



GEOGRAPHY: THE STATE OF THE DISCIPLINE IN SOUTH AFRICA (2000 - 2001)¹

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ABSTRACT

The research team presents the findings of a comprehensive investigation into the status and role of Geography as an academic discipline in South Africa. The paper begins by placing the discipline in historical and epistemological context. Extensive and intensive interviews were conducted with geographers at all South African universities and, on a smaller scale, in the workplace. Information was also gleaned from an array of documents. Comments on the characteristics of university departments, general school education, the geography research environment the geographer in the workplace are given. Emerging trends, many of which relate to recent socio-political change, show that contemporary emphasis is on applied geography, specific fields of specialisation, the accommodation of Environmental Science and Environmental Management, skills training and on curriculum development with a marked vocational orientation. As geographers continue addressing national and international environmental and social issues in their professional endeavours, they are alerted to critical concerns voiced with conviction by practising geographers. In the final analysis a positive conclusion is reached and the academic merit and status of the discipline is confirmed.

Introduction

A study was initiated as part of a wider project of the National Research Foundation who invited professional societies to participate in a research endeavour to investigate the state of various academic disciplines in South Africa. The purpose was essentially to provide a basis for the institution's future planning in the context of socio-political transformation the country was experiencing. On behalf of the Society for South African Geographers, a research team engaged in a survey to explore the objectives, epistemology, structures, content, pedagogics and vocational applications of geography in South Africa. The South African geographic community responded very positively to the exercise and has participated with enthusiasm and co-operation.

In this contribution a summary of significant findings drawn from the major sections of the report are presented. These relate to geography in the tertiary education context; its epistemological roots and development; the formal structures of university departments of geography including the funding of departments of geography; the university geography curriculum at the undergraduate, Honours and post Honours levels; a consideration of recent structural changes in university geography education and training; relationships between geography, environmental science and environmental management; geography and Geographical Information Science; geography and tourism; geographical education in the school context; geographical research; geography in the workplace; identities, attitudes and imaging geography. The paper ends with a short review, conclusions reached and offers comments on the concerns raised in the survey.

Geography in the tertiary education context

This section gives a brief overview of the epistemological roots of the discipline in South African context and describes its formal structures and organisation.

Epistemological roots and development

After referring to the definition, context and epistemology of Geography in general, major developments in the history of South African Geography are recorded.

Definition and context

Geography is concerned with the study of the phenomena of Earth's natural environment, its human life and actions and the nature and outcomes of interrelationships within and between these phenomena in functional and spatial contexts over time.

The discipline is conventionally and popularly cast in an educational context. On the one hand, it continues to serve at school level being accommodated in various aspects of the broad curriculum. On the other hand, contemporary Geography provides graduates with a broadly based education on Earth phenomena and their interrelationships as a basis upon which to enter a wide range of applied occupations. It is now firmly rooted in theory and critical analysis based on a range of powerful analytical tools and skills, which underpin a rising capacity for advanced analytical and interpretative work. This is evident in research and applied achievements in specialised fields of Physical and Human Geography and Environmental Science.

Despite high levels of specialisation in the sub-fields of both Physical and Human Geography, the discipline uniquely retains a deliberate interest in and an intent to establish an understanding of interrelationships between the phenomena that it studies. A geographical training thus insists upon the acquisition of abilities to think both vertically within specialist fields and laterally across many fields. Lateral, interpretative thought indeed is perhaps the distinguishing academic characteristic that sets geographers apart from their fellow academics. It also places geographers in a particularly favourable position in the practice of multi-, inter- and trans-disciplinary inquiry, which now characterises much investigative work and teaching, particularly in Environmental Science.

The outcome is that Geography is increasingly recognised not only as an academic discipline but also as an integrative applied science that offers a range of useful insights and applications in a variety of fields. Qualified geographers thus find themselves in an increasingly wide range of vocational settings in business, administration, applied public and private sector employment and consultancies, apart from education. The recent growth of involvement in environmental evaluation and management, tourism and geographic information science, for example, is characteristic of that trend.

Epistemology

Professional geography, organised, structured and contextualised as a discipline of learning has relatively recent origins. It attained definition as professional societies were established in the metropolitan countries in the early 19th century to promote its interests. As the discipline became recognised it was accepted as a school subject and more profoundly, became firmly established at the tertiary level as

departments of geography too were set up in universities during the 19th Century. As a discipline its evolution has been dynamic and complex and its organisation and structural underpinnings remain active subjects of debate. These debates have been critically constructive, intellectually challenging and directed at the attainment of academic quality.

Through its history, geographers have shown themselves to be responsive to the evolution of theoretical thought and practice in natural and social science. As is the case in other disciplines, Geography has developed a pattern of organisation and structure. Though conceived as a holistic science, two primary divisions, Physical Geography and Human Geography have persisted as the core of the discipline. Physical Geography is concerned with the study of the dimensions of Earth's natural environment while Human Geography focuses upon the geography of the complex and wide ranging phenomena of its human life. Though the organisation of the discipline clearly led to the progressive fragmentation of knowledge, particularly as specialised fields of study emerged, a search for a collective focus and unifying underlying structure nevertheless persisted.

On the one hand, Regional Geography was initially expected to integrate the phenomena studied in Physical and Human Geography in explanatory syntheses of human-environmental relationships in distinctive world regions. On the other, the application of grand theory, evolving from crude scientific environmental determinism through softer, qualitative ideas of environmental possibilism to positivist approaches of scientific enquiry, underpinned by complex quantitative, empirical methodologies, was expected to provide unifying mechanisms for the discipline. In a naive sort of way these strategies succeeded in temporarily unifying the discipline. In the longer run though they were to fail. The dissatisfaction of human geographers with the strictures of positivist science led to change, dynamic exploration and adoption of alternative theory and a progressive separation of Physical and Human Geography. The unsatisfactory, ideographic bases of Regional Geography too, progressively led to its decline and virtual disappearance.

