

## “SCIENCE-PRACTICE INTERACTIONS FOR EFFECTIVE CLIMATE CHANGE ADAPTATION: Identifying new approaches for collaboration between Europe and low-income countries”.

*Key findings from the international expert workshop.*

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### THE CHALLENGES

- 1. Adaptation to the effects of climate change is a major challenge, particularly for highly vulnerable low-income countries.** European countries have committed to support these countries in their adaptation efforts and do so through a multitude of institutions and actors. Funds for climate change adaptation research are expected to increase considerably in the coming years. It is important to explore ways of using these funds to effectively address actual knowledge needs in these countries and building on existing initiatives and programmes.
- 2. Successful adaptation, in practice, requires context-specific data, analysis and knowledge: and research plays an important role in providing the evidence base.** In this respect, productive and equitable collaboration between science and practice is essential, encompassing the articulation of research questions addressing real knowledge needs as well as the identification and application of promising methods and tools to inform and implement adaptation processes and actions. Collaboration and knowledge sharing is not only important between science and practice within one country, but also between countries.

### THE RESPONSE

**The potential of science-practice interaction is still underdeveloped.** Policy makers, development/adaptation practitioners and scientists often work solely within their own communities. Web-based climate knowledge brokerage platforms or the organization of workshops between these groups assist in removing barriers but are not sufficient. The European Network “Climate Impact Research and Response Coordination for a Larger Europe” (CIRCLE-2) and the German Development Institute/ Deutsches Institut für Entwicklungspolitik (DIE), therefore, invited international experts to identify possible ways of how to improve science-practice interaction in the field of adaptation to climate change. Three issues were at the center of discussions: (1) existing structures and processes to identify research priorities vis-à-vis knowledge needs in European and low-income countries; (2) the strengths and weaknesses of these processes and structures; and (3) the role of research funders in European countries in supporting the production of context-specific adaptation knowledge regarding European and low-income country collaboration.

## THE WORKSHOP RECOMMENDATIONS

1. **Exploit the lessons from past experiences through empirical analysis and evaluation.** In the past five years, activities for the provision of adaptation-related knowledge and knowledge sharing have increased considerably. Currently, however, there is no comprehensive global overview of these knowledge sharing activities and there is little empirical analysis or evaluation at the national level on the interplay between science and practice in the field of climate change in general, or specifically to adaptation to climate change.

2. **Extend the basis for identification of knowledge needs beyond literature review and the advice of a limited number of experts and high-level stakeholders.** The formulation of European and international research agendas is usually based on expert judgments, literature reviews and consultations with a limited number of stakeholders from the regions. The involvement of experts in the formulation of research agendas requires that these experts are well informed about local/national research projects and results and/or practical and policy-related knowledge needs, which is often not the case. The available literature is not truly representative of actual climate change adaptation related knowledge needs in research, policy and/or practice (e.g., representation of LCD research in international journals is low). Therefore, formulating European or international research agendas on the basis of literature reviews may imply a risk of marginalizing relevant knowledge needs in low-income countries. Upcoming and ongoing initiatives that aim to address global challenges like Future Earth, Horizon 2020 or European research funding initiatives, therefore, are urged to address the two key questions of (1) how to improve processes, structures and methodologies for capturing knowledge needs related to climate change adaptation in low-income countries and (2) how to for translate these into their research agendas by putting adaptation knowledge needs into the wider context of development and sustainability .

3. **Research needs a translation into practice.** Results of research projects are not self-explanatory and their relevance and meaning for national policies, politics and practice needs to be analyzed and translated. This includes the evaluation and interpretation of the reliability of data and information, including those being provided on knowledge brokering platforms. In the field of policy formulation, the function of translation is very often fulfilled by international consultants with short-term assignments or by support activities with limited duration. This is problematic with regard to two aspects: (1) external expertise and the short-term nature of supportive action do not necessarily build local analytic capacities, and (2) local research results, knowledge and expertise get sidelined if they are not represented in (internationally) accessible publications or through direct involvement at some stage in the policy formulation process. In order to further explore the potential of science-practice interaction, two questions should be addressed: (1) who translates research results into practice; and (2) how is this being done, i.e., what are the (governance) structures behind such a process. Beyond the empirical task of mapping how the interface of science and practice is currently structured in terms of actors, process and structures, there is a need to explore who should best do the translations required and how should an adequate process and structure look like. This can include innovations for public-private partnerships.

