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Report by

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GLOSSARY

ARC	Agricultural Research Council
ART	Anti-retroviral therapy
AU	African Union
CAPE	Cape Action Programme for the Environment
CCAA	Climate Change Adaptation in Africa Programme
CDM	Clean Development MEchanism
CRD	Central Research Department (DFID)
COHRED	Council on Health Research for Development
COSATU	Congress of South African Trade Unions
CSAG	Climate Systems Analysis Group
CSIR	Council for Scientific and Industrial Research
DEAT	Department of Environmental Affairs and Tourism
DFID	Department For International Development (U.K)
DoA	Department of Agriculture
DST	Department of Science and Technology
DWAF	Department of Water Affairs and Forestry
EU	European Union
HSRC	Human Sciences Research Council
IPCC	Intergovernmental Panel on Climate Change
LED	Local economic development
LTMS	Long-term Mitigation Scenarios
MDGs	Millennium Development Goals
NDMC	National Disaster Management Centre
Nepad	New Partnership for African Development
NGO	Non-governmental organisation
NRF	National Research Foundation
PAR	Participatory action research
PLAAS	Programme for Land and Agrarian Studies
SADC	Southern African Development Community
SANBI	South African National Biodiversity Institute
SANPAD	South African-Netherlands Programme for Alternative Development
SDC	Swiss Agency for Development & Cooperation
SEI	Stockholm Environment Institute
Sida	Swedish International Development Agency
SKEP	Succulent Karoo Ecosystem Plan
STEP	Subtropical Thicket Ecosystem Plan
UCT	University of Cape Town
UKCIP	United Kingdom Climate Impacts Programme
UKZN	University of KwaZulu/Natal
UNCCD	United Nations Convention to Combat Desertification
UNITAR	United Nations Institute for Training and Research
USAID	United States Agency for International Development
WHO	World Health Organisation
WRC	Water Research Commission

EXECUTIVE SUMMARY

This report presents in summary form the findings of a research consultation exercise undertaken in South Africa on behalf of the Central Research Department of the Department for International Development (DFID) of the British government. The exercise entailed one-on-one interviews with 23 opinion leaders in various sectors of the broader research community in South Africa.

The report documents the viewpoints of the respondents in DFID's four priority themes. It covers both the substantive issues raised in relation to research areas and the creation of an environment which is conducive to the undertaking of useful types of research. Finally, it considers what mechanisms and processes can promote both the uptake of research findings in policy work and the integration of research findings into the work of civil society and applied development arena.

A critical research issue in the "Sustainable agriculture and economic growth" theme is to document and understand what has changed in the past 20 years in South African and global agriculture that impacts on the fortunes of small-scale producers. This includes the kinds of crops they should be encouraged to grow, and how they should engage with, and be integrated into markets. In particular, the increasingly unfavourable returns-to-effort ratios and the growing risks and uncertainties of rainfed agriculture must be placed under the spotlight.

It was suggested that DFID should fund social science research on rural production systems and that it should specifically encourage - by way of funding calls - the establishment of *multidisciplinary teams* to conduct research in these complex systems. Some respondents noted the 'serious and growing barriers' to doing interdisciplinary research.

A key challenge is to improve agricultural production within the land reform programme. This requires a fresh approach that takes integrated land reform **and** agrarian production at appropriate scales and production output criteria as its point of departure, including experimenting and learning from area-based planning.

Given the high levels of wastage in the use of increasingly scarce water resources, research into water use by commercial farmers could assist by informing considerable tightening up and better resource management here. If we assume that climate change for southern Africa will mean increased water deficiencies, then developing ways for people to improve water security through local innovations in water harvesting techniques would be extremely useful. Water Users' Associations could play an active role in protecting future water security, including monitoring how industry registers its water uses. DFID has under-focused in this area. Concerns about food security at the household level are likely to escalate and much more research at this level is required to understand the nuances of the factors to be taken into account to increase household food security.

There is effectively no national agricultural research agenda to speak of. As a result, much of what is promoted is expedient and not grounded in any coherent bigger picture of what is required for or work best in South African conditions. One key

intervention would be for a funder like DFID to really engage in the broader agricultural sector to bring the key stakeholders together to focus on the larger goals for South African agriculture, the many obstacles and potential solutions to some of the challenges.

Several respondents were sceptical about or even dismissive of the role and developmental impact of state-centred and sub-regional bodies such as the African Union (AU), the New Partnership for African Development (Nepad) and the Southern African Development Community (SADC), insisting that they were an “expensive waste of time.” Other respondents noted the importance of DFID working at the regional scale and pointed out that one of the lessons that can be drawn from Africa and South Africa is the importance of regionalism. Some respondents suggested that DFID is not good at the regional approach, even though the evidence exists that a regional approach supports economies of scale. At the regional level, key transboundary issues have been identified as trade, HIV/AIDS and the mobility of professionals, including researchers. Major issues are regional integration, economic growth and agriculture, climate change and poverty in its broad outline. Overall, a key issue is to insert civil society, which is weak, into the policy dialogue.

Given the South African context, it is essential that in-depth research into the complex nature of poverty continue to be prioritised by DFID and other funders. Rigorous, evidence-based research can have a significant influence on policy by illuminating key strategic issues around poverty that are not well researched nor well understood thus far.

In the ‘Killer diseases and healthcare’ theme, serious questions were asked with respect to the urgency (or lack thereof) with which Northern donor funding agencies are perceived to be approaching the critical issues facing healthcare in South and southern Africa. The frustration, expressed especially by those at the coal-face of HIV/AIDS interventions, is probably to be expected, given the political equivocation and apparent lack of urgency with which the HIV/AIDS pandemic has been tackled in South Africa and elsewhere.

If it is accepted, as one respondent stated that in the last few years funding has determined research priorities, this begs the question of whether DFID is serious about funding the priority issues as identified by stakeholders in South Africa?

The view was expressed that currently most resources get sucked in the national level, but there is an urgent need to develop capacity ‘from the bottom up’. The real need is to strengthen the capacity of the agencies implementing HIV/AIDS and other health-related programmes and also civil society in general, because the stronger civil society is, the more successful it will be in keeping government on track.

Respondents noted that South Africa has a rich tradition of research and has good experience in identifying research demands and priorities, but the outputs are not easily accessible to all stakeholders. In terms of HIV/AIDS research, what we have learned is a greater awareness of the importance of better coordination of the research effort. Required at this time are mechanisms that enable learning and to build on our experience and put in place more accountability mechanisms.

Respondents indicated that there remain insufficient opportunities to share knowledge, or to develop areas of new knowledge.

There should be adequate funding for substantial research projects, because funding larger projects has lower administrative costs than funding smaller projects. In addition, more people can learn more, there is the possibility of a greater contribution to knowledge, and the potential to develop research capacity. Capacity building is key to a sustainable health research system. We need to take a medium- to long-term view, as well as programmatic one. Other issues that must receive attention include how research is done, for instance, how research programmes are constructed and even how research questions are phrased. A question that must be continually put is how useful is this research likely to be in the context of a health pandemic?

In terms of what DFID should fund, it is clear that while it is free to develop its own niche within the broader framework of research needs, it must not duplicate the work being funded by other donors. For one, on relations with other funders, the Paris Declaration makes provision for greater donor alignment. There should be a degree of flexibility and not rigid demarcation, but if DFID is serious and wants to have clear objectives and goals, e.g. assist in fight against HIV/AIDS, its programmes must be aligned to the national Strategic Plan programmes and targets, as well as to national research programmes and policy.

In respect of “good governance and social research”, one advantage South Africa offers is a leverage point for research efforts in Africa, as it has comparatively greater resources and competencies. The research funding model would presumably differ across countries. If implementation and impact is the objective, then programmes must be adopted in full consultation with government. In addition to this, DFID can play a greater role in supporting policy-oriented research, at the state and non-state levels, and for programmes and strategy. In the budget allocation for research, the inclusion of stakeholders needs to be provided for, and it must not be included as an afterthought. The principle of bringing all stakeholders and constituencies, and specifically those who are the ultimate users of the research, into the research design process was emphasised by a number of respondents.

The impact of un/employment on poverty must become a key research question given the current conjuncture in South Africa. This lack of emphasis on poverty by state and academia is exacerbated by the fact that poor do not have voice, and their proxies have no power.

With respect to “the impacts of climate change”, resilience adaptation is where, in the South African context, maximum research effort should be directed. This involves research into how to enhance the ability to cope with droughts, floods and so on, as well as how to cope with high climate variability, which is projected to go up.

On the issue of linkages, international organisations have recognised that there is value added when countries act in concert, for instance around climate change. The problem is that donors treat countries separately, and support research in isolation. The challenge is how to treat research as part of a system. The emphasis is currently

on upstream causes of climate change, not on impact on the poor. Regionally, there is no coherent strategy on climate change: this is a significant gap.

Possible research questions relating to the impacts of climate change on the water sector need to recognise the cross-cutting nature of these impacts on water resources. Among the constituencies and sectors identified as relevant were municipalities, health, ecological reserve, agriculture, energy, mining, industry and other, including recreation.

All respondents felt that South Africa is not constrained by intellectual leadership, and the five South Africans who are currently IPCC lead authors contests to this. Extensive, productive partnerships exist between South Africa's pre-eminent climate change specialists and other international partners.

In climate change research, getting research into use is often best done by going directly to policy and by interacting with the relevant government officials at regional and national levels so that they drive policy. The basic science must be done, but these findings must be captured in *reviews* that capture higher-level sets of policy-relevant conclusions, because this approach most readily draws the attention of policy-makers.

Important for policy-makers and other significant actors are both the impacts of climate change and the impacts of responses to climate change, the unintended consequences of international policy. One example would be an increase of the tax on airmiles or food-miles, that can serious implications, for instance, for South African fruit producers whose main export market is the UK and Europe. There are a number of these big issues on the horizon, not least is the one between food and fuel and the impact of climate variability on food availability.

Climate change scientists feel very strongly about the need to set up what they refer to as a *climate change interface capacity*. This would be enable the translation of the knowledge base for the purposes of communicating with a diverse stakeholder base. This task is not a one-way undertaking, but must be a dialogue between stakeholders and researchers, which is time and labour-intensive. It requires development work on communications, tailoring of products and messages, exploring the modes and means of transference of findings and knowledge, as well as feeding back to scientists. One example of this in a different context is the UK Climate Impacts Programme (UKCIP).

It is recommended that DFID's CRD consider making additional resources available to host workshops that draw in sector and cross-sector experts from in South Africa and across Southern Africa to engage in a series of 'DFID Development Dialogues', specifically around research issues pertinent to DFID's four priority themes. This report could be used to inform these dialogues that would constitute a deepening, more continuous consultative process with partners in the sub-region.

1 INTRODUCTION

This report presents in summary form the findings of a research consultation exercise undertaken in South Africa on behalf of the Central Research Department of the Department for International Development (DFID) of the British government. The exercise entailed one-on-one interviews with 23 opinion leaders in various sectors of the broader research community in South Africa (see **Annex One** for a list of the people interviewed and the responses secured via telephone and email from a number of other stakeholders in this broader community).

The background to this study is that DFID is seeking views to help it develop a new research strategy. The new strategy will come into effect in April 2008 and replace the Research Funding Framework 2005–2007. The UK Government's 2006 White Paper *Making Governance Work for the Poor* emphasises the importance of new technologies, knowledge and evidenced-based policies for development and sets out that these are fundamental to growth and poverty reduction.

Furthermore, it has been advised that DFID's budget for research is likely to double from £110 million in 2005/06 to £220 million in 2010. This means that around £650 million *more* will be available to fund new research programmes in the forthcoming five-year strategy period, i.e. 2008–2013. As a result, DFID is set to become one of the world's leading funding agencies for development research. The new research strategy presents an opportunity for DFID to refocus on the most pressing research challenges, work in more innovative ways and forge new research partnerships. To ensure maximum effectiveness, the new strategy needs to make choices about *how* and *where* DFID research can have the greatest impact in future, taking cognisance of DFID's existing strengths as well as the contributions and priorities of other funders.

In the new strategy DFID plans strike a balance between building on the progress achieved in the current (2005-2007) Research Funding Framework, to both ensure that major new development challenges receive attention and to find better ways of responding to developing country research needs. In addition, DFID's growing budget for research presents important choices about the organisation's future role and ways of working as an international funder.

During the course of these consultations, respondents were asked how the new research strategy can help countries deal with emerging issues - be they new diseases, trading opportunities, migration, changes in world economic power, and so on. Opinion leaders consulted during this process were also asked how the new strategy might build on the strengths of the current DFID research programme. In particular, they were asked to suggest ways in which DFID can:

- (i) build on its four priority research themes (see below) and address the links between them more effectively. They were also asked for inputs with regard to how DFID could improve the way in which it identifies demand for research from end-users in developing countries;
- (ii) promote more cutting-edge science that will benefit poor people;

- (iii) work more effectively to help developing countries to carry out, access and use research themselves and;
- (iv) make it more likely that research will be used.

The **four priority research themes** where DFID has built up considerable experience and where it plans to continue directing significant amounts of research funding are:

- **Sustainable agriculture**, especially in Africa, moving towards a broader agenda of economic opportunity and growth;
- **“killer diseases” and healthcare**, moving towards building capabilities of individuals and families for a better life;
- States that work for poor people, where DFID **good governance and social research** will include more emphasis on policy design areas and;
- **The impact of climate change on poverty**, moving towards research that helps partner countries understand, influence and adapt to changes and future “shocks” more broadly.