At the same time new contexts of study have emerged to form new primary divisions of the discipline. These have included the growth of Environmental Science and Geographical Information Science. Both have intentions to explore, analyse and interpret the interrelationships of human life and the natural environment. Both display consciousness of the shortcomings of positivist science as a basis of analysis, interpretation and understanding and of the need to search for alternate frameworks of theoretical explanation. Both are proving to be highly successful spheres of study and application. While they might contribute to a deepening of fragmentation, they do, in important respects, offer new opportunities to unify the presently disaggregated fields of Physical and Human Geography. Such possibilities are currently the subject of contentious debate.

Another important context is the development of analytical techniques and skills. This development has emerged largely in response to an increasing need to strengthen and expand the vocational bases of the discipline and also technological advancement. It too is proving to be highly successful.

South African Geography

A demand for schoolteachers was the mainspring of university geographical education in South Africa until very recent times. Indeed a majority of university Geography graduates entered the teaching profession until the mid 1990s. From that time the development of the discipline to serve a broader vocational spectrum has been strong and today relatively few graduates enter the teaching profession. The implications

of this shift for quality school education are of the greatest importance.

Growth in the departments of geography in historically advantaged universities (HADs) was incremental but remained very slow into the mid 20th Century. By the mid 1950s for example, staff in departments had grown to an average of only three academics. Twenty years later, in 1970, only a small additional increase had taken place and most departments then had four members of staff. A major shift took place in the 1980s and 1990s when the staff complement rose to six or seven in most departments (Figure 1). It is clear that the staff complements in South African departments never reached levels attained by departments in the metropolitan countries (UK, USA, Canada, Western European countries and Australia in particular) with which we are compared. Though this is an unfortunate state of affairs and is understandable in the context of university financing and development in South Africa, it imposes significant constraints on the potential of South African departments and their academic personnel. The situation in the historically disadvantaged departments (HDDs) since their foundation has been no better. Their staff complements ranged from three to five members of staff until very recently.

Professional stimulus for the early departments was provided by the establishment of the South African Geographical Society (SAGS) in 1917. Broadly framed on the structures of the Royal Geographical Society in Britain and directed towards the promotion of geographical education, the interests of geography and the promotion of popular interest in the discipline, the Society strongly supported the advance of geographical research, education and the development of professional geography. Today the *South African Geographical Journal* enjoys recognised international status. In the period 1957 to 1994 the SAGS was complemented by the work of the Society for Geography and the publication of its journal *The South African Geographer*. The two societies merged their activities in 1994 to form the Society of South African Geographers. The new Society continues to perform an active and essential role in South African geography.

The development of South African geography along with all other academic disciplines at our universities was taken up in political shifts in the country after 1948 with powerful thrusts to impose an apartheid educational framework. Under the 1959 Extension of Universities Act, ethnically based and segregated universities and institutions were created for the non-White population groups and new departments of geography came into being. Relations between them and established departments in English language universities were not without their tensions. Though evident political divisions between White South African academics of different persuasions were recognised, relations between Afrikaans and English geographers nonetheless remained generally cordial. The political tensions in society were clearly insufficient to undermine the relationships established through overarching academic interests and a shared epistemology, then rooted in positivist science. Though prevailing ideas on value free research were naïve, these conditions were sufficient to preserve the unity of the discipline.

The tensions were none the less very real but essentially confined to the experience of the human geographers. Physical geographers tended to have their feet firmly planted in the scientific mode of learning and were not academically troubled by differences in socio-political allegiances.

In those times the non-White population groups experienced exclusion either by careless omission or intent. This fact stands to the shame of the discipline as a whole! It separated our

student bodies and inhibited their academic interaction and development. Interaction between academics in historically White universities and historically Black universities was severely limited. Participation in activities organised by the professional societies was restricted by legal regulation and by perceived constraints. Moreover, the intentional and non-intentional exclusion of Black participation in the discipline entailed a massive missed opportunity to extend geographical influence in Black education. It probably strongly contributed to the current situation in Black schools where geography tends to be underdeveloped and poorly represented in the curriculum.

The Society for Geography was founded in 1957 with objectives very similar to those of the South African Geographical Society but with a particular intention to provide for the special needs and greater participation of schoolteachers of Geography. Established at a time of powerful socio-political division in South Africa, the new Society, driven mainly by Afrikaans academics, appeared to emphasise the division and carried a potential of becoming a source of academic discord. The Society for Geography excluded non-White participation until the 1970s whereas the South African Geographical Society welcomed participation from all population groups although not actively engaging in promoting non-White membership and conference participation until the late 1980s.

Events of the 1960s stand in contrast to actions taken by the Council of the South African Geographical Society in 1963. At that time an application was being made to the National Department of Education for a grant to support the publication of the South African Geographical Journal. A grant was approved on condition that White and Black persons might not attend meetings together. The Council took a courageous decision not to accept the grant with this proviso. The Journal continues to be the Society's flagship and worthily reflects and presents the discipline's good standing in both national and international academe. Despite evident historical political division, tensions in South African society were clearly insufficient to undermine the relationships established through overarching academic interests and a shared epistemology, then rooted in positivist science. Though prevailing ideas on value-free research were naïve, these conditions were sufficient to preserve the unity of the discipline.

