

ERA-ARD Briefing Paper

ARD capacity development: Matching demand with offer

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Background

For developing countries, agriculture is crucial for economic growth, through its role in food security, and in addressing global issues such as bio-energy, climate change, etc. Agricultural Research for Development (ARD) responds to the needs to feed growing populations and to drive economic growth in a sustainable manner.

The second phase of ERA-ARD is a € 1 million European Research Area Network (ERA-Net) project funded under the European Commission's 7th Framework Programme from 2010 to 2013. The project is a partnership of 17 organisations involved with funding agricultural research for development in 15 European countries. ERA-ARD aims to improve ARD coordination between national research programmes and promote collaboration in European agricultural research for the world's poor.

ERA-ARD briefing papers are made available widely to sensitize the European population to the critical importance of ARD and that its results and impact are not limited to "outside Europe" but also have direct benefits for "within Europe". The achievements of ERA-ARD are documented and made available through its website www.era-ard.org, to benefit both stakeholders and the wider public.

Disclaimer

The views presented in this paper are those of the author(s) and do not necessarily represent the views of EC.

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Abstract

Research and capacity development are key to development. Creating, strengthening and reproducing pools of well-qualified people is essential for achieving the Millennium Development Goals (MDGs). Consultations were held with about 450 people in Africa, Latin America and Caucasus in order to get their impressions on the key levels and areas of capacity development where Europe could add value.

During the consultations, capacity development issues relating to three levels were addressed: (i) Individuals and training; (ii) Teams and networks; (iii) Structuring policy research. The collected information was processed and compared to the current European offer of capacity development. The outcome was also discussed with European partners with external research and capacity development institutions. This paper is not an exhaustive report but it highlights how the European capacity development offer could support the development of research capacity in developing countries and it suggests potential ways for responding to these needs. It presents current trends, needs and opportunities for capacity development in ARD.

List of acronyms

Acronym	Description
ARD	Agricultural Research for Development
ERA	European Research Area
ICT	Information and Communication Technologies
MDG	Millennium Development Goal
OECD-DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
SCARDA	Strengthening Capacity for Agricultural Research & Development in Africa
UniBRAIN	Initiative for advancing agribusiness incubation and improved agribusiness education in Africa

Southern ARD-related capacity development demand and the existing European offer

Stable and autonomous scientific communities are an important condition for development as they keep knowledge and knowhow and generate expertise and transfer capacities to decision makers and socio-economic players. In this regard, research and capacity development are key to development and creating, strengthening and reproducing pools of well-qualified people are essential for achieving the Millennium Development Goals (MDGs). In this line we can notice that most of the skills required by ARD scientists are similar to skills necessary for all scientists in general and quality research is achieved through integrated institutional mechanisms.

What is Capacity Development for ARD?

Capacity development is defined as *the process by which people, organisations and society as a whole create, strengthen and maintain their capacity over time*¹. In fact, strengthening scientific abilities is important, as scientific excellence is required for good research; but in a competitive world, scientists must also build and strengthen additional skills to be capable to meet the challenges presented by the projects cycle steps. As a single person is not able to have or develop all these skills, capacity development must also be addressed to teams as well as to institutions. It must also consider the scientific research environment, especially in order to create enabling conditions for national research. Thus, structuring research policy becomes crucial.

Individuals and training

Local scholarships

Training highly qualified human resources is a priority and donors should allow and incentivize more grantees to attend local programmes through international scholarships as well as focus on attracting MSc or PhD students to their national universities and centers. This also raises the question of the status of doctoral students which must be addressed in the partner countries as well as the question of infrastructure which could be a barrier to hosting candidates.

Sandwich mechanisms

The Sandwich scheme is a multi-phase system that allows PhD students to carry out research in their home countries and in another, often requiring supervision from two thesis tutors which is particularly relevant when it involves a home country research director. This is a factor contributing to the researchers' insertion in the national research system after completion of the diploma.

ERA-ARD strongly supports up-scaling of this practice which encourages young researchers to stay and work in their own region and allows them to keep a strong link with their national research system, with as a result, reduced brain drain. It also often considers South-driven research topics which contribute to addressing development issues and integration of researchers into their national institutions. In addition it supports doctoral students to adapt techniques learned in the North to the facilities available in their home countries.

¹ OECD/DAC, *Capacity Development and Civil Society Organizations*, Perspectives Note, January 2011, p. 2.

Embedding individual capacity strengthening into research projects

Integrating PhD scholarships into research projects is critical; this can be promoted either by offering incentives to integrate doctoral fellows in research teams or by including directly doctoral scholarships within research funding (as some donors already do as a criteria of calls). This could be achieved for example through financing PhD scholarships as part of broader research programmes. An emerging difficulty is the limited duration of funding for research projects (often around 3 years), whilst the capacity development needs might be longer.

Targeted training programmes capable of evolving over time

Capacity development is often linked to technical (hard) skills focusing on scientific aspects, for example in research education, while facilitating (soft) skills (from proposal writing to trainings in exploitation of results or dissemination, ICT, languages skills etc.) are also crucial to complement the knowledge and competencies of researchers and to manage research. Such skills must also be considered to empower teams and institutions: As access to funding is one of the challenges that require soft skills for research project management, scholarships should also emphasize such programmes (including MSc and PhD) that integrate multidisciplinary aspects in individual training, taking into account the necessary additional skills mandatory in different research project cycle stages.