Every attempt was made to select and interview an equal number of respondents in each of these four priority research themes. Respondents were not, however, restricted to discussing only their specific field of research expertise, but were requested to respond to the four guiding issues (issues i-iv above). Of course, many of the issues are common to the four priority themes and in fact, cut across them. This is particularly the case with the fourth, emerging theme, i.e. ‘the impact of climate change on poverty.’ As a result, the majority of interviews were wide-ranging in scope and in total, they elicited considerable richness in terms of the informational content and depth of experience from which this set of respondents speak. Indeed, it have proven difficult to do justice to the material collected in the timeframe available to write this report.

The report is set out as follows: The next section outlines briefly the nature of the consultation process itself. The feedback from respondents is dealt with in four sub-sections which follow DFID’s four priority research themes. This is set out in this manner, notwithstanding the recognition that they are interlinked and that it is through a more thorough exploration of the linkages between them that much of the productive and useful research of the future might expected to happen. The report concludes with a set of recommendations that can inform DFID’s research funding programme for the period 2008-2013. This section includes some recommendations on the South African consultation process and how this process might be improved upon in future.

2 THE CONSULTATION PROCESS

The consultation process was initiated by the lead researcher who drew up a list of more than 70 prominent researchers, research managers, government policy-makers and implementers and civil society practitioners in the four priority research themes. This initial list was sent to DFID CRD and to the DFID Southern Africa Regional office in Pretoria, to solicit their input into this list. The local DFID advisors provided the names of additional stakeholders who could be approached for interviews. A shortlist of 30 prominent stakeholders was then drawn up and these people were approached by email or by telephone with the purpose of introducing the research consultation and setting up an interview with them individually or with an appropriate group of their senior colleagues.

Because of the severe time constraints imposed on this consultation process, it was critical that appointments for interviews be secured as speedily as possible. This meant that the stakeholders who responded quickly were the ones who were most likely to be interviewed. The research team, which consisted of Andrew Ainslie and Asma Hassan, pursued appointments with certain individuals for the sake of representativity in respect of not only the four priority themes but also of the diversity of research contexts and of the particular professional experience of some researchers. In any event, once appointments for the required 20 interviews had been set up, it became obvious that it would be difficult not to interview those stakeholders who responded later and were now not part of this group of 23 respondents. This issue is taken up in the recommendations to this study, because in some cases, the individuals who have not formed part of the group of 23 respondents and have thus not been interviewed, are senior, executive members of government or national research institutions who (i) could make valuable inputs into this process and (ii) need to be treated with the respect due to their positions and without any embarrassment to DFID in the sense that they were approached for an interview and then when they responded, the researchers did not have the time to interview them.

Each one-on-one interview was conducted by either one of two researchers. Interviews were conducted on the basis of a semi-structured interview schedule. This schedule both provided an introductory note which introduced the consultation process and which outlined the key questions that framed the interview. The sophistication of the respondents meant that no confusion or false expectations arose regarding the nature and potential beneficial consequences of this exercise to the respondents. Nevertheless, the researchers were careful to point out that the fact of being interviewed should not in any way be construed as an indication that the respondent(s) would henceforth receive any preferential treatment from DFID. It is worth noting that such is the high regard in which DFID is held in South Africa that none of the potential respondents who were approached refused to be interviewed. At least one respondent made the point that he would not have given nearly as much of the time he was prepared to give to this consultation conducted on behalf of DFID, if it had been conducted for certain other funders ("eg. USAID").

While detailed notes were taken during each interview, at least half of the interviews were also recorded with the permission of the respondents, and on condition that

their opinions and specific statements would not be attributed to them in the report. Interviews were of between one and two hours in duration, depending on the amount of time the respondent could afford to spend on the encounter.

In addition to the interviews, the lead author was able to attend and participate in a workshop hosted by the Water Research Commission (WRC) on 28 November 2007. The objective of this workshop was to “develop a climate-change research portfolio to be supported by the South African Water Sector.” Present at the day-long workshop were several of the top university-based specialists in climate change mitigation and adaptation research, water research and related areas. Several government departments (DEAT, DWAF, DoA, DST) and parastatals (CSIR, ARC) were well represented by their senior specialists/managers responsible for “Climate Change integration”. The contribution made at the workshop by Imraan Patel, Chief Director in the Department of Science and Technology, and the person with key responsibility for the South African government’s Climate Change Research and Development Strategy, as well as the formulation of the “Ten Year Innovation Plan for Global Change Research”, as well as the contributions of other participants, was highly informative. Insights gained from this workshop are incorporated into the report in the appropriate section below.

3 FEED-BACK BY PRIORITY THEME

3.1. Sustainable agriculture and economic growth

A good cross-section of researchers and research managers in senior university and government parastatal positions with expertise in this priority theme were interviewed. A summary of their inputs is provided in this section.

The viewpoint was expressed that for South Africa (and indeed the SADC region), a key theme in sustainable agriculture was the need to address *broad-based participation* in agricultural development as an engine-room for employment creation and economic growth. This is because there is no prospect that another sector of the economy can offer employment creation opportunities on the scale required by the South African population at this time.

The big research issue is ‘what has changed in the past 20 years in South African and global agriculture that impacts on the fortunes of small-scale producers’. This includes the kinds of crops they should be encouraged to grow, and how they should engage with, and be integrated into markets. In particular, the increasingly unfavourable returns-to-effort ratios and the growing risks and uncertainties associated with the cultivation of *grain crops*, not least in the context of increasingly unreliable rainfall, is an area that requires urgent research attention. Another area that needs to be unpacked is the economics of international grain crop production specifically as it affects small-scale producers, who are the anticipated beneficiaries of South African land reform initiatives. Technologies must be developed to support new grain production systems that are far less dependent on fossil fuels and carbon-based fertilizers than the extent to which this is currently the case.

A further issue is that the increasing demand for meat is putting pressure on the grain (particularly maize) market, which is also being affected by the growth of interest in biofuels. The many impacts of the former is poorly researched in South Africa, while the latter – although dismissed by some respondents as totally inappropriate to South Africa - gives rise to an urgent need for research into the growing shift to the production of grain-based biofuels and the likely impacts of this trend on food security, poverty and household livelihoods. Worryingly, the impacts of a shift to grain production for the biofuels industry is also likely to see marginal land being opened up for cultivation, which will have negative impacts on the provision of ecosystem goods and services.

It was suggested that DFID should fund social science research on rural production systems and that it should specifically encourage - by way of funding calls - the establishment of *multidisciplinary teams* to conduct research in these complex systems. Some respondents noted the 'serious and growing barriers' to doing interdisciplinary research. This is unfortunate as the promotion of sustainable agriculture is anything but a discipline-bound research subject. Instead it calls for the deliberate adoption of interdisciplinary research approaches that are put to work in particular research settings, not least as part of an effort to counteract the lack of integration between research and implementation. The opinion was expressed more than once that 'natural and social science researchers still need to find each other intellectually in this sector.' Much of the collaboration between them to date has constituted a 'muddling through' rather than a systematic, carefully thought-out and crafted intellectual engagement across disciplines.

One issue is the dearth of social scientists interested in working in rural areas and/or on research in the agricultural sector, which many younger researchers regard as uninteresting and bucolic. This will need to be addressed if new life is to be breathed into understandings of change in the South African countryside. In this regard, a 'chasm' was said to exist between development practitioners (in NGOs for instance) and social science researchers. One respondent noted that researchers must be encouraged to engage more with their clients. Researchers generally have good intentions, but there is too little real engagement. They too seldom go to the field, and hence the researcher and the farmers do not understand each other. There is therefore a need to invest in developing the capacity of researchers in to interact effectively with clients/farmers and agricultural extension services.

Only in isolated areas, such as in Namaqualand, where natural and social scientists and development agents/activists has spent 20 years or more trying to 'find each other' intellectually/philosophically and work together on joint research programmes, have any real successes been achieved. New bioregional ecosystem planning programmes (CAPE, SKEP & STEP) were also encountering serious hurdles in this regard, although a project such as the Greater Cedarberg Biodiversity Corridor in the Western Cape demonstrates that a *learning approach* can in fact yield results.

Since the South African government and the Industrial Development Corporation, among others, are finally getting involved in opening up markets for land reform beneficiaries, it would be helpful if DFID could take its work on 'making markets work

for the poor' further, with specific reference to the land reform sector/small-scale sector. This is critical because land reform is set to form part of the South African experience: as an issue of national importance, it is not going away in the foreseeable future. The challenge is to improve agricultural production 'inside' the land reform programme. This requires a fresh approach that takes integrated land reform **and** agrarian production at appropriate scales and production output criteria as its point of departure, including experimenting and learning from area-based planning. Seeking viable future 'win-win' solutions for those land restitution cases that involve hi-tech, capital-intensive farming operations such as wine farms, is one area that requires research, to ensure that farming is not seen as an 'either-or' choice between hi-tech and low levels of technological inputs.

A highly beneficial research programme would be one that seeks to identify, understand and begin to seriously address the key *blockages* in the broader agricultural sector, including the need to re-engineer the agricultural extension system in South Africa to serve the beneficiaries of land reform projects, to drastically improve production levels, to better understand the current availability of and real demand for credit and to achieve greater efficiency in the marketing sector - not least by overcoming the production and marketing constraints experienced by actors in the small-scale sector. In this regard, a global trend that is already a feature of the South African economy is the ever-growing dominance of supermarket groups in global and regional agricultural commodity chains. The impacts of this in South Africa, particularly in light of the programme of agrarian reform, must be the subject of urgent research to inform policy interventions, if required.

Given the high levels of wastage in the use of increasingly scarce water resources, research into water use by commercial farmers could assist by informing considerable tightening up and better resource management here. If we assume that climate change for southern Africa will mean increased water deficiencies, then developing ways for people to improve water security through local innovations in water harvesting techniques would be extremely useful. We need to prepare people for what's going to come, and assist them with the tools and knowledge to cope. In the context of the growing water shortages and unreliability of supply, coupled to (some) state-driven re-allocation of water use rights to the previously disadvantaged, there is a strategic opportunity to resuscitate the previously functional, hi-tech irrigation schemes, many of them located in heavily populated and impoverished rural areas of the former bantustans. The majority of these schemes are now dysfunctional but could be playing an important role in anchoring rural production systems. Research should be directed at developing appropriate technologies that can both address issues of food security and commercial production, and learn lessons from successes, such as the production of 'green maize' for *local* sale in the Tugela Ferry irrigation scheme in KwaZulu/Natal. One respondent suggested that the starting point should be 'producing what you can market, instead of marketing what you produce'. In this regard, it is opined that many of the solutions to the challenges of agriculture will be locally specific and that the impact of climate change on smallholder production and economic survival in defined regions and localities must enjoy priority research attention.

Following on from the above, one key underlying question is ‘who will be the agricultural producers of the future South Africa?’ Related to this is the need to identify linkages between rural farm and non-farm enterprises and livelihoods and to explore in a much more systematic way, to identification and promotion of non-farm opportunities and options for the rural economy in different parts of the country. Uncertainty is a key factor arising from climate variability and there is a need to build predictive capacity on how different categories of land users are likely to respond. This requires research that can inform (i) proactive planning that is pre-emptive and preventative and (ii) efforts to increase the resilience of people’s agricultural production and livelihoods.

Concerns about food security at the household level are likely to escalate and much more research at this level is required to understand the nuances of the factors to be taken into account to increase household food security. The rise in food prices is not just cyclical, but is driven by fundamental processes of change on the global stage. The poor who currently spend 30-100% of their cash on food, are having to economise even more. The implications of this are even poorer quality of diet and poor nutrition with resultant negative knock-on effects in health and well-being. There is an urgent need to work with the poor to develop coping strategies for household nutrition.

One example of misdirected research in the current context is the effort going into developing high yield variety strains for key grain crops, such as maize. The recommendation is that research might instead be directed at grains and other crops that are more genetically diverse and which might provide a more consistent yield in the context of highly variable rainfall regimes. The point is that the national dialogue on the threats and opportunities to agriculture has scarcely been engaged thus far. Similarly, more research into ‘conservation agriculture’ and more adapted breeds of animals/livestock should be prioritised.

Research is needed into rural safety-nets that assist the poorest, how these nets work at the community level and how best to target and promote them in future. Translating this into government programmes, requires the ‘buy-in’ from a range of government departments who must work in unison. This understanding should include how this links to other sectors, functions and imperatives (like Local Economic Development (LED) in South African municipalities). This will then enable implementers to act accordingly. DFID can play a role in bringing knowledge together. An example of a project it could support is the development of a publication in simple language, and using the same planning terminology as the mandatory municipal processes, that can be taken up with local municipal managers and LED directors to enable the appropriate planning and budget allocation.

Research is required into the value of co-operatives as vehicles for achieving economies of scale for the purchase of input supplies, for opportunities to enhance value-adding and for marketing, and not only in the realm of production. South Africa in fact has a rich history of successful co-operatives that has not been brought to bear on the post-apartheid agrarian landscape.

Respondents suggested that the South African policy on rangeland management is 'a complete disaster', predicated on 'gut feel' and assumptions that are seriously out of step with international and other African bodies of knowledge on this subject. The national Department of Agriculture has not provided any leadership in this respect, nor has the Agricultural Research Council (ARC), which is regarded as 'pretty dysfunctional' in this and other areas in respect of research leadership. Another respondent pointed out in its defence that the ARC is funded by two different government departments (Agriculture and Science & Technology), which each have different demands with regard to accountability and modes and formats of reporting.

