

# 3 Capacity Building and Technology Transfer

This is 3<sup>rd</sup> in a set of 5 guidance notes aimed at supporting low capacity research organisations in negotiating the terms of a collaborative research contract with a better capacitated partner.

**CAPACITY BUILDING** should be viewed as more than simply a technical process of transferring knowledge, skills and technology to a less-capacitated partner. Viewed through the lens of sustainability, it can be viewed as an important process of building the capacity of institutions to produce and use knowledge

This view allows the inclusion of a wider range of activities aimed at addressing gaps in the ability of institutions to access resources, produce, manage research projects, carry out scientific research, promote, discuss and disseminate outcomes, use results effectively, implement and scale up their research endeavours and to promote demand for research.

Capacity building occurs in research partnerships in both formal and informal ways. Some research partnerships are explicitly about capacity building, where others dynamically exchange knowledge and skills as part of meeting the objectives of the research project.

**TECHNOLOGY TRANSFER**, in the context of research alliances and mutual exchange, can be understood as a process of transferring knowhow, skills and technology within the partnership. Efforts to build partner capacity or transfer technology and knowledge between partners should consider how such efforts best fit the circumstances and needs of the partner institution.

## ▶ KEY QUESTIONS TO CONSIDER - CAPACITY BUILDING

### Develop, involving all key personnel, a capacity building plan or strategy:

- What are the capacity building needs of your institution? Consider using the COHRED capacity building grid to frame your approach to this question.
- What are the existing capacities that should be strengthened?
- How do you take capacity building into consideration when selecting a partner for a for project or partnership?
- How does capacity building impact your institution and community, thinking beyond developing an individual's career?
- When engaging in professional development as capacity building, what are strategies could be developed to avoid "brain drain"?

*TIP – When staff take on a secondment opportunity, consider establishing a simple agreement, which includes the need to disseminate the knowledge acquired and a minimum time before leaving the hosting institution.*

- What are the plans in place to disseminate the results of the capacity building and the lessons learned?

### Capacity building within a partnership

- Have partners made an explicit commitment to build/strengthen capacity?
- How do the requirements of the partnership match your institutional capacity?
- What capacity (human resources, skills &

knowledge, infrastructure & equipment, managerial & financial capacities) is required to carry out the work of the partnership?

- How will the partnership facilitate/ complement the capacity exchange of skills, knowledge and experience?
- If this partnership does not explicitly involve capacity building, how can capacity strengthening activities which address your needs be built into the research contract?
- In the context of the partnership, how can the capacity building activities be integrated into the institution research system?
- In order to improve the consolidation of capacity beyond the partnership, consider combining both scientific and management capacity building activities.
- If the capacity building engaged in involves learning by training consider in the agreement a work plan with the phases of knowhow transfer elaborated. A new phase in the training must depend on agreement from your institution. This strategy will allow your institution to both assess its own capacity and the procedure of transferring knowledge and take corrective measures and adjustments as the process progresses.

### What additional resources are anticipated and how might these be included?

- What resources and capacities might be required to manage project outcomes after the partnership has ended? How can these be

built into the partnership agreement upfront?

- How can capacity building efforts be harmonised across different partnerships?
- In the case of formal technology transfer, what additional capacities will your institution need in order to be able to negotiate and manage intellectual property rights and the related licenses?
- Does the partnership facilitate local ownership and control of research activities and outputs and can this be aligned with your existing institutional strategies to strengthen the capacity of your institution?
- Are there opportunities for pooling skills and resources across local institutions/networks?

### What will the extent of formal technology transfer be?

- Will technology transfer be informal (exchange of technical know-how, skills and experience) or formal (horizontal: licensed transferral of technology between institutions to enable partner institutions to use the technology for their own application and production or vertical: assisting in the process of moving research results from "bench to market")?
- Based on the form of technology transfer, what will this require in terms of institutional capacity and procedures? In other words, how well is your institution equipped to absorb the knowhow or technology?

LEVEL OF DEVELOPMENT	FOCUS OF INTERVENTION			RESEARCH SYSTEM	SOCIO-ECONOMIC & POLITICAL	INTERNATIONAL COLLABORATION & LINKAGE
	NATURE OF INTERVENTION	INDIVIDUAL	INSTITUTION			
1	'capacity building'	master level training	grants management	basis of NHRS	increase demand for research	<b>good partnerships</b> (e.g. Align & Harmonisation)
2	'capacity strengthening'	doctoral level training	merit-based promotion system	research ethics review capacity	civil society engagement	<b>fair research contracting</b>
3	'performance enhancement' * equity-focus	networking researchers, peer reviews	research communication	monitoring & evaluation of output and impact	focus health, equity & soc-econ development	<b>focus on research competitiveness</b>

**The Special Programme for Research and Training in Tropical Diseases (TDR)** structures its research capacity strengthening activities according to the needs of each country / institution. TDR works on the principle that to achieve long-term outcomes, what is needed are comprehensive capacity building programmes that provide continuing professional development, support, and an enabling environment, rather than scientific training alone. Research capacity strengthening (RCS) is both explicit and embedded in its programmes: “Everything we do is RCS, and we try not to waste any opportunities – even if a scientific research project is being funded in the north, then we will try to bring in a fellowship for someone from the south” (Ghaffar, IJsselmuiden & Zicker, 2008, pp. 64-65).

