In a study of patterns of scientific collaboration that was undertaken in 1996 (only four years after the new political dispensation) and published in 2000, the author (Mouton, 2000) undertook to map the extent of academic isolation at that stage. This study was based on a comprehensive postal survey of South African scientists (more than 4000 completed questionnaires) which asked respondents to comment on the extent of their collaboration at that point including collaboration across fields and institutions. In the final paper it was concluded:

> *The results presented in this (paper) support two general conclusions: Levels of collaboration across scientific fields and institutional boundaries in South Africa are low. Inter-field collaboration averages at 8% for "strong" and 19% for "weak" collaboration. Inter-sectoral collaboration constitutes only 13% of all research activities for the total sample. These data would tend to support the more general observations made at the beginning of the paper, i.e. that academic science in South Africa is conducted within rather confined disciplinary and institutional enclaves. Even if one allows for the fact that "inter-field collaboration" is a more stringent requirement than inter-disciplinary collaboration, the overall averages remain low.*

In its final conclusions the report described the South African science system at that stage (mid-nineties) as "an isolationist system where many of the barriers to collaboration that developed during the apartheid years" were still in place.

Against this background, it is not surprising that the new democratic Government in 1996 produced a new white paper on Science and Technology that made reference to various mechanisms and incentives for increased collaboration: collaboration across institutional and disciplinary boundaries to address the socio-economic challenges facing the country; regional collaboration between institutions who were formerly divided by ideology, and collaboration between historically advantaged and disadvantaged institutions in order to promote the transfer of knowledge and expertise especially to black scholars.

In conclusion: How then the social contract for science during this period? Kahn (2013) argues that this comprised of two main strands. On the one hand we witness technology in the service of the state, in providing the technologies required for minority survival – what Dubow terms 'techno-nationalism.' On the other we see the emergence of the pursuit of 'own' science, supported through the various mechanisms described above. 'Own' science was also bifurcated into groups working to sustain apartheid and those who got on with normal science. *Volkekunde* stood between these two worlds. Academic science also served the state – through the involvement of university engineering departments in the war effort, with certain social science Faculties part of the state ideological apparatus. It continued to enjoy high status, with Christiaan Barnard's human heart transplant as a popularly celebrated achievement. But the notion of South Africanism, with science as a unifying force had crumbled; universalist science for South Africanism was shattered. State-funded science served Afrikaner Nationalism.

2.4. Interregnum: 1990 – 1994

In his 2nd February 1990 speech to the last minority Parliament, State President F W de Klerk made two major pronouncements. The first was a programme of structural adjustment modelled on the Washington Consensus; the second the normalisation of political activity. The speech is mostly remembered for the latter; the intent and impact of the former is missed. In fact the bulk of the speech argued for adherence to liberal economics, openness, fiscal discipline, deregulation and privatisation. An immediate decision was to relax foreign exchange controls with leading companies permitted to create secondary listings on foreign bourses. Though shared governance was taking shape the reform agenda advanced. The 1992 Kassier Commission deregulated agriculture; progress toward joining the mooted World Trade Organisation continued; many apartheid laws were abolished; conscription ended; a voluntary retrenchment programme of civil servants commenced.

In anticipation of a future open electoral process a 'war of policy documents' ensued across all the fields of social life: education, housing, transport, defence, economics, environment, communication, human rights, and science and technology. Think tanks, study groups, and investigations proliferated. August 1990 saw the formation of the ANC's Interim Science and Technology Group (ISTG); the UCT Science and Technology Research Centre organised workshops and conferences; the loosely constituted 'Mass Democratic Movement' set up the wide-ranging National Education Policy Initiative (NEPI), and after the signing of the 1992 Groote Schuur Minute, the ANC formed its shadow government in Shell House, Johannesburg. This included a section for Economic Planning with a desk officer for Science and Technology. Outside Shell House was the Centre for Education Policy Development that absorbed much of the thinking of NEPI. Two further initiatives must be noted: the MDM Review of the Science System (IDRC, 1993), and the MDM-Government S&T Initiative. The considerable intellectual energy of the period was distilled into the Reconstruction and Development Programme (ANC, 1994) that became the election manifesto of the ANC.

The IDRC Review team, whose local members were exclusively from the social sciences, and excluded any senior executive from the research universities or science councils, tabled its report to the ANC in early 1993. In effect this amounted to the imposition of civilian control over the old technology war machine. Among its recommendations was that its findings be taken forward by a responsible grouping. Hence was born the MDM-Government S&T Initiative, under the joint chairmanship of trade unionist Jayendra Naidoo and Brian Clark. The STI functioned through to the mid-1995, when it was reconstituted as the non-statutory National Science and Technology Forum (NSTF) that exists through to the present. Even so the science system, as with all elements of society in the transition, was guaranteed continuity. Though there were strong murmurs to disband the HSRC, this sentiment did not gain local traction, nor did it spread. In particular, the CSIR, under the leadership of Brian Clark had clearly seen the writing on the wall, and moved rapidly to reposition itself as an asset for the government-in-waiting.

Predictably the science council that attracted most attention was the HSRC, being "seen by many outside governments (sic) as having been irretrievably compromised as the source of much of the analysis that lay behind the policy of grand Apartheid" (IDRC, 1993: 33) so that 'of all the statutory councils, it appears that the HSRC is the one which will enter a new South Africa with the greatest need to demonstrate that, in its present form, it is an appropriate instrument to assist in the development of future policy options' (IDRC, 1993: 34). Of the system as a whole the Review also noted the obvious: it was fragmented, exclusionary, and underfunded. But it also represented an asset for the future democracy. Somewhat anachronistically, the Review advocated adoption of Polanyi's 'Republic of Science' to guide long-term S&T policy where intellectual interests and excellence would be the driving motif 'that the scientific community alone could set for itself' (IDRC, 1993:24).

2.5. Reconfiguration: 1994 going forward

In what follows it is important to remind that the Interim Constitution of 1993 and the Final Constitution of 1996 pivot on the separation of powers, primacy of the rule of law, sanctity of the Bill of Rights, and continuity of service and pensions. The exceptions to these provisions are carefully delineated and are subject to court procedure. Changes to the *status quo ante* and *status quo nunc* are the bread and butter of the legal professions.

The first democratic elections came and went. That which apartheid had cast in cement proved difficult to reconstruct despite a gigantic programme of reverse social engineering. Adding to the challenge was globalisation, the removal of protective tariffs through accession to the WTO, and new regulations that faced business. Having reconfigured national and provincial government, government got down to work, and in but five years introduced 1000 items of legislation. Each Ministry set out to demonstrate a break with the past. So Treasury and the Ministry for the RDP laid down new management principles: zero-based budgeting and planning through the Logical Framework Approach respectively. The police force became a 'service' constrained to respect human rights; health opted for Essential National Health Research, New Public Management became a new mantra. This massive agenda with its demand for policy, strategy, legal and social scientific skills far exceeded the capacity of the public sector, and the donor community filled the gap. Academics, especially those in SSH, engaged with these processes as members of task teams, as consultants, and through their own research projects.

In the trade-offs leading to the new administration the existing Department of National Education was trisected into Education, Sports and Recreation, and Arts, Culture, Science and Technology. The HSRC and FRD would now report to the DACST so that FRD's organic link to higher education was severed. With a former President of UDUSA as adviser, the new Minister of Education then established the National Commission on Higher Education to rationalise the fragmented higher

education system. The Ministry of Education also embarked on a new 'outcomes-based' curriculum; a decision remote from that tabled in the policy framework of the ANC (CEPD, 1993). Another outcome was the creation of the Council on Higher Education, a body with regulatory powers and statutory independence from the Minister.

The Ministry then formed an expert team to draft a Green Paper on S&T readily accepting IDRC financial support and technical assistance in the person of the leader of the 1992/93 IDRC Review. The processes of formulating the Green and White Papers were consultative and open, with inputs received from a wide range of stakeholders and individuals. In parallel the FRD launched the National Research and Technology Audit, while DACST embarked on what became a four-year National Research and Technology Foresight study with the UK offering donor support. DACST also initiated a White Paper on Arts and Culture and began developing policy on indigenous knowledge systems (IKS).

The White Paper (DACST, 1996) laid out the steps needed to modernise science and technology system according to (OECD) best practice and adopted the innovation systems approach as its change device. 'OECD' is placed in parentheses since the White Paper makes but one passing reference to OECD. However the IDRC Review process had followed the established OECD method for such reviews, and the IDRC staff secondee had in fact been a Chairperson of the OECD S&T Policy Committee. Thus do ideas move among countries and within peer networks? The White Paper was soft on directing S&T. Regarding the social sciences and humanities it had this to say:

> *The importance of the human sciences in South African society needs to be recognised. Four of its important roles in the context of innovation need to be highlighted in:*
>
> - *the understanding of social processes and problems and as a source of social innovation*
> - *facilitating appropriate technological change within society and within the economy*
> - *providing the basis of policy analysis; and*
> - *as a source of new knowledge and informed critique of the transformation of South African society and its economy.*

The document then devoted a section to 'Social Science Research' that recognised the central role of the social sciences in development, and then made the case (DACST, 1996: 22)

> *… basic research contribute(s) to the intellectual vibrancy of society as part of a strong R&D base needed not only for understanding and applying new technologies but also for participating in, and in some areas leading, a global scientific community. It is important to assert, in this climate of pressing social and material needs, that research, which generates long term benefits should not be downplayed.*

The White Paper was followed by the publication of the findings of the National Research and Technology Foresight (DACST, 1999). Over 1998/99 DACST introduced a new performance measurement system based on the Kaplan-Norton balanced scorecard into the science councils. The next policy instrument was the National R&D Strategy (DST, 2002) subsequently followed by the Ten Year Innovation Plan (DST, 2008). Subsequent to the White Paper the R&D Strategy is arguably the most important policy instrument of DST. This instrument laid out a number of new technology missions that later segued into the Grand Challenges of the Ten Year Plan; it provided for the transfer of CSIR from DTI to DST; abolished the Science Vote; laid the parameters to establish today's Technology Innovation Agency; set out to coordinate cross-government S&T budgets; introduced law to regulate IP arising from public funds. The Strategy also re-articulated the old Smuts agenda of South Africa's exceptionalism in filling 'the scientific divide' (Dubow, 2006: 207) in arguing that 'one way to achieve national excellence is to focus our basic science on areas where we are most likely to

succeed because of important natural or knowledge advantages … astronomy, human palaeontology and indigenous knowledge' (DST, 2002: 16).

The Strategy was a powerful instrument, crafted within the confines of the Department, and in close cooperation with CSIR. The social sciences were given the specific mission of Technology for Poverty Reduction. HIV received but a single mention in the Strategy, and this within the section outlining Technology for Poverty Reduction. In a not-so-subtle way the Strategy thereby aligned itself with the position of President Mbeki who was arguing that AIDS was a result of poverty, not a specific virus.

The science community response to the AIDS denialism of government was varied: HSRC initiated a programme devoted to the social impact of HIV as early as 2001; Nattrass (2004) mounted a sustained campaign for good sense; ASSAf (2009) came to the fore somewhat belatedly. But University and MRC health scientists had long ignored the official position of government and with the support of international donors and research peers forged ahead with excellent research on infectious diseases: HIV, TB and malaria. In this sense the Republic of Science was vindicated.

By late 2006 most of the recommendations of the R&D Strategy had been implemented. The South African Large Telescope, a larger clone of the Texan Hobby-Eberly instrumented was implemented as an expression of geographic advantage, a theme harking back to the Smuts days. Another 'big science' project was the multi-year National Income Dynamics Survey that the Presidency awarded to a UCU-UKZN consortium against the competition of HSRC. There was one policy failure, namely the New Strategic Management Model that was intended to replace the controls lost in the termination of the Science Vote.

Synthesis

How then to characterise the social contract between science and society in the new South Africa? At the dawn of democracy a number of large state-funded technology projects, leftovers from the era of total strategy were in train, namely the Rooivalk attack helicopter and the PBMR. Neither of these gained commercial success, with the PBMR being terminated in 2010. For its part DST initiated a set of 'big science' projects – the Southern African Large Telescope, Joule Electric Vehicle, and the Karoo Array Telescope, the latter as part of the eventually successful bid to host the major component of the Square Kilometre Array radio telescope. The Presidency also entered the stakes through the National Income Dynamics Survey. Arguably 'big science' substituted for 'technology for the warfare state.'

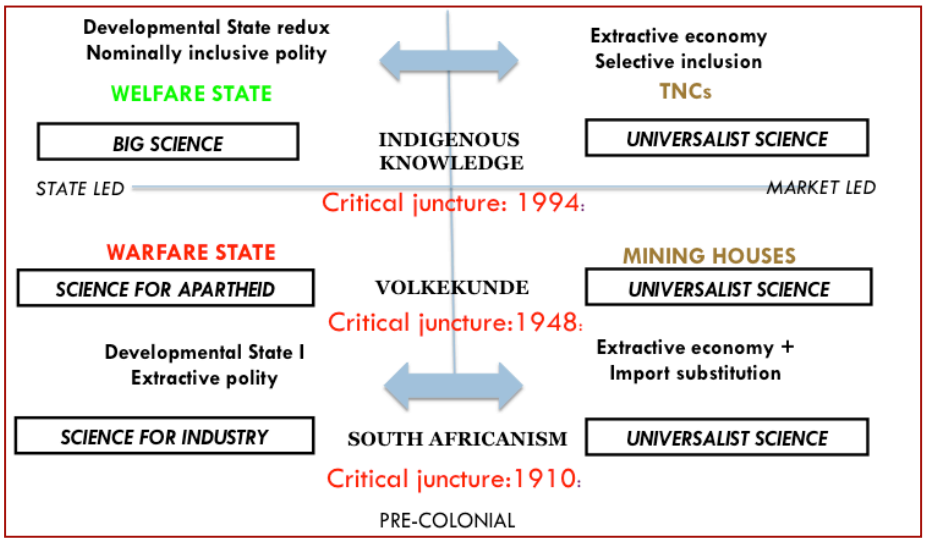
With funding from DST/NRF the study and promotion of indigenous knowledge systems found champions in many universities. This, together with AIDS denialism and the promotion of pseudo-scientific cures for the disease, makes for a complex and emotive policy discourse whereby universalist science collides with IKS on many battlefields. The complexity is well-illustrated in the controversy surrounding *hoodia gordonii* – a cactus whose appetite suppressant properties have been known to our first peoples for many centuries, perhaps millennia. CSIR patented the active ingredient; lobby groups campaigned for benefit sharing; licences granted to Big Pharma yielded nothing (Pereira et al, 2010); *hoodia* appeared on supermarket shelves as an additive to tea. On the one side scientists received national honours through the Mapungubwe Awards; on the other stood the panel of AIDS dissidents.

The individual scientist carried on much as before – the NRF individual rating system was reviewed and retained; the journal subsidy allocation grew by leaps and bounds to its present level of R120,000 per recognised publication. The SA Research Chairs Initiative rewarded local professors with generous resources, and a Centres of Excellence programme further standing, and morale. Research academia has never had it so good.

It is thus claimed that these are the two main dimensions to the new social contract: on the one hand the substitution of state funded 'big science' in place of military technology development; on the other the continuation of own science. IKS, by virtue of its close association with the state, straddles the interstices.

The changing nature of the political economy of science is synthesised in Figure 1 with state on the left and market to the right. Horizontal arrows suggest linkages across the state-market divisions. Public universities to be found in the free market since they strenuously defend their academic freedom as a liberal entitlement, much as do the main actors of the market economy. We have argued that the social contract between science and society shows both continuity and rupture.

Figure 1 Polity, economy. Science and society, South Africa post 1910



The continuity lies in the commitment to universalist science, best exemplified by the tragedy of HIV/AIDS, not HIV and AIDS. The ruptures are of two types that arise from the nature of the state and the interaction of science therewith. The first is the drift from South Africanism to *volkekunde* and the unfolding praxis of IKS; the second is what might be termed science in the service of the state: from industrial development; to warfare; to big science. Loosely speaking the first is the domain of the social sciences and humanities; the latter SET.

The social sciences in post-apartheid South Africa: Breaking the shackles of isolation

Three years ago CREST conducted an analysis which focused on the responses of SA social scientists to the growing liberalisation and globalisation of science in post-Apartheid South Africa. Our data are bibliometric data as we analysed South African social science papers in ISI-citation indexes. This allows (i) for comparison with other countries, and (ii) more importantly, for the possibility of citation analyses. Utilising data produced by the CWTS at the University of Leiden of all South African authored papers published between 1995 and 2007 in ISI-journals, we were able not only to look at overall trends in co-authorship, but also at trends in visibility or impact as measured by the field-normalised citation rate[2]. The dataset for these analyses consisted of 5907 unique papers (with at

[2] The field-normalised citation score (CPP/FCS) is represented by the mean citation rate of the fields in which an institute or – in this case – a country is active. The CWTS definition of fields is based on a classification of scientific journals into categories developed by Thomson Scientific. Although not perfect, it is at present the only comprehensive classification system that can be automated and updated consistently in our journals-based bibliometric information system. In summary: CPP/FCS indicates the impact of an institute/group's articles, compared to the world citation average in the (sub-fields in which the institute/group is active. Self-citations are excluded.

least one South African author). The breakdown by subfield together with the overall field-normalised citation score for each field is presented in Table 1 below.