Circumstances changed significantly from the late 1980s when pressures from within the South African Geographical Society gave rise to a new dynamic in professional geography. A concerted and sincere effort was made to incorporate all geographers into the activities of the discipline. It was in this spirit that, in the early 1990s, serious negotiations began to pave the way for constituting the Society for South African Geographers. There can be little doubt that the impact of apartheid on the structuring of and participation in the discipline was severe in many respects but the will to put the past behind is steadfast as geographers come together to address issues of the contemporary world. The political transformation of South African society in general from 1990, too, has fuelled that dynamic and Black participation is now significant.

Youth is often the leader in shifting attitudes. This is quite definitely the case in professional geography in South Africa where the geography student body has played an active and honourable role in fuelling the new dynamic in the contemporary society. South African geography students have since 1969 held an annual professional conference. These conferences commonly are attended by a body of some 200 graduate and undergraduate students from all South African universities. They have served not only to promote the interests of the

discipline but also provide for its professional presentation. Particular encouragement has been given to the attendance of Black students. At a recent conference in Johannesburg in 2000, for example, of the total number of attendees no less than 71% were Black and 72% of the papers presented to the conference were from Black student authors. This indeed is transformation of the highest order and our student bodies are to be congratulated on their achievement. Their work is an object lesson for the professional academic geographers. At the 2001 conference of the professional Society, 79 per cent of the presenters were White and 21 per cent Black. This is probably a reflection of the degree to which transformation has taken place in departments of the Historically Advantaged Departments (HADs) for most presenters at the professional conference were drawn from those departments.

Internationally South African geography has for long associated itself with the work of the International Geographical Union (IGU), one of several scientific unions established under the aegis of the International Council of Scientific Unions (ICSU). Several South African geographers serve as Members or Corresponding Members of Research Commissions and Working Groups of the IGU and attendance at the conferences staged by the Union is regular and significant. At present South Africa has the honour, through Professor L.M. Magi (University of Zululand), of occupying a Vice Presidency in the Council of the IGU.

South African geographers have in addition over the years attended meetings of other international bodies in particular those of the Institute of British Geographers (IBG) in the United Kingdom and The Association of American Geographers (AAG) in the United States. Despite some tensions during the period of international academic boycott, South African geographers, as individuals, managed to retain and develop international contact and interaction. Those processes are now very strongly developed.

The formal structures and organisation of South African Geography

Under the formal structures and organisation of South African Geography, the university departments of geography, the student body, the provision of national funding subsidies and the curriculum are discussed.

The Departments of Geography

Each of the 21 universities in South Africa (2000) supports a department in which Geography is a recognised discipline. Faculties of Science administer the great majority of these (Figure 2). Fifteen of the 21 departments are administered in Faculties of Science, three in Faculties of Arts and two are located in both the Faculties of Arts and Science (Figure 2). A preference to be situated in Faculties of Science rests in historical linkages Geography has enjoyed with scientific disciplines in South Africa, on the one hand. On the other hand, dependence on laboratory and studio work in the conduct of applied practical classes gives rise to needs for laboratory space and technical equipment and instrumentation. Support for required space, infrastructure and equipment is naturally more readily attained in Faculties of Science. Funding benefits will flow from the linkage and explain the strength of the association. The issue of the funding of university Departments of Geography is the focus of a special section of the report.

It is important to note, however, that although the administrative linkage with Faculties of Science is strong, departments of geography none the less retain strong linkages with Faculties of Humanities and Social Science. The concept

of Geography as a 'bridging science' is supported by the strength of these associations.

University restructuring in more recent years has meant that some departments now form part of a 'School of Study'. The cases of the departments in the University of Natal, Durban, Venda and Durban-Westville are particularly interesting in this respect. In Natal, Durban, Geography is now located in the School of Life and Environmental Sciences and is regarded simply as a subject field in that School. A distinct Department of Geography, so named, no longer exists and the right to use the appellation, 'Geography', in course titles has been the subject of substantial negotiation. In Venda the Department of Geography and GeoInformation Sciences exists in the School of Environmental Sciences as a distinct and autonomous entity. In that university, however, faculties comprise a cluster of departments and Schools with the School as the source of departmental administration. An ecological association of disciplines forms the basis of the School in Venda. In the University of Durban-Westville, Geography is again regarded purely as one subject area among several in the School of Life and Environmental Sciences. A distinctive department no longer exists and again the retention of the title of *Geography* has been the subject of intense debate and successfully contested compromise. In the view of the survey team, if university restructuring is to lead to this type of relationship in the interests of administrative economies, questions on the importance and maintenance of disciplinary identity arise and need to be urgently addressed.

The mean staff complement of departments of geography in South Africa is eight academics (Figure 1). Interestingly enough, there is no difference between the historically advantaged and the historically disadvantaged universities in this respect. International comparisons will show that South African departments of geography are very modest and probably small in size. In the United Kingdom for example, the average departmental staff complement would be approximately 20 members of staff. Closer to home, even the University of Botswana has a staff exceeding 20 members (Figure 1).

Figure 1. Number of staff per academic: Departments of Geography, 1950 – 2000

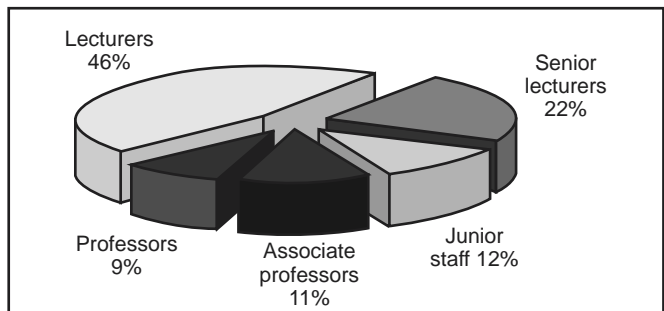
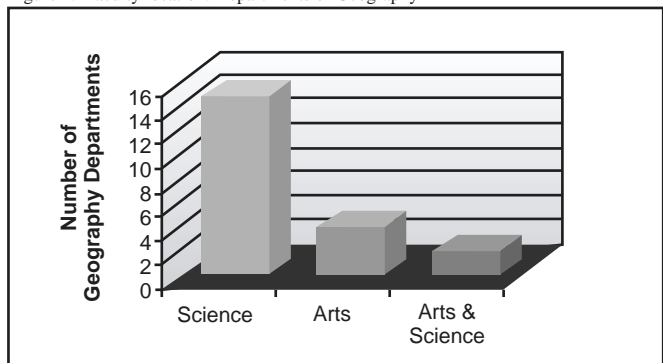