Teams and Networks

Research requires various skills and a researcher alone will hardly be capable of conducting research activities: a team allows to pool different expertise and specific knowledge as well as resources. Team building and empowerment is not always visible in cooperation programmes while teams and networks are playing an important role in scientists' capacity: in fact most scientists are part of different research initiatives / projects or networks that have an impact on their research and on the development of their ability.

Strengthening South - South teams and networks can reduce the isolation of researchers as well as help countries address concrete issues and learn from previous experiences in similar conditions. It would also be important to promote mobility of Northern researchers to Southern centres and universities to continue their research, in particular on topics of interest to the South.

Increase mobility of young researchers and teams development

Most of capacity development programmes focus on individuals only. Encouraging young researchers' mobility to create teams and networks, in particular South-South mobility is a priority and must be further promoted. Programmes integrating tools to develop teams, including ICTs, could contribute to organize researchers around research themes by working collectively in a research field.

Develop collaborative projects and facilitate networks

Since the 80's, information sharing and dissemination through networks is highly promoted by donors as a tool allowing supporting research in several countries and at a lower cost. The rise experienced by networks was even more "pronounced" with the development of ICTs in particular in the field of agricultural research. Identifying the number of members, objectives and impact of these networks is nevertheless difficult to assess.

Support to ARD networks should continue and be even further developed as these play a key role in capacity building and contribute to setting the agenda or support programmes:

- Networks promote common objectives for ARD at regional and sub-regional levels and offer a platform for collaborative implementation of these objectives; cross-cutting networks facilitate the formulation of multidisciplinary and collective responses to calls.
- ARD research calls could be increasingly open to networks and encourage networking.
- More support is needed to empower existing ARD networks.
- Most of the European Union member states foster and support networks for capacity building in ARD (SCARDA, UniBRAIN, etc.), although the challenge of coordination faced by ARD stakeholders remains an issue.

Structuring research policy

Besides capacity development programmes, a main challenge is to convince policy makers that research is a priority for development and to encourage them to allot sufficient funds for researchers training and research activities. In this respect, three priorities emerged from ERA-ARD: promoting advocacy efforts, emphasizing applied research, and structuring and funding training in the South.

Planning generational renewal of teachers and researchers as well as strengthening capacities of a new generation of scientists are critical and must be linked to national research policies. Capacity development is focusing on individuals, teams and institutions but it should also consider the context for research and bring support to the national frameworks in which scientific projects will be implemented. For example, national budgets for research are crucial for an efficient research and innovation system.

In this line, many scientists also indicate that a major limitation for research is the number of researchers itself: in fact, a critical mass is necessary to conduct research and a sufficient number of well-trained scientists are a condition for a functioning doctoral school. Capacity development must be taken seriously by the policy level for research and be encouraged by a fittingly favorable public policy.

In this regard research centres and universities could also focus on broad public awareness raising on their activities and how the results of ARD are translated into innovation through linking more with the private sector, extension services, NGO projects, national programmes and, in addition, use more communication channels (radio, television, ICTs...).

Attracting young scientists into agriculture is an issue and promoting the recognition of the role of agriculture in the society is crucial in particular in the context of the societal challenge faced with feeding a growing urban population. Fostering linkages between research centers and farmers is critical to achieve impact of ARD results. Besides this, gender needs to be considered in agricultural training as access to secondary education is important for female candidates.

Conclusion and Recommendations

Consultations conducted in the framework of ERA-ARD involved about 450 persons in Africa, Latina America and Caucasus as well as debates with ERA-ARD II network. It highlighted the importance of coordinating European capacity building programmes in ARD and draw attention to the points and approaches mentioned in this brief. It allows some additional conclusions.

The development of E-learning tools through ICTs (as for example an online platform dedicated to research in food security) could be an efficient alternative to train teachers or students on the model of experiences already being developed by some international organizations. It can be an efficient strategy to develop partnerships with developing countries and to reach many students.

Engaging entrepreneurs and private companies in capacity building is important, from developing curriculums to the promotion of research grants linked to private sector questions. Joint grants systems involving donors and private companies, with PhD or fellowship tutors both from academia and private sector, could incentivize their participation in ARD capacity building as well as facilitating professional insertion. Promoting such mechanisms could contribute to the take-up of research and innovation outputs by enterprises.

The role of women in agricultural production is crucial, in particular in Africa. The number of women involved in PhD studies is still lower than males, although priority may be given to female candidates through specific criteria in research calls. Options should be given to female candidates for a facilitated mobility to foreign countries as well as support to local doctoral school scholarships as an alternative.

The impact of capacity building is difficult to assess; scientific excellence must be maintained however ARD capacity building should target innovation and be guided by actions specifically defined according to groups and regions.

Setting research as a priority for development remains a challenge. Capacity building programmes must be demand driven through links with national public policy for research and with local stakeholders.

Follow-up

The ERA-ARD consortium partners would like to invite feedback and further discussion of the proposed approach. Please contact Aurelien Baudoin at: aurelien.baudoin@ird.fr (ERA-ARD "ARD capacity development: Matching demand with offer" briefing author) and/or Patricia Wagenmakers (ERA-ARD coordinator) at p.s.wagenmakers@minez.nl.

Quotation

Baudoin, A. (2013) ARD capacity development: Matching demand with offer. ERA-ARD briefing paper (<http://www.era-ard.org/outputs/phase-ii/>) - 6 pp.