Table 1 Output and international impact of social science papers by subfield; 1995-2007

	Nr of Papers	CPP/FCS
Economics & management sciences	848	0.41
Education	737	0.51
Psychology	1525	0.60
Sociology, anthropology & related studies	675	0.96
Other social sciences (including Political Studies)	2122	0.90
	5907	

A detailed breakdown by subfield and by three categories of authorship is presented in Figures 2 to 6 (see appendix 1 for the full table). For each subfield we list (by year) the number of papers according to whether the author(s) is/are from a single South African institution (SI), whether the authors of the paper are from two South African institutions (NC) or whether at least one of the authors of the paper is from an overseas institution (IC).

Figure 2 Trends in scientific collaboration as measured by co-authorship; 1995-2007 (Economics and Management Services)

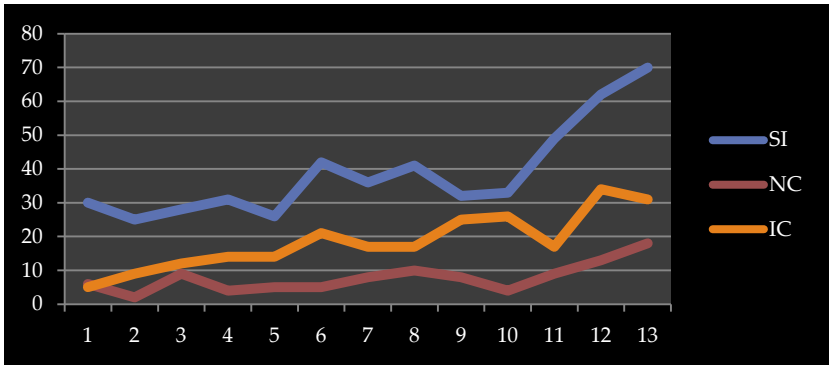


Figure 3 Trends in scientific collaboration as measured by co-authorship; 1995-2007 (Education)

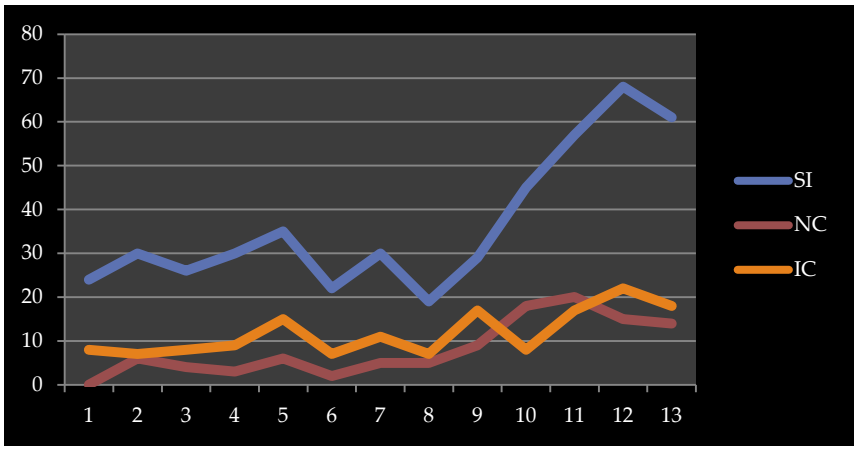


Figure 4 Trends in scientific collaboration as measured by co-authorship; 1995-2007 (Psychology)

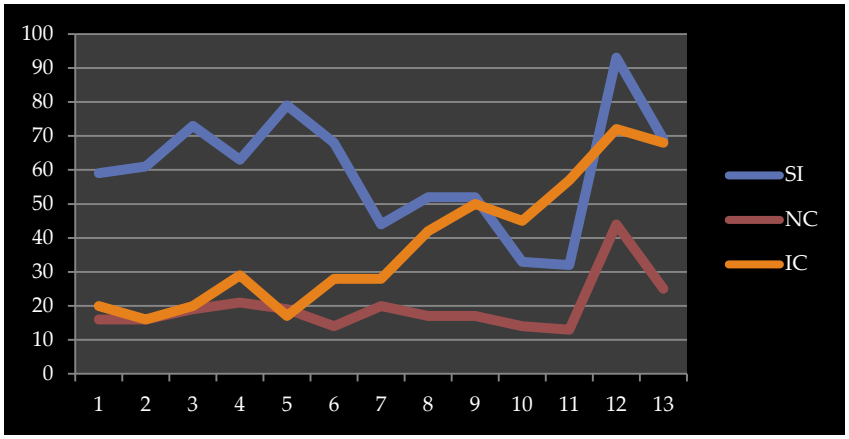


Figure 5 Trends in scientific collaboration as measured by co-authorship; 1995-2007 (Sociology, anthropology & related studies)

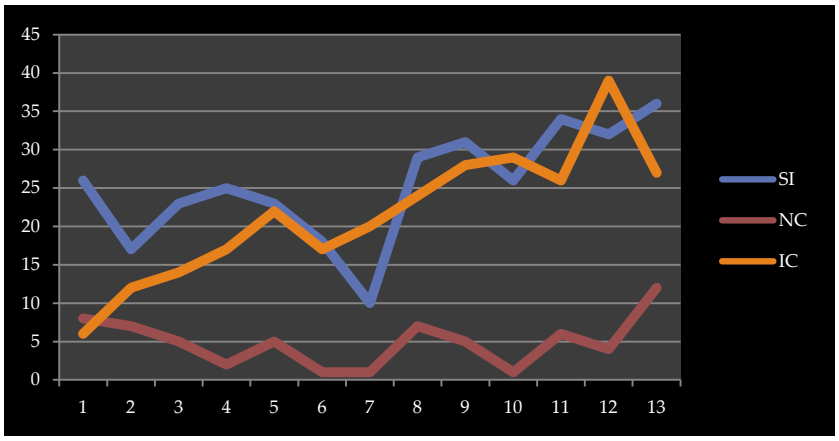
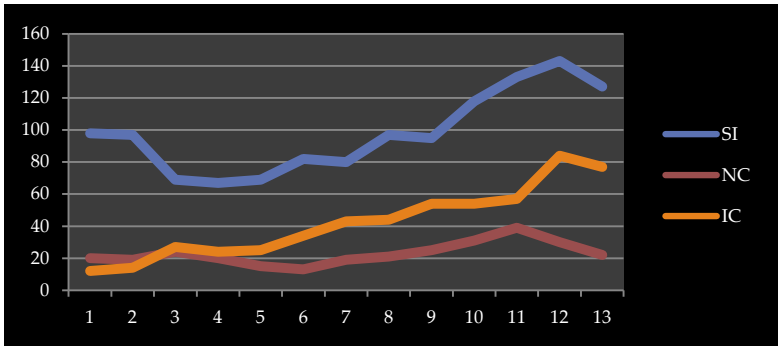
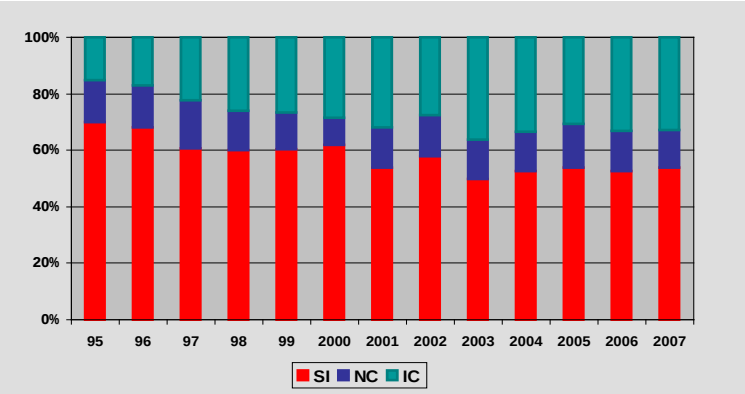


Figure 6 Trends in scientific collaboration as measured by co-authorship; 1995-2007 (Other Social Sciences)



The general trends for all of five subfields are similar: a clear increase in international co-authorship (even where this is often from a very small base in 1995). For fields like Psychology and Other Social Sciences (which include Political Studies and International Studies) the proportion of IC-papers as share of overall output is consistently higher than for the other fields. In order to gain a better understanding of the overall trends, we have combined the fields in Figure 7 below which presents the trends for this period for the three categories of authorship. This shows even more clearly that the share of internationally co-authored papers for all the social sciences has steadily increased since 1995 (when it constituted 15% of all papers) to 2007 (when it had more than doubled to 33% of overall output). This constitutes a significant shift in scientific collaboration behaviour and is one of the strongest indicators of an evidently more internationalised social science corpus.

Figure 7 Trends in scientific co-authorship; 1995-2007



The quantitative evidence presented in this section presents strong evidence for the growing internationalisation of South African social sciences over the past ten years. Although our measure of "internationalisation" is restricted to publication-related indicators (output in overseas journals, extent of co-authorship and international visibility), and therefore do not attempt to measure anything related to the content of these papers, the evidence still points to an increasingly internationalised body of scholarship. Clearly, at least as measured by these indicators, the isolationism of the apartheid era has been overcome and new collaborative relations and networks have been forged.

Chapter 3 The current state of the Humanities and Social Sciences Research in South Africa

Since the late-1990s, a number of interesting initiatives in the Humanities and Social Sciences (HSS) have been undertaken within the country's universities. The purpose of these has been to find creative ways in which the HSS can rediscover themselves and, at the same time, project their importance in society. The first of these was the founding at the University of the Witwatersrand of the Wits Institute for Social and Economic Research (WISER) in September 2001. More recently, a Centre for Humanities Research was established at the University of the Western Cape (UWC) in 2006 and, in 2010, the Institute for Humanities in Africa (HUMA) took flight at the University of Cape Town. At other institutions there is also movement in this direction – for example, at the University of Johannesburg (UJ), at Rhodes University and at the University of Fort Hare (UFH). The same kind of university-centred enterprise in the Humanities has been shown abroad with a further tendency to develop national and continental consortia on the Humanities in the US and in Europe. Elsewhere in South Africa, a number of new initiatives on the Humanities have taken place. The Department of Science and Technology (DST) has work shopped the Human and Social Dynamic in Development Grand Challenge Science Plan, which has opened the possibility both of additional funding for the HSS (broadly defined) and a widening of the scope for research in the HSS away from the applied end of the knowledge spectrum towards the more theoretical end (2011: 20-21).

A crisis in the Humanities and Social Sciences?

In 2010, the Minister of Higher Education and Training (MHET) appointed a Task Team to develop a *Charter on Humanities and Social Sciences* aimed at affirming the importance of human and social forms of scholarship. The charter states that all students (irrespective of discipline) should have an understanding of the "social, the symbolic and the implication of the recent scientific revolutions" but that it is "equally vital that they all learn about the social revolutions" (2010:14). The charter therefore regards the HSS to be of equal importance compared to that of the STEM sciences. Despite this normative positioning of the social sciences within the scientific system, the *de facto* position of the HSS has been extensively debated. A consensus study on the state of the Humanities in South Africa, published by the Academy of Science of South Africa (ASSAf) in 2011, reiterated this deepening disregard of the HSS in society. In an effort to augment the position of the HSS within South Africa, the charter recommends the formation of an Academy/Institute/Entity of Humanities and Social Sciences which will be the special purpose institution used to dynamise the fields of inquiry through virtual Schools. Similarly, the Consensus Study firmly stated that the humanities are indispensable, producing an essential set of analytical skills, along with bodies of knowledge without which our society, and the wider world, would be inscrutable. The importance of the HSS in the South African context was further emphasised in that it contributes to the understanding, analysis and attempts to resolve many of the most intractable social and economic challenges faced by the South African polity.

Although 40 per cent of the overall student population is Humanities and Social Sciences (HSS) students (2010) there is an imbalance in the tertiary education system with regards to the HSS. The charter therefore promulgates the need to "create a powerful, positive, affirmative statement on the Humanities and Social Sciences; it should emphasise the role of the humanities in creating responsible, ethical citizens; it has to define a post-apartheid trajectory of scholarship sensitive to our immediate and long-term developmental needs as a key society in Africa and the "Global South"; it has to be aspirational, but it should nevertheless serve as a clear road map for intervention with the means available".

The charter places a big emphasis on strengthening student mobility across the African continent under the African Renaissance Programme. In addition, consortiums – trying to make exchange for students easier – are envisioned to strengthen mobility. A significant aim of the charter is to redress the past, deal with the present and prefigure a system that can make a serious contribution to the pedagogy, research and scholarship of the future. With increased globalisation and technological advancement South Africa faced itself on the wrong side of the digital divide. This necessitated an emphasis of science, technology, engineering and management (STEM) which has led to an emerging sub-motif of the HSS in decline.

The charter acknowledges a significant weakness of the tertiary education system in that there is a problem with the funding formula allocating public funding to Higher Education. The current formula is the same for traditional universities, universities of technology and comprehensive universities and applies equally to research-rich institutions and to those that devote a greater proportion of their efforts to undergraduate teaching. The planned HSS institute will therefore look to models of the Netherlands, Chinese and India to try and address this problem. The Consensus Study further claims that one of the biggest challenges facing the HSS in South Africa, in addition to those already mentioned, is an intellectual stagnation within institutions of higher learning. This is coupled by the fact that the weight of scholarship in the HSS lacks international status and standing.

The report claims that the decline of the HSS in South Africa is caused by government policy and insufficient funding, institutional choices and decision making, school guidance and counselling and parental and student preferences. The scholarship of the HSS still strongly reflects the racial inequalities in knowledge production in the national science system, with all but one (Education) of the HSS fields falling well below 20% of total output contributions on the part of black scholars – despite marginal gains over the previous decades.

The HSS in South Africa face a decline in South African post-graduates, a lack of post-doctoral fellowships and a high level of graduate unemployment. HSS scholarship is also threatened by the ageing academic and research workforce with very few HSS graduates entering the academe. The consequence is the dwindling capacity of current HSS scholars to conduct relevant research and the teaching of a vibrant new generation of scholars. The tertiary education system, in addition, is ridden with nepotism, patronage and discrimination. The charter therefore envisions an HSS institute which will endeavour to improve the quality of tertiary education and oversee a fairer reward system while fostering a cooperative climate amongst all the sciences. The charter and consensus report were written to inform policy makers to ensure the future for HHS in South Africa and make key recommendations on policy issues

A response

If the Humanities are in such crisis, how then do they produce the graduates that are eagerly absorbed into the services-dominated economy? The finding runs contrary to the standard lament that universities fail to produce the type of graduates that the private sector wants. Do employers have no other choice? Given the restrictions on immigration of the highly skilled, this may well be the case. What then may be the underlying sense of discontent of humanities scholars with their lot? To begin to find an answer to this it is helpful to examine the relative expenditure on R&D effort between the SET and SSH. The data captures full cost expenditures of the R&D Surveys, namely labour costs, current expenditure and capital expenditure, compiled according to the Frascati Manual guidelines. As of 2003/04 the R&D Surveys are a component of Official Statistics.

Table 2 R&D Surveys, 2001/02-2010/11

	2001/02	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
NSE All bn	6 606	8 892	10 516	12 404	14 568	16 306	18 419	18 236	17 274
SSH All bn	790	1 189	1 493	1 744	1 951	2 317	2 621	2 718	2 979
SSH/NSE %	0.12	0.13	0.14	0.14	0.13	0.14	0.14	0.15	0.17
SSH/GERD %	10.7	11.8	12.4	12.3	11.8	12.4	12.5	13.0	14.7
GERD bn	7 396	10 081	12 009	14 148	16 519	18 623	21 040	20 954	20 253
NSE HE only bn	1 220	1 425	1 647	1 846	2 294	2 389	2 703	3 374	3 558
SSH HE only bn	585	647	887	886	1 004	1 232	1 487	1 727	1 866
SSH/HERD %	32.4	31.2	35.0	32.4	30.4	34.0	35.5	33.9	34.4
HERD bn	1 805	2 072	2 534	2 732	3 298	3 621	4 190	5 101	5 424

*Source: HSRC. Natural science and engineering **NSE**, social sciences and humanities SSH, gross expenditure on R&D **GERD**, higher education expenditure on R&D **HERD**. Values in current billions of Rand.*

Over the past decade GERD has grown by 270% and the share of SSH has risen from 10,7% to 14,7%. University R&D expenditure, or HERD, has grown 300%, and within the university sector the share of SSH has remained more or less steady, averaging 33%. Table 3 offers a longer perspective, showing the distribution of SSH research by sector. The increase of business SSH is a mix of growth in services and a possible survey artefact.