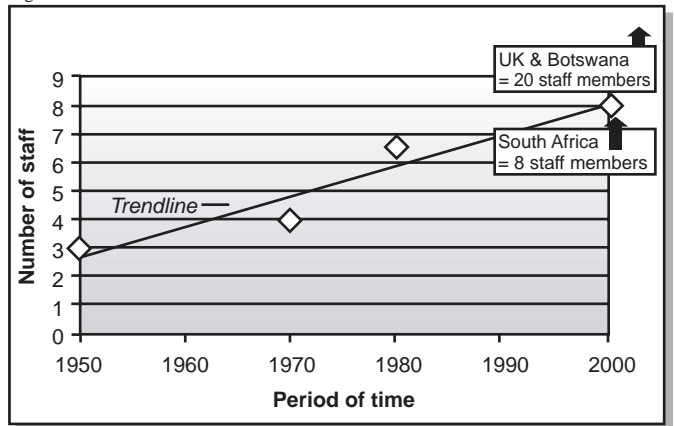
Figure 2. Faculty location: Departments of Geography



The size of staff complement carries with it an implication for the breadth and depth of the academic programmes that might be offered in our departments of geography. By international standards, our departments are clearly severely constrained.

The rank distribution of academic staff produces a typical hierarchical structure (Figure 3). Professors represent 9% of the total staff, associate professors 11%, senior lecturers 22%, lecturers 46% and junior staff 12% (Figure 3). The modal rank is that of lecturer.

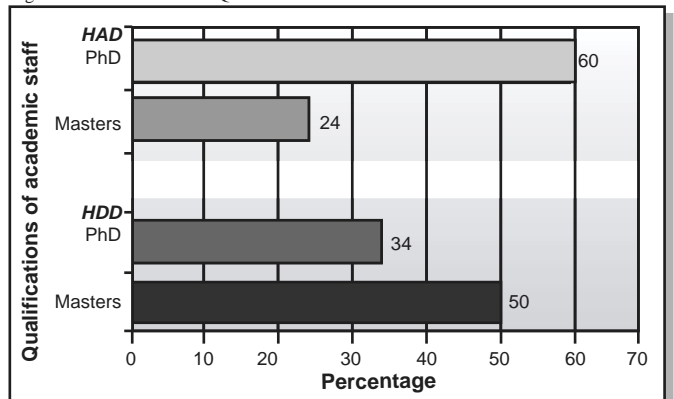
Figure 3. Academic staff: Positions held



A significant difference exists in the distribution of rank between the historically advantaged and historically disadvantaged departments. The latter are relatively weakly staffed in the more senior ranks. The distribution of rank in UNISA and Vista Universities is equally distorted and concentrated in the lower ranks. This is particularly the case at Vista where 86% of the staff is in the lecturer category and the highest rank is that of senior lecturer. Not all departments have a sitting professorship in their hierarchy. Two departments amongst the historically disadvantaged departments do not and six departments amongst the disadvantaged departments do not have a professorship in place. Neither the UNISA nor Vista departments currently (2000) have a professor in place.

This finding, in the view of the survey team, reflects a highly unsatisfactory state of affairs, which should be urgently addressed. The need for academic leadership exercised from the highest ranks is of critical importance at the level of departments and in the relationship between departments and the wider university sphere.

Figure 4. Academic Staff: Qualifications



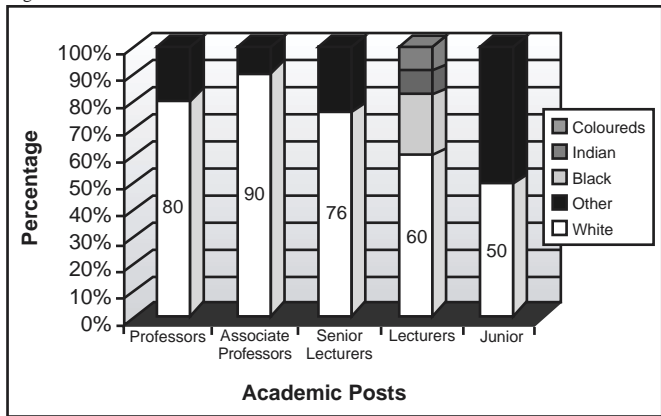
It is evident that a distinct difference exists in the distribution of qualifications between historically advantaged and disadvantaged departments. In the historically advantaged departments some 60% of academic staff are in possession of

a PhD degree and 24% of a Masters degree. The position amongst the staff of the disadvantaged departments is that only 34% of the academic staff have a PhD and 50% a Masters degree (Figure 4). These findings are a vindication of the label 'disadvantaged'.

The ethnic distribution of staff in historically advantaged departments is severely skewed with white members dominating to the extent of 92%. Only 7% of staff at these universities are either coloured or Indian and only 1% is Black. Some change has taken place since 2000 but indications are that it is of a marginal nature. In the historically disadvantaged departments the proportion of Black members of staff is nearly 60% and the distribution is more balanced. White members of staff, however, still occupy a significant proportion of the positions in these universities and the proportions of coloured and Indian members of staff is relatively small. Much work needs to be done to bring Black academics into the system and to balance the ethnic composition of the departmental academic staff.