There is effectively no national agricultural research agenda to speak of. The agricultural sector in South Africa is still not a progressive, knowledge-hungry one in the sense that the Australian agricultural sector is. As a result, much of what is promoted is expedient and not grounded in any coherent bigger picture of what is required for or work best in South African conditions. One example is the LandCare Programme which was adopted from Australia and 'rolled out' in South Africa as nothing more than a public works programme. Another was the tussle between two South African government departments in the late 1990s to provide an institutional home for the United Nations Convention to Combat Desertification (UNCCD) programme, which drew in a large number of researchers in the sub-region. The programme has since faded from the scene, even though South Africa has continuing obligations in terms of the Convention and the research and mobilisation work done under the auspices of the UNCCD is of direct relevance to newer debates and concerns around climate variability and droughts in Africa.

LandCare in particular is evidence of technocratic interventions being adopted to address problems that have other, more nuanced causes, the solutions to which should be informed by rigorous research at the outset and ongoing reflection to learn from experiences. One key intervention would be for a funder like DFID to really engage in the broader agricultural sector to bring the key stakeholders together to focus on the larger goals for South African agriculture, the many obstacles and potential solutions to some of the challenges. One critical area highlighted as requiring particular attention was that of research into land-use and land-use impacts, especially the impact of mining and cultivation. These were regarded as much more devastating for biodiversity and future food production than climate change.

It was suggested that DFID should fund the establishment of dedicated groups of researchers from a range of institutions who could build bridges across bodies of work, synthesise the existing knowledge and drive new research agenda with 'really good research questions'. These could take the Co-operative Scientific Programmes (CSPs) of the previous era (1980s onwards) in South Africa as a starting point to examine appropriate models for collaboration and the longer-term funding thereof. These CSPs generated plenty of scientific publications, built research capacity and scientific collegiality and brought a generation of high quality younger researchers into the research arena. A current example that could be investigated is the German-funded *Biota Project* which involves researchers working on ecological issues in communal areas in South Africa, Namibia and Botswana.

Respondents clearly recognised that *partnerships* are absolutely key to conducting the research which is regarded as essential for underpinning the future sustainability of South Africa's agricultural sector. These partnerships must include the sourcing of funds via international partnerships, especially North/South partnerships. At least two respondents indicated that research collaboration with Australian institutions should be pursued aggressively. Investments must be made in the building of research capacity. University and government partnerships are very useful, although universities in South Africa exhibit some worrying tendencies, chief amongst which is the reality that they are increasingly discipline-focused and that in consequence, applied research that is necessarily more multi-disciplinary runs the serious risk of being downgraded. In the social science arena, in relation to agrarian/rural research, the Human Sciences Research Council (HSRC) can be a high quality and thus valuable partner, but the HSRC is not that good on building research capacity. On the other hand, the scientific merits of participatory action research (PAR) are not stressed enough and as a result PAR is not always recognized as the important catalyst that it is.

Another area, already alluded to above, that must be developed is the need for academic researchers to work more closely with NGOs and CBOs. On a similar note, getting research into use, will involve (i) more attention to be paid to involving relevant partners in the research process, as more than mere recipients of research findings and (ii) encouraging more dialogue between policy-makers and researchers. In particular, researchers must, perhaps with the assistance of funders like DFID, find ways to increase the profile and value of research for the development and refinement of government policy, especially by senior managers within government departments. Some respondents felt that in terms of getting research into use, that the implementers should be involved in the research programmes from the outset. Moreover, to get research taken up at the policy and programme levels, the use of *knowledge intermediaries* was advocated, rather than continuing to expect scientists or researchers to drive these processes.

On the subject of government, it is recognised that there is a disjuncture between national and provincial government spheres in South Africa, making it difficult to develop and maintain a coherent national agricultural policy when there is fracture at provincial level (x9 provinces). This is further duplicated by the need to work with local government structures, which introduces another set of problems and capacity issues. The question many researchers ask each other is 'what does one do with the knowledge you gather?' which is very disheartening.

In respect of regional research and development priorities, it was noted that donors are not always clear what are the existing programmes in the region nor are their own priorities attuned to these programmes. This contributes to duplication and the wasting of effort in smaller programmes that should be better co-ordinated to maximise impact. One respondent felt that collaboration in the sub-region must be premised on strong national research and development programmes that then bring something of value to the regional development arena. The experience of several respondents is that straddling national research and development priorities through having researchers from various southern African countries collaborating, is often very difficult. Getting beyond merely explicating the differences in the histories and

modes of intervention, policies, institutions and priorities can be very time-consuming and yield little in the way of meaningful research outputs. One respondent indicated that South Africa does *not* have the necessary know-how to interact with other African countries, something that could be attributed to its long political and cultural isolation. This is also compounded by the strict visa requirements that make it difficult for researchers to meet regularly and easily (perhaps an issue for DFID to raise with governments in the region).

Asked whether funders should continue to encourage cross-country research collaborations, another respondent noted that while these are difficult, they do increase the exposure of researchers in the sub-region to new ideas and without the funding incentives to do so, these collaborations might simply not happen at all. Although one respondent has long-established, excellent collaborative research ties with individuals and institutions in the sub-region, he was dismissive of the role and developmental impact of state and sub-regional bodies such as the African Union (AU), the New Partnership for African Development (Nepad) and the Southern African Development Community (SADC), insisting that they were an “expensive waste of time.” Another respondent concurred, saying that ‘SADC is not making much impact [in agricultural research and development].’

Given the South African context, it is essential that in-depth research into the complex nature of poverty continue to be prioritised by DFID and other funders. Rigorous, evidence-based research can have a significant influence on policy by illuminating key strategic issues around poverty that are not well researched/understood thus far. These include the impact of the child support grants and other state-provided grants on the changing structure of family relations and domestic units. Importantly, policy-oriented research need not only be directed at government, since it can be very powerful in informing the understandings of social activists and advocacy groups in civil society, some of which will have better leverage in policy-making arena than academic researchers. There has been too little emphasis at understanding the unintended consequences of policy implementation and this is something that needs emphasis.

Donors should refrain from making demands that are too onerous on researchers and research institutions. The EU and USAID are regarded as ‘a nightmare’ and their reporting requirements are such that seeking funds from them has become quite unattractive to many South African research institutions which do not have the human capacity to manage the administrative burden that such funding partnerships entail. With most of the respondents supporting this view, it was also noted that a weakness of researchers is that they do not collaborate, and more often they compete with each other. DFID can organize events (compulsory meetings, workshops, etc) in which progress is shared, and report-backs are initiated by the funder. This should be a managed process. The collaboration could include UK universities, along the lines of the Dutch-sponsored South African-Netherlands Programme for Alternative Development (SANPAD) model. The objective is to build long-term relationships. DFID could contribute by building into research funding the protocols that commit research organizations to commit to inter-institutional collaboration. They should also apply incentives that seek to broaden research skills to take a holistic systemic perspective on the agrarian sector. Donors could be called upon to collaborate with

each other to consider a more standardised funding and project administration format. They should also consider co-funding, i.e. different donors funding different aspects of the same broader research programme, especially where it entails inter-institutional collaboration.

On the issue of managing research, respondents point to the Water Research Commission (WRC) in South Africa as probably the most effective in terms of managing researchers and research outputs towards developmental goals rather than knowledge generation *per se*. They understand the nature of research, the need for problem analysis, technological development, and are strong on the interaction between researchers and other stakeholders. In this regard, a DFID-funded initiative, the Southern Africa Trust, is starting to play an important role in the region and is seen by many as a useful model to replicate both in other priority themes and as a way of tying the different sectors and fields of research more closely together.

With respect to research capacity development, the respondents noted that there was little or no excitement about research or the generation of new knowledge among the students at tertiary institutions. This is very worrying. It is attributed to a growing anti-intellectualism and a commodification of the tertiary education sector, in which the criteria of numbers of students and through-put play a major role. There is a notion of university-based training of graduate students as essentially about helping them to meet their unrealistically high material aspirations that do not match their often modest skills levels. A study published recently in the *South African Journal of Science* noted that South African research output is entirely dominated by a cohort of aging white men. This looming crisis is exacerbated by the reality of no or very few black South Africans registering for post-graduate studies in the natural sciences. One problem is the low value of National Research Foundation (NRF) post-graduate bursaries which are pegged at pitifully low levels for M.Sc and Ph.d students. This means that the senior researcher who is able to attract funding, has to budget to top up NRF bursaries simply to be able to compete for the small pool of high quality graduates coming through. However, it was also noted that South African tertiary institutions have, particularly since 1994, been getting the 'cream' of African students from other countries on the continent. The longer term effects of this phenomenon are not well understood and need to be investigated.

The 'bibliometric' measures, such as the various 'citation index accounting systems' adopted by South African universities and the NRF in the effort to become globally competitive, militates against innovative, applied and transdisciplinary research that might not yield publications in the numbers required. Some respondents argued that the culture of developing and rewarding 'individual superstar' researchers through the awarding of 'research chairs' has a similarly negative impact. Further to this, as the corporatist screws tighten, many academics are said to be shedding those areas of their apartheid-era broader societal commitments to a progressive social agenda of engagement for the public good in favour of a pre-occupation with research rankings and citation indices. One respondent pointed out that the legislative requirement of community service is confined to very few professions, mostly in the medical field. Academic institutions have dislocated themselves from social engagement. There is a range of disciplines where voluntarism is not in evidence.

Another issue is that academic staff tend to work as consultants, which is not befitting an academic institution. They undertake work (on a confidential basis), which is then held back from public scrutiny and peer review, but the work is given legitimacy because it is associated with the peer review mechanisms of the university. Land and agriculture are the worst offenders, and DFID is part of the problem. Some of the research money was part of that.

3.2. “Killer diseases” and research into healthcare

Some of the positions articulated by respondents in this field took a noticeably harder line, particularly with respect to the urgency (or lack thereof) with which Northern donor funding agencies are perceived to be approaching the critical issues facing healthcare in South and southern Africa. The frustration, expressed especially by those at the coal-face of HIV/AIDS interventions, is probably to be expected, given the political equivocation and apparent lack of urgency with which the HIV/AIDS pandemic has been tackled both in South Africa and in the international arena.

A respondent observed that more than ten years ago, several agencies, including the Council on Health Research for Development (COHRED), WHO and the Global Council on Health Research, came together to discuss countries' priority research areas. They acknowledged the '10-90' gap in which 90% of the research was targeting 10% of the world's population, based essentially in the developed world. Issues that were raised included research funding, location of research and equity considerations, as well as research skills and technology.

The same respondent observed that in the last few years funding has determined research priorities, which begs the question: is DFID serious about funding the priority issues as identified by stakeholders in South Africa? If it is, then it has to support broader processes, and to link to country processes. In South Africa, there are relatively better processes for planning and intervention, starting from the President's 'State of the Nation Address', which gets translated into bureaucratic (used in a positive sense) processes, and is explicitly linked to indicators of progress and future funding, which focuses the attention of cabinet ministers and senior managers in government. In contrast, the recent G8 meeting merely rehashed the priorities already developed by African countries, but without committing funding to meeting these priorities. The MDGs were also regarded as, for all intents and purposes, having 'fallen off the global agenda.'

As South Africa, one respondent suggested that we needed to take our cue from these sets of goals and commitments (MDGs, G8 and country priorities), but to look at the areas of overlap with our own priorities, which would then form the focus areas for intervention. The same respondent noted that she serves on a knowledge network, the Common Social Determinants of Health (WHO). One of the strands of their work on which they are due to report next year is how to turn existing knowledge into actionable programmes. What has emerged as important are the relations between health, development and macro-economics, and to look at and learn from what worked in the previous strategies.

We should adopt a holistic view in developing research strategies, noting the three main components: the national context, international funders and civil society. Although there is a 'global frenzy' right now about how to use evidence to generate and underpin policy, the importance of capacity building at the local level should not be overlooked. A balance must be struck between national and local levels. Currently, most resources get sucked in the national level, but there is an urgent need to develop capacity from the bottom up. The real need is to strengthen the capacity of the agencies implementing HIV/AIDS and other health-related programmes and also civil society in general, because the stronger civil society is, the more successful it will be in keeping government on track.

South Africa has a rich tradition of research and has good experience in identifying research demands and priorities, but these are not easily accessible to all stakeholders. In terms of HIV/AIDS research, funding has determined growth of research on the subject, but the quality of the research conducted has been impressive. In terms of what we have learned from this process, we are more aware that we need better coordination of the research effort. We need mechanisms that enable learning and to build on our experience. We also need to have more accountability mechanisms. At present there are insufficient opportunities to share knowledge, or to develop areas of new knowledge. DFID can organize meetings of research grant recipients to share knowledge, e.g. in curriculum development. There are different types of opportunities for exchange. In a southern African context, South Africa has better infrastructure and has developed a level of knowledge which it needs to share. DFID can support regional networking opportunities where the emphasis is placed on 'how-to', rather than interactions where the main objective is to share the content of research.

As to how DFID can provide more effective support to research suppliers and knowledge intermediaries in Southern Africa, one respondent suggested that this is a complicated issue. Currently, the key issue is the adoption of realistic timeframes for research. There should be adequate funding for substantial research projects, because funding larger projects has lower administrative costs than funding smaller projects. In addition, more people can learn more, there is the possibility of a greater contribution to knowledge, and the potential to develop research capacity.

DFID could assist by supporting access to information on the part of African researchers. Part of the reason for the North/South divide in research output is that in the North most research is university-based, with ready access to online journals and other materials and opportunities. In the South, considerable research is done outside the university environment, where there are fewer resources available to researchers. Even in the universities, however, the same level of access as in the North does not exist. There is a big difference in the intellectual and research 'playing field', which is not conducive to open collaboration. However, there is undoubtedly scope for British scientists to learn from South African experience in research implementation, and not to confine intellectual property to journals, but to use them in technology transfer and uptake.