Table 3 SSH by sector, 1991/2-2010/11

SSH by sector	BUS	HE	"GOV"	NPO
1991/92	11	66	19	5
2010/11	15	63	19	4

Source: HSRC (2013) and DNE (1993). "GOV" combines science councils and government departments.

So SSH has grown in the business sector (BUS) and contracted in higher education and the not-for-profits (NPO). Yet the clear message is that SSH is not under-resourced. Its share is more or less consistent with the 'share' of SSH activity in higher education as a whole. Moreover according to the World Social Science Report (ISSC, 2013), South African higher education SSH: GERD expenditure is at the median level of the 31 countries for which such data are available.

Given the general criticism of the HSS in the abovementioned paragraphs it is important to note that the performance and prospects of the HSS vary considerably across different fields of study and that the majority of challenges listed are faced in many developing countries.

We discuss some field-specific studies, particularly trends in sociology, political science and geography as there exist comprehensive analyses of the status of these disciplines in South Africa. Very few studies exist on other social science disciplines. These examples are however just brief discussions indicating the challenges that many social science disciplines in South Africa share.

Trends in Sociology

The discipline and field of Sociology's history goes back to the early twentieth century at which time sociology formed part of social work programmes with its main contribution being to that of social administration and social policy (Mapadimeng, 2010). Despite the promising nature of the discipline, sociology in South Africa became a divided discipline bedevilled by racial and ethnic divisions under the apartheid regime. Sociology unwillingly became instrumental in the promulgation of an oppressive ideology. Today, sociology in South Africa faces many institutional challenges:

> *Webster (2004) noted that there has been a significant change in the institutional landscape and context in which sociology is practiced in SA, as a result of the over-emphasis on the need for SA to become globally competitive. Notable institutional changes include: 1) the strengthening of policy research through transformation of and increased support for the Human Sciences Research Council (HSRC) which conducts policy research; 2) the creation of the South African Qualifications Authority (SAQA) with the main aim of developing a vocationally-oriented educational system; 3) the creation of the National Research Foundation (NRF) for a single science-funding system as well as to promote interdisciplinarity; 4) and the trend towards commercialisation and/or corporatisation of universities whereby the emphasis is on producing graduates with marketable skills, thus seeing students as clients* (Mapadimeng, 2010: 217)

The discipline is further hampered by race and gender imbalances, notably white dominance and male dominance, in terms of levels of seniority as well as imbalances in research activities and publications output between historically black (HBU) and white universities (HWU). It is increasingly becoming difficult to retain academic staff, especially black academic staff that are in huge demand both in the private and government sectors which pay at market rates and offer attractive benefits (Mapadimeng, 2010). Another significant challenge, not only to sociology but the majority of social science disciplines in South Africa, is that of heavy teaching loads constraining innovative and creative science. Teaching materials are primarily produced in the West while teaching capacity is dwindling. There has, however been an increase in student enrolments in sociology which suggests that South African sociology is on the right path. According to Mapadimeng, however, in order to improve the state of sociology in South Africa, attention should be given to righting the imbalances between HWUs and HBUs and increasing the capacity for quality teaching.

Political science

The beginning of the 21st century saw the transformation of the Higher Education system in South Africa with some universities and technikons merging to create new and larger institutions. This saw the consolidation of many HBUs with HWUs. Gouws et al. (2013) argues that this transformation ensured that student numbers in political science increased and that the composition of the student body at historically white (advantaged) universities has become more racially integrated. An analysis of the state of political science in South Africa reveals that new and a greater variety of modules are offered at political science departments, research outputs have increased as have the numbers of students (Gouws, Kotze & Van Wyk, 2013). In addition, an older cohort of political scientists has retired and a younger generation (more of which are women) has entered the profession. The use of quantitative methods for political analysis is also on the rise. Notwithstanding the aforementioned advances in the discipline, political science in South Africa still faces a number of challenges:

> *The challenges that remain, however, are tensions between normative and empirical approaches; mainstream and non-mainstream approaches (such as feminism); qualitative and quantitative research; as well as value neutrality and being an applied science. International relations are still viewed as a 'Western' project, now in search of a post-Westphalian model of the state (Trent 2011, 195). Another problem singled out by Trent is the excessive specialisation within Political Science, leading to narrower fields of research, while ignoring local issues. This according to him contributes to a lack of relevance of Political Science to the public and over-specialisation that hampers the development of the discipline.* (Gouws et al., 2013: 394)

In addition to the challenges mentioned above, political science in South Africa also faces a number of constraints associated with that of sociology, as do the majority of HSS, with regards to funding for general science (basic science) and a lack of capacity of teaching staff. Social sciences in South Africa has also become somewhat isolated in that there if very little cooperation and exchange amongst social scientists in the South.

Geography

A review of the state of the discipline of geography reveals that student numbers have been on the increase, but that in general, absolute numbers of students remain low. A challenge that geography faces is that of insufficient funding which is a direct result of geography being classified as a social science. If geography is to be classified as a life or physical science, departments would receive triple the state subsidy. Fairhurst et al. (2003) argue that geography is neither a social science nor a life/physical science and should be funded according to a more appropriate categorisation. Geography as a discipline also faces some constraints with regards to their curriculum in that there exists two divisions of study (physical geography and human geography) which has led to fragmentation and instability in the discipline (Fairhurst et al., 2003: 87). Research constraints within geography include 1) limitations on the availability of highly qualified supervisors in the HADs and the HDDs alike, 2) the small size of departments constrains volumes and restricts levels of specialisation, 3) the ethnic composition of the research student body remains distorted although a degree of transformation is taking place, 4) and limited research funding is accessible but penetration of available sources remains too limited.

The constraints and challenges listed above are the result of a very limited engagement with literature on the state of the HSS in South Africa. Although many of the challenges are shared across disciplines within the social sciences it is important to note that many of these challenges are institutional in nature. The most prominent challenges facing the social sciences in South Africa today is the lack of sufficient funding, a lack of capacity (time and staff for teaching and doing research) as well as finding a balance between doing research that is 'relevant' and developing theory that remains at the forefront of disciplinary scholarships.

The ASSAf Consensus Study and the MHET Charter for the Humanities and Social Sciences argue that the HSS are in a crisis. Although some disciplines might be faring better than others, Mouton (2011) is of opinion that such claims are not warranted and argues that the majority of social science disciplines and social science research are flourishing. These include many interdisciplinary fields such as social studies of HIV and/or AIDS research, the burgeoning industry of policy, monitoring and evaluation studies in the country over the past ten years, and the vast number of studies being conducted on basic education and schooling and ways of improving the quality of learning". Without attempting to have made an argument for either claim, both the Charter and the Consensus study maintains the importance of the HSS within South Africa and reminds us that scientific research and academic disciplines should strive to be dynamic and evolve with the ever-changing society in which it exists.

Chapter 4 Primary enablers to doing social sciences research in South Africa

In our attempt to present a political economy analysis of social sciences research in South Africa we are looking at the most significant enablers and barriers that influence how, why and by whom research is carried out. This chapter will discuss how research in South Africa is supported by policy frameworks and subsequent funding. A big pool of human capital in the social sciences exist which have the potential to produce significant knowledge infrastructure. Although the following ideas are presented as enablers of social science research, it is important to keep in mind that the implementation of many of these policies and frameworks might possibly be lacking as will be presented in the next chapter.

4.1. Policy and framework

The previous chapter positioned the SSH as a growing sector within the South African research environment. Evidence was also presented to illustrate the South African Government's continual support for research and development. An important stance was publicly taken by the Ministry of Higher Education and Training as well as the Academy of Science of South Africa in support of the social sciences. The proposal for an Academy/Institute/Entity of Humanities and Social Sciences reaffirms the place and importance of the social sciences in South Africa's research landscape.

The National Research Foundation (NRF) in 2001 established an individualised evaluation and rating system of funded researchers in South Africa. This rating system serves as a peer-based benchmarking system of each applicant's recent research outputs and their impact. This rating system is believed to (1) provide independent and objective information on the quality of an individual's research and (2) South Africa's research capacity in different fields, (3) reinforces the importance of internationally competitive research, (4) stimulates competition between researchers and (5) can be used by the universities to position themselves as research intensive institutions (Pouris, 2007). Scientometric research indicates that the NRF rating system has had a positive impact on the publication profile of South Africa's researches in the social sciences. The NRF rating system therefore has the potential to become a powerful policy instrument in providing incentives for researchers to carry out research in South Africa (universityworldnews.com).

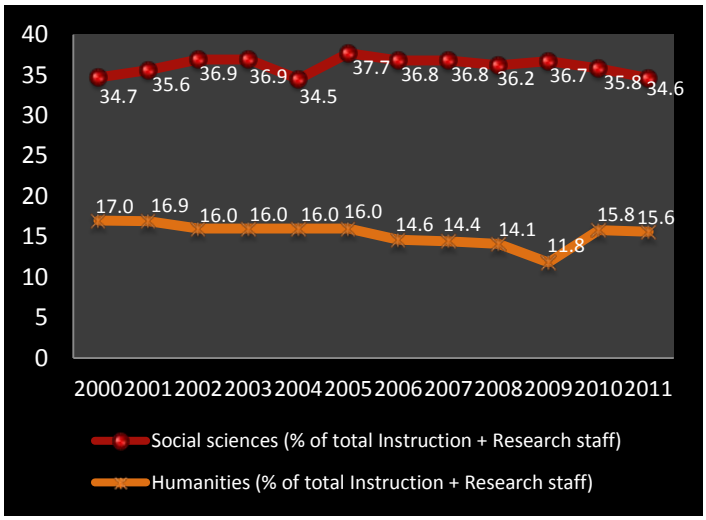
With regards to research on health and climate change, the Department of Science and Technology introduced life sciences and health as well as global change as two of the five newly established Grand Challenges. The understanding of climate change is thus prioritised by the South African government and aims to establish two centres of excellence in this sector which will strengthen the research capacity tremendously. With regards to the social sciences in general, as one of the Grand Challenges (Human and Social Dynamics) the government aims to be recognised as a "knowledge hub" in social sciences research in Africa. It is therefore clear that the government has taken many steps to support research in the social sciences, but also with reference to climate change, in South Africa.

4.2. Human capital pool

South Africa has a growing pool of human resources in the social sciences. The humanities and social sciences research community has consistently constituted about 50% of the total number of academics at the 23 South African universities (social sciences and humanities) as presented in the

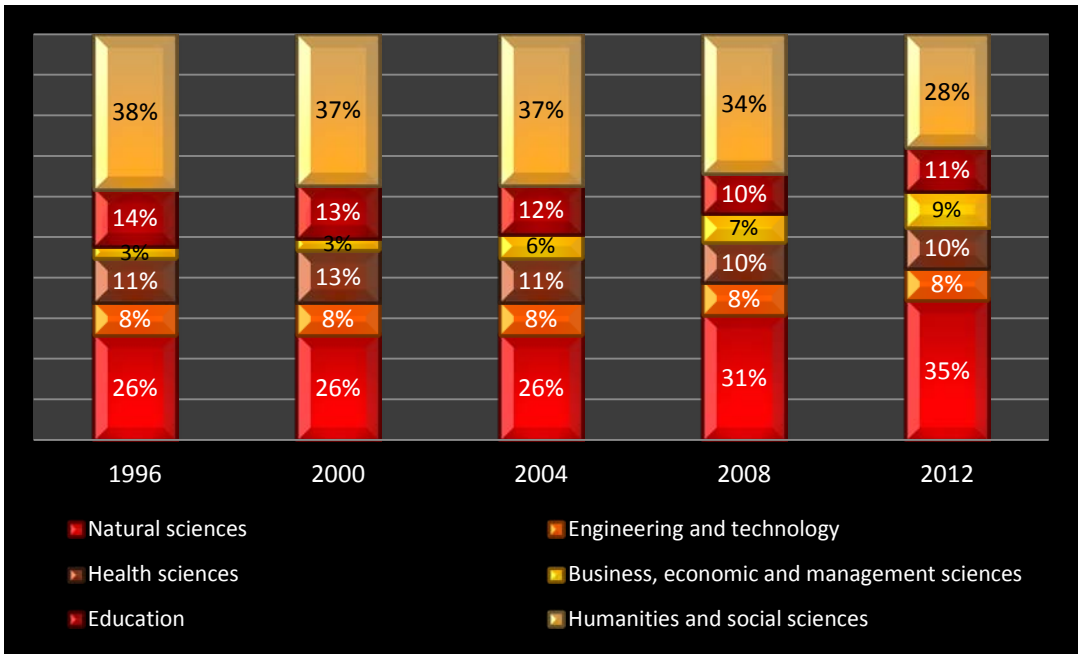
figure below. In addition there are more than 500 researchers employed by the HSRC and numerous others in government-based research programmes and non-government organisations as indicated in Part I.

Figure 8 Percentage of academics in HSS in South Africa



As far as the production of high-level graduates is concerned, a review of the number of doctoral graduates produced over the past 17 years (Figure 9) clearly shows that the broad domain of the Social Science and Humanities is well represented. The proportion of doctorates in the Humanities and Social Sciences, Business and Management Sciences and Education taken together constituted 48% of the total graduate production in the country in 2012. This is slightly down from the comparable proportion of 55% in 1996, but still shows that significant of high-level skills in these fields are produced annually.

Figure 9 Average shares of the doctoral graduates in the various fields of study, 1996 to 2012



Despite the high percentage of PhD graduates belonging to the social sciences, the next chapter will discuss how respondents of the web-survey and interviewees perceived a lack of well-trained PhD students to be a challenge within the national research landscape.

4.3. Knowledge infrastructure

As is discussed in Part I there exists a strong and vibrant capacity for conducting social sciences research in South Africa. Many well-established and productive research centres are presented in our mapping thus providing evidence of a flourishing research culture.

The Department for Higher Education and Training (DHET) accredits South African journals which, if published in an accredited journal, produce a research subsidy to the university and department in question. The DHET has 263 accredited journals in 2014 of which approximately 165 are journals in the social sciences, humanities and business and management sciences. This reaffirms South Africa's capacity for conducting research in the social sciences.

An autonomous research environment was identified as an enabler of social sciences research in South Africa by respondents. From the results it is discernable that researchers experience relative freedom and autonomy in pursuing their own research interests with support from their respective institutions.

Research centres and individual researchers were asked to identify who and what triggers or initiate research or research projects. The web-survey asked both research centres and individual researchers to identify their three primary triggers for projects. The research centres identified "funding agency requesting proposals" (85; n=103); "previous research by the centre/institute" (84; n=103); and "colleagues approaching us to form part of a team" (84; n=103) as the three triggers that initiates research.

Table 4 Who/What triggers/initiates research (research centres)

WHO/WHAT INITIATIES/TRIGGERS RESEARCH	CENTRES	
	Count (n=103)	Percentage
A funding agency requesting proposals	85	83%
Previous research by the centre/institute	84	82%
Colleague(s) approaching us to form part of a team	84	82%
An outside firm/company/institution	78	76%
A tender/contract/commissioned research	74	72%
Our own interpretation of the immediate/future environment	45	44%

Note: Percentages do not add to 100% in each column as respondents could have specified more than one option

Individual researchers identified "own curiosity or research interest" (301; n=303); "colleagues approaching me to form part of a team" (204; n=303); and "previous research by the centre/institute" (130; n=303) as the three top triggers initiating research. Note that "own curiosity or research interest" was not given as an option to research centres.

Table 5 Who/what triggers/initiates research (individual researchers)

WHO/WHAT INITIATIES/TRIGGERS RESEARCH	INDIVIDUAL RESEARCHERS	
	Count (n=333)	Percentage
Own curiosity or research interest	301	90%
Colleague(s) approaching us to form part of a team	204	61%
Previous research by the centre/institute	130	40%
A tender/contract/commissioned research	59	28%
A funding agency requesting proposals	84	25%
Our own interpretation of the immediate/future environment	81	24%
An outside firm/company/institution	74	22%

Note: Percentages do not add to 100% in each column as respondents could have specified more than one option

One of the primary enablers of conducting social sciences research in South Africa identified, was that of the freedom to determine own research agendas. When asked about the freedom to determine research agendas 89% said that they were mainly free to determine their own research agendas. When asked if individual researchers' university served as a barrier to doing research the majority (40% + 20%) disagreed and stated that their universities showed interest in the kind of research done. The majority of researchers therefore stated that their universities supported them and enabled them to pursue their own research interests.

Table 6 shows that individual researchers were mainly free to determine their own research topics.

Table 6 Percentage of respondents who agree (strongly agree/agree) that they have the freedom to determine their own research agenda

RESEARCH FOCUS	MY OWN INTERESTS LARGELY DETERMINE MY RESEARCH TOPICS (n=283)
Topics that are relevant to South Africa	88%
Topics that are relevant to SADC	82%
Topics that are relevant to Europe/USA	90%
Topics that are relevant to other developing countries	87%

Note: Percentages do not add to 100% in each column as respondents could have specified more than one option

This freedom and autonomy for pursuing research interests is extremely important if researchers are to be retained within the research sector and also if disciplines are to be advanced theoretically.