The ethnic distribution of posts by rank is equally distorted. Whites remain dominant in the senior positions with 80% of professors, 90% of associate professors and 76% of the senior lecturers being white. At the lecturer level, whites still dominate and occupy 60% of the positions. Progress in balancing ethnic distributions at this level is clearly being made. The proportion of Black lecturers has risen to 23%. Indians comprise 7% of the lectureship population and coloureds 10%. Interestingly, the latter distribution is in excess of the proportion of Indians and coloureds in the national population. At the junior level whites represent 50% of the academic positions (Figure 5).

Figure 5. Academic staff: Ethnic distribution

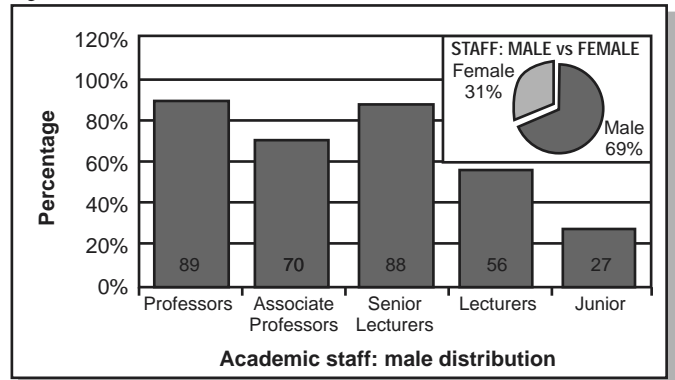


Conclusions reached are that the ethnic composition of the academic staff in South African departments of geography remains very heavily distorted in favour of the white population. Strong development needs exist. Prospects for change in these structures, however, for the present and immediate future remain bleak as very slow progress appears to be being made in raising the level of qualifications of Black geographers.

In both historically advantaged and disadvantaged departments there is a preponderance of male members of staff. The average Geography Department in South Africa will be staffed in a ratio of 69% male to 31% female (Figure 6). Considerable variation exists. The gender distribution considered in relation to the distribution of the hierarchy of positions in departments is equally distorted. Males heavily dominate senior positions in the departments of geography taken as a whole. Of the total, males hold 89% of the professorships, 70% of the associate professorships and 88% of senior lectureships in the 21 departments. Only in the lower ranks of lecturers does a balance begin to appear with 56% of the

positions held by males (Figure 6). At the junior level, on the other hand, females hold 73% of the posts. Clearly in this sphere too a great deal of work needs to be undertaken to address the distortions in gender distributions. The age distribution of academic staff in departments of geography taken as a whole is satisfactory.

Figure 6. Academic staff: Gender distribution

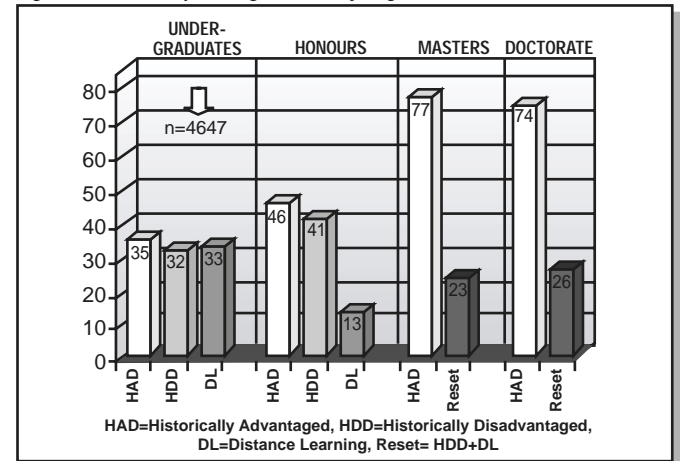


The Student Body

The geography student body in South Africa is modest in size. In 2000 the total number of students in the 21 departments surveyed numbered 5524 students. Of that number 40% were accommodated in historically advantaged departments, 31% in historically disadvantaged departments and a further 29% were located in distance learning universities.

Undergraduate student numbers totalled 4647 students. The distribution of undergraduates between historically advantaged and disadvantaged departments is fairly balanced. Of the total, 35% are located in the former and 32% in the latter departments. UNISA and Vista distance learning universities account for a further 33% together (Figure 7).

Figure 7. Student body: Undergraduate and post-graduate



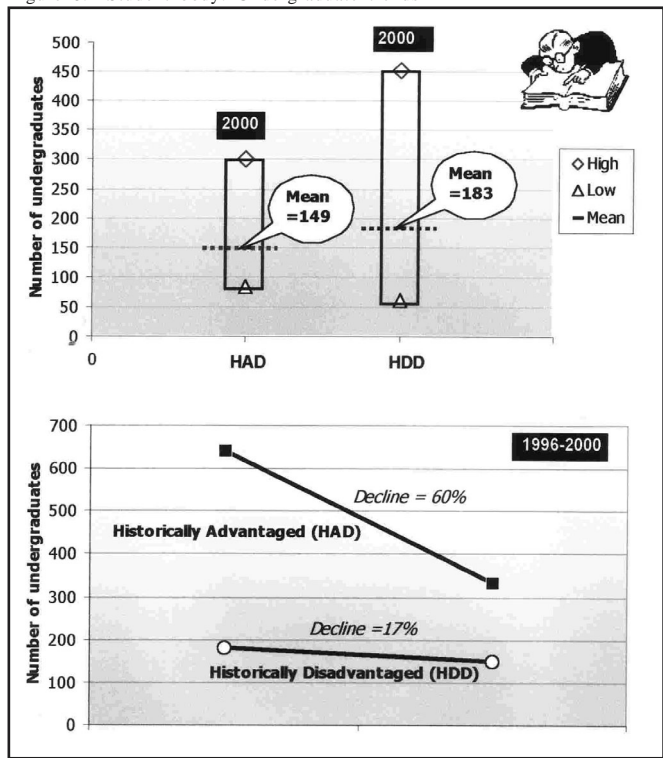
Honours students too are fairly evenly spread between historically advantaged and disadvantaged departments with the former accounting for 46% and the latter for 41% of these students. Relatively small proportions of Honours students are found in UNISA and Vista whose focus is on distance education (Figure 7).