In terms of what DFID should fund, it is clear that while it is free to develop its own niche within the broader framework of research needs, it must not duplicate the work

being funded by other donors. For one, on relations with other funders, the Paris Declaration makes provision for donor alignment. A respondent from Sida noted that DFID and Sida already dialogue and work closely together. There should be a degree of flexibility and not rigid demarcation, but if DFID is serious and wants to have clear objectives and goals, e.g. assist in fight against HIV/AIDS, its programmes must be aligned to the national Strategic Plan programmes and targets, as well as to national research programmes and policy. For example, a major target is to reduce infection rates. DFID must consider how it can assist South Africa to reach that target, through research and policy implementation.

In South Africa, we have the Departments of Health and Science & Technology, the Health Research Policies of the Medical Research Council, and other research generating bodies. A similar situation exists in other countries. It is admittedly difficult for DFID with so many players, but we want to see them engaging with a broad range of key stakeholders to maximise the impact of the resources they bring. For this reason, it is also strongly suggested that funders should talk to each other and while alignment may be asking for too much, they should seek to coordinate their programmes to a much greater degree than is presently the case. Issues to be clarified include the duplication of funding, and issues of transparency on the part of donor agencies, i.e. making clear the criteria for funding and the pathways to such funding. DFID, especially as it is held in high regard and given its increased resources, will be well placed to play leading role in this regard in South Africa.

In terms of research uptake models in the AIDS arena, there is a need to look at how to increase the capacity of civil society and lobby groups, for instance by analysing models such as the Global Development Network research fellow programme. More support should be given by funders like DFID to following up on research that has already been completed. Because funding timeframes are relatively short, they do not include sufficient time for follow-up. Furthermore, the research cycle should be extended to include advocacy and utilization or uptake of research findings. In terms of the types of research to fund, a balance should be struck between basic and strategic. DFID should thus take a multi-year strategy, a medium- to long-term view in terms of health systems research, and maintain a keen awareness of the time horizons in which impacts can be made. Scientists can benefit from interacting with the public and policy-makers. The Wellcome Trust in the UK is a sophisticated model of engagement with society. Stakeholder inclusion is an important facet of work in research councils.

One obvious area for research support is maternal mortality. There is still an unacceptably high rate in Africa, especially in Sub-Saharan Africa. Since the knowledge on how to save the lives of these women exists, what is required is to fund programmes that tackle this issue. The question is why is this evidence not used in setting funding priorities? Moreover, once programmes are funded, they should be supported if they deliver, and funds should not be diverted to other, more fashionable areas. One respondent suggested the need to understand how and why and when an issue comes to top the development agenda.

Another area that should be given greater support is the sexual violence research initiative, which is part of a global network. This initiative has strong regional links in

southern Africa, and uses all media and opportunities to share its findings. Important work in this regard is supported by Sida. It could serve as a model of how key areas in health and gender might be supported. DFID is supporting the curriculum development process, but huge gaps remain in this initiative. In the first instance, we need to develop greater capacity in prevention and testing. The issues around the intersection of gender-based violence and HIV/AIDS are (i) how services should respond and (ii) how response models should take gender into account. Another issue is the *evaluation* of prevention intervention programmes, especially those dealing with behaviour change interventions, i.e. norms and attitudes related to gender and to HIV prevention. It is important to understand better how these can be used in a variety of settings, including health, schools, higher education, etc. Another preventative issue to be considered is male circumcision, using research to support a policy on male circumcision, and what that policy would look like.

Trends that are emerging within prevention include the emerging evidence that changing gender attitudes is the key to changing practices. Others are the issue of male circumcision (discussed above) and that all prevention hinges on behaviour change. We need to research health systems to feed into evidence-based policy, how to get the message across that some behaviours are more effective than others, i.e. condom use and reducing the number of partners. HIV/AIDS remains a big issue and we cannot rely on anti-retroviral therapy (ART), we have to do much more to stop the rate of infection. We need research and intervention in respect of the ways in which health services work in rural areas so as to deepen our understanding of what is appropriate in those contexts.

Another issue that is neglected but is becoming increasingly important is the issue of mental health and HIV/AIDS. There are very few psychiatrists, esp. in the rural areas, and there are few efforts in developing our knowledge of the links between mental health and HIV/AIDS. HIV/AIDS is associated with high levels of morbidity, it affects people's ability to cope, even with ART (which has mental side-effects), and there are high levels of suicide among sufferers.

In the specific case of HIV/AIDS and the South African National Strategic Plan, one respondent noted that she serves as the Chair of the Research Council of the South African National AIDS Council. In their deliberations, two issues are coming up, (i) the ability of systems of delivery to cope with policies and programmes that have proven to be workable and (ii) aid effectiveness, where it has emerged clearly that small amounts of funding does make a big difference, even though it is understandable that it is easier for funders to disburse bigger grants. Nevertheless, there should be some consideration given to have seed funding or discretionary grants that respond to small, but effective, interventions.

One area of health systems research already funded by DFID in KwaZulu/Natal is that of the routine surveillance and monitoring of child health indicators, as well as research into the role of nutrition in the Prevention of Mother-to-Child-Transmission (PMTCT) of HIV/AIDS. This respondent felt that important gains could be made through the prioritisation of research into children and the health of women in rural South Africa. He bemoaned the amount of existing knowledge that is not turned into practical programmes of intervention. He called for research to be conducted in the

capacity and leadership for delivery in the health system and he was adamant that integration was the key term in this sector: this included an emphasis on family planning, PMTCT and antenatal care. He also stressed the value of South-South collaboration and is keen to see the existing relationship between UKZN and Malawi in the training and exchanges of doctors in paediatrics expanded, but emphasised that such training had to be done on a supernumerary basis, i.e. that the trained doctors had to return to their countries of origin and should not be encouraged to stay on in South Africa. On building capacity, he noted that there were 'no shortcuts to training' and that there was a pressing need for more mentoring to build capacity, which was something DFID could consider directing resources to.

Another respondent, a civil society activist in the health sector, suggested that she was only interested in research if it was action oriented. One area that required urgent research attention was to understand the socio-economic plight of so-called AIDS orphans, whose mothers have died. In general, she called for localised research that relates to local contexts, rather than 'evermore research that contributes to policy development'. As long as the local research could be shown to be rigorous (with confidence levels being a key measure of this), it was likely to get attention in the media, which would elicit a response from government officials, in this case, in the Eastern Cape. This respondent's work is mostly with children centres (for AIDS orphans and other abandoned children) and there is a real need for research into the broader socio-economic conditions – and the historical context of social decay - that underpins the movement of impoverished people to towns. This will provide an understanding of just how these issues impact negatively on people's health status. Urgent research was needed around the overlap between AIDS and TB. The latent TB prevalence is very high and in the current waiting period before ARTs are administered, TB has an opportunity to take hold in a vulnerable adult or child's system. The presence of extreme drug-resistant TB may be linked to this. The links between water provision and health were critical in both rural and urban areas, in fact wherever poor people were concentrated.

In respect of what kinds of research should be priority for DFID in southern Africa, one respondent felt that this depends on what DFID's strategic intent is. If it is to support collaboration with UK-based scientists, or if it is to be integrated with other SADC countries, then this will affect the manner in which it commissions research. One advantage South Africa offers is a leverage point for research efforts in Africa, as it has comparatively greater resources and competencies. The research funding model would presumably differ across countries. If implementation and impact is the objective, then programmes must be adopted in full consultation with government. The governance mechanisms in South Africa, whereby central government disburses funds to provinces on an equitable share basis, and provinces are responsible for service delivery, are challenging. For one thing, there needs to be proper monitoring of baseline and progress over time, for e.g. in respect of research and prevention programmes for Tuberculosis (TB), which is re-emerging as a major issue in South Africa.

Having said that, it is clear to one respondent (a cardiologist by training) that donors are often quite short-sighted, focusing (to the point of obsession) on the infectious 'killer diseases' such as HIV/AIDS and TB, while the developing world carries the

world's burden of heart disease and stroke. Chronic diseases (heart, stroke and diabetes) typically affect people in their middle age years. In the developing world, this happens ten years earlier than in developed countries. The resources to treat them are lacking in developing countries, making it important to prevent. This requires us to take a medium- to long-term view. Another emerging trend is antibiotic resistance, which is more severe in the West, but is growing on developing world. Another trend is the impact of climate change on health, with the consequences being an increase in skin cancers and the increase in temperatures affecting diseases like malaria. There is scope for collaborative work in all these fields.

One emerging global trend to research relates to the environment, particularly to toxin poisoning. There is evidence that lead poisoning can contribute to coronary diseases and to aggressive behaviour. The role of diet and environmental pollution in heart disease, stroke and cancer, also needs to be pursued more vigorously. The experience of the US can be applied in developing countries.

An important opportunity for cross-learning exists in the area of school-based diet programmes. South Africa would like to learn from the UK model. In South Africa, there are over-nourished children sitting alongside under-nourished children in schools. Increasing (though uneven) prosperity, and its implications for children's health, is something South Africa would like to work on with our British counterparts.

Capacity building is key to a sustainable health research system. We need to take a medium- to long-term view, as well as programmatic one. This entails supporting research at Masters and PhD levels and beyond, and ongoing interaction with education and science councils. Other issues that must receive attention include how research is done, for instance, how research programmes are constructed and even how research questions are phrased. A question that must be continually put is how useful is this research likely to be in the context of a health pandemic? The Swiss Agency for Development & Cooperation (SDC), for instance, have 10 key principles on collaborative research, among which are value for money, flexibility, clear accountability, and collaborative partnerships, including criteria, report-backs. It is important that the goals set out in the MDGs continue to feature in research programmes, so that it is spelt out for instance, who the beneficiaries of research interventions are and how are poor people likely to benefit? Overall, the research agenda must be both oriented and implemented in a pro-poor manner.

It is clear that poverty exacerbates natural disasters, and the poor are prone to environmental shocks. A great deal of work has now been done on poverty and social exclusion. More work needs to be done on the impact on the chronically poor, who have no means to withstand these shocks. At a macro-level, the findings of the Common Social Determinants of Health recognise that the lives of the poorest people have not improved. Generally, research and intervention fails to take into account these social determinants, nor have the broader inequalities in terms of trade been factored in. There is a critical need for consistency in approach to these overarching issues, if these pressing global problems are to be tackled effectively. The International Poverty Centre in Brazil (which is part of the United Nations Development Programme) is one institution which keeps the issues of MDGs, aid and trade alive in international debates. There is scope for South/South dialogue - that

could be supported by DFID if it is serious about this agenda - about how to push for greater material flows from the North for what are often laudable but increasingly hollow commitments of support.

In the South African context, research and advocacy work on gender issues, specifically how to build gender equity through working with men. One respondent noted that another concern, more limited to South Africa, is a fear that we will see a 'rolling back' of the significant gains in rights, especially in respect of gender and broader human rights, if a populist president is elected in next election.

The definition of civil society should include all non-government actors, and this sector should be strengthened through programmes that encourage dialogue and learning, not least in ways to engage with the state more successfully.

3.3. Research into good governance and social policy

Southern Africa's weakness is that it does not have strong regional networks and that is where DFID can play a useful role. Two things that DFID is already doing that are appreciated are that it is currently funding research networks outside the state, and its pro-poor policies have made an important contribution to the discourse of development in general. One respondent would like to see this pro-poor stance reflected more in the discourse on economic development.

DFID can play a greater role in supporting policy-oriented research, at the state and non-state levels, and for programmes and strategy. In the budget allocation for research, the inclusion of stakeholders needs to be provided for, and it must not be included as an afterthought. The principle of bringing all stakeholders and constituencies, and specifically those who are the ultimate users of the research, into the research design process was emphasised by a number of respondents. Research projects should allow for the voice of civil society to emerge. Where this is not evident, the research process should be encouraged to actively seek it out.

The provision of international expertise is appreciated, but this also comes with its own dangers. The development and nurturing of local (black) expertise must be embedded in the research initiatives. This means DFID should not rely on the same stock of white (usually male) South African researchers to head their research projects, but actively promoting the inclusion and development of black researchers. DFID has been poor in representivity, and a mentorship programme must be built into research projects, but one respondent cautioned against increasing the pressures on the need to do excellent research by trying to turn research projects into capacity-building initiatives, which actually need their own dedicated resources and expertise, of which good models of best practice already exist in South Africa.

Also, the expectation that the experts will take a pro-poor stance is misplaced, hence the need for greater representivity. The overall 'democratisation' of the research process through the real empowerment of and participation by research partners and the wider stakeholders from the South.

In response to the question on what kinds of research should be priority for DFID in southern Africa, it is suggested that on a general note, everything besides pure basic research should be supported. In addition, research communication and dissemination should be built into the research project from the outset. This can be done if you have stakeholder (especially pro-poor) participation in projects, as was the case with the DFID-funded Employment Promotion Programme (EPP). The question is how to effectively integrate the academic perspective with stakeholders' perspectives, and ensure they are talking the same language, while at the same time protecting the independence of the research process. Also, there should be no veto on research projects or approaches from any quarter (for e.g. the acrimony that has accompanied debates around HIV/AIDS in South Africa).

The South African experience demonstrates that policy-oriented research can be useful in the sense of contributing to effective policies. In the final analysis, all stakeholders must have a voice. Where some of them do not have a voice, a pro-poor stance by some stakeholders can compensate for this, e.g. COSATU advocating on behalf of the poor. In other parts of Africa DFID has tended to fund implementation. In South Africa, the focus has been on higher level policy work. This raises the issue of what is the appropriate focus of funding for middle income countries, and this should be an issue for consideration by all funders.