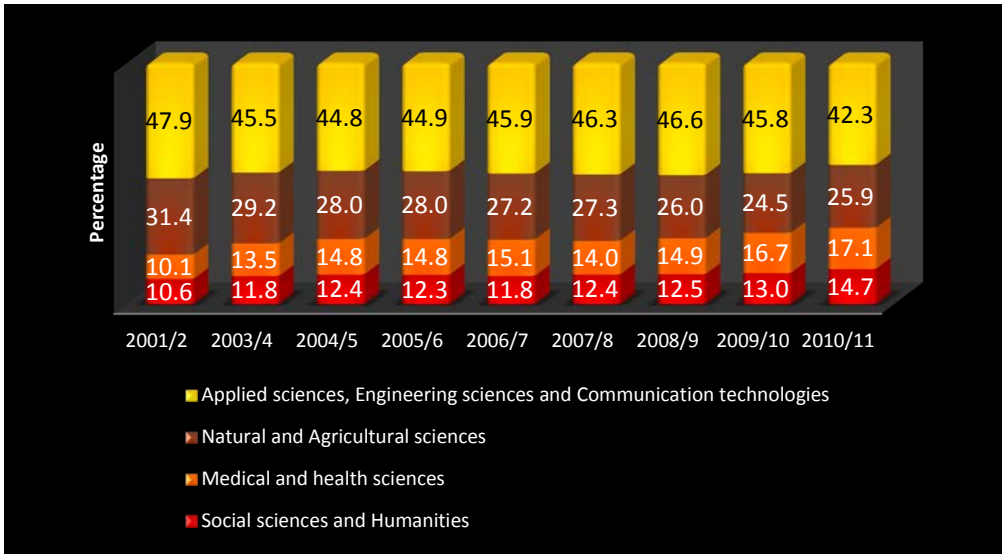
4.4. Funding

Evidence from national figures on R&D expenditure would suggest that the social sciences are much better off in 2012 than ten years ago as far as the availability of funding is concerned[3]. Figure 10 below indicates the percentage of research funds provided across research fields. Government funding for the Social Sciences and Humanities increased from 10,6% of R&D expenditure in 2001/2

[3] See Part I

to 14.7% in 2010/11. Funding for the Social Sciences and Humanities and funding for Medical and Health sciences increased while that provided for the Natural and Engineering sciences decreased.

Figure 10 R&D expenditure by major research field (percentage) in South Africa (2001/2 to 2010/11)



These statistics indicate that funding for the social sciences has increased in real terms over the last decade. It is interesting to note however, that in our discussion of the barriers to social sciences research in the next chapter, the most significant barrier given by our respondents was that of insufficient funding – particularly with reference to funding for PhD students.

As far as funding for research is concerned the DHET system for awarding subsidies to publications in DHET accredited journals has also been reviewed and has been modified to award greater subsidies to books and book chapters which invariably advantages the social sciences. This is due to the fact that social sciences research lends itself better to the writing of and contributing to books.

Chapter 5 The major barriers to doing social science research in South Africa

One of the aims of the surveys and interviews was to identify the opinions of researchers in South Africa on the state – strengths and weaknesses – of the social sciences in South Africa. The results of the survey indicate that the majority of respondents are of the opinion that the state of social sciences in South Africa is unsatisfactory. When asked whether respondents felt if the state of social sciences in South Africa is satisfactory, 17% were in accord while the majority (47%) did not think that the state of social sciences in South Africa is satisfactory (Figure 11).

Figure 11 The state of social sciences in South Africa

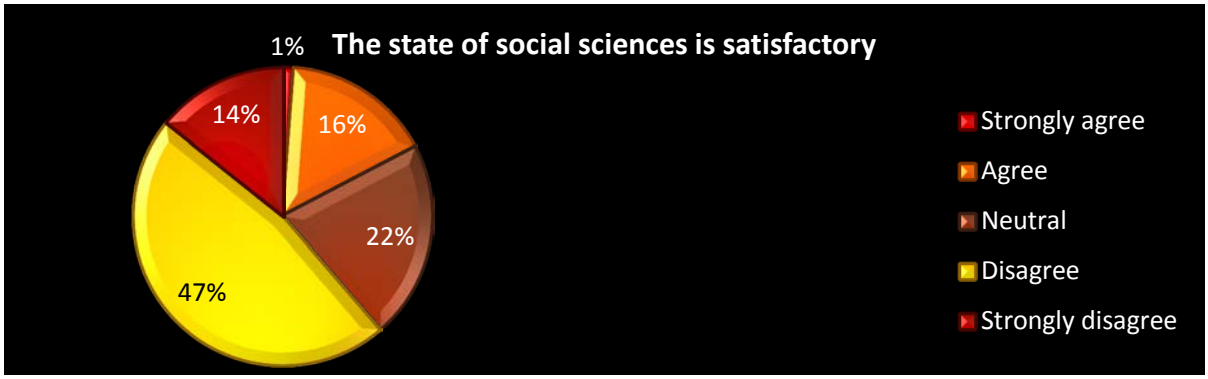
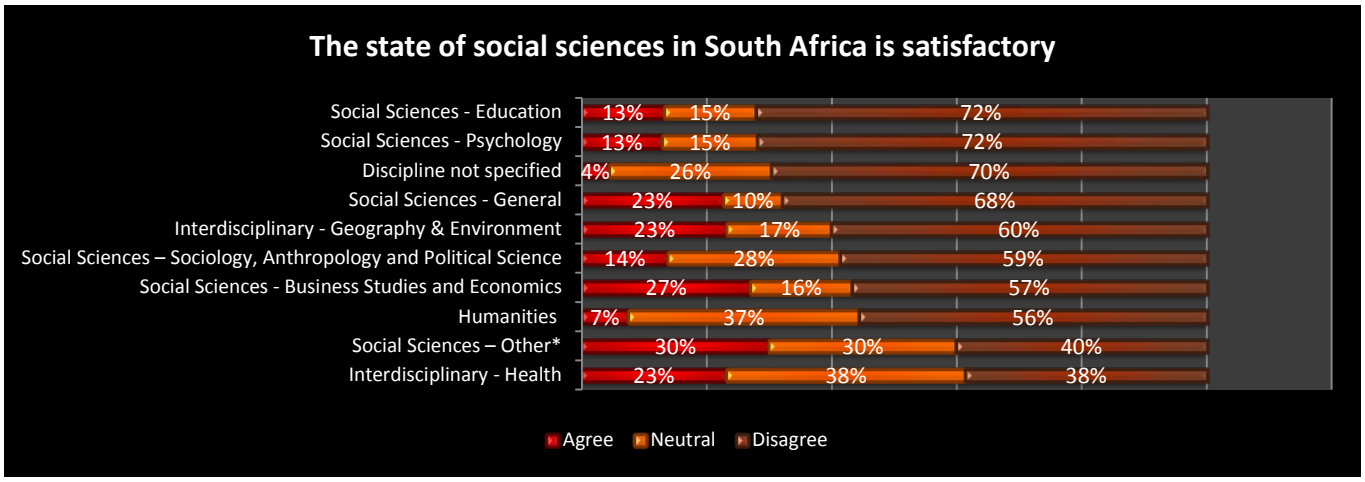


Figure 12 below presents the opinion of individual researchers regarding the state of social sciences in South Africa by clustered discipline. Although the majority of respondents did NOT feel that the state of social sciences was satisfactory, it is also evident that those working in the fields of the Health and Social Sciences and Social Sciences - Other are generally more satisfied with the state of social sciences in South Africa. This might be a result of those working in the fields of Health and the social sciences indicated that they received more funding as compared to their counterparts (cf. Part I). The Social Sciences - Other category includes disciplines such as Tourism studies, Media and Communication, Sport Science and Social Work. Those individuals working in Education and Psychology hold the most negative views concerning the state of the social sciences in the country.

Figure 12 Opinion on the state of social sciences in South Africa by discipline (individual researchers)



*Tourism studies, Communication and Media Studies, Sport Science, Industrial Psychology and Social Work

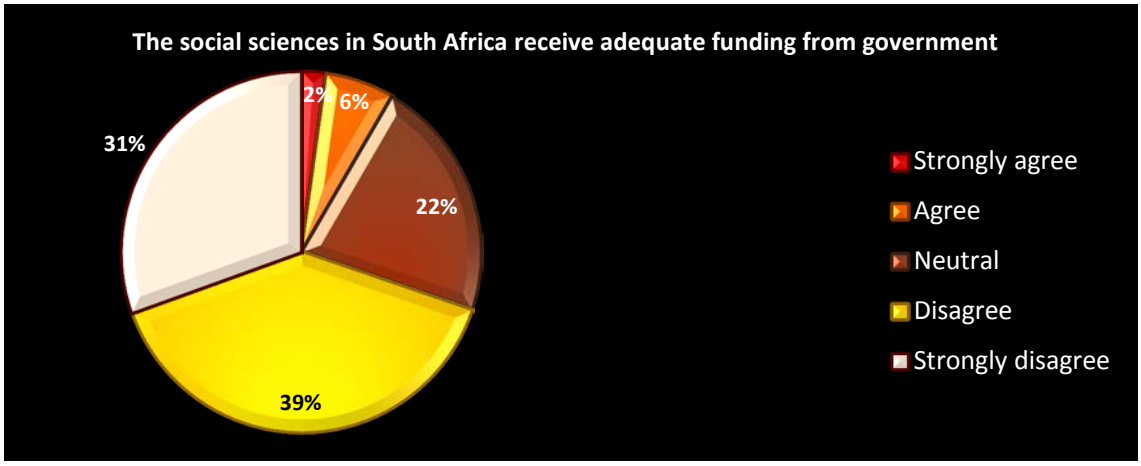
Given the undisputed view of respondents regarding the state of social sciences in South Africa it was important to identify the reasons for their views asking respondents to agree or disagree on certain statements. Respondents indicated the following factors to underlie the reported insufficient state of South African social sciences: (1) A lack of social sciences researchers in sub-Saharan Africa; (2) Insufficient state funding for the social sciences; (3) "Insufficient support from Government administration and policy for the social sciences in South Africa; (4) Social sciences scholarship lacks international status and standing and (5) The amount of PhD holders in the social sciences in South Africa is sufficient. These results are presented in Appendix 1.

When looking at the qualitative data collected on the challenges for the social sciences in South Africa, the results echo that of the information collected from the surveys but also identify other factors. The most identified challenges in the qualitative data make reference to a narrowness of intellectual culture, problems associated with doing inter-disciplinary work as well as the manner in which the social sciences are esteemed both by the National Science System and the Government, Funding agencies and even universities in their approach towards supporting the social sciences.

5.1. Insufficient funding

Despite the statistics provided in Chapter 4 on the relative increase in funding for the social sciences, there is a clear perception amongst many of our respondents, that there is NOT sufficient funding for the social sciences. In response to a direct question on whether the social sciences receive adequate funding from government, 70% of all respondents indicated that they did not think that this is the case (Figure below).

Figure 13 Respondents opinion on funding allocated to the Social Sciences



These views were echoed in the qualitative comments:

> *"I think from a research point of view the biggest challenge is in the area of funding. The way in which I think universities generally deal with funding tends to be more beneficial towards the natural sciences where they have equipment and so forth, so I don't think that the way we deal with the Social Sciences in terms of funding is particularly conducive towards supporting research".*

> *"I think a lot of the funding sources, especially those coming from the National Research Foundation, are geared towards the Physical Sciences, and Technology, so I think typically the Social Sciences is a stepchild in terms of priority."*

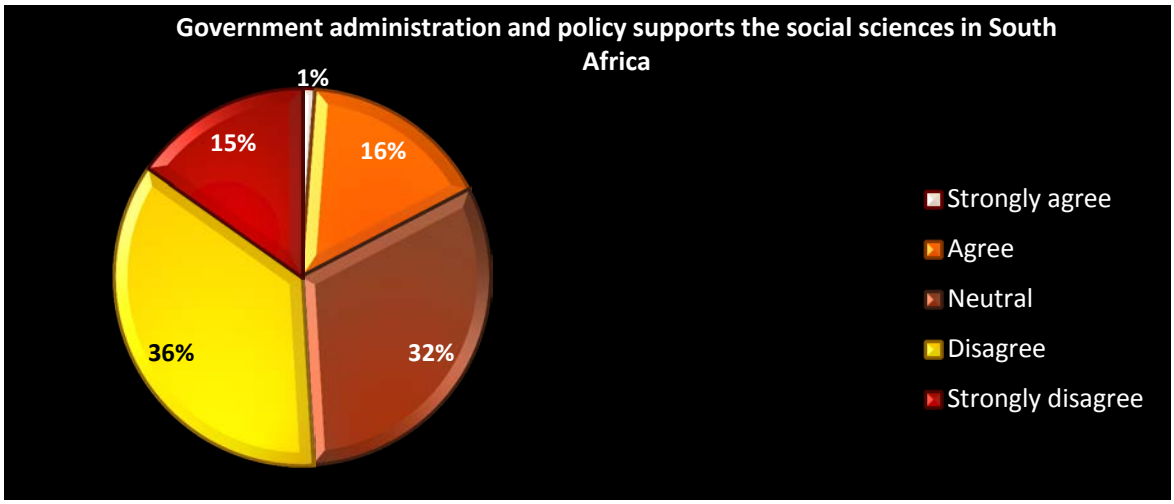
The qualitative responses indicate that social scientists are very clear that there are not sufficient funding for specific categories of research and capacity-building:

- There is insufficient funding for basic and fundamental social inquiry
- There is insufficient funding for large and accumulative research programmes in the social sciences, particularly setting up of big databases (survey research)
- There is insufficient funding for inter- and trans disciplinary research in the social sciences
- There is also insufficient funding for full-time doctoral students
- There is also insufficient funding for research methodology and theory capacity-building

5.1.1. Insufficient support from government, funding agencies and policy

When asked if respondents felt that there is adequate support for the social sciences from government administration and policy the majority (51%) felt that this support is inadequate.

Figure 14 Government support for the social sciences in South Africa



When looking at the qualitative responses, many respondents felt that funding agencies are short-sighted in providing funding for the social sciences. Very often funding agencies don't grasp the financial implications for doing social sciences research in comparison to research in the natural/physical sciences.

> *"One is that the funding agencies are a little bit like businesses in that they are also looking for an immediate bang for their buck. So the way in which they review research … I think funding agencies don't fully understand how to interpret the value of the research [in the social sciences] and so that's part of the issue. So we find funding really being diverted to very particular issues and I think especially the qualitative social sciences get nuked in the process."*

> *"If you think about the nature of the social sciences I think one of the most important things for us is actually to sort of network with other social scientists globally, especially as I said the gap between the social sciences in South Africa and internationally is still too large, so the funding agencies will look upon that and call it travel –well a lot happens in that process – we don't have equipment needs and so forth. A large part of our needs actually revolve around conducting our own empirical research; be it of a qualitative or quantitative nature, we have to go and interview people which involves travel. Then in addition there is the integration of our work into the global academic discourse which again requires travel. So things like that where, as they [funding agencies] tend to look upon those sorts of needs as frivolous, whereas if there is a machine involved – they understand that a lot better."*

5.2. Value(ing) of the social sciences

The majority of respondents interviewed felt that the social sciences in South Africa are valued less than the natural or physical sciences. Many felt that the social sciences receive less funding due to the fact that it is not deemed as relevant as those of the natural sciences both by Government and Funding agencies, and even prospective students.

> *"I think that they [the Social Sciences] are doing slightly better than the Humanities which is really at the bottom of the list … what the Social Sciences are not taken seriously – they really are taken as kind of second class citizens and I think this is partly due to the funding mechanism that the Department of Education funds the Social Sciences so much more poorly than they do the so called hard sciences. Therefore the perception is that the Social Sciences are in fact second rate disciplines".*

> *"The Department of Education doesn't put priority on Social Sciences … since 1994 the focus has been far more on the Natural Science and the idea of training students for a job or a profession and ignores the intrinsic value of knowledge transfer in the Social Sciences. So it's about teaching students to solve problems; teaching them critical thinking and so on and not necessarily to train them for a job."*

> *"I mean the question is a broader National one of how science is understood [in South Africa,] because there is a tendency, in for example, the department of Science and Technology and the NRF to see science as hard science, physical and natural Sciences; that social Science is not a natural science and very rarely includes anything physical or natural. There is a conceptual problem here and so I think that Social Scientists and people in Humanities need to be incisive and change the mind-set in the country as a whole and say that actual enquiries into social reality are* as *important and pressing if not* more *important. There is a kind of 'ghettoization' of Social Science and Humanities in the Science and Innovation landscape."*

Some respondents felt that those working in the social sciences lacked self-esteem due the fact that social sciences in South Africa are deemed irrelevant. This in turn resulted in a lack of entrepreneurship innovation within the social sciences.