### ► KEYWORDS

#### TECHNOLOGY TRANSFER

HAS SLIGHTLY DIFFERENT MEANINGS IN DIFFERENT CONTEXTS. IT CONCERNS THE FLOW OF KNOWLEDGE, EXPERIENCE AND MATERIALS FROM ONE PARTNER TO ANOTHER. IT CAN BE HORIZONTAL, MEANING THE TRANSFER OF AN ESTABLISHED TECHNOLOGY FROM ONE ORGANISATION TO ANOTHER TO ADAPT AND APPLY, OR VERTICAL, MEANING THE TRANSFER OF THE OUTPUTS OF R&D TO APPLICATION AND COMMERCIALISATION. IT CAN BE FORMAL (LICENSED TRANSFER OF TECHNOLOGIES) OR INFORMAL (EXCHANGE OF KNOWLEDGE, SKILLS AND EXPERIENCE)

#### CAPACITY BUILDING PLAN

AN ESTABLISHED PLAN WITHIN AN ORGANISATION THAT MAPS OUT CAPACITY GAPS AND NEEDS, REQUIREMENTS FOR EFFICIENT ABSORPTION OF PROVIDED CAPACITY, AND PLANS FOR ASSESSMENT OF THE SUCCESS OF CAPACITY BUILDING ACTIVITIES.

#### CAPACITY BUILDING

THE PROCESS WHEREBY PEOPLE OR ORGANISATIONS STRENGTHEN, CREATE, ADAPT AND MAINTAIN THEIR ABILITY TO MANAGE THEIR AFFAIRS AND REACH THEIR OBJECTIVES.

#### CAPACITY

THE ABILITY OF PEOPLE OR ORGANISATIONS TO MANAGE THEIR AFFAIRS AND REACH OBJECTIVES SUCCESSFULLY.

Develop a capacity building plan involving all key staff to: Identify the capacity building needs of your institution, taking into account its impact on the community. Include in this plan an assessment of the outcomes of the process. Use this plan when developing the research contract.

Try to secure explicit commitment in the partnership to meaningfully strengthen capacity of partner institutions according to stated need;

Try to find ways to incorporate capacity building costs into core funding of the partnership.

### QUOTE FROM A CONSORTIUM MEMBER



*“Capacity Building will not only broaden experiences and strengthen skills but, perhaps most importantly; it will build trust and establish relationships that will lead to new partnerships and opportunities”.*

-QUOTE FROM CONSORTIUM MEMBER

### WHERE TO GO FOR ADDITIONAL HELP

ESSENCE (2011). Planning, monitoring and evaluation framework for capacity strengthening in health research. Geneva: TDR/ESSENCE

Ghaffar, A., IJsselmuiden, C., & Zicker, F. (2008). Changing mindsets: Research capacity strengthening in low- and middle income countries. Geneva: COHRED, Global Forum for Health Research and UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR)

OECD (2006). The challenge of capacity development: Working towards good practice. Paris: OECD.

Resources available on the website of the Southern African Research & Innovation Managers' Association (SARIMA): <http://www.sarima.co.za/>

A classic example of south-south technology transfer is the launch in 2012 of Africa's first fully public antiretroviral factory in Mozambique, in partnership with Brazil's Oswaldo Cruz Foundation: <http://www.panapress.com/Brazilto-produce-ARVs-in-Mozambique---12-836035-66-lang2-index.html>

Bates, I., Taegtmeier, M., Squire, S.B., Ansong, D., Nhlema-Simwaka, B., Baba, A., & Thoeobald, S. (2011). Indicators of sustainable capacity building for health research: analysis of four African case studies. Health Research Policy and Systems, 9: 14.

Buss, P.M., & Ferreira, J.R. (2010). Critical essay on international cooperation in health. RECIIS, 4, 86-97.

IJsselmuiden, C., Marais, D.L., Becerra-Posada, F., & Ghannem, H. (2012). Africa's neglected area of human resources for health research – the way forward. South African Medical Journal, 102, 236-241.

Potter, C., & Brough, R. (2004). Systemic capacity building: a hierarchy of needs. Health Policy and Planning, 19, 336-345.

White, M.T. (2007). A right to benefit from international research: A new approach to capacity building in less-developed countries. Accountability in Research, 14, 73-92.

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### FEEDBACK

We would value your feedback, comments or suggestions on whether this guidance note has been useful to you. Contact: [cohred@cohred.org](mailto:cohred@cohred.org)

Contact: [cohred@cohred.org](mailto:cohred@cohred.org). For further information on comprehensive fair research contracting go to <http://www.cohred.org>.

### SEE ALSO <http://www.cohred.org/FRC>

where you will find a useful guidance tool on developing and implementing guidance on research contracting, entitled: Where there is no lawyer: Guidance for fairer contract negotiation in collaborative research partnerships.