At the level of research students, however, the distribution is skewed with the great majority of both Masters and Doctorate students concentrated in the historically advantaged departments (Figure 7). Of the total of Masters and Doctorate students, 77% and 74% respectively are concentrated in the historically advantaged departments. Both UNISA and Vista have small numbers of postgraduate students. The proportion of students in Geography who are postgraduates (post-Honours) is 16%

of the total number of students. That level is high in comparison to many other disciplines.

Student numbers in historically advantaged departments are modest and have been so over the past five years (Figure 8). The largest department in the category accommodated over 300 undergraduates and the smallest approximately 84 undergraduates. The mean size of the advantaged departments in 2000 was 149 undergraduate students (Figure 8).

Figure 8. Student body: Undergraduate trends



Undergraduate numbers at the historically disadvantaged departments have, by tradition, been significantly larger. In 2000 these departments accommodated a mean number of 183 undergraduate students. The size range extended from the largest department of 452 undergraduates to the smallest 60 undergraduates. The number of students at the distance learning universities is significantly larger, UNISA accommodated 1040 undergraduates and Vista 503 in the year 2000 (Figure 8).

The numbers of undergraduate students in both the historically advantaged and historically disadvantaged departments showed a significant decline over the period 1996 to 2000. In the case of the historically advantaged departments the decline has been from an average of 179 to 149 undergraduates (a decline of 17% over a five-year period). In the case of the disadvantaged departments the decline has been significantly greater from an average of 463 in 1996 to 183 in 2000, a decline of more than 60% (Figure 8). In the case of the historically advantaged departments the annual rate of decline has been relatively low and indeed has in the most recent years been replaced by a positive growth trend. The negative annual growth trend in the historically disadvantaged departments, on the other hand, has been significant and has progressively increased from 1996 to 2000. More recent enquiries made at historically disadvantaged departments have shown, however, that first year numbers tended to recover in the years following the survey.

Reasons for a declining trend in undergraduate numbers between 1996 and 2000 include, in particular, changes which have come about in the teaching profession. Without exception,

respondents at both the historically advantaged and historically disadvantaged departments indicated that the number of undergraduate students preparing to undertake postgraduate teacher diploma training in preparation for a high school teaching career has declined dramatically. In many cases only a very small number of students are proceeding to that profession. Reasons at the historically disadvantaged departments moreover include factors such as costs of fees and changes in destinations of prospective students. That a degree of transformation is taking place in the ethnic composition of classes at historically advantaged departments appears to support that contention. These are reasons of structural re-organisation and do not arise from within the discipline itself. Nonetheless the trend is a source of concern and is being actively addressed in all departments.

Growth in the number of Masters students in both the historically advantaged and historically disadvantaged departments has been remarkable but absolute numbers in the historically disadvantaged departments remain low. In the historically advantaged departments numbers more than doubled from 159 in 1996 to 344 students in 2000 (an increase of 116.3%). The extraordinary growth in Masters student numbers has been underpinned in particular by the introduction of programmed, taught Masters degrees at several universities. The trend toward taught Masters degrees is controversial and there is no universal agreement on the merits of this context of learning. Some respondents were severely critical and regretted the loss of the emphasis upon research training. The relatively small number of students at the Masters level in the historically disadvantaged departments suggests that they are not providing a sufficient number of qualified candidates to grow the transformation of the academic staff in our university system.

As is characteristic of all disciplines, the number of students in the doctoral category is relatively small but not insignificant. Here the great majority of students (74%) are concentrated in the historically advantaged departments.

The funding issue

Funding of departments of geography in South African universities has, in the eyes of university administrators and the professional society, for many years been very unsatisfactory. The discipline has been funded as if it were a Social Science which it is not. Indeed, the current funding proposals look set to prolong this problem as Geography has been categorised according to the National Department of Education CESM system (Classification of Educational Subject Matter) as a CESM Category 22 subject, namely, a Social Science or Social Study. If the discipline were to be categorised as a Life or Physical Science (CESM Category 15) then departments would receive triple the state subsidy than if it is categorised as a Social Science. We argue that Geography is neither a Social Science nor a Life Science and needs to be funded according to a more appropriate categorisation. The procedure, in the past, has inevitably led to under-funding and a need for university administrations to adjust funding internally. The Society of South African Geographers has recently (31 May 2001) made a major submission to the Ministry of Education, supported by the administrations of several universities, urging the adoption of one of two funding models, both recognising Geography as a part-laboratory discipline:

Model 1 proposes that Geography be funded according to Funding Group 3 (which includes disciplines such as Urban and Regional Planning) while **Model 2** offers a slightly more complicated solution that captures the principle of funding modular content more specifically rather than the

broad discipline. As an interim measure, and until such time as the existing South African Post-Secondary Education (SAPSE) system has been thoroughly revised, the Society requests that funding of Geography according to **Model 1** (CESM 02/Funding Group 3) be adopted by the Department of Education.

The Society of South African Geographers urges the Department of National Education to fulfil its promise to finally give due recognition to the unique nature of Geography as a discipline and the strategic importance of instructional programmes to which it contributes, in the new funding dispensation. It also requests that the final decision be appropriately justified and documented in writing and furnished to the Society for future record purposes.