**4. The ability to generate data and to process data as well as the uncertainty in the information provided should be addressed and a free flow of/access to information should be ensured.** Compared to industrialized countries, data scarcity is still a problem in developing countries that can be addressed by setting up programmes to develop relevant data as well as the development and application of methods and tools that can be effective in a data-scarce environment. Even if relevant data may be available, they may be poorly accessible. Currently, access to information is still hindered by high costs of scientific publications, although several publishing companies are currently designing new mechanisms for free and easy access for researchers in low-income countries. Data relevant for adaptation is not just about climate change, but also includes other data, such as technical, demographic and economic data, as well as information about the institutional and institutional context to allow anchoring of adaptation projects in local needs, e.g., building on national or regional adaptation and development plans. While effective adaptation projects may depend to some extent on the level and type of data available and hence on the level of development of a country, adaptation projects can start with limited information already, applying approaches for assessment of risks and responses that are meaningful for data-poor environments in low-income countries rather than applying methods and tools from elsewhere that may not be suitable for local contexts.

**5. Knowledge brokerage platforms in science-practice interaction can facilitate access to data and information, but should be tailored to the user's needs and complemented by other formats of knowledge exchange.** Information, data or reports on climate change adaptation are increasingly being provided through web-based knowledge brokerage platforms. These should be tailored to the user's needs, include easy-to-understand information and visualizations, focus on stepwise guidance and are preferably linked to specific situations. As information does not equal knowledge, which is often based on learning by doing, platforms are not sufficient to support practical adaptation processes and should be part of, or be complemented by other formats of learning. While platforms may have many advantages, e.g. in providing easy access to data in data-poor environments, they also face several challenges in facilitating knowledge sharing between science and practice. These include the financial sustainability of a platform, copyright and whether data should be provided for free, or the coordination and division of labour with other public and private information providers.

**6. Adaptation relevant research, policies, finance streams and actors need coordination.** Currently, the effectiveness of adaptation projects is hampered by lack of coordination. Often, programs are implemented isolated from each other or even compete with each other. To break down the existing "silos", inter-sectoral coordination between adaptation relevant policies and between finance streams and actors is required. While this claim is not new in debates about climate change adaptation policy, coordination between policy-oriented research funders (e.g. science or policy ministries) and policy- and action-oriented support provided through bi- and multilateral channels like the Global Support Programme for National Adaptation Plans (NAP-GSP) is still in its infancy. Coordination in practice can include, for example, the involvement of other funding agencies in the formulation of programmes or in the evaluation of proposals.



**7. Collaboration between scientists and practitioners needs institutional continuity and financial sustainability.** Many of the past and running initiatives that aim at supporting local analysis in the field of adaptation to climate change in low income countries are only temporary in nature and/ or heavily rely on external expertise. Supporting national capacities and expertise in the form of and within academic structures (e.g. through joint MSc or PhD programmes, through exchange programmes, visiting scholar facilities and practitioners providing students with opportunities to do internships, to participate and to develop and contribute their knowledge), think tanks or boundary organizations should be an important element for financial support in the field of adaptation to climate change.

**8. Funding agencies need to provide sufficient time and resources for science-practice interaction and should reconsider its incentives structures for research.** The process of translating practice or policy oriented knowledge needs into research agendas and research results into policy or practice consumes time and resources. This should be adequately considered in the amount of funding and implicit or explicit incentive structure in form of funding conditions and required outputs. Funding agencies should reconsider these incentive structures, considering that science often only rewards and thus ends with the publication of peer-reviewed journal articles, which are hardly read by practitioners and policy makers. A larger share of research funding should be reserved for monitoring and evaluation, and to communication and the facilitation of the flow of information, both to better understand the potential and impact of a project and to build more capacity and work towards up-scaling and replication.

### Acknowledgement and further information

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