



Research Capacity Strengthening

Learning from Experience

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Addendum

This report summarises a workshop held in September 2011. In November 2011, the House of Commons Science and Technology Select Committee launched an inquiry into Science and International Development. This inquiry is very relevant, focusing on “DfID’s current activities to build scientific capacity in developing countries” and will report in Q3 2012.

Further information on the inquiry, including written and oral evidence, is available here: <http://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/inquiries/parliament-2010/science-and-international-development/>

The UKCDS and a number of other organisations represented at the workshop submitted evidence to the inquiry.

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Executive Summary

Purpose and background of the paper

The paper provides a synthesis of the discussions at a workshop held by the UK Collaborative on Development Sciences (UKCDS) on research capacity strengthening, in September 2011. The workshop brought together the UKCDS' Research Capacity Strengthening Group (made up of funders and other stakeholders such as learned societies) and other programme managers from the UK, Europe, North America and developing countries. It was an opportunity to share case studies, models and lessons learnt from research capacity strengthening initiatives in developing countries (mainly sub-Saharan Africa), with the longer term aims of improving coordination across the sector, more Southern leadership of existing or new initiatives, and greater sustainability.

Research capacity strengthening

Research capacity can be understood as a country's ability to produce, debate and use research knowledge and products relevant to their needs, such as new technologies¹. Research capacity strengthening (also known as capacity building or capacity development) is thus the long-term, complex processes aiming to enhance these abilities. A wide variety of approaches and interventions are employed to build capacity, led by development agencies, research funders, foundations, learned societies and academic networks.

It is useful to identify three integrated and interrelated levels at which research capacity can be strengthened; individual, organisational and environmental. This framework was adopted to guide and organise discussions at the workshop.

- **Individual:** involving the development of researchers and teams via training and scholarships, to design and undertake research, write up and publish research findings, and influence policy makers.
- **Organisational:** developing the capacity of research departments in universities, research institutes, think tanks and others to fund, manage and sustain themselves, and to interact with society.
- **Environmental:** changing the 'rules of the game' at the national or regional level. Addressing the incentive structures, the political and the regulatory context and the resource base in which research is undertaken and used by policy makers, service providers, the private sector and wider society.

The three levels overlap substantially, with no clear boundaries between them. Most interventions do not try to act at all levels, but may intentionally or unintentionally spill over to effect changes (both positive and negative) at other levels.

¹ SIDA's definition, shared at the workshop.

Supporting individual capacity

Support for individuals is crucial in order to conduct high quality research, and to train upcoming generations that are the future research base in a developing country.

In many developing countries, few universities are able to maintain a flow of doctoral students. Where flow is achieved, a number of barriers prevent researchers developing their careers. The growing number of undergraduate students increases the time taken teaching and on administration, lowering the priority of research. Financial constraints mean that laboratories are ill-equipped, and low pay causes researchers to pursue other professions, or to supplement income with consultancy work. In addition, while the availability of academic journals has improved significantly, obstacles to accessing and using these persist.

Approaches to individual capacity strengthening include PhD training (home country, fully-funded scholarships at overseas universities or “sandwich” arrangements), training in research skills and soft skills, such as proposal writing, research project management and communication, and mentoring schemes.

A number of case studies and lessons learnt were shared at the workshop. Lessons included:

- the need to understand the country specific context, and existing capacity and constraints from the start to allow for sustainable long-term improvement.
- Programme managers must also be prepared to re-design programmes in order to take into account changing political, social and environmental contexts.
- Projects should build on existing capacity, avoid using parallel processes and enable local ownership where possible.
- Mentoring is key for individual development and needs to be built-in to the institution with incentives, resourcing and succession planning, so that new mentors are produced.

Supporting organisational capacity

For many workshop participants, stronger local research institutions and networks of research organisations are a key goal of research capacity strengthening efforts as they provide the infrastructure and architecture on which individual researchers depend.