Right now, the focus of DFID and other funders should be on funding the work of non-state actors, as government tends to underfund this sector, as well as to fund research which it deems will be responsive to its policy objectives. Consideration should also be given to the longer-term sustainability of programmes and initiatives. The question must constantly be entertained of what would happen to this initiative if funding was terminated? Even in South Africa, we should move away from dependency on a small number of donors.

In the related fields of social and economic policy, one respondent noted that inherited state structures, which were historically repressive, have not been democratised enough yet. Economic policies are not geared to dealing with poverty, although social policies are (for e.g. social security). One example referred to was that of University-based Departments of Economics that conduct research on employment creation, but without a focus on poverty. The impact of un/employment on poverty must become a key research question given the current conjuncture in South Africa. This lack of emphasis on poverty by state and academia is exacerbated by the fact that poor do not have voice, and their proxies have no power.

Research on how to streamline the coordination of social services and how this relates to poverty needs to be undertaken. In terms of democratisation, research also needs to be done on how to mobilise communities, and how to set up different kinds of community organisations that would have voice and power. Social services view people as part of households, we may need to think more in terms of community groups. Two other issues relating to governance that DFID could support are legislative drafting and the budget process, and to ensure a pro-poor perspective is reflected in both.

DFID should look to continue supporting and exploring the potential for pro-poor sustainable growth, but it should move beyond sustainable agriculture to deliver economic growth. We need to look at agro-processing as well as at a broader strategy involving manufacturing, tourism, etc. We need to think of it as rural development rather than just agriculture, and look at the economy in general, the linkages and how markets can be made to work for the poor.

Work done in the provinces of Eastern Cape, Limpopo and KwaZulu/Natal initially by GTZ, then by the European Union's *Thina Sinako Programme* and the Department of Provincial and Local Government (DPLG) around local economic development (LED) – which included some dialogue with the DFID-funded FinMark Trust and ComMark Trust - has led to notable successes in both stimulating local economic activities and catching the attention of provincial departments and local authorities. The research component has been minimal and has been action-oriented. On the whole, the intervention has relied mainly on existing research to provide the context for project implementation. Input and support has also come from National Treasury with capacity building taken seriously. Despite some onerous requirements on the part of the EU, such as the 'preferred contracting mechanism' that can deliver appalling inappropriate consultancy advice, much has been learned through trial and error during the course of setting up and managing this programme and it may be a model that DFID could spend some resources studying.

On the issue of prioritisation of research themes (as DFID has done), we need to consider what implications this has for funding. What happens to the non-priority issues? Do they fall away and if so, what chances of success are there for approaches to DFID for research funding in other strategic areas that are or may be deemed to be a priority for South Africa?

Related to the above is the question of consistency and continuity. Development is about the long term. Most donors, including DFID, develop and/or support strategies on 3-5 year term, some even shorter. One respondent commented that 'donors are in the business of writing strategies'. What has been done to implement the previous strategy? A related issue concerns which group of social actors makes the most telling inputs into DFID's priority research funding areas? One respondent noted however, that as long as the priority areas were sufficiently broad, researchers had the space to define the actual parameters of the research they wished to undertake. The issue of the international 'politics of donor funding' was also alluded to by other respondents. The UK administration is currently focused on climate change, which draws attention from other key development issues. One respondent argued that activities are supported in an isolated manner, not as part of a research trajectory and that the issue of linkages needs to be looked at in a more systemic way.

Our understanding of research is still quite academic. Action research and policy research are also 'research'. In fact, there are a lot of different research products available. The question of how to take information and knowledge resources and move to policy-influencing relates to the modalities of engagement. DFID, and other funders, should provide more support to the policy process instead of the production of knowledge materials *per se*. They should work with multiple stakeholders who produce knowledge and take this into actual opportunities for engagement between

advocacy/interest groups (representing the poor), together with networking organisations.

A perspective from the Southern African Trust is that DFID can do more to insert research support into the policy development processes of the region. Often policy processes in the region are bypassed and what is needed is facilitation of the interaction between official and non-state processes. There is a need for more intermediary organisations with the necessary credibility to provide linkages between these actors and processes.

There needs to be greater coherence in what is being done in the region in terms of research and implementation of programmes to address poverty. Often the multiple initiatives that are underway do not talk to the policy processes. Much research can be regarded as part of the policy pipeline. The goal should be sustained impact on poverty in the long term. The research and policy communities should be supported to take research into implementation and policy dialogue. Evidence shows that public-private dialogue platforms lead to good policy. These platforms are usually absent. One respondent recommended that DFID look at both levels of intervention – the national and the regional - in linked manner. This requires additional work to establish and build on existing partnerships for research collaboration.

There is always a need for new research, although there is the danger of following research whims. One recommendation is that DFID should focus on socio-ecological regions, and implement a number of activities at local level (e.g. village level) to promote learning. At the moment the impact of aid is largely unfulfilled. Strategy and operations are all happening at the macro level. One solution, a respondent suggested, would be to require *embedded partnerships*, a practice which is common in Australia. These entail the securing of co-funding from local partner organisations such as local government or Catchment Management Agencies, for commissioning particular pieces of research. The effect is to tie at least some of the research outcomes far more closely to the stated requirements of the local funding partner. This is possible in the South African context, where financial resources are often less of an obstacle than human resources but arguably less so in other Southern African countries where the reverse might be true.

A respondent pointed that what is needed is a mix of new research and the further elaboration of existing research. Funded by DFID, the Southern Africa Trust focuses on the gap between national and regional research, especially research that relates to the poor. While there has tremendous investment into new research, previous investments into research have not been put into use. This leads to an endless accumulation of knowledge that is not used. Many institutions do not have the capacity to use this knowledge. Issues considered research-worthy must be as much demand-driven as supply-driven.

Academic institutions, by and large, must be supported to become more active in the public sphere, and to be engaged in the social and policy domain. South Africa has institutions that have capacity that can be leveraged to have an impact in the African sub-region. The World Bank for one recognises this. South Africa can use this capacity to create and bolster capacity in the region, although this remains a

politically sensitive issue. Social, political and economic growth is dependent on institutional strength. The evidence-based approach remains the right way to go, but the challenge is to link this to policy processes, especially as the democratic linkages are often missing from the evidence-based policy agenda.

One of the lessons that can be drawn from Africa and South Africa is the importance of regionalism. DFID is not good at the regional approach, even though the evidence exists that a regional approach supports economies of scale. At the regional level, NEPAD approached DFID regarding regional activities, with key transboundary issues identified as trade, HIV/AIDS and the mobility of professionals, including researchers.

In South Africa, government departments are the agents who are developing policy. At the moment, Parliament is trying to beef up its research capacity, using the evidence-based approach. This development must be extended to the region, so that parliamentarians operate in that way rather than being politically driven. One way of doing this is to more actively link civil society research institutions across the region.

Major issues are regional integration, economic growth and agriculture, climate change and poverty in its broad outline. Overall, a key issue is to insert civil society, which is weak, into the policy dialogue. There are inter-government institutions which attempt to create dialogue space for non-state actors, e.g. SADC Secretariat. The priorities in the SADC Consolidated Plan of Action are energy, water, HIV/AIDS and health, and biodiversity conservation. A major area in which to focus resources is that of exploring the links and trade-offs between water and energy in the Southern African context. SADC has a partnership with DFID, which assisted with the development of a detailed business plan for the energy and water nexus. The elements of the plan are to create networks and centres of excellence and make technology available to the poor. Issues around economic integration, regionalism vis-à-vis local imperatives and tensions between local initiatives and regionalism, need to be addressed on a continuous basis.

Challenges are the availability of information on the various technologies, i.e a solution data bank; using Africa's biological resources to generate bio-energy, and for research institutions to work at community level in forestry and agriculture, as is being done in Finland; and water, which relates to climate change, as well the challenge of water security. Water security is an issue, because of the degradation of water sources and rise in water-related disasters (floods and droughts). A challenge is that water security is generally treated as a supply issue, with insufficient focus on developing water sources, and facilitating access, as well as the enabling institutional arrangements.

With regard to poverty, a key objective is to influence stakeholders, to ultimately lead to poverty eradication. Opportunities must be identified for stakeholders to engage each other, with one forthcoming opportunity being the SADC Conference on Poverty and Development, to be held in Mauritius in April 2008. Regional civil society organisations, including business, must be assisted them to organise themselves in order to facilitate dialogue with governments.

In terms of aid effectiveness, an emerging trend is that there is a chance that civil society (non-state actors) may lose out. The main instrument of aid-budget support goes to government, with the assumption that government will support development, including engaging with and supporting civil society. But there are no mechanisms for this to happen. Even if this did happen (i.e. aid flows to civil society via government), the independence of civil society would be compromised.

On a related matter, DFID subscribes to a rights-based approach with its progressive realisation of socio-economic rights 'within available resources', but one respondent felt strongly that this approach must be extended to include the fundamental right to social accountability that would serve as motivation to civil society in general and to citizens in particular to participate more actively in governance processes.

The same respondent wanted to see DFID moving beyond the rhetoric of 'making governance work for the poor'. This approach he felt, needs to be grounded in the cycle and processes of public resource management on the part of the state. In strengthening governance processes, it is important to recognise the different but mutually complementary processes in which to contribute. First, there is the *legislative arena*, where the constitutionality of institutions and processes can be the focus of attention. Second, the focus can be placed on the *implementation processes*, analysing the different levels of government and third, there is the arena of *social auditing* which keeps track of actual outputs or 'delivery' in public forums. When it comes to the enhancing the capacity of civil society to engage with the state over its performance, actors in all these three sectors need to join up and speak to each other. Civil society needs to take a fresh look at how it should engage with the state. To do so effectively, activists and social movements require a set of technical skills that equip them to extract evidence from the public sector. If DFID is to take its role as a funder of civil society seriously, it will have to discard the misconception that it must not be too critical. To date, much of its work has been on lobbying and networking with individuals and an emphasis on policy level work. This is in contrast to Sida which has been particularly vocal in its critique of government policy on HIV/AIDS.

In the same vein, another respondent noted that an important trend that has been observed is that resources going to civil society tend to be packaged in terms of service delivery. This compromises the ability of civil society to engage in policy dialogue, and causes them instead to deviate from their strategy. The resources for development from donors also tend to be channelled via Northern civil society organisations, which can undermine the capacity of African civil society as, yet again, most of the resources are used for service delivery rather than capacity building.

A global issue to address is the issue of aid for trade, that emerges of the WTO process. The problem is that developing countries do not always know how to develop responses/ strategies on agriculture, production and market access. The assumption is that developing countries will develop through agriculture. This is not necessarily the view of DFID. An important aspect to keep sight of is that growth *per se* does not lead to poverty reduction. The poor must become productive forces of growth. Issues of inequality must be addressed in the first stages of growth. There is an urgent need to conduct research into strategies to bring other stakeholders into

service delivery, for e.g. in Uganda and Kenya, where social franchising is handled by non-state service providers.

Another set of issues relates to education and human capital development, especially research in and for higher education, where DFID has been engaged. In the 1990s, there was a strong focus on primary education. Now there is a need to develop local research capacity at higher education level. Note that higher education is not only located at universities, but in other tertiary institutions as well.

3.4. Research into the impacts of Climate change

A specialist in this field noted that while South Africa had to deal with a host of significant short-term issues, climate change should best be seen as a medium-term issue, although options to address climate change can have short-term benefits. He cautioned against a panic setting in that could give rise to a great deal of resources being wasted on 'maladaptation', i.e. moving in the wrong direction in trying to adapt to the effects of climate change, or investing in areas of change that may not be needed. One example he cited was if serious research efforts and resources were put into developing new, drought-resistant crops, when the likelihood is that rainfall will increase. Risk management is the realm we now inhabit, especially around rainfall, because our ability to predict what will happen to rainfall is still quite poor. The 22 models that were run for Sub-Saharan Africa do not even agree on the sign of change for rainfall, which makes it very difficult to formulate recommendations for government around planning for climate variability.

This respondent suggested that the key concept was resilience adaptation (as opposed to acclimation adaptation). Resilience adaptation is about developing the capacity to 'bounce back' from extreme weather events, other calamities and the heightened variability associated with climate change. Acclimation adaptation is all about adjusting to a changed climate state, whether directing resources at, for instance new crops or at water delivery technology that can thrive in higher temperature regimes. This is going to be crucial, but it is possible that we could go overboard with it too soon. Rather, it is resilience adaptation where, in the South African context, maximum research effort should be directed: how to enhance the ability to cope with droughts, floods and so on, as well as how to cope with high climate variability, which is projected to go up.

Respondents, many of them internationally regarded scientists, drew a strong connection between resilience adaptation and poverty. It was pointed out that the livelihoods of the poor tend not to be resilient and building their resilience will need to be seriously addressed. For one thing, the poor do not have investments in the form of savings or insurance to bounce back and this leads quickly to humanitarian disasters that, as calamities hit with greater frequency, cause things to spiral downwards. Investments in disaster risk management will have to be stepped up in South Africa and elsewhere, as will support for humanitarian and development organisations working with the most vulnerable. The work of the National Disaster Management Centre (NDMC), and the vast and burgeoning literature on disaster and

risk management should forthwith be more systematically integrated into the scientific conversations around climate change.