> *"The lack of self-esteem because we [social scientists] are so poorly regarded both by the funding mechanisms and within the universities themselves".*

Many respondents felt that a disregard for the contribution of the social sciences in South Africa resulted in students 'settling' for the social sciences as a consolation prize. Participants also stated that there exists the idea that the majority of South Africa's problems will be solved through the natural sciences (cures for HIV/AIDS, malaria, TB, etc.) and therefore neglects the role of the social sciences.

5.3. A stagnant intellectual culture

The social sciences in South Africa are also described as being incestuous and therefore becoming stagnant in its theoretical applications. Some respondents would typically refer – somewhat nostalgically – to the 1980s when a more robust and critical traditional in social science inquiry was more prevalent.

> *"Networks of researchers in the same fields are very small and sometimes incestuous."*

This becomes clearer when one looks at the state of the disciplines within the social sciences. Many respondents argued that South Africa's political history of isolation negatively impacted the evolution of the various academic disciplines

"There is a lack of a robust tradition of empirical research - quantitative and qualitative. In the country there are pockets, in some disciplines, that have shown robustness".

"I also think that the social sciences have struggled a little bit more to integrate back into the global academic arena so I think a lot of the Social Sciences have fallen quite far behind where their disciplines have gone. So for example if you look at political science and economics … the nature of the discipline has changed internationally and I think South African political science and economics, and I may even argue sociology, are still caught up in the type of thinking of the 1970s and early 1980s so I think they are slowly catching up, but relative to what happened in the natural sciences I think the gap between South African social sciences and what's happening internationally, I think, is quite large."

5.4. Methodological challenges

In addition to a general stagnation witnessed amongst the social sciences, methodological debates also exist amongst disciplines such as political science, sociology and psychology. Robust quantitative methodology is often associated with the 'developed' world and has therefore (according to respondents) not established itself in South African disciplines. Many disciplines are also in discord with regards to the underlying principles of the methodological approaches. The almost negative connotation given to the positivist approach stems from the 1980s during which mainly quantitative methodology was deemed lacking. Often these two paradigms are seen as contradictory whereas few respondents lamented the need for a complementary approach to solve the pressing needs of South Africa.

"The reason why it's [quantitative research] *frowned upon in political science is because you have in the Apartheid struggle a very strong Marxist Theory … you know departments that were strong in theory and specific Marxist theory really talked about survey search as 'positive-ness type of number crunching' and so they refused to train their students in anything that was remotely survey research, and this comes from the apartheid struggle history … that's why it's frowned upon".*

"I think there is a huge methodological problem in the Social Sciences and I don't think – It needs to be resolved and debated. If it's not resolved then at least debated and understood better for Social Science to become better at what it does. You see we are sort of stuck between two parallel traditions of design: The one design is quantitative and multiple linear aggression model of Sociology (that typical American…) and is much loved by the economists here and not so much by Sociologists."

Although qualitative research in South Africa is often perceived to be a better approach towards data collection, some respondents felt that qualitative methodologists lack technical skills

"I think there exists a need for more advanced research methodological approaches in the social sciences e.g. modelling and better quality qualitative research."

Particularly within the field of climate change, participants working within this field mentioned that the delineations of the field are unclear with very few academic institutions supporting its relevance.

"There are negative perceptions for climate change. The perception that climate change is a global problem that is not necessarily related to local issues has also contributed towards its minimal inclusion in teaching programmes. A survey done in 2010 also revealed that in some universities, the inclusion of climate change in the curriculum depended on the interest of the respective lecturers, and not as part of systematic reviews of curriculum, with the main disadvantage of this approach being that climate change issues may not be adequately covered. They end up being taught only as an extension to existing modules. This is also coupled with lack of expertise/skill to teach climate change issues since it is relatively a new subject."

5.5. Modes of knowledge production

Many of the comments from our interviewees concern the modes of social inquiry. What kind of research is prevalent in the social sciences in South Africa today? And how is the nature of research being influenced by funding practices by the NRF and other agencies?

5.5.1. The tension between fundamental and applied research

In 1994 Michael Gibbons and colleagues introduced a distinction between Mode 1 and Mode 2 forms of knowledge production. Mode 1 knowledge production is typically more basic and discipline-specific research which as its origins in the context of universities and academia. Mode 2 knowledge production is more applied and aimed at solving problems and therefore also more inter- and trans-disciplinary. A number of interviewees expressed the view that the social sciences in South Africa are increasingly applied and operate in Mode 2. As a result, the critique is that such research is not theoretically rich and also not accumulative – there are not sufficiently strong traditions of basic research in the country that make a contribution to the body of social sciences knowledge.

> *"I think that the speculative or the theoretical Social Sciences are becoming more and more disregarded so that on both sides that kind of leads to an intellectual poverty. There is very little status and very little money and opportunity for the speculative Social Sciences and the applied Social Sciences are becoming extremely technocist and de-contextualised or de-theorised. So it's really a case of ticking the boxes. It just seems to me that understanding the need to make the Social Sciences relevant to the workplace but in doing so I think that there is an enormous porosity and stripping away at their academic integrity".*

> *"… our research is always applied, it is seldom entirely theoretical and I think someone within Sociology or even in philosophy or in history for instance say that there is insufficient support for those disciplines, purely theoretical disciplines, and I agree that every society needs that kind of research and enquiry as well…"*

> *"… one of the things we are lacking is that there is not big systematic research that gets done, so it's all quite … sort of project'y' [sic] and quite fragmented."*

> *"Finding a balance between policy relevant work and generating new theoretical knowledge. Flowing from this, 'producing' doctoral work that is not glorified master's degrees. Or perhaps it is the other way round: making sure that the new generation of scholars actually know what to do with theories. Otherwise their empirical work will not be worth much."*

The imperatives of practice or the policy domain are dominant rather than the theoretical imperatives of a discipline.

> *"It must include a combination of research relevance for more practical use and a strong theoretical foundation. Too much research work is mainly descriptive or literature based. Social sciences should develop a public profile as worth supporting by the private sector and institutions beyond the public sector."*

> *"I mean one is maintaining a critical and autonomous space for research that's not – that can be relevant, but is not dictated by policy priorities."*

It is clear that there is a very strong tension between the demands of the discipline and theory on the one hand and the demands of government, the work place and civil society. This is a restatement of the classic tension between fundamental inquiry that seeks knowledge for the sake of knowledge and applied or Mode 2 research that pursues relevance and social impact. And this tension –

according to our interviewees – will not be resolved by the current practice of funding small and fragmented projects. As is the case of the natural sciences, we need large projects and programmes where knowledge is accumulated over time in the social sciences.

> *"… Our inherited research culture in the Social Sciences which is that it is very much the individual researcher, the individual academic pursuing their individual interest and often working in quite isolated individual ways without sufficient collaboration. In other words there is a kind of tendency dominant way of doing things; not very collaborative. It does not involve large projects with ambitious goals which stretch over years which bring people together in teams which is a bit more the norm in the Natural Sciences in some cases anyway. So I think it is a strong emphasis on 'you doing your own thing' and I think that is constraining and limiting. I don't think that one should not do it at all – It tends to crowd out the potential for other kinds of research which has enormous potential. So I think what we as Social Scientists need to do is think more ambitiously about large scale collaboration projects which address key issues of both, you know, societal relevance but also just key intellectual puzzles in our disciplines which bring different researchers across different institutions and possibly across different disciplines as well together in these collaborative programmes."*

> *"That is the big issue: how to make the case for relevance in an environment where there are limited funds. Where funders want you to use, you know, evidence-based science, for example, or want to see impact. How do you measure impact of a deconstructivist essay for example…?"*

5.5.2. Doing Interdisciplinary Research

Respondents (both of the web-surveys and interviews) who worked on the intersection between the social sciences and climate/environment and health were targeted. Those involved in inter-disciplinary research primarily identified methodological and ideological challenges to doing trans disciplinary research. This is particularly the case between those working in the social sciences and medical sciences. Many feel that these differences are irreconcilable but argue that such collaboration is extremely useful, although somewhat difficult.

> *"The frameworks for facilitating trans-disciplinary collaboration are inadequate. They are often overcomplicated, too influenced by unhelpful paradigms ('complexity theory') and avoid engaging with the 'social' in social science."*

> *"The epistemological gaps between social and health sciences mean that there are fundamental differences in understanding and defining the problem and how to go about addressing it. This leads to difficulties in appreciating the respective roles of biomedical and social science research. In addition, bioethics poses significant constraints on social scientific research. The employment of social theory is sometimes regarded as extraneous to the pursuit of biomedical interventions. Finally, ethnographic and qualitative research methods are not regarded as evidence in the same fashion as statistical records in the biomedical sciences."*

Many respondents highlighted the fact that those working within the social sciences are hesitant to do inter-disciplinary research and are 'married' to their disciplines. For some this was due to the structures of South Africa universities.

> *"The academic system has not historically, and is currently not shifting rapidly to support inter- or trans-disciplinary research. Barriers include: recognition and measures of research excellence (e.g. kinds of outcomes and outputs that are recognised), registration of post-graduate students across faculties; recognition of time investment in working across discipline boundaries; recognition of the intellectual effort that is required to use methods and concepts across disciplines that have emerged from different philosophical and conceptual histories;*

development of inter-/trans-disciplinary undergraduate curricula. There is move that supports such research that is emerging from the requirements of large projects and funders."

"The silo approach affects the quality and relevance of research."

A primary concern for those doing, or wanting to do, inter-disciplinary research, is the structure of funding agencies (NRF) in providing funding for this type of research, rewarding of outputs and also finding relevant journals to publish in. Many feel that the structures of the NRF hinder working across disciplines.

"The second challenge is what happens to you when you work in a multi-disciplinary way which many of us do now and find that it's the cutting edge type of research. But the National Research Foundation actually penalises you if you work in a multi-disciplinary way when it comes to your, rating because it tells you that you lack focus and they reward sole all for publications, but their funding forces you to work in teams or with students … so it's a contradiction and it has a really serious impact on social scientists who work in a multi-disciplinary way and to try and do cutting edge research like in areas that are underfunded."

5.6. General themes

The qualitative data indicates that many respondents felt that basic/theoretical/blue skies research were being neglected (by Government and funding agencies) due to it not being as economically viable. Issues around climate change, however, are well funded considering its position in the global scientific discourse.

"At the moment there is more funding going towards environmental climate change … that kind of topics, so I'm finding inevitably my students frame their research around the topic that they are likely to get funding for which isn't really ideal."

"So not enough attention is being paid to the more difficult part of the governance economics and social interventions that is required for the sustainability of South Africa as a country".

Given the many 'weaknesses' of social science research in South Africa identified above, the majority of respondents were almost in complete agreement on the most pressing issues facing their work. These issues have been discussed in the aforementioned paragraphs. There were however a few respondents who were quite critical about the work of the NRF as the primary funding agency for social sciences research in South Africa.

Many respondents felt, as previously mentioned, that the NRF does not support inter-disciplinary research in its funding structures but also in rewarding of outputs. Doing collaborative work reflects negatively on one's rating as acknowledgement has to be shared amongst researchers. The rating system as well as the rewarding of outputs is also more favourable to those doing research in the natural/physical sciences who predominantly publishes journal articles.

"And the other problem that we have with research, and this is across all universities, is the way in which the Department of Education rewards research outputs. The rewards are hectically skewed towards journal articles and at the expense of books and book chapters. And in both in the Social Science and in the Humanities, the highest accolade of academic achievement is the book and it is poorly rewarded by the Department of Education and book chapters are increasingly being disregarded … so universities don't want to reward you for that and you are getting pushed, sometimes covertly, in our institution very overtly. You are seriously discouraged from publishing either in books or in publishing whole books and it's all a matter of just publishing in journals which again suits the Sciences rather than the Social Sciences and Humanities … so we are getting punished for doing what our discipline demands".

"The publish or perish attitudes informing a managerial approach to research adversely affects the quality of research in humanities and social sciences".

The majority of the challenges pointed out by respondents can be summarised in two main challenges which are directly related. The social sciences lacks esteem and recognition as being central to addressing the developmental concerns of South Africa, while, receiving insufficient funding. It is however difficult to discern whether scientists within the social sciences, specifically consider their funding to be insufficient, or whether insufficient funding for research affects all researchers in South Africa, irrespective of discipline. From the data gathered however, and given the inclusion of respondents working within the environmental sciences and health sciences, it does seem that those working purely within the social sciences experience the financial inconsistencies personally. It is therefore worth arguing whether more funding will uplift the status of the social sciences in South Africa, or whether an effort to reintroduce the social sciences to the National science agenda will result in sufficient, and well directed funding.

The next generation

A primary concern for South African scientists is the training and developing of a new generation. South African science (particularly the social sciences) is plagued by a productive cohort of aging scientists with a next generation unable to fill the shoes of the previous. Respondents felt that due to the secondary status the social sciences, the disciplines are not as attractive to prospective students as the natural/physical sciences. This, in addition to the fact, that the South Africa school system is failing; those entering universities are not as prepared as previous years. A lack of capacity also hinders quality teaching in that University staff has big teaching loads in addition to doing research. Given the structure of the Department of Education's subsidy system for graduates, universities are pushing for students to complete degrees quickly rather than focusing on producing good, quality training.

"… obviously the Social Sciences themselves … we are not attracting the best minds by any means. You don't attract good students if you're seen as a second tier option. Students do Social Science because they can't get into one of the more prestigious facilities like Real Science or Medicine or even Law and Management".

"[A] challenge is to have students that are prepared – grounded with a good undergraduate. It starts with schooling but to be able to conduct the kind of research at the kind of level that this country needs, we need a very strong research grounding but also a general grounding for the kind of rigor that is needed. Very few of the students that come through our master's programme has been able to continue to PhD level because they simply don't have the rigor or the understanding of what it takes."

Some respondents also noted the fact that training in the social sciences go hand in hand with employment uncertainty. Many employers dismiss the value of the social sciences in developing critical thinking.

"… Graduate students … the numbers are declining – or there is a lack of interest. I don't know how to say it but I think that what I see is that students are more interested in instrumental kinds of areas, like they want to major in business, engineering and something that's going to get them a job. So it's not seen as an attractive major. Most students say to me: 'well if I study Social Sciences, Anthropology or Sociology or Psychology, what am I going to do?' So they don't see it as being instrumental to a career."

Lack of capacity

Universities are running more and more like businesses aiming to graduate the most students in the least amount of time. Very often the quality of training is compromised, in addition to huge teaching

loads on a limited number of staff. Social science research particularly requires time and which is a great luxury for university staff.

> *"… For us in the social sciences it is not a lack of areas to do joint research. The problem in South Africa is that there are not enough people doing research. So you have a very small number of social scientists carrying a disproportionate amount of the research burden. What you will have, I suspect, is that you are probably going to have 10% of the top social scientists in South Africa making 70% of the impact within the discipline and you can only stretch them in so many different areas. Maybe … it is very hard in South Africa to specialise because we are being pulled – because there are so many research questions and there are not enough people doing work in particular areas so we end up having to work in … Our colleagues in America can focus on one very narrow area. We end up getting drawn into three, four, five different areas and that is one of the areas where the NRF doesn't necessarily understand, because they like people to specialise in very narrow areas, but it doesn't really work terribly well in the social sciences in South Africa."*

> *"Research academics have two problems which is time to do research – which we don't have – and what we don't have enough of to do really good work or big projects and then we need money to have to pay others to do things like routine work like servers – buying yourself out of teaching is one important way of getting research done."*

Quality PhD students

One of the biggest concerns facing higher education in South Africa is a lack of quality PhD students. Funding for PhD students is insufficient and continuing on with doctoral studies is mainly unattractive compared to the private sector. Some respondents also felt that academia hinders the absorption of new researchers.

> *"The really good students who you would like to do PhDs are often difficult to get and, especially in view of the fact that the kind of funding you get for PhDs is, you know, you can barely live on and that is if you can get those bursaries at all which is, you know, if somebody has got a grant but I think that's very difficult. When people have done their PhDs there doesn't seem to be … and there aren't easy places to sort of move into … getting a position in the academy … so it can be quite a few years before people actually can get jobs, you know, as lecturers or whatever and I think those interim years can be quite difficult … so it's quite badly paid, quite insecure and I think those things are problematic."*

> *"The Department of Education doesn't put priority on Social Sciences … since 1994 the focus has been far more on the Natural Science and the idea of training students for a job or a profession and ignores the intrinsic value of knowledge transfer in the Social Sciences. So it's about teaching students to solve problems; teaching them critical thinking and so on and not necessarily to train them for a job."*

Funding for PhDs

The biggest challenge concerning the training of PhD students in South Africa is the lack of funding for those wanting to further their graduate studies.

> *"We have created a bizarre situation where we require full time registration for PhDs in order to get funding, but then the funding we provide to our full time students is not sufficient to study full time so they end up going for outside work and I think that really impedes transformation, because I can't attract people to the discipline and say this is a viable option – you can make it in this field for at least this three years, four years while you doing your degree – we will fund you and you do your best and take things from there."*

In our analysis of the barriers and challenges facing social scientists in South Africa, no reference was made to gender or racial issues as there were no significant disparities in opinions amongst respondents. The barriers thus mentioned above are consistent across sectors, race, gender and age. The political trajectory of South Africa thus influenced the social sciences broadly and equally.