Decades of under-investment in research institutions in developing countries has resulted in low organisational capacity across many, with insufficient concentrations of expertise in departments and limited physical facilities for conducting research, including libraries, information technology and laboratories. The workshop profiled many different approaches for strengthening organisational capacity: including partnerships, direct support to organisations, and network or consortia models.

Participants noted that implementation of organisational capacity building is more challenging, iterative and requires longer timeframes than is often anticipated at the outset. In addition, working with research institutions requires that they engage with internal processes and politics in order to influence changes in rules and policies. Building an

understanding of the organisational environment and establishing a collaborative approach with management are key first steps.

Supporting environmental capacity

Research capacity strengthening at the environmental/national/regional level involves creating an enabling environment for research. It is vital to look at the research system as a whole; not only the capacity to produce research. Multi-faceted initiatives should look at capacities amongst government bodies, civil society institutions and the private sector to demand, engage with and use research and research-based 'products' like a policy brief or a new technology. This includes funding mechanisms, regulation and policy for research.

Many of the challenges faced in strengthening environmental capacity are similar to those at individual and organisational levels, such as a lack of a local skilled workforce or support network. In many developing countries there is a lack of national research funding and policy-setting institutions (e.g. science councils) and setting these up can be difficult, time consuming and require specialist skills. Often the demand for research by government is low because there is a lack of understanding about how research can contribute to policy and benefit the country as a whole.

Approaches to strengthening the environmental capacity include supporting governmental and parliamentary scientific advisory bodies, or 'innovation clusters'. The enabling environment also encompasses ICT infrastructure and the media which can be strengthened to encourage the exchange of research-based knowledge between researchers, policy makers and the private sector.

To achieve sustainable environmental capacity, long-term committed partnerships are needed which tackle both the scientific and political capacity within a developing country. Initiatives should be experimental and leave flexibility for trial and error. The 'theory of change' – the premise of how the programme is expected to deliver – may change as the conditions of implementation change. A strategic approach; understanding the key politics; and early engagement with stakeholders are vital. Within the organisation managing the programme, specialists are needed to ensure success of a capacity building project, and these individuals must be replaced by trained equivalents when staff move on.

The need for a holistic perspective

Workshop participants identified overarching challenges that face capacity strengthening at all levels of engagement.

- **Maximising impact through coordination** - can the barriers presented by the differing mandates, timescales and other pressures of funders and implementing organisations be overcome to allow them to work more strategically and collectively?

This was considered to be one of the most significant issues at the workshop, with the challenges of making improvements not to be underestimated.

- **Supporting equitable approaches and building Southern-led capacity strengthening initiatives** - can a more responsive approach be developed, rather than donors leading the agenda, and ensure equitable collaborative research which links global and local issues?

Putting this into practice is extremely challenging, especially where the national capacity to develop an agenda is missing.

- **Sustainability and succession planning**- for true sustainability, how can capacity to build capacity be developed from within developing countries and their research institutions?

Many capacity building initiatives only think about succession planning late on, and without it being integral to programme design.

The workshop participants concluded that to address these challenges it is not sufficient to intervene in research capacity at one level without analysis of how the intervention will connect to interventions at other levels. Those agencies considering capacity strengthening in research should take a holistic perspective of the research system, even if they only have the funding or mandate to intervene at a single level.

Conclusions

The purpose of the workshop was to share lessons learned amongst people working on strengthening research capacity in developing countries. No model or mechanism has emerged as the most effective at supporting research capacity development. Success is highly context dependent, and this has contributed to a lack of systematic evidence around the approaches used.

The linkages between the individual, organisational and environmental levels of research capacity are messy and complex. In capacity strengthening, activities interact across these levels, reinforcing or undermining other initiatives in unpredictable ways. Significant improvements in coordination between donors and funders of research capacity strengthening are required so that initiatives can complement each other to drive whole-system change. The UKCDS Research Capacity Strengthening Group is one forum seeking to enhance this cooperation.