In drawing the well-known distinction between mitigation and adaptation, one respondent pointed out that mitigation may well involve 'plenty of economic opportunities and benefits', i.e. prove to be profitable for the private sector through investment, development and commercialisation of new technologies that mitigate the worst contributors to climate change. This meant that in the medium term, the mitigation of climate change – i.e. all efforts to cut carbon emissions – is likely. The same respondent suggested that his newfound optimism rested on the fact that there has been a complete mind-shift in the international arena around mitigation, with "governments all over, including South Africa, and internationally countries like Australia, have woken up to the seriousness of the issue" and that, as he put it, "the flip by business has happened". He explained this 'flip' as crucial, in that the private sector needed to be part of the solution, a situation which would be driven by the exploitation of mitigation technologies, which would be assisted by state-subsidised research and development. In other words, the private sector had come around to regarding climate change as a business opportunity rather than only as a serious risk.

By comparison, adaptation is less likely to be attractive for investment by the private sector. Here the potential for profits will be lower and this area will require more public investment in what can be regarded as 'societal benefits' aimed at reducing future social and economic costs of climate change impacts. A range of so-called "green collar" jobs could emerge from adaptation work and we should start to look seriously at this area in terms of state investments in employment creation.

One respondent was keen to distinguish between adaptation and mitigation as follows: adaptation is proactive response that builds on physical science knowledge. Mitigation is a probabilistic projection of climate change that allows for informed speculation on how to build resilience into our future actions. It is a much more nebulous arena and is driven by the specific 'politics of mitigation'. Africa has a key role to play in mitigation debates, in terms of the establishment of long-term political processes, but not in terms of immediacy of need. In some senses, Africa even needs to be given the space to grow its emissions, so that we can overcome some of the historical developmental constraints, given all the stresses on the system already. Thus to propose an additional mitigation component at this stage is quite onerous. Rather it is more important to push adaptation.

In this respect, the question of South Africa's role in developments around climate change depends on whether our role should be seen as (i) one of the nations of Southern Africa or (ii) or is a regional catalytic role. One respondent opted for the second position. We should play a leadership role here, but we should also pay attention to how our foci for action are relevant to how we catalyse other countries. This comes down to adaptation and foundational physical science research geared to understanding the system so that we can do risk management more effectively. Mitigation work here does not contribute much to risk management because our contribution to global warming is proportionally small. We need to be advising countries like Mozambique around adaptation not mitigation. Even though they have

to get to grips with latter, in the context of ten tropical cyclones hitting Mozambique in the past year, it is the former that they most need assistance with.

On the issue of linkages, international organisations have recognised that there is value added when countries act in concert, for instance around climate change. The problem is that donors treat countries separately, and support research in isolation. The challenge is how to treat research as part of a system. The emphasis is currently on upstream causes of climate change, not on impact on the poor. Regionally, there is no coherent strategy on climate change: this is a significant gap. One recommendation is that DFID consider the importance of acting regionally. While regional protocols exist, there are problems in implementation. DFID should consider how to support the application of knowledge that has been developed, to support learning processes and how to absorb the research.

Respondents noted that there is a huge thirst for information on climate change, especially around adaptation from the general public, including the media. By comparison, although much of the media focusses on the 'what can each person do?' type stories, mitigation is virtually irrelevant to the person in the street, who is not really in a position to do much that is useful to reduce the major causes of climate change in the sub-Saharan or even South African context.

Asked where research funding for climate change should be directed, a respondent pointed to two areas: (i) better understanding the climate drivers of poverty and (ii) developing economic models of poverty with a view to raising the quality of life. Ultimately the goal must be sustainable development, so raising the living standards of the poor is critical. The links between biodiversity and livelihoods and how to integrate these two streams in southern Africa is an important area for research and interventions. 'Development' that damages the environment, cannot in the long run, improve the lives of people, so the two streams are intertwined and research must take this as its departure point.

One respondent pointed out that in terms of what needs to be added to the knowledge base, the field is wide open. However, two fields of knowledge stand out as critically needing to be addressed. One area is the theoretical base of how the regional climate system in Southern African actually operates. There remain a large number of unknowns, for example the nature of the coupling of El Niño to Africa, or whether the strength of the relationship is stable and as climate changes, there are suggestions that the relationship will change. The second area is CC feedbacks, which four of his Ph.D students are currently working. Addressing these questions can provide highly significant answers to the impacts of climate change on a regional basis. Many of these questions are unique to Africa. A respondent suggested that Southern Africa may be the single best field laboratory for exploring climate issues, because the sub-continent is so complex and diverse: it has gradients that range from the driest deserts in the world to tropical rainforests. Experimental designs from North America or elsewhere cannot be imported and be expected to work in this situation.

The WRC workshop on developing a climate change research portfolio for the water sector generated a considerable number of possible research avenues. All of these

recognised the cross-cutting nature of the impacts of climate change on water resources. Among the constituencies and sectors identified as relevant were municipalities, health, ecological reserve, agriculture, energy, mining, industry and other, including recreation. Some of the possible research projects to be considered for funding, i.e those not yet mentioned included – and recorded here verbatim – (i) improving hydro-meteorological networks in a manner that will permit natural hydro-meteorological variability to be distinguished from climate change impacts and ultimately support the validation, refinement and application of hydrological forecasting models, (ii) a data mining and modelling campaign to test that existing water supply and flood defence infrastructure (flood lines, river regulation) can cope with the full range of natural variability as the first step in climate-proofing, (iii) continuous refinement of agriculturally-relevant regional climate change scenarios, i.e scenarios including information on likely changes in crop energy balances, growing season conditions, etc.) that either impact on water use of rainfed and irrigated agricultural crops or provide benefits to agricultural production, (iv) an initial but comprehensive national assessment of impacts of climate variability and change in the health sector, focusing specifically on water-related illnesses. It was noted that such a project is urgent since it is known that vectors and parasites flourish under currently prevalent conditions of environmental degradation and change and (v) direct and indirect impacts on water quality/pollution (salinity, chemical and microbial, with or without implementation of adaptation/mitigation strategies), together with sectoral/intersectoral implications. Included here were concerns about the increased toxicity of some constituents of water quality (such as ammonia) under higher temperatures affecting fish and other biota.

The documents generated by the WRC also attempt to address cross-sectoral impacts. Cross-sectoral research needs are those that are best addressed by a range of investigators from different sectors working, together with local stakeholders, as a team to holistically assess the overall climate change impact on a system, which may be expressed in economic or other appropriate terms. Systems may represent sensitive ecosystems, socio-economic regions (such as provinces or district municipalities) or vulnerable communities.

With respect to the anticipated responses to climate change, one respondent pointed out that South Africa is one of the dirtiest economies per unit GDP in the world, and is being closely watched by other developing and some developed countries on how it plans to tackle its emissions. It is important that South Africa acknowledges its responsibilities and be seen to be taking concrete steps. If not, it will pave the way for other countries to shirk their obligations, citing South Africa as an example.

South Africa has developed core strategies around mitigating the effects of climate change. These include transport modalities, industry controls, energy modalities and carbon capture. DFID can support this country by taking these strategies further, especially carbon capture, where South Africa lacks the appropriate technological know-how. A participant at the WRC CC workshop warned against protracted searches for 'win-win' solutions that attempted to address both mitigation and adaptation. These can be time-consuming and often ultimately unproductive and should thus be approached with circumspect.

The issues raised around research capacity mirror those cited in the sections above. They include that South African research programmes are riddled with inconsistencies. The drive for transformation is having serious implications for stability in research leadership at the top end. At the entry level, one respondent noted the specific need for social and economic safety nets for previously disadvantaged students, in order that they are supported to become top scientists. One respondent noted that “in South Africa we have lots of talent, but it’s churning.” A serious problem is the departure from South Africa of talented scientists and the problem of talented black researchers being very mobile. The model of employment of scientists is changing: there are “few and declining numbers of established scientists with tenure, younger scientists on short-term contracts at the bottom, and a big gap in the middle”. People getting tenure now need mentorship and this must be done by the few established scientists, which keeps them away from doing science. This is not a good model for continuity.

Another respondent noted that South Africa is as good as, if not ahead of the UK in terms of science abilities around climate change research. However, he suggested that the South African research community is a fragile one which is small where, if one person leaves, the result is a gaping whole. He characterised the system as “excellent but fragile at senior science level.”

In pointing out who the key climate change specialists in the country are, one respondent pointed to only six other people. The most senior researcher among these was Professor Roland Schulze, a scientist of international repute who is also unique in this small group in that he is the only person who is a landscape hydrologist, probably the biggest point of vulnerability in Southern Africa, either from the flood perspective or drought perspective. The whole set of issues around building resilience to climate variability and change in water resource management practices and institutions is central to the adoption of successful CC strategies in Southern Africa. He pointed out that Prof. Schulze is on the point of retirement and that, although he will continue to be active, this area of expertise will need fresh, high quality research leaders.

All respondents felt that South Africa is not constrained by intellectual leadership, and the five South Africans who are currently IPCC lead authors contests to this. It is thus irritating, several respondents suggested, to have Northern partners who want to strike up partnerships with South African researchers, but want to patronise South Africans by dictating what the research agenda should entail. Often they do not understand the issues on the ground, so that their research agenda, whilst it may be impeccable from a science perspective, is misdirected from the perspective of relevance. Extensive, productive partnerships exist between South Africa’s preeminent climate change specialists and other international partners, for example, the Hadley Centre, Tyndall Centre and the Oxford office of the Stockholm Environment Institute, but the relationships are based on working as equal partners and working *with* each other, rather than the South African researchers working *for* those in the US and Europe.

Most interaction with Northern-based international students is based on their registration at institutions in their home countries with their Ph.D supervisor enquiring

about opportunities to work with South African specialists. It thus tends to be a bit of a 'parasitic' relationship and not very useful to local specialists. The bottlenecks in respect of climate change research in Southern Africa do not include finding or funding international students to study at our institutions.

The real question in respect of international partnerships is how to take the existing capacity of the North, and leverage it for Southern African relevance. It is not necessary for DFID to push an agenda of trying to force people to work together at the regional and sub-regional levels: South African scientists already have excellent regional networks and collaboration with individual scientists and at institutional level in Mozambique, Namibia, Tanzania, Botswana, Madagascar. They are already informing and communicating with governments in these countries, through doing large components of their national assessments for them.

South Africa does not experience constraints in terms of students either. One university-based respondent has 14 Ph.D students and 6 M.Sc students at the moment, of whom about two-thirds are working on climate change. This was in part made possible by him being a recipient of the NRF Chair in Climate Change. Universities are constrained in that they can offer the fairly modest NRF-linked bursaries, but when competing for the best students, one needs to be in a position to top up with other funding to make it more attractive. This results in a 'big hole' in the areas of post-doc and junior scientist positions, which constitutes a major constraint. It is difficult to attract quality people here because (i) for post-docs and junior scientist levels, funding is very hard to come by, so that all efforts to attract them have to be 'soft-monied'. The NRF provides R60 000 per year, but the market for good post-docs is pegged at R160 000- R200 000 per year. These are a small amount of money for DFID given that its currency of choice is pounds sterling. The NRF also has stringent requirements for the recruitment of South African nationals.

The career pathways for these people is a separate and big issue that government must pay serious attention to. There is sufficient interest to enrol for graduate science degrees on the part of students, but the same problem that all science faculties face, namely that black South Africans with an Honours degree can earn a salary comparable with senior faculty in the private sector, is a major issue. As a result almost all the black post-graduate students in this particular programme were from other Southern African countries.

Research (funding and project) cycles have been cut from five years to two years, which in many cases, results in a very superficial look at things and places unrealistic expectations and administrative burdens on scientists. There are some consultancies with excellent capacity, such as *SouthSouthNorth*, *OneWorld* and others, that do well. They are able to utilise the very good people spinning off the academic and research institutions. The DST Research Chairs which seek to define and develop critical areas of expertise, this respondent felt, are a step in the right direction. The funding for these Chairs is for an initial five year period, but the funding subject to performance reviews is for up to 15 years and represents a significant and noteworthy investment in research capacity. He noted however that "self-replacement, if the incumbent was a white person, is the ultimate aim." Another

respondent had an issue with the way the Research Chairs contributed to an elitism in science, which he felt is regrettable.

One respondent indicated that there was critical need to ‘think big’ and putting money down for the long-term: an initiative of ‘sustained thematic funding’ was the way one respondent put it. Another spoke about the need for a ten year programme to integrate climate change, poverty and sustainable development. Such a programme should have both its own, scientifically literate secretariat and core staff of respected scientists. The secretariat could carry the administrative burden, while the scientific core team could lead the programme through calls for specific projects on key issues. The aim would be to get the right people working together on a continuous basis, with a core team or (out-of- government office) researchers driving the research agenda. In contrast to this, a senior government (DST) official noted that government policy-maker are increasingly frustrated at – from their perspective - not being sufficiently able to influence research agendas.

Among the benefits would be to free up the scientists as much as possible to focus on the research questions over a longer period while engaging consistently with the different constituencies of stakeholders. This would help address the question of continuity and break the cycle of ‘short-term project cycles and deliverables’. Most of the research funding in South Africa is in this category, i.e. two year projects with defined deliverables. This presents problems for research momentum and leaves researchers chasing funding every year, which represents an administrative overhead, which is characterised by respondents as ‘obnoxious’.

There is a real lack of thematic, long-term funding and what has been offered in the past has tended to come with so many strings attached, both local funding and from abroad. The EU for instance, is a nightmare. DFID recently had a call for a ‘winner takes all’, 5-year programme. The process was incredibly top down and deterministic. Researchers were told, ‘this is the way it is, you play by these rules or you don’t play at all.’ Apart from the fact that it was a ‘winner take all’ situation (which makes for lots of losers in a situation where there are large numbers of bidders), there was an incredible amount of work to prepare the bids for the proposal. In terms of the loads that researchers carry in South Africa, this was grossly unfair.