The biggest concern for South African social scientists doing research is that of insufficient and non-targeted funding. Although the social sciences receive sustained and increased expenditure, social scientists feel that there is insufficient funding supporting research in South Africa. Reasons for this perception might be that researchers don't have access to these funds or that these funds are not appropriately directed towards professed underfunded topics or areas of research.

Respondents indicated that more funding for large scale projects and survey research should be made available. South Africa lacks comprehensive databases to facilitate quantitative analyses. This is particularly relevant for disciplines such as Political Science and Sociology. Survey research also needs significant funding as these efforts are timely and costly as it needs big teams of researchers. There is thus a need for large-scale and accumulative research projects ('big science') to be prioritised within the social sciences rather than the current practice of funding small and fragmented projects.

Funding for basic and fundamental social inquiry is also insufficient. Respondents of the study felt that basic and theoretical research were being neglected due to a lack of funding as funders have increasingly become interested in problem-solving research in lieu of more abstract inquests. It was also suggested that the lack of theoretical research invariably leads to an intellectual stagnation within the social sciences. As a result, the critique is that such research is not theoretically rich and also not accumulative – there are not sufficiently strong traditions of basic research in the country that make a contribution to the body of social sciences knowledge. The imperatives of practice or the policy domain are dominant rather than the theoretical imperatives of a discipline.

Our results also identified funding and support for inter-disciplinary research to be insufficient. Trans-disciplinary research has significant benefits in that complementary approaches (methodological and ideological) bring about rich and nuanced results. The study found that researchers feel discouraged to do inter-disciplinary research firstly due to alleged irreconcilable methodological/ideological differences and secondly, due to the structure of the reward system for inter-disciplinary research. Although findings showed that respondents recognised the great importance of doing interdisciplinary research – particularly between health sciences and the social sciences.

Increased funding for research methodology and theory-capacity was also deemed insufficient. Strengthening methodology across disciplines will result in more rigorous research. Many respondents stated the need for the reintroduction of a robust and critical tradition within the social sciences to address the perceived intellectual narrowness of these disciplines. The development of technical skills, therefore, (with regards to both qualitative and quantitative research) ought to be prioritised. Methodological training across disciplines, in addition, could facilitate better collaboration between disciplines both within and outside the social sciences.

Funding for PhD studies was reported as a significant constraint. Doctoral students in South Africa receive insufficient financial support which makes completing a PhD a sacrifice and therefore an unattractive choice. Very few doctoral students can afford to study full-time while attrition is more likely among part-time/working students. If South Africa therefore wants to increase PhD holders, particularly in the Social Sciences, sufficient financial support of full-time doctoral students ought to be a priority.

In addition to respondents' concern about funding for research some concerns about the measuring of research output and collaboration with international partners were raised. The tension between conducting research and managing teaching loads was also addressed in the qualitative responses. Even though there is a vibrant research capacity in South Africa, researchers based at universities often struggle to find adequate time for doing quality research and teaching.

The next chapter will present the partnerships and collaborative activities that exist between our respondents and institutions in the UK and other LIC countries.

Chapter 6 Partnerships with UK institutions and non-UK institutions

This chapter presents the results of both the bibliometric analysis and the results of the web-surveys in identifying the existing partnerships and collaborations between South African social scientists and those in the UK, and in low income countries, such as those found in SSA.

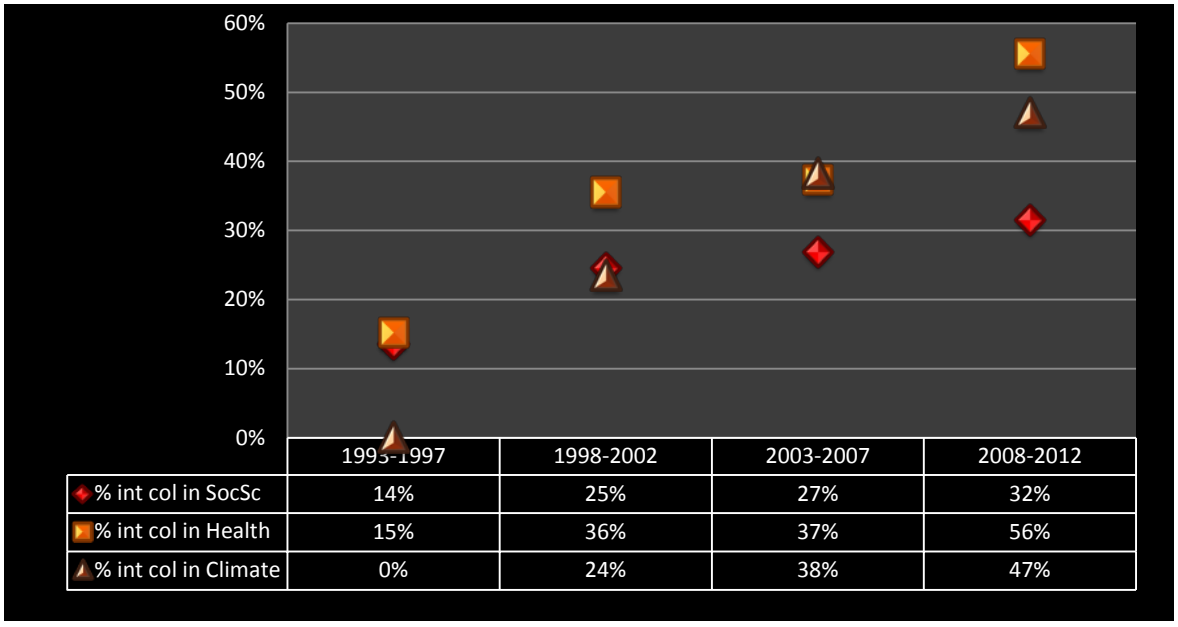
6.1. Bibliometric analysis on collaboration

Article co-authorship is often used as a proxy for research collaboration. This methodology was also applied in this study, with a focus on three measures of collaboration:

- International collaboration, specifically the extent of collaboration between authors with a South African affiliation and those with another country affiliation, as well as a list of the main collaborating countries
- Collaboration in sub-Saharan Africa, specifically the extent of collaboration between authors with a South African affiliation and those with another sub-Saharan African country affiliation, as well as a list of the main collaborating countries
- Collaboration with the UK, specifically the extent of collaboration between authors with a South African affiliation and those with an UK affiliation, as well as a list of the main collaborating UK institutions

According to Figure 15 international collaboration in the social sciences is on the increase (from 14% of all social sciences articles in 1993-1997 to 32% in 2008-2012). However, collaboration is most prominent in the health subfield (56% in 2008-2012). The sub-field of climate change also involves a strong degree of international co-authorship (47% of all articles in the domain in 2008-2012). The USA and the UK account for the largest shares of co-authored articles in these two sub-fields (USA: 54% in health in 2008-2012; UK: 25% in health in 2008-2012).

Figure 15 Percentage of South African-affiliated articles in the social sciences that involve international co-authorship, by five-year period, 1993-2012



	1993-1997	1998-2002	2003-2007	2008-2012
% int col in SocSc	14%	25%	27%	32%
% int col in Health	15%	36%	37%	56%
% int col in Climate	0%	24%	38%	47%

Note: "% int col" = Percentage of SA articles with international co-authorship

Table 7 Main countries responsible for internationally co-authored articles with South Africa in the social sciences - total period (1993-2013) versus most recent period (2008-2012)

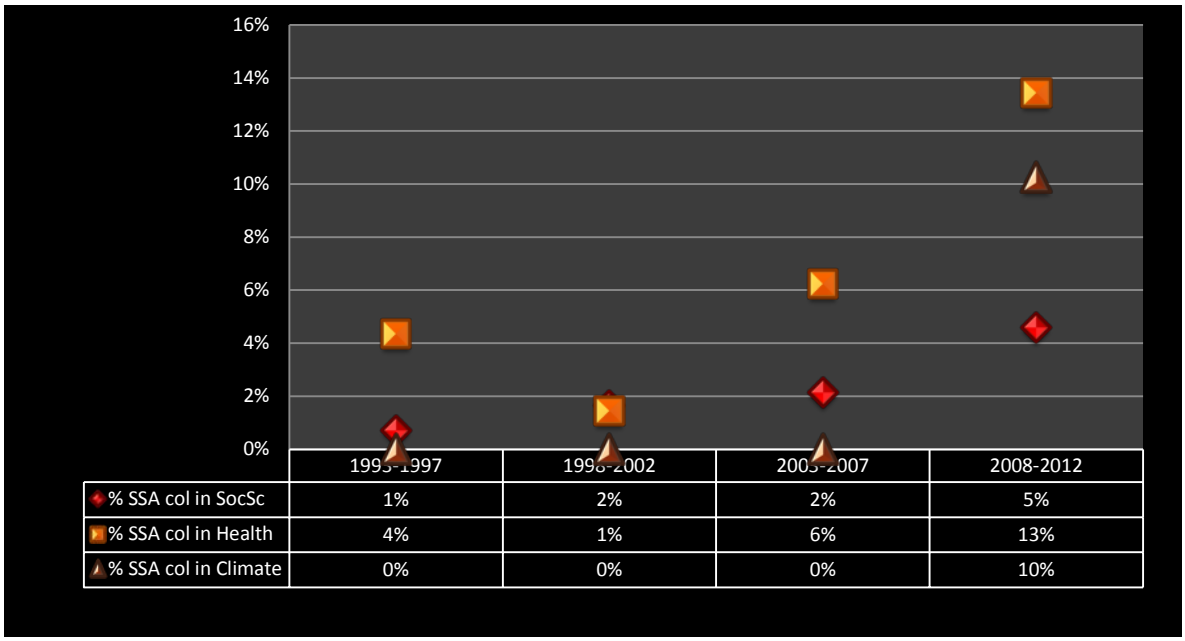
COUNTRY	TOTAL PERIOD (1993-2012)		RECENT PERIOD (2008-2012)	
	Number of SocSc articles that country co-authored with SA	Contribution (%) of country to all internationally co-authored SA articles in the SocSc	Number of SocSc articles that country co-authored with SA	Contribution (%) of country to all internationally co-authored SA articles in the SocSc
All Social Sciences		***(out of 4043)***		***(out of 2322)***
USA	1490	37%	854	37%
UK	1138	28%	613	26%
Australia	360	9%	203	9%
Canada	312	8%	185	8%
Netherlands	308	8%	204	9%
Germany	185	5%	119	5%
France	154	4%	97	4%
Sweden	143	4%	99	4%
Belgium	122	3%	89	4%
Switzerland	115	3%	78	3%
Health-related Social Sciences		***(out of 571)***		***(out of 413)***
USA	290	51%	223	54%
UK	160	28%	103	25%
Canada	47	8%	42	10%
Australia	34	6%	25	6%
Netherlands	33	6%	18	4%
Switzerland	26	5%	19	5%
Belgium	24	4%	21	5%
Norway	24	4%	22	5%
Kenya	23	4%	16	4%
Tanzania	20	4%	15	4%
Climate Change & Social Sciences		***(out of 72)***		***(out of 55)***
USA	27	38%	18	33%
UK	20	28%	13	24%
Australia	10	14%	9	16%
France	10	14%	7	13%
Germany	7	10%	6	11%
Netherlands	7	10%	6	11%
Spain	7	10%	6	11%
Sweden	6	8%	5	9%
Canada	5	7%	4	7%
Botswana	4	6%	4	7%

Collaboration between South Africa and other sub-Saharan African countries in the social sciences is still very low (only 5% in 2008-2012). The figures seem “more promising” in the case of health and climate change where it is at least 10%. However, these collaborations are not necessarily because of

direct relationships between South African scientists and their sub-Saharan African counterparts. It is most likely the case of different sub-Saharan partners being taken on board the research teams of foreign scientists.

Figure 16 shows that the main sub-Saharan co-authors of South African scientists are either close regional partners (other SADC countries such as Botswana, Tanzania and Zimbabwe) or partners in countries with a similar Anglophone history (e.g. Uganda and Ghana).

Figure 16 Percentage of articles in the social sciences involving sub-Saharan African (SSA) co-authorship, by five-year period, 1993-2012



	1993-1997	1998-2002	2003-2007	2008-2012
% SSA col in SocSc	1%	2%	2%	5%
% SSA col in Health	4%	1%	6%	13%
% SSA col in Climate	0%	0%	0%	10%

Note: "% SSA col" = Percentage of SA articles co-authored with sub-Saharan African country authors

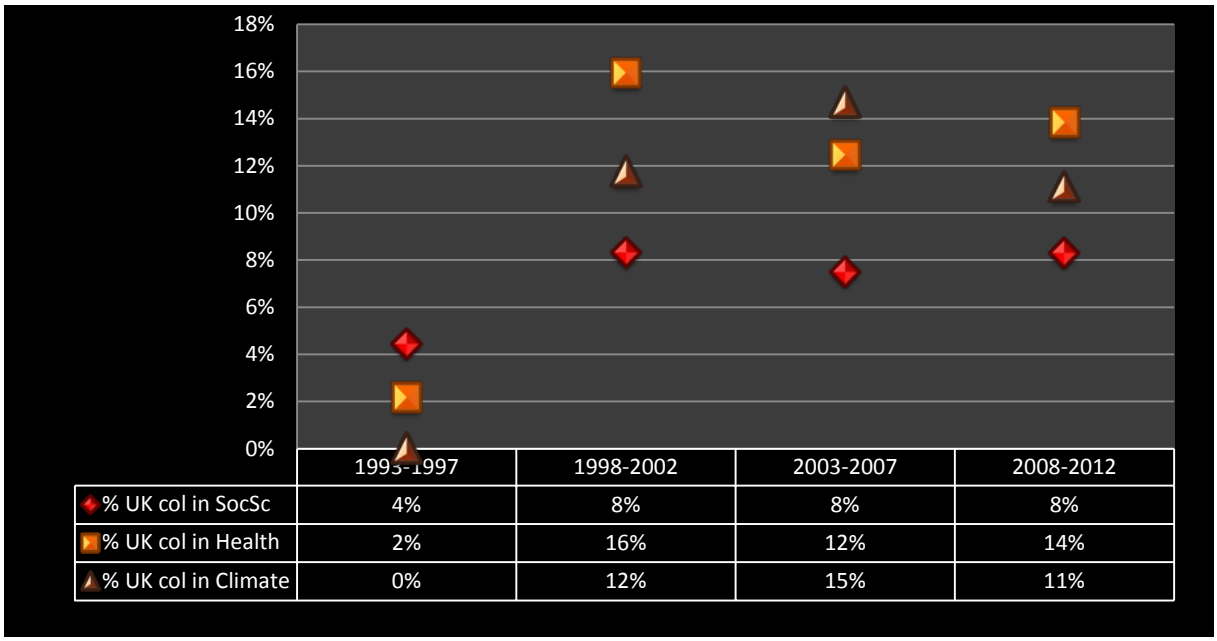
Table 8 Main sub-Saharan African countries responsible for article co-authorship between South Africa and other sub-Saharan African authors in the Social Sciences - total period (1993-2013) versus most recent period (2008-2012)

SUB-SAHARAN AFRICAN (SSA) COUNTRIES	TOTAL PERIOD (1993-2012)		RECENT PERIOD (2008-2012)	
	Number of SocSc articles that SSA country co-authored with SA	Contribution (%) of SSA country to all SA-SSA co-authored articles in the SocSc	Number of SocSc articles that SSA country co-authored with SA	Contribution (%) of country to all SA-SSA co-authored articles in the SocSc
All Social Sciences		***(out of 463)***		***(out of 339)***
Zimbabwe	75	16%	51	15%
Kenya	65	14%	42	12%
Botswana	60	13%	33	10%
Nigeria	58	13%	35	10%
Tanzania	48	10%	40	12%
Uganda	44	10%	34	10%
Malawi	36	8%	31	9%
Zambia	32	7%	25	7%
Ghana	30	6%	26	8%
Ethiopia	25	5%	18	5%
Health-related Social Sciences		***(out of 121)***		***(out of 100)***
Kenya	23	19%	16	16%
Tanzania	20	17%	15	15%
Zimbabwe	17	14%	13	13%
Malawi	16	13%	13	13%
Uganda	16	13%	14	14%
Zambia	15	12%	11	11%
Nigeria	12	10%	8	8%
Ghana	10	8%	9	9%
Botswana	7	6%	6	6%
Lesotho	7	6%	5	5%
Climate Change & Social Sciences		***(out of 12)***		***(out of 12)***
Botswana	4	33%	4	33%
Ethiopia	3	25%	3	25%
Tanzania	2	17%	2	17%
Zimbabwe	2	17%	2	17%
Nigeria	1	8%	1	8%

Co-authorship between South Africa and the UK, as a percentage of all co-authored South African articles in the social sciences, is generally higher than the corresponding figure for co-authorship between South Africa and other sub-Saharan African countries. For instance, since 1998 about 8% of all South Africa's articles in the social sciences (in the WoS) included a UK co-author whereas in the case of for sub-Saharan African co-authors the different figures newer exceeded 5%. However, in recent years, seen from the South African perspective, more or less similar shares of South Africa's output in both health and climate change seem to involve UK and sub-Saharan collaborators, respectively (e.g. 13% versus 14% in the case of health-related social sciences and 10% versus 11% in the case of climate change). This supports the hypothesis that the increase in collaboration between

South Africa and the rest of sub-Saharan Africa in these fields are because of the involvement of non-African authors, including those from the UK.