The South African Geography curriculum

In common with other disciplines, professional geography developed a pattern of organisation and structure. Conceived as a holistic science the discipline became organised around six major dimensions of human society – its natural environmental setting, the economic, demographic and the cultural bases, social structuring and the political framework. This foundation gave rise to two primary divisions of study – Physical Geography and Human Geography.

Physical Geography was directed at gaining a scientific understanding of the functional and spatial relationships of the natural environment. Five systematic fields of study emerged: planetary geography, geomorphology, meteorology and climatology, biogeography and oceanography. Human Geography was directed at the study of functional and spatial relations of the five great functional structures of society, in different contexts, over time: economic geography, political geography, population geography, social geography and cultural geography. The temporal dimension was accommodated in each of the sub-fields and in historical geography. The integration of functional and spatial dimensions of Physical and Human Geography and their inter-relationships was expected to take place in the practice of Regional Geography - the third primary division of the early discipline.

Though its content expanded rapidly and major changes took place in the philosophical and conceptual bases of the discipline its basic structures were consistently maintained in international and South African geography over several decades. Only recently have significant structural changes emerged. These have come about in response to major pressures and shifts in contemporary society. They include: the impacts of powerful political and environmental movements, major technological developments in skills, growing economic stress on employment coupled to increasing pressures to transform education towards greater vocational relevance, post-modern philosophical movements in Human Geography away from nomothetic science as the basis of disciplinary organisation and study, the widening spectrum of human activity and dissatisfaction with existing disciplinary structures and in particular the failure of Regional Geography to provide appropriate and adequate mechanisms for the integration of geographical analysis.

Structuring of the contemporary curriculum is thus characterised by increasing emphases upon:

- A widening spectrum of alternate theory in Human Geography.
- The practice of contemporary scientific method in Physical Geography.
- A widening spectrum of contexts of study in Physical

Geography (such as water and river catchment management, soil erosion problems, climatic change, energy resources) and in Human Geography (such as urban and rural studies, development studies, political geography, medical geography, population studies). Many of these have strong relevance in meeting societal needs:

- The introduction of applied geography.
- Specialisation.
- The introduction and enthusiastic accommodation of Environmental Science and Environmental Management.
- Political underpinnings of geographical organisation of society.
- Vocational outcomes of education.
- Skills training.
- Curriculum restructuring with the introduction of programmes of learning (often vocation oriented).
- The introduction of a wide array of new, vocationally and market attractive courses and those with a focus on currently important or popular topics and contexts.

The outcome is that while the contemporary structure of academic geography has become more responsive and relevant to contemporary societal needs, on the one hand, it has also become more complex, severely fragmented and subject to (often capricious) change and instability on the other.

The primary structures today will include:

- Physical Geography.
- Human Geography.
- Environmental Science and Environmental Management.
- Integrated programmes in Geography or multidisciplinary programmes in which aspects of Geography are incorporated.
- Geographical Information Systems (GIS).
- Skills Training.

A means of unifying and integrating the discipline to meet its highest goal continues to elude geographers. As suggested earlier, however, the possibility that Environmental Science and its applications in Environmental Management might fulfil that purpose is now being explored and debated. In a special section on the topic this report shows, however, that the implications of a structural change of that kind weigh heavily upon the debate. The major hazard is the undermining of the scientific bases of the discipline and the substitution of applied vocational training. That process has already become strongly apparent in the curricula of several universities. The same observation might be made in relation to the recent, active introduction of GIS as a major field of study in the discipline.

A further structural change in the curriculum has been the introduction of programmes of learning at the undergraduate and postgraduate levels in the majority of departments. Programmes might be centred entirely within the departments or may be multidisciplinary in structure. Most are strongly vocationally directed and have become an important means of attracting students. The impact of programmes is controversial and their effect upon curriculum content and coverage should be carefully monitored. Respondents in the survey were concerned to ensure that the content of basic fields of the discipline was not compromised.

Geography in the school environment

The survey devoted attention to the practice of geography at the school level. School geography is viewed as an important means of nurturing informed future citizens, on the one hand, and, on the other, of providing a foundation for later study at tertiary levels. The importance of the first of these objectives is stressed. The new school geography curriculum proposed in *the Revised National*

Curriculum Statement for Geography is outlined and reference is made to critical comment on the proposal which has been forwarded to the Departmental Curriculum Drafting Committee.

Some attention is also devoted to comment on the impacts which recent restructuring processes have exerted on the teaching profession. Some elements are disquieting. Reference is made to the looming problem of a possible shortage of suitably qualified high school geography teachers arising from a shift in vocational choices being made by contemporary graduates. Few are reported to have an intention of entering the teaching profession. This is an issue that should be investigated at greater depth and one which should call for urgent action.

Respondents in the survey, frequently recorded learning difficulties being experienced by students from schools which remain disadvantaged. This issue continues as a structural problem of great importance in geographical education at all levels.

The research environment

To the geographer, South Africa presents a research environment which is undoubtedly one of the most attractive in the world. It has great potential and enormous breadth of opportunity in most fields of Physical and Human Geography and in the exploration of relationships between them. A seemingly limitless array of conditions and problems present themselves for research in basic and applied fields.

Research has become a fundamental dimension of the work of geographers in South Africa. Nonetheless a number of issues, which affect the volume and range of research, arise. They include:

- Limitations on the availability of highly qualified supervisors in the HADs and the HDDs alike.
- The small size of departments constrains volumes and restricts levels of specialisation.
- The ethnic composition of the research student body remains distorted although a degree of transformation is taking place.
- Research funding is accessible but penetration of available sources remains too limited. The scale of research projects is constrained by this factor. A range of structural problems exists in accessing research funds.