The DFID-funded and IDRC-led CCAA process in Africa was characterised by one respondent as “a bizarre process which is totally opaque and top-down, where they make incredible demands on participants, such as we need X from you in two days’ time and then you don’t hear from them for two months. It is a very unpleasant process and quite frankly it is patronising.”

By comparison, the ACCCA programme has worked incredibly well (see www.acccaproject.org). This programme is running 14 projects in Africa at the moment and is a collaborative effort that involves the EU, UNITAR, DFID and/or DEFRA. In a tiered structure, the EU funding is directed to UNITAR and then to the programme. The researchers had no direct contact with the EU. There are four oversight partner-institutions which oversee the science component, one in Washington, the others being SEI, ENDA and UCT. The programme is structured so that African scientists determine the agenda and by putting out a call for (any)

proposals on climate change adaptation in Africa, were able to leave the scope of work wide open. The oversight partners then vetted the proposals and made some preliminary selections of work to fund. Significantly, they also generated a list of those proposals that looked interesting but needed more work and got behind these weaker proposals to strengthen them through developing a mentorship and facilitation process. This initiative developed on the back of the AIACC project (see www.aiaccproject.org), which ran for three years and was very successful. This all speaks directly to the issue of ways to grow *long-term thematic investments in science research*.

Asked about capacity in the sub-region, one respondent pointed out that Sub-Saharan Africa is 'maxed out' on research capacity to do climate change research. In many cases, there was literally one or two persons per country who gets swamped by requests, invitations and demands on his/her time from the international research community. One respondent suggested that DFID could consider supporting research institutions in other Southern African countries. Many scientists or researchers in general move to South Africa, as there are no sustainable careers and research infrastructure in their home environments. A top scientist at a well-resourced South African parastatal voiced his despair at being able to access only three international journals, and only because he pays for the electronic access himself. DFID could help in the critical area of funding African-based researchers' access to journals and thereby assist to get Africa included in 'the modern world' in respect of addressing the cost of both journal subscriptions and internet connectivity. This could also help to attract some top researchers to join a network which could perhaps offer benefits such as access to top journals and other literature.

At the IPCC and other international forums, de facto exclusion by overcommitment of the scientists is a serious concern. DFID could assist by supporting the direct research environment in which scientists in the South have to contend with. One small but significant area would be for funding for a team of research assistants, particularly in the acute periods in the lead-up to international events, and time for Southern African delegates to find common approaches to the issues thrown up by these global processes.

At the regional level there can often be a great deal of initial suspicion about research funding coming from the North and what exactly it is aiming to do. Northern partner-institutions are crucial to the research equation, but they need to work with credible local institutions and with government departments *from the outset*. In South Africa, this would include DST and DEAT, who both have competent people and good programmes. There are local networks of African and other researchers that have been set up to spread the benefits from cutting-edge technology, with respect to journals and bandwidth. The Research-Africa.net (www.research-africa.net) is one Pretoria-based network doing good work that could be used as a model.

What is needed is a stable platform which allows for the pursuit of excellence in scientific capability: training researchers, conduct sustained and systematic reviews of the key issues, rather than one-off reports of smaller areas of the debates, which upon completion are cited (or not), but not integrated into higher level understandings of the climate change issues. This platform could assist with ironing out the differing

views of the staggering amount of information available, and aim to generate a strong legacy of information that has been gleaned, sifted, cleaned and reported. For example, the current state with regard to understanding climate scenarios for Southern African, was described by one respondent as 'shocking'. The various projections from CSAG at UCT, the Hadley Centre, the two IPCC reports, the CSIRO and others – all make for a great deal of confusion. What is needed is a set of very careful reviews of the information available that is trackable and referenceable. Another respondent concurred in part by suggesting that addressing issues of probability and uncertainty was the biggest area of growth in the discipline. He went on to add that 'uncertainty analysis' is where the major research capacity gaps exist.

When researchers are forced to be opportunistic in responding to available funding, it makes for incoherence, as networks of people are assembled, work together and then drift away. Researchers are having to be "bottom-feeders, gulping at the morsels on offer." The Global Change research programme being finalised by DST, is very broad and has been a long time coming. Even there, it needs to develop niches for specific issues, one of which must be climate change, climate variability, poverty and livelihoods and how to tie these all together.

Closer co-operation with Australia is absolutely imperative: they have lots of research capacity, not least because of the inflows of top, well-trained people from Asia into Australia. Learning from and encouraging collaboration with Australia and other countries around adaptation and forecasting was seen as important. India has plenty of capacity of internet technology and is a serious potential ally in future, as is Brazil which is a very go-ahead country and brings interesting parallels with tropical Africa and language advantages with two of our SADC partners. The G77 has been strengthened by the growing co-operation between the IBSA countries.

One respondent suggested that China is a going to be a major player in Africa, but it is likely to be a 'two-edged sword'. There are significant benefits that could flow from investments by China, but because of the high levels of self-interest involved, the environmental downside could be serious. Although China has no commitments under the Kyoto Protocol, it has at home woken up to its major environmental problems and is rapidly shifting to nuclear power technologies. Internationally, however, its negotiating team has done a lot to weaken the growing international consensus for action around climate change. The Chinese have been very vocal and keen, for instance, to dilute IPCC messages, to buy themselves time to begin the transition to nuclear and 'green' technologies.

Getting research into use is often best done by going directly to policy and by interacting with the relevant government officials at regional and national levels so that they drive policy. The basic science must be done, but these findings must be captured in *reviews* that capture higher-level sets of (policy-relevant) conclusions, because this is what does most to draw the attention of policy-makers. The Western Cape province, for instance, has made great strides in adopting a climate change adaptation plan, which is to be ratified by (national) cabinet soon. It is important that policy-makers are informed by the latest scientific evidence, given the enormous surge internationally in information around climate change.

In a point stressed by several respondents, it is important that the emphasis – the sub-Saharan context - stays firmly on issues relating to adaptation and not mitigation, although this depends on who needs the information: if it is ESKOM and SASOL, then mitigation is obviously relevant. In the Western Cape plan, there are three broad adaptation components and one mitigation component. Important for policy-makers and other significant actors are both the impacts of climate change and the impacts of responses to climate change, the unintended consequences of international policy, such as increasing the tax on airmiles or food-miles, that can serious implications for instance, for South African fruit producers whose main export market is the UK and Europe. This could then become a WTO issue. There are a number of these big issues on the horizon, not least is the one between food and fuel and the impact of climate variability on food availability.

The ability of Africa and its regions to focus on CC-related research and development across the disciplines needs to be enhanced. An international conference to be hosted in Cape Town in May 2008 on 'Sustainable Development Pathways in the Changing Africa' will seek to address this issue. Businesspeople need to be drawn in. These sorts of meetings are very important in galvanising action and keeping key institutions to their stated commitments, eg. the 2005 Midrand Plan of Action. The 'Carbon Disclosure Project' in South Africa, in which ESKOM has disclosed its dramatic carbon footprint is an important step forward. Conferences and symposia are important, but there is a need for an approach that is more systematic and makes provision for 'herding the cats.' The only authority that is emerging now in this regard is the DST's new R&D Strategy that could well become an important compass if the implementation is followed through properly.

Asked whether DFID should invest resources in getting multi-disciplinary 'think-tanks' of specialists in various fields and disciplines speaking to each other, one respondent felt it depends on what the issues to be addressed are. Good stakeholder engagement with agricultural unions, water resource bodies as well as governments in the sub-region already exists. Interdisciplinarity and partnerships are currently driven by the recognition of a need to engage other specialists, i.e. it has evolved naturally and has been very effective, rather than by imposing it or doing it for the sake of multi-disciplinarity. By and large, these sorts of 'nice-to-have' issues should not drive funding agendas, which should preferably be driven by the need to pursue excellent science.

The impacts of climate change on farming need serious research attention, and plans with clear modes of implementation, which government should drive, should be developed. Within the region, the potential for importing hydro-energy should be seriously looked into. The Zambezi basin has hydro-electric potential and could decrease dependence on coal-fired power stations in South Africa. Action on this front would go further by helping to balance out the trade surplus SA currently has with countries in the region.

As noted above, the need to engage the private sector in climate change issues was expressed by several respondents. One respondent agreed that business needed to be pulled in. He pointed to recent overtures he had received from major business players – so far mostly in the financial sector - who want to explore possible,

collaborative funding opportunities and consulting services and linkages, with a view to 'combining commercial experience with solid and academic research'. He was sceptical about ESKOM and SASOL who he felt were doing token, green-washing of the key climate change issues.

Leading CC researchers in South Africa are swamped with requests for information and comment on virtually a constant basis. What they desperately need is a network of communicators who are able to tell the media and the educated and uneducated public what is going on. One respondent indicated that he is already spending about 30% of his time speaking to outside, non-academic users of climate change information, trying to translate information to their context, and trying to understand their concerns in the context of their business operations. These users range from 'big business' to subsistence farmers. For this reason and for the moment, the single biggest return on investment would be the setting up of what he referred to as a *climate change interface capacity*. This would be able to translate the knowledge base for the purposes of communicating with a diverse stakeholder base. This task is not one-way, but must be a dialogue between stakeholders and researchers, which is time and labour-intensive. It requires development work on communications, tailoring of products and messages, exploring the modes and means of transference of findings and knowledge, as well as feeding back to scientists.

One example of this in a different context is the UK Climate Impacts Programme (UKCIP). The UKCIP have something like 20 M.Sc-level, science-literate professionals, who are not making their careers doing research, but are engaged in this interface role. This model is not ideal for our circumstances since it is only a national institution whereas we need to operate at the sub-regional level to maximise resources and impact. A pre-eminent South African CC specialist who was a participant at the WRC CC workshop made reference to the emergence of *Sustainability Science*, which is being driven by Harvard University, as a possible model to be considered in South Africa. *Sustainability Science*, she pointed out, includes the sciences of modelling, of adaptation and of communication, all three of which are proving critical in shaping responses to climate change. This mirrors the comment from another respondent regarding the relevance of Resilience theory, which takes into account social-ecological systems and takes adaptive management as its entry point.

Another significant issue is that practice lags far behind research and people and institutions 'out there' do not readily take up existing research findings and recommendations. The present reality, one respondent commented, is that there is a significant body of knowledge that is already established, but we do not have the capacity to communicate this knowledge to all the different people and stakeholders that need to have it. Another respondent pointed out that scientific researchers do not have the social conduits to bring their data into processes that deliver developmental outcomes. Even worse is that the exact nature of the different stakeholder constituencies that need to be reached is not even known at this stage – least of all their needs and points of vulnerability. One example was given of the citrus farmers in the Western Cape whose key vulnerability is around the minimum number of 'cold days' they must get each year to optimise their citrus production. This was only discovered by this respondent once he began to engage with them and thereafter to

tailor a CC modelling product and communication strategy for this particular stakeholder segment.

However critical it may be, this 'interface' work cannot be the responsibility of scientists and resources need to be invested in people with science backgrounds to take on this service role. South African does not have the luxury of vast numbers of graduates and of senior scientists to supervise them. One respondent questioned the extent to which DFID understands that the extremely demanding realities of academia in Africa are vastly different to those in the UK.

Two key areas in which a real difference can be made (i) investing in thematic, momentum-generating junior scientists, who are given five years of support to mentor new students and generate new research lines and can alleviate the pressure on senior scientists and (ii) investing in a knowledge interfacing institution or mechanism to lead the dialogue between scientists and the public.

As one prominent government official at the WRC workshop on CC pointed out, 10-20 planning horizons are the best that can be hoped for in the public policy domain. There is thus a need to prioritise a hierarchy of research needs so that (i) uncertainties relating to CC can be tackled and (ii) areas that have high levels of certainty can be left to other international researchers, thus relieving South African researchers of having to pursue these areas. In this regard, there is a need to think carefully about time-scales. A list must be generated of 'hot-topics' that need urgent attention in the next six months. Also the important topics that must be pursued over the next 3 to 5 to 10 years. A matrix should be developed which delineates the projects which institutions such as the WRC should (i) lead (ii) allow others to take the lead (iii) be part of funding and research consortia.

4 CONCLUSIONS

1. Respondents in the sustainable agriculture and economic growth theme recognised that *partnerships* are absolutely key to conducting the research which is regarded as essential for underpinning the future sustainability of South Africa's agricultural sector. These partnerships must include the sourcing of funds via international partnerships, especially North/South partnerships. A call was made for investments to be made in the building of research capacity.
2. The Water Research Commission's model of a broad programme or research agenda, which calls for a wide range of research proposals, is what many respondents are calling for. In addition, they articulated the need for funding for longer project cycles with, for example, a two-yearly project review cycle with well-defined monitoring criteria which are developed in consultation with a reference group. The members of these reference groups must themselves have the interests of the research project and of excellence in science at heart, rather than monitoring being the administrative process of command and control, that it often is nowadays.