Figure 17 Percentage of articles in the social sciences involving UK co-authorship, by five-year period, 1993-2012



	1993-1997	1998-2002	2003-2007	2008-2012
% UK col in SocSc	4%	8%	8%	8%
% UK col in Health	2%	16%	12%	14%
% UK col in Climate	0%	12%	15%	11%

Note: "% UK col" = Percentage of SA articles co-authored with UK author

According to Table 9 the London School of Hygiene and Tropical Medicine was responsible for 42% of all South African-UK co-authored articles in the health-related social sciences (in 2008-2012), as well as for 12% of all South African-UK co-authored articles in the social sciences overall. The University of Oxford is also a prominent co-authoring institution in the different fields.

Table 9 Main UK institutions responsible for co-authorship between South African and UK scientists in the social sciences - total period (1993-2013) versus most recent period (2008-2012)

UK INSTITUTIONS	TOTAL PERIOD (1993-2012)		RECENT PERIOD (2008-2012)	
	Number of SocSc articles that UK institution co-authored with SA	Contribution (%) of UK institution to all SA-UK co-authored articles in the SocSc	Number of SocSc articles that UK institution co-authored with SA	Contribution (%) of UK institution to all SA-UK co-authored articles in the SocSc
All Social Sciences		***(out of 1138)***		***(out of 613)***
London Sch Hyg & Trop Med	124	11%	74	12%
Univ Oxford	80	7%	59	10%
Kings Coll London	53	5%	34	6%
London Sch Econ & Polit Sci	53	5%	20	3%
Univ Cambridge	51	4%	25	4%
Univ Sussex	51	4%	20	3%
Univ London	44	4%	27	4%
Univ Sheffield	44	4%	31	5%
Univ Coll London UCL	41	4%	27	4%
Imperial Coll London	36	3%	14	2%
Univ York	36	3%	21	3%
Health-related Social Sciences		***(out of 160)***		***(out of 103)***
London Sch Hyg & Trop Med	71	44%	43	42%
London Sch Econ & Polit Sci	16	10%	5	5%
Univ Oxford	16	10%	13	13%
Univ Coll London UCL	11	7%	11	11%
Univ E Anglia	9	6%	6	6%
Kings Coll London	7	4%	7	7%
Imperial Coll London	5	3%	4	4%
Univ Liverpool	5	3%	3	3%
Univ Leeds	4	3%	3	3%
Climate Change & Social Sciences		***(out of 20)***		***(out of 13)***
Univ Oxford	3	15%	3	23%
Univ Edinburgh	2	10%	2	15%
Univ Leeds	2	10%	2	15%

Overall the bibliometric study shows that South Africa's international collaboration in the social sciences is also on the increase: from 14% in 1993-1998 to 32% in 2008-2012. International collaboration is the most prominent in the case of health-related social sciences (in 2008-2012, 56% of all South Africa's articles in this domain involved international co-authorship). In that same period scientists in the UK contributed to 54% of all South Africa's internationally co-authored articles in the health-related social sciences.

Collaboration between South Africa and the rest of sub-Saharan Africa in terms of social sciences research is still very poor (only 5% in 2008-2012, as measured through article co-authorship). However, marginally higher figures (of at least 10%) are associated with health and climate research. Collaboration between South Africa and the UK in terms of social sciences research is more

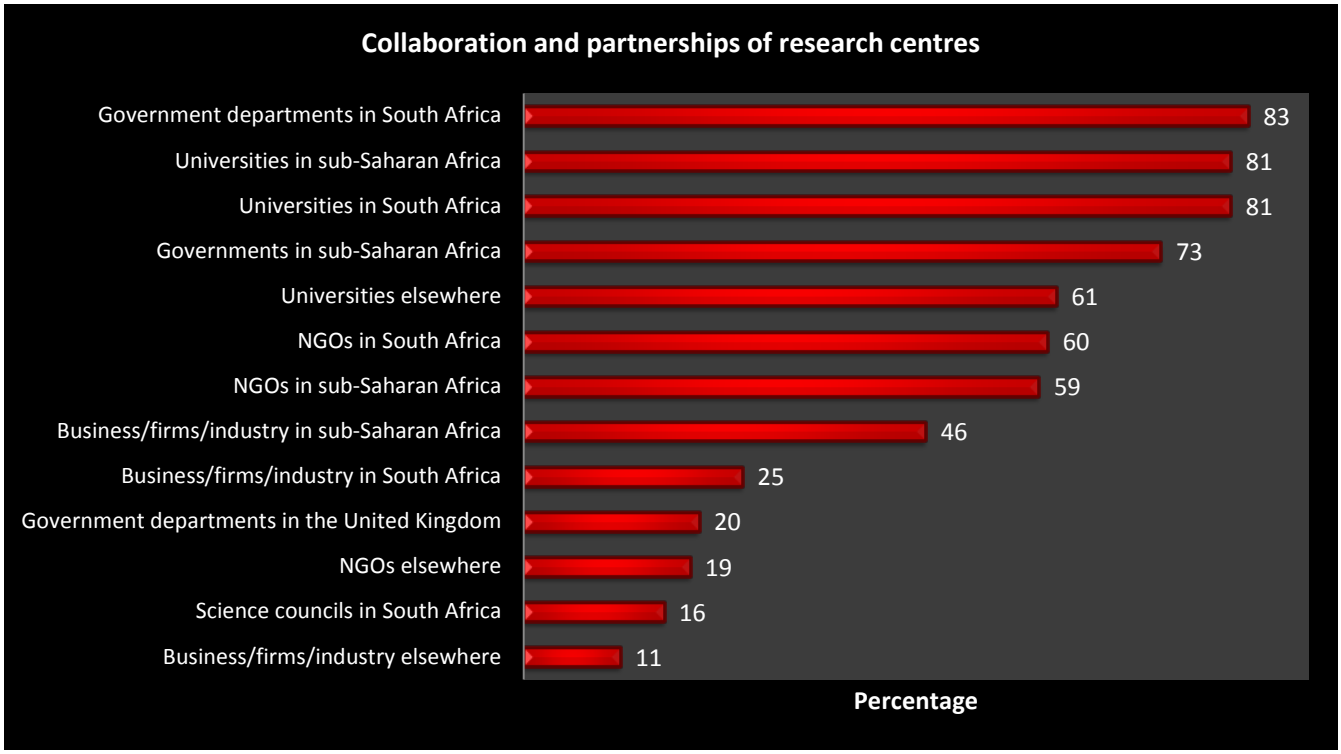
established than collaboration between South Africa and the rest of sub-Saharan Africa. Indications are that collaboration between South Africa and its regional counterparts is growing because of the involvement of internationally based (and also UK-based) research teams, among which the London School of Hygiene and Tropical Medicine.

6.2. Survey and interview results on collaboration/partnerships

A primary objective of the web-surveys was to identify which partnerships and collaborative agreements exist between specifically the research centres, but also individual researchers based at universities. We were particularly interested in partnerships existing between South Africa centres and their continental counterparts as well as those centres working with institutions etc. in the United Kingdom.

Research centres were thus asked to identify their research collaborations. The majority of centres had collaborations with Government departments in South Africa (86; n=103); Universities in South Africa (83; n=103); and Universities in sub-Saharan Africa (83; n=103). Only 10,5% of research centres have research collaboration with Government departments in the United Kingdom.

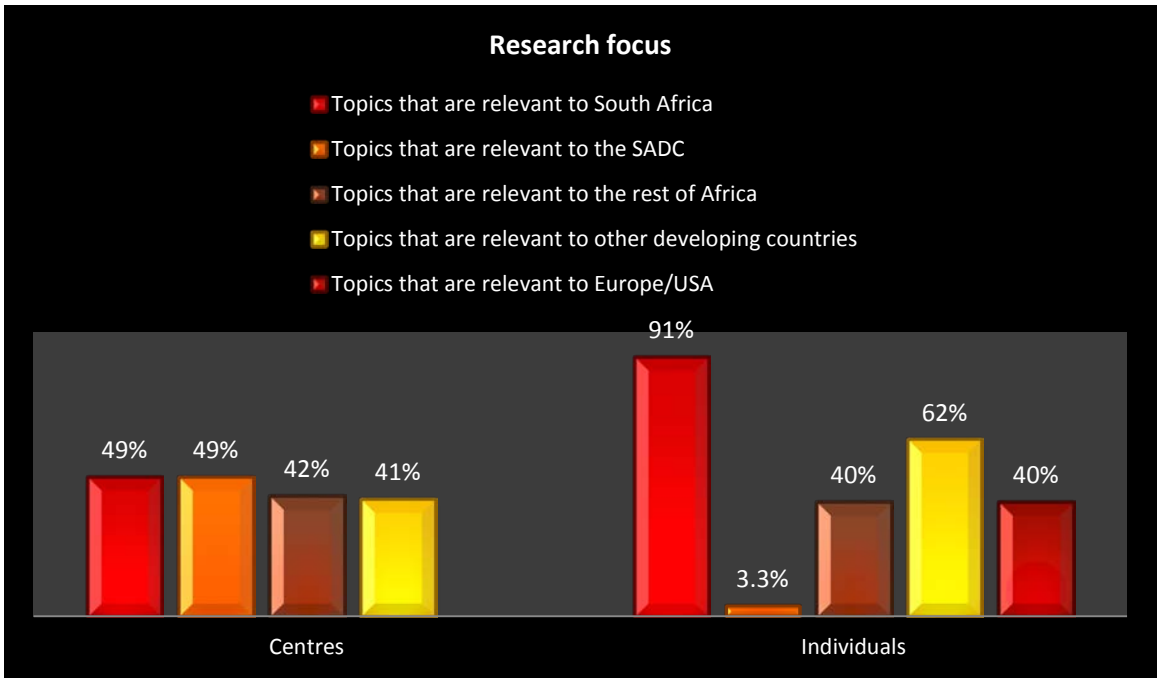
Figure 18 Collaboration and partnerships of research centres in South Africa



Respondents were asked to identify their regional research focus. Research centres' research focus was evenly distributed between South Africa, SADC, the African continent and other developing countries. Almost all of the individual respondents (91%) were interested in research topics relevant to South Africa while only 3,3% stated research topics relevant to SADC. Note that "topics relevant to the rest of Africa" was not given as an option to individual researchers and "topics that are relevant to Europe/USA" was not given as an option to centres. It is therefore clear from the results that individual researchers either preferred working on topics related to South Africa, or had more access to topics of this nature. Given the fact that South Africa can be considered a middle-income country,

one can assume that many topics relating to South Africa (by individual researchers) can be either compared or repeated in other countries with similar challenges.

Figure 19 The research focus of research centres and individual researchers within the social sciences



When considering the qualitative data, the majority of respondents did not feel that South African researchers are necessarily obliged to collaborate with their African counterparts, but rather felt that such collaborative efforts are very useful and could benefit all parties tremendously. Many did feel however that collaboration is very time-consuming and costly and that there needs to be systems or agencies in place that would support such partnerships. It was also highlighted that collaborative efforts should be reciprocal if both parties were to benefit optimally.

An interesting concern for one or two participants was the issue of language as a barrier to doing collaborative work, particularly in Francophone and Lusophone Africa. Some respondents felt that Universities should encourage students to enrol in language courses as this would make it easier to facilitate collaboration as translators and interpreters are costly.

A big concern for many respondents were the nature of their current collaborations in that many were concentrated in the North and developed world. Many also commented on the lack of self-esteem amongst South African researchers and wanting to learn from the 'best' located in the global North.

Chapter 7 Final Conclusions and Recommendations

1. Our mapping of centres and institutes in the broad field of the social sciences and evaluation (including centres that work on the interface between social sciences and health and social sciences and climate research) has revealed an extensive and robust capacity in many subfields. This capacity is predominantly located in the universities and HSRC with some capacity (especially in evaluation studies) in civil society. The capacity is strongest in traditional and general social science fields but less strong in evaluation research and the inter-disciplinary domain of social science and climate/environment studies.

   Recommendation 1: We recommend that attention be given to initiatives and programmes that would strengthen and expand the capacity of South African social scientists working in the field of social science and climate studies as well as specifically strengthening the basic capability to undertake evaluation studies.

2. The study has unequivocally found that funding (or the lack thereof) is cited by most social scientists as the biggest barrier to conducting research. This sentiment was re-affirmed in various components of our study despite the fact that there has been – at the national level – a steady increase in the proportional funding of the social sciences in the country over the past ten years. Further investigation has shown that social scientists are specifically concerned about the lack of funding for specific kinds of social science research.

   Recommendation 2: Not only is there is need to continue increasing the funding for social science in South Africa, there is also a specific need to focus funding in some high-priority areas such as funding to support (1) more interdisciplinary research; (2) more basic and theoretical research and (3) large social science projects.

3. An important finding of the study is a concern for quality doctoral training and funding for full-time PhD students. Despite the fact that doctoral graduates in the social sciences and humanities are well represented, our results indicated that more doctoral students are needed to address the dwindling numbers of experienced researchers, especially at universities in South Africa.

   Recommendation 3: It is crucial, if South Africa's vibrant research capacity be sustained, that funding for doctoral training in South Africa be prioritised. There is a significant need for funding of full-time doctoral students and incentives (1) to attract more doctoral students and (2) to subsequently retain doctoral graduates in the research sector.

4. The study found that collaboration between South Africa and the rest of sub-Saharan Africa, in terms of social sciences research, is still very poor. However, marginally higher figures are associated with health and climate research. Collaboration between South Africa and the UK, in terms of social sciences research, is more established than collaboration between South Africa and the rest of sub-Saharan Africa. Indications are that collaboration between South Africa and its regional counterparts is growing because of the involvement of internationally based (and also UK-based) research teams. An important observation produced by the study is that many social sciences researchers in South Africa view collaboration to be time-consuming and costly and often one-sided.

   Recommendation 4: It is a recommendation of this study that more attention be paid to setting up systems and agencies that would support collaboration specifically in sub-Saharan Africa, but also with other low income countries worldwide. It is important that these

systems address and support reciprocity between partners and facilitate where possible barriers could occur (i.e. language issues etc.).

5. This report presented a brief glimpse into the on-going debate on the state of social sciences in South Africa. This study reported that although 40 per cent of the overall student population is Humanities and Social Sciences (HSS) students (2010) there is an imbalance in the tertiary education system with regards to the HSS. Although funding for and graduate numbers in the Humanities and the Social Sciences has been on a steady increase, the study presented many individual researchers' opinion that the state of social sciences in South Africa is unsatisfactory and undervalued.

Recommendation 5: It is our recommendation that governing bodies such as the Department of Higher Education and Training (DHET) and ASSAf continue their efforts to strengthen the social sciences and humanities in South Africa whilst considering the establishment of the proposed academy/institute/entity of humanities and social sciences. It is imperative that the South African government and the tertiary education system support the humanities and social sciences in South Africa if the thriving research capacity be continued.

6. Although some considerable challenges to doing social science research in South Africa have been reported in this study, we have also witnessed the growing internationalisation of South African social sciences over the past ten years. The isolationism of the apartheid era has been overcome and new collaborative relations and networks have been forged. Policies and frameworks supporting the social sciences, particularly with reference to the social sciences and environmental targets being included the South African Government's articulation of the Grand Challenges, have proven successful but still require sustained attention and effort. The South African research landscape also boasts a growing pool of human resources and an autonomous research environment.

Recommendation 6: It is our recommendation that these accomplishments and enablers of social sciences research in South Africa be publicly acknowledged and celebrated to ensure that future initiatives to strengthen social sciences research build on that which has yielded results and proven successful.