Findings on research output include:

- The volume of research output has grown significantly but remains modest.
- Research output is fragmented across a wide range of fields and topics but 88% of the output is concentrated in 15 fields. The top five fields in order of rank in 2000 included: climatology, urban geography, geomorphology, political geography and development geography.
- Research output is strongly rooted in the structures of the curriculum but environmental studies, which are a top-ranking component of the curriculum, are less strongly represented in research output.
- The introduction of “programmes” and taught Masters degrees in many universities is having a major influence upon the nature, type and process of research. Some significant implications arise.
- Some departments have recently become involved in major research projects supported by very large funds. It is hoped that this trend will expand.
- In detail it is evident that much research has value in addressing problems and development issues in South African society. The discipline has responded well to the need to transform the directions and content of research. A structural shift towards applied work is strongly evident.
- Research output favours the Western Cape, Gauteng and Kwa Zulu-Natal provinces which contain the most highly developed university departments.
- Significant but slow progress is being made in encouraging Black student research but research student numbers at HDDs, however, are low.

- The number of Black research authors is expanding but remains small.
- The spread of publications is wide and international participation is strong. The *South African Geographical Journal* retains its importance as an internationally and nationally recognised avenue of publication.

Geography in the workplace: perspectives on the discipline voiced by practising non-academic Geographers.

Responses gleaned from a group of practising non-academic geographers in the workplace throws light on the contribution Geography has made in their daily life. The majority identify themselves in the workplace as geographers.

The range of occupations held by geographers is very wide and spans employment in government at all levels, government projects, research, teaching, the private sector, NGOs and in consultancies.

Their geographical training is strongly appreciated by employers and colleagues though some do not have a full knowledge of what that might mean. A particularly telling attribute is an ability to take an integrative view of issues and problems.

Gaps in geographical training were identified. A need for a greater concentration on skills training was noted in particular. Practising geographers also felt that the social, physical and behavioural dimensions of the discipline should be more strongly integrated. It is clear that the high order goal of the discipline, to interrelate phenomena of the natural and human environments, remains of paramount importance. It is also the most difficult goal to attain.

Practising geographers feel that their most important role in the 21st Century should be to develop teaching and research programmes that contribute to an integrated understanding of social, physical and behavioural issues in Africa and to show the relevance of geographical skills in approaching the problems of the global environment. This finding is encouraging and should have beneficial outcomes for our society.

South African Geographers - identities, attitudes and imaging Geography

The great majority of South African geographers identify themselves positively as geographers, whereas some do so according to their research specialisation or refer to themselves as environmental scientists. Some grey areas in disciplinary identity exist, however, and a range of critical comment on the discipline was received.

Notwithstanding such criticism, the majority of respondents suggest that strong internal academic confidence exists. Geographers know that they are doing useful and constructive work relevant to contemporary societal needs and the historical title carries a distinguished academic heritage. The lists of abilities attributed to geographers included in the report attest to that finding. The problem, if one exists, many feel, is one of improving the external image. In other words a strong marketing exercise is needed.

Review and conclusions

Although it is not the intention of this study to prescribe a set of recommendations to our geographical community, a number of issues which possibly should be stressed emerge from the work of the survey. In random order, these include a need for contemporary South African Geography to:

- Appreciate that its practice must remain dynamic and critically intellectually aware.
- Raise levels of participation in the professional affairs of the Society of South African Geographers and its working groups.

- Continue to develop its academic and applied contexts of study to ensure that its practice remains scientifically, economically and socially relevant.
- Continue to encourage the academic confidence of its practitioners including the student body.
- Be aware of needs for transformation in its organisational structures and curriculum content.
- Resolve the issues surrounding the funding of university Departments of Geography as soon as possible.
- Settle issues surrounding the accommodation of applied training in the curriculum at all levels of study with particular reference to constructively accommodate training in Environmental Science, Environmental Management and GIS in particular as a matter of the greatest urgency.
- Ensure that excessive fragmentation of the curriculum is avoided.
- Encourage the development of programmes of study but in a constrained way to ensure the maintenance and growth of basic fields of study fundamental to the integrity of the discipline.
- Keep abreast of epistemological developments in the discipline internationally.
- Keep up international participation in teaching and research. Particular attention should be given to encouraging interaction with geographers in African institutions.
- Support and participate in initiatives associated with the National Qualifications Framework to ensure recognition of the discipline and setting of appropriate standards at all levels.
- Ensure the acceptance of Geography as a basic field of study at the school level and maintain the highest possible standard of geographical education for school learners.
- Address the nature and quality of teacher education and to monitor the supply and demand for appropriately qualified teachers.
- Maintain a critical monitoring brief in maintaining the integrity of school geography and continue to engage with the educational authorities over this matter with particular attention being given to the question of uplifting the level of geography teaching and learning at previously disadvantaged schools.
- Strongly encourage the development of the teaching profession.
- Participate strongly in research development to raise research productivity, specialisation and standards to the best international levels. Colleagues in HADs should make every effort to integrate with and assist the development of their counterparts in the HDDs.
- Be more assertive in searching and applying for research funding. It is important that the image of modesty, while admirable in principle, be changed to one of confident, assertive practice.
- More strongly pursue the objectives of professionalism by exploiting the channels for the official registration of scientists.

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ENDNOTE

- 1 *Editor's note: This paper represents a summary of the findings of a major study, commissioned by the South African National Research Foundation (NRF) (formerly the Foundation for Research Development) into the status of the discipline of Geography in South Africa. A comprehensive record of the findings of the study are presented in an unpublished report to the NRF. Contact the senior author for further particulars.*

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