3. Several respondents referred to the need for regular reviews of 'best practice' or 'state-of-the-art' in the key fields. This is perhaps especially necessary in the climate change sector where many publications written a mere two years ago are out of date and no longer cited. As one specialist respondent noted, climate change is not linear, it is accelerating and so is the knowledge being generated in this broad field.
4. There is a considerable amount of work, both in the policy development arena and high quality research work being done in South Africa on a number of fronts in all sectors. Much of it is or is based on international reputable, 'cutting edge' science. One difficulty is for the key actors in the various sectors to work their collective way through the many and often overlapping initiatives, strategies, plans and programmes already on the table, so to speak.
5. It was suggested that there is a need to 'think big' and putting money down for the long-term. In particular, several respondents called for an initiative of 'sustained thematic funding' as the way forward, where a ten year research programme could initiate research that would to integrate climate change, poverty and sustainable development.
6. Another challenge is for researchers in the various sectors and sub-sectors to 'find each other' philosophically and intellectually in programmes of multidisciplinary and interdisciplinary research that span knowledge systems and communities of practice. The nub is integration and tackling complex problems across boundaries of social and ecological knowledge and expertise.
7. Senior researchers and scientists in South Africa are under enormous pressure to deliver on a number of fronts. They feel that they cannot be expected to take on what they recognise as the important work of translating and repackaging their research findings in a variety of different ways for policy-makers, officials in government departments, managers in local municipal authorities, other user groups, the media and the general public. They expressed the need to build the capacity of a specialist team that could take on this dialogue between scientist and user-groups.
8. In terms of research uptake models in the AIDS arena, there is a need to look at how to increase the capacity of civil society and lobby groups, for instance by analysing models such as the Global Development Network research fellow programme. More support should be given by funders like DFID to following up on research that has already been completed. Because funding timeframes are relatively short, they do not include sufficient time for follow-up. Furthermore, the research cycle should be extended to include advocacy and utilization or uptake of research findings. In terms of the types of research to fund, a balance should be struck between basic and strategic. DFID should thus take a multi-year strategy, a medium- to long-term view in terms of health systems research, and maintain a keen awareness of the time horizons in which impacts can be made.
9. One priority area for research support is maternal mortality. There is still an unacceptably high rate in Africa, especially in Sub-Saharan Africa. Since the knowledge on how to save the lives of these women exists, what is required is to fund programmes that tackle this issue. The question is why is this evidence not used in setting funding priorities? Moreover, once programmes are funded, they should be supported if they deliver, and funds should not be diverted to other, more fashionable areas.

10. The issues around the intersection of gender-based violence and HIV/AIDS are (i) how services should respond and (ii) how response models should take gender into account. Another issue is the *evaluation* of prevention intervention programmes, especially those dealing with behaviour change interventions, i.e. norms and attitudes related to gender and to HIV prevention. It is important to understand better how these can be used in a variety of settings, including health, schools, higher education, etc. Another preventative issue to be considered is male circumcision, using research to support a policy on male circumcision, and what that policy would look like.
11. In the deliberations of the South African National AIDS Council, two issues have emerged, namely (i) the ability of systems of delivery to cope with policies and programmes that have proven to be workable and (ii) aid effectiveness, where it has emerged clearly that small amounts of funding does make a big difference. Even though it is understandable that it is easier for funders to disburse bigger grants, there should be some consideration given to have seed funding or discretionary grants that respond to small, but effective, interventions.
12. Urgent research was needed around the overlap between AIDS and Tuberculosis (TB). In many parts of the country, the latent TB prevalence is very high and in the current waiting period before ARTs are administered, TB has an opportunity to take hold in a vulnerable adult or child's system. The presence of extreme drug-resistant TB may be linked to this.
13. The governance mechanisms in South Africa, whereby central government disburses funds to provinces on an equitable share basis, and provinces are responsible for service delivery, are challenging. For one thing, there needs to be proper monitoring of baseline and progress over time, for e.g. in respect of research and prevention programmes for TB, which is re-emerging as a major issue in South Africa.
14. The links between water provision and health were critical in both rural and urban areas, in fact wherever poor people were concentrated and need to be explored further using action research that delivers answers particularly at the local government level.
15. Donors are often quite short-sighted, focusing (to the point of obsession) on the infectious 'killer diseases' such as HIV/AIDS and TB, while the developing world carries the world's burden of chronic diseases such as heart disease, strokes and diabetes, which typically affect people in their middle age years. In the developing world, this happens ten years earlier than in developed countries. The resources to treat them are lacking in developing countries, making it important to take preventative measures which in turn requires that a medium- to long-term view is taken.
16. Capacity building is key to a sustainable health research system. A medium- to long-term view, as well as programmatic one must be taken. This entails supporting research at Masters and PhD levels and beyond, and ongoing interaction with education and science councils. Other issues that must receive attention include how research is done, for instance, how research programmes are constructed and even how research questions are phrased. A question that must be continually put is how useful is this research likely to be in the context of a health pandemic?

17. DFID can play a greater role in supporting policy-oriented research, at the state and non-state levels, and for programmes and strategy. In the budget allocation for research, the inclusion of stakeholders needs to be provided for, and it must not be included as an afterthought. The principle of bringing all stakeholders and constituencies, and specifically those who are the ultimate users of the research, into the research design process was emphasised by a number of respondents.
18. DFID has been poor in representivity, and a mentorship programme must be built into research projects, through which DFID can actively promote the inclusion and development of black researchers. However, one respondent with considerable experience in this area cautioned against increasing the pressures on the need to do excellent research by trying to turn research projects into capacity-building initiatives, which actually need their own dedicated resources and expertise, of which good models of best practice already exist in South Africa.
19. The focus of DFID and other funders should be on supporting the work of non-state actors, as government tends to underfund this sector. In terms of aid effectiveness, an emerging trend is that there is a chance that civil society (non-state actors) may lose out. The main instrument of aid-budget support goes to government, with the assumption that government will support development, including engaging with and supporting civil society. But there are no mechanisms for this to happen. Even if this did happen (i.e. aid flows to civil society via government), the independence of civil society could be compromised.
20. DFID should also fund research which it deems will be responsive to its own policy objectives. Consideration must be given to the longer-term sustainability of programmes and initiatives. The question must constantly be entertained of what would happen to this initiative if funding was terminated?
21. The impact of un/employment on poverty must become a key research question given the current conjuncture in South Africa. This lack of emphasis on poverty by state and academia is exacerbated by the fact that poor do not have voice, and their proxies have no power.
22. On a related matter, DFID subscribes to a rights-based approach with its progressive realisation of socio-economic rights 'within available resources', but one respondent felt strongly that this approach must be extended to include the fundamental right to social accountability that would serve as motivation to civil society in general and to citizens in particular to participate more actively in governance processes.
23. The question of how to take information and knowledge resources and move to policy-influencing relates to the modalities of engagement. DFID, and other funders, should provide more support to the policy process instead of the production of knowledge materials *per se*. They should work with multiple stakeholders who produce knowledge and take this into actual opportunities for engagement between advocacy/interest groups (representing the poor), together with networking organisations.
24. The goal should be sustained impact on poverty in the long term. The research and policy communities should be supported to take research into implementation and policy dialogue. Evidence shows that public-private dialogue platforms lead to good policy, but that these platforms are usually

- absent. One respondent recommended that DFID look at both levels of intervention – the national and the regional - in a linked manner. This requires additional work to establish and build on existing partnerships for research collaboration.
25. At the moment the impact of aid is largely unfulfilled. Strategy and operations are all happening at the macro level. One solution, a respondent suggested, would be to require *embedded partnerships*, a practice which is common in Australia. These require that co-funding for development initiatives be secured from local partner organisations such as local government or Catchment Management Agencies, for commissioning particular pieces of research. The effect is to tie at least some of the research outcomes far more closely to the stated requirements of the local funding partner.
 26. One of the lessons that can be drawn from Africa and South Africa is the importance of regionalism. DFID is not good at the regional approach, even though the evidence exists that a regional approach supports economies of scale. Major issues are regional integration, economic growth and agriculture, climate change and poverty in its broad outline. Overall, a key issue is to insert civil society, which is weak, into the policy dialogue. At the regional level, key transboundary issues have been identified as trade, HIV/AIDS and the mobility of professionals, including researchers.
 27. On the issue of linkages, international organisations have recognised that there is value added when countries act in concert, for instance around climate change. The problem is that donors treat countries separately, and support research in isolation. The challenge is how to treat research as part of a system. The emphasis is currently on upstream causes of climate change, not on impact on the poor. Regionally, there is no coherent strategy on climate change: this is a significant gap.
 28. Regarding what needs to be added to the knowledge base around climate change impacts, the field is wide open. However, two fields of knowledge stand out as critical: One area is the theoretical base of how the regional climate system in Southern African actually operates. There remain a large number of unknowns, for example the nature of the coupling of El Niño to Africa, or whether the strength of the relationship is stable. As climate changes, there are suggestions that the relationship will change. The second area is Climate Change feedbacks. Addressing these questions could provide highly significant answers to the impacts of climate change on a regional basis.
 29. There is a critical need to 'think big' and put money down for the long-term. One way to do this was through an initiative of 'sustained thematic funding' Another spoke about the need for a ten-year programme to integrate climate change, poverty and sustainable development. Such a programme should have both its own, scientifically literate secretariat and core staff of respected scientists.
 30. At the IPCC and other international forums, de facto exclusion by overcommitment on the part of scientists from the developing world is an issue. DFID could assist by supporting the direct research environment in which scientists in the South have to contend with. One small but significant area would be for funding for a team of research assistants, particularly in the acute periods in the lead-up to international events, and time for Southern

African delegates to find common approaches to the issues thrown up by these global processes.

5 RECOMMENDATIONS

1. It is recommended that DFID consider taking this process of consultations in South Africa further in a more systematic way during the first quarter of 2008. This is partly because the process of consultations has generated interest in a wider group of stakeholders than could be canvassed in the short time available to conduct the interviews. These are individuals who have not formed part of the group of 23 respondents and have thus not been interviewed, but who expressed interest in being part of these consultations. In most cases, they are senior, executive members of government or national research institutions. A process, preferably undertaken in consultation with the DFID office in Pretoria, should be considered to draw in their views.
2. Apart from the specific matter of these potential respondents, it is recommended that DFID's CRD consider making additional resources available to host workshops that draw in sector and cross-sector experts from in South Africa and across Southern Africa to engage in a series of 'DFID Development Dialogues', specifically around research issues pertinent to DFID's four priority themes. This report could be used to inform these dialogues that would constitute a more continuous consultative process with partners in the sub-region.
3. If DFID is serious about engaging at the bilateral level, it is imperative that they speak to government departments, particularly as the Department of Science & Technology (DST), Department of Environment Affairs and Tourism (DEAT), Department of Water Affairs and Forestry (DWAF) and the Department of Agriculture (DoA) and actively seek out areas of complementarity.
4. The issue of research drawing in all stakeholders from as early as possible in the research process has been made several times. This is regarded by many respondents as especially important at the current political and socio-economic conjuncture in South Africa. DFID would do well to consider commissioning research that analyses the models that other research funding bodies have adopted and that come recommended by researchers and policy-makers.
5. Research funding that builds capacities in civil society in South Africa and across the sub-region is a theme that runs through much of the feed-back from respondents. Renewed efforts should be directed at this area.

ANNEX 1 RESPONDENTS

1. **Professor Carolyn Palmer**, Director, Institute for Water and Environmental Resources Management, University of Technology, Sydney Australia. Former special adviser to the Minister of Water Affairs, South Africa.
2. **Professor Lungisile Ntsebeza**, Sociology Department, University of Cape Town and NRF Chair: Land Reform and Democracy in South Africa: State and Society Dynamics; and Chief Research Specialist, HSRC Programme for Democracy and Governance.
3. **Dr. Guy Midgley**, Chief Specialist Scientist: Global Change and Biodiversity Program, Ecology and Conservation, Kirstenbosch Research Center, South African National Biodiversity Institute, Cape Town.
4. **Professor Bruce Hewitson**, Director, Climate Systems Analysis Group, Department of Environmental and Geographical Sciences, University of Cape Town.
5. **Professor Timm Hoffman**, Director, Leslie Hill Institute for Plant Ecology, University of Cape Town.
6. **Professor Ben Cousins**, Director, Programme for Land and Agrarian Studies, University of the Western Cape.
7. **Dr. Nicky Allsopp**, Senior Specialist Scientist, Agricultural Research Council – Livestock Business Division (Range & Forage Unit), Cape Town.
8. **Mr. Colm Allan**, Director, the Centre for Social Accountability, Rhodes University, Grahamstown.
9. **Dr. Trudy Thomas**, Director, Loaves and Fishes Network, East London. Former MEC for Health in the Eastern Cape.
10. **Prof. Nigel Rollins**, University of KwaZulu/Natal, Durban (*interviewed by telephone*)
11. **Mr. John Reynolds**, Programme Management Unit, EU-funded *Thina Sinako* Programme, East London, Eastern Cape.
12. **Dr. Saleem Badat**, Vice-Chancellor of Rhodes University and formerly head of the Council for Higher Education (CHE), Grahamstown.
13. **Dr. Neva Makgetla**, Sector Strategies Co-ordinator, Office of the President, Pretoria.
14. **Prof. John Mugabe**, Director, NEPAD Office of Science and Technology, Pretoria.
15. **Prof. Wim van Averebeke**, Department of Crop Sciences, Faculty of Agriculture, Tshwane University of Technology, Pretoria.
16. **Mr. Neville Gabriel** (Executive Director) and **Dr. Themba Mhlongo**, (Advisor: Regional Integration), Southern Africa Trust.
17. **Prof. Anthony Mbewu**, President, Medical Research Council, Pretoria.
18. **Prof. Rachel Jewkes**, Director, Gender and Health Research Unit, Medical Research Council, Pretoria.
19. **Dr. Pat Manders**, Acting Executive Director, Natural Resources and Environment, Council for Scientific and Industrial Research, Pretoria.
20. **Dr. Laetitia Rispel**, Executive Director: Social Aspects of HIV/AIDS and Health Research Programme, Human Sciences Research Council, Pretoria.
21. **Mr. Dag Sundelin**, Counsellor, Swedish International Development Agency, Pretoria.
22. **Dr. Aart-jan Verschoor**, Manager, Technology Transfer Academy, Agricultural Research Council, Pretoria.
23. **Ms. Janet Love**, Director, Legal Resources Centre, Johannesburg.

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