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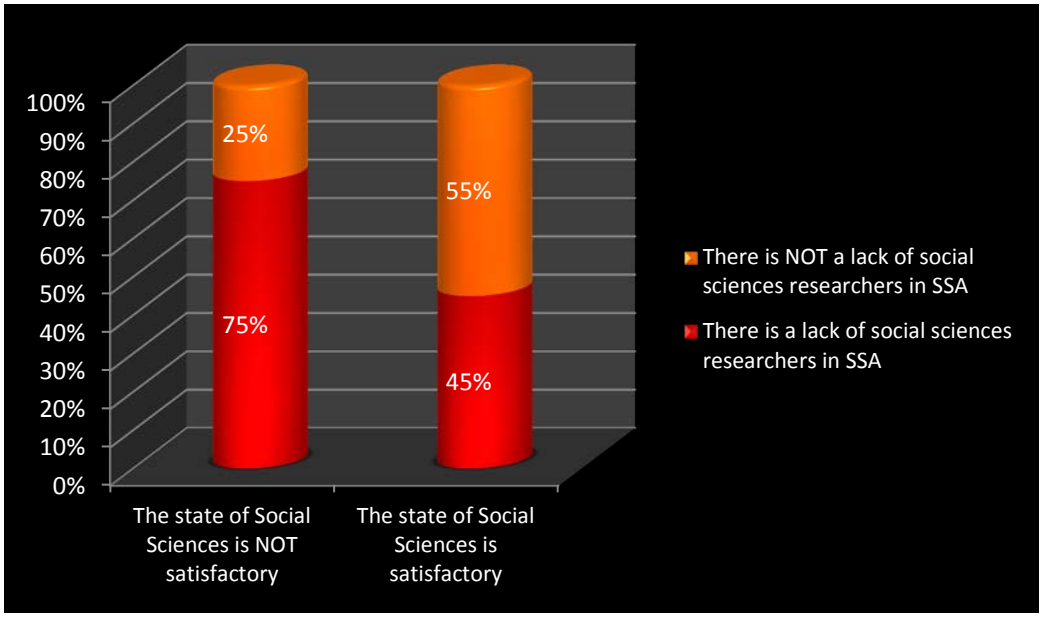
Appendix 1 Additional Figures and Tables

Figures 20 to 24 present the opinions of individual researchers on the statements "The state of social sciences in South Africa is satisfactory" and (1) "There is a lack of social sciences researchers in sub-Saharan Africa"; (2) "The social sciences in South Africa receive adequate funding from the government"; (3) "Government administration and policy supports the social sciences in South Africa"; (4) Social sciences scholarship lacks international status and standing" and (5) The amount of PhD holders in the social sciences in South Africa is sufficient".

These analyses attempt to identify the reasons given by respondents for their rating of the state of social sciences in South Africa as unsatisfactory. All opinion statements were cross tabulated with respondents' opinion on the state of social sciences as being either satisfactory or not. Figure 20 shows that 75% of respondents who believe that state of social sciences in South Africa is unsatisfactory also believe that there is a lack of social sciences researchers in Sub-Saharan Africa.

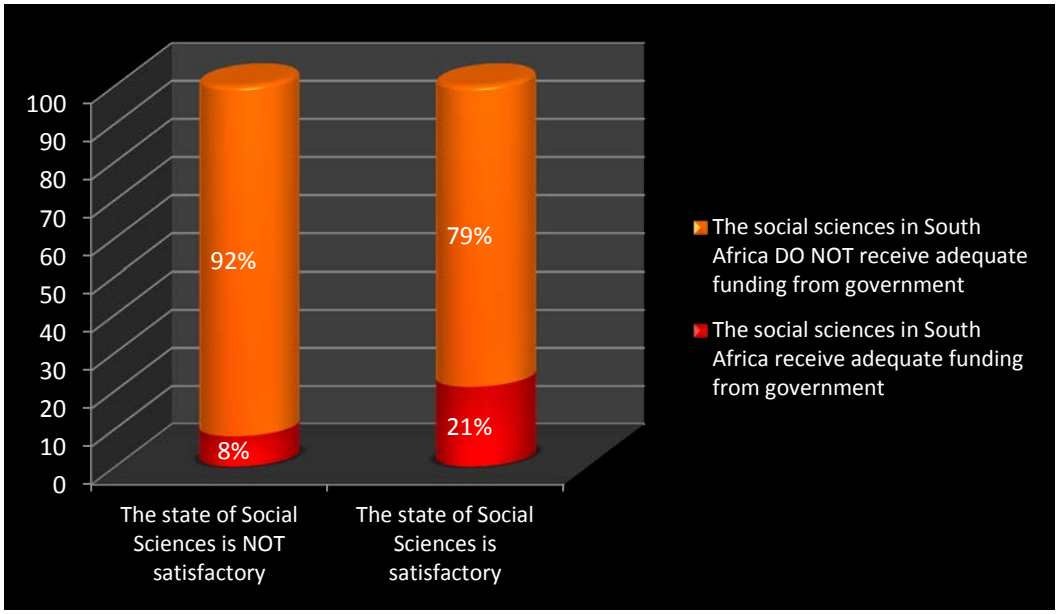
Figure 20 Reasons given for the unsatisfactory state of the social sciences in South Africa – social sciences researchers



Chi-square = 22. Figure 6 359; df = 4; $p < 0.05$

In Figure 21 the majority of respondents (92%) who indicated that they are unsatisfied with the state of the social sciences in South Africa also indicated that there is inadequate funding for the social sciences. It is also telling that those respondents who were satisfied with the state of social sciences in South Africa (79%) also indicated that there is a lack of funding for the social sciences.

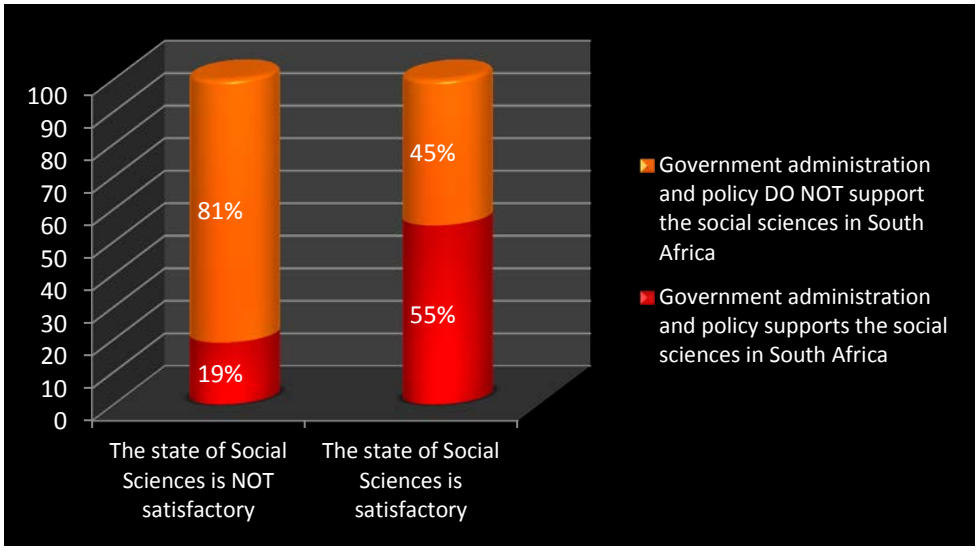
Figure 21 Reasons given for the unsatisfactory state of the social sciences in South Africa - adequate funding



Chi-square = 21.415; Df = 4; $p < 0.05$

Figure 22 below shows that of those who indicated that the state of the social sciences is not satisfactory a vast majority (81%) also believed that Government and policy support is lacking. Among those who argued the state of social sciences in South Africa to be satisfactory the majority (55%) did feel that Government administration was doing its part in supporting South African social sciences but a substantial 45% also believe that the government is not doing enough to support the social sciences.

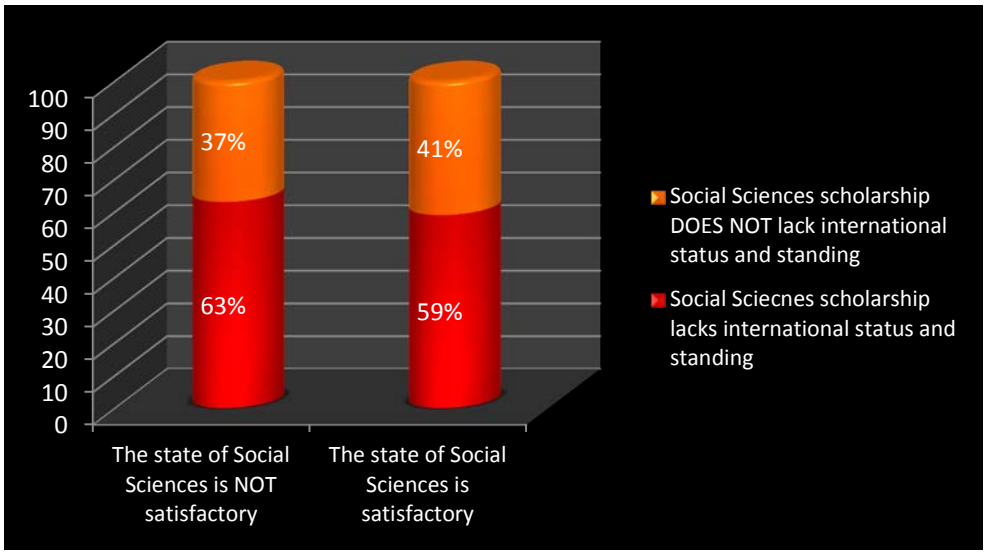
Figure 22 Reasons given for the unsatisfactory state of the social sciences in South Africa - Government and Policy support



Chi-square = 38.951; Df = 4; $p < 0.05$

Figure 23 indicates that large percentages of those not satisfied with the state of HSS in South Africa as well of those who are satisfied with the state of HSS in South Africa felt that South African social sciences lacks international standing and status.

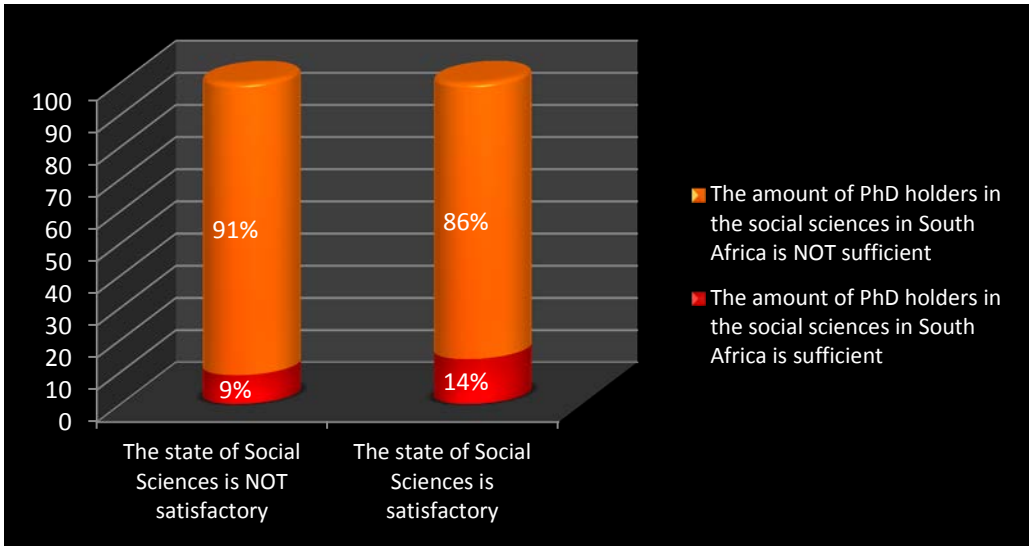
Figure 23 Reasons given for the unsatisfactory state of the social sciences in South Africa - lack of status and standing



Chi-square = 16.401; Df = 4; $p < 0.05$

Figure 24 clearly indicates that the amount of PhD holders in the social sciences in South Africa is a big concern for the majority of respondents. Only 14% of respondents, who were satisfied with the state of the social sciences in South Africa, thought that the amount of PhD holders in HSS was sufficient.

Figure 24 Reasons given for the unsatisfactory state of the social sciences - amount of PhD holders



Chi-square = 7.115; Df = 4; $p > 0.05$

From the abovementioned figures it is clear that the most frequently mentioned reasons given for the unsatisfactory state of the social sciences in South Africa is a lack of funding and a lack of PhD holders in the social sciences.

Table 10 Trends in scientific collaboration as measured by co-authorship; 1995-2007

		95	96	97	98	99	00	01	02	03	04	05	06	07
Economics & management sciences	SI	30	25	28	31	26	42	36	41	32	33	49	62	70
Economics & management sciences	NC	6	2	9	4	5	5	8	10	8	4	9	13	18
Economics & management sciences	IC	**5**	**9**	**12**	**14**	**14**	**21**	**17**	**17**	**25**	**26**	**17**	**34**	**31**
Subtotal		41	36	49	49	45	68	61	68	65	63	75	109	119
Education	SI	24	30	26	30	35	22	30	19	29	45	57	68	61
Education	NC	0	6	4	3	6	2	5	5	9	18	20	15	14
Education	IC	**8**	**7**	**8**	**9**	**15**	**7**	**11**	**7**	**17**	**8**	**17**	**22**	**18**
Subtotal		32	43	38	42	46	31	46	31	55	71	94	105	93
Psychology	SI	59	61	73	63	79	68	44	52	52	33	32	93	69
Psychology	NC	16	16	19	21	19	14	20	17	17	14	13	44	25
Psychology	IC	**20**	**16**	**20**	**29**	**17**	**28**	**28**	**42**	**50**	**45**	**57**	**72**	**68**
Subtotal		95	93	112	113	115	110	92	111	119	92	102	209	162
Sociology, anthropology & related studies	SI	26	17	23	25	23	18	10	29	31	26	34	32	36
Sociology, anthropology & related studies	NC	8	7	5	2	5	1	1	7	5	1	6	4	12
Sociology, anthropology & related studies	IC	**6**	**12**	**14**	**17**	**22**	**17**	**20**	**24**	**28**	**29**	**26**	**39**	**27**
Subtotal Sociology & related		40	36	42	44	50	45	31	60	64	56	66	75	75
Other social sciences	SI	98	97	69	67	69	82	80	97	95	118	133	143	127
Other social sciences	NC	20	19	24	20	15	13	19	21	25	31	39	30	22
Other social sciences	IC	**12**	**14**	**27**	**24**	**25**	**34**	**43**	**44**	**54**	**54**	**57**	**84**	**77**
Sub-total Other social sciences		130	130	120	111	109	129	142	162	174	203	229	257	226
Grand Total Social Sciences		**338**	**338**	**361**	**359**	**385**	**374**	**372**	**412**	**480**	**485**	**566**	**755**	**675**

Appendix 2 Additional Quotes

More qualitative responses

Challenges to doing inter-disciplinary research
"Often, the worldview as well as the methodology between the two sets of sciences is very different and it's difficult to find common ground to work together. The data is also often different, i.e. qualitative versus quantitative and it is a challenge to bring everything together to get a complete picture or story."
"Collaboration between the medical sciences and social sciences is not an easy one."
"Finding common linkages (networking across disciplines). Common understanding and terminologies. Different priorities. Lack of funders/research decision-makers to understand the dynamic environment in which inter/trans-disciplinary research must occur."
"I think the other interesting thing is that the social sciences themselves aren't well integrated. So for example there is very little interaction between economists and political scientists and sociologists and I think again it's the way that our faculties are structured – so you have part of the social sciences located in commerce faculties other parts located in faculties of humanities. So I think there is not enough inter-disciplinary work happening between the social sciences in South Africa".
"A major limitation is aligning interests and research agendas across different university departments, research institutes, government departments and other agencies. While collaboration is a requirement of most of these types of organisations, meeting the goals of all parties concerned is a challenge. Collaboration is also a generally timely process that sometimes does not fit into stringent time-scales set by funding providers."
"I also find that in the Social Sciences we are more likely to do interdisciplinary work and believe me, you try to apply for one of those competitive grants at the NRF and you can't really find a category on the drop down screen where you can explain that…"

Neglect of basic/theoretical research
"I do think the funding agencies skew the nature of funding."
"We need more of that [blue skies programme of the NRF] … we need more of the kind of open calls for research where the project gets accepted on its own merits and the track record of the researcher without challenging the work into particular areas."

Measuring of outputs
"The structure of incentive system of NRF, which determines performance evaluations within all academic institutions in the country, is seriously skewed to rewarding disciplinary research (publication in core disciplinary journals). This is a major discouragement to inter-disciplinary research in general."
"… So the whole metric system, the metrics discourage even collaborating with my colleagues over at the University of South Africa…"

The next generation
"The generational change issues are quite pressing. I think we all recognise that and so there needs to be a some more concrete action – plans of action and action around how to ensure that we don't just loose the capacity at the top end of the system without reproducing knowledge base skills base."

Lack of capacity
"… So there's this huge push to just take more and more students which kind of dumb down what you can do. You can't work with … you can't provide quantity and quality on the same resource base".
"Very big classes – honours students teaching third years – not enough teaching capacity for the students – the quality of their training is being compromised".
"The funding mechanism forces the situation where you are providing basic training to huge numbers of students but you are not providing advanced training and the advanced training that you are providing is very professionally curtailed. It has to big quick and dirty: get them in and get them out with absolute minimum requirements. So the funding actually creates that cyclical situation where you have a huge number of students, small numbers of staff and a mass emphasis on low levels of education which is just fit for purpose at a very low level so there is not growth. What I am saying is there is no intellectual growth within the area. Intellectually the discipline [Social Sciences) is stagnant".