



CAAST-Net Analysis of Options for Development Cooperation Instruments to Support Research Infrastructure Partnerships

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Analytical Work

- **CAAST-Net conducted analytical work under WP2 on the science & technology and economic development interface regarding:**
 - **Greater take-up of development-orientated FP research for innovation**
 - **Largely focused on building synergies between the FPs and the EDF in supporting EU-Africa S&T cooperation, particularly capacity-building**
 - **Analytical work was based on cross-country administrative data**
 - **Also comprised regional (EAC) and country (Tanzania) case studies**



Africa's S&T landscape

- **Weak inter-institutional linkages & coordination**
 - Stiff competition for programmes and resources among S&T institutions
 - Competition is preferred to partnership and cooperation in promoting S&T development
 - Limited scope for resource sharing and collaboration
- **Weak linkages between national and regional and continental efforts**
 - National interests to a large extent still override regional and continental priorities, especially in infrastructure development



Africa's S&T landscape 2

- **Disjointed STI and overall development policies**
 - Absence of organised and regular platform for interaction and exchange of ideas between policy-makers, legislators, scientists and the public to articulate research and infrastructure development agenda
 - S&T conspicuously absent from national development priorities (PRSPs, NDPs, etc.)
 - S&T policies usually delinked from and running parallel to economic development policies
- **Weak policy implementation capacity**
 - Resource and structural challenges associated with moving from policy to action
 - Policies adopted without specific action plans and resource allocations



Africa's S&T landscape 3

- **Lack of long-term commitment to STI**
 - Highly dynamic nature of priorities
 - Lack of policy consistence and coherence
 - Frequent policy shifts and reversals
- **Technology and innovation receive little attention as driving forces of economic growth processes**
 - Economies largely depend on primary factors of production
 - Technology and innovation are considered integral and cross-cutting parts of development that require no conscious nurturing

Africa's Research Capabilities

- **Small allocations to R&D as proportion of GDP**
 - **<1% of GDP for most countries except South Africa, Egypt and Nigeria**
 - **Between 50-70% of research is donor-funded in most countries**
 - **Almost 70% of research funds support basic research at universities and other higher institutions of learning**
 - **Apparent absence of institutional and national level research priorities and corresponding funding programmes**
 - **Mismatch between Africa's research needs and existing research programmes and priorities.**
 - **Research programmes largely geared toward knowledge generation other than addressing contemporary development challenges such as extreme poverty, health service delivery, hunger and malnutrition, sustainable natural resource management, energy and industrial development**



Africa's Research Capabilities 2

- **A few areas of research excellence**
 - Agricultural research
 - Health research
 - Indigenous and traditional knowledge systems
 - Emerging and transformative technologies (biotechnology, nanotechnology and space science) are relatively less developed
- **Limited capacity for translating research into industrial products and services**
 - Limited infrastructure facilities (specialised labs and incubators) for conducting applied and product-orientated research
 - Weak linkages, collaboration and networking between universities, research institutions and industry for infrastructure and product commercialisation
 - Limited innovation support mechanisms within universities and research institutes to support spin-offs and spin-outs
 - International technology transfer is the main source of (products, processes and organisational) innovations

Africa's Research Capabilities 3

- **Weak and largely obsolete research infrastructure**
- **The RI challenge limits Africa's participation in global research and technology development programmes. Modest participation in FPs and other RI funding instruments partly attributed to limited S&T infrastructure capacity for formation of meaningful research partnerships between African and European scientists and institutions**
- **Research priorities well articulated in the CPA and Book of Lighthouse Projects, both of which were adopted by the AU for implementation**
- **Weak financial, human and infrastructure resource bases in most African countries limit the realisation of the continental aspirations enshrined in the AU documents.**



Scenarios for Building RI Capacities

Scenario 1: Policy considerations

- Establishing regular platforms of technocrats and S&T subject-matter specialists to identify RI priorities and elaborate policy actions
- Prioritising RI development as critical part of S&T systems
- Better coherence of financing modalities and instruments



Scenarios for Building RI Capacities 2

Scenario 2: Introduce new windows

- Implement the S&T component in 10th EDF for supporting and strengthening RI capabilities



Scenarios for Building RI Capacities 3

- **Scenario 3: Programme modification and redesign**
 - **Redesign European Development Fund (EDF 11) to include:**
 - Science, technology and innovation systems
 - Cater for entire project cycle in a multi-phased manner, covering not only research project implementation but also policy research and application of findings in pilot activities
 - Building of research infrastructure



Scenarios for Building RI Capacities 4

- **Scenario 4: Programme consolidation:**
 - Disparate project portfolios at many levels
 - Lighthouse projects and CPA provide best practices in programme consolidation
 - Re-conceptualisation, harmonisation and merger of isolated national and regional initiatives to avoid fragmentation and duplication



Africa's Research Infrastructure Development Efforts

- **Multiplicity of Planning instruments**
 - The Lighthouse Projects (AU)
 - CPA (NEPAD/AU)
 - REC S&T plans (ECOWAS, ECCAS, EAC, SADC)
 - PRSPs (country level) – though not a priority
 - Global programmes such as PAERIP to provide best practices and support for building Africa's Research Infrastructure Plan, maintain inventories and support shared resource mechanisms between scientists in Africa and Europe



Research Infrastructure Financing Options

(1) European Development Fund (EDF)

- EDF provides research grants under the 8th Partnership
- The intra-ACP Indicative Programme under 10th EDF has provision for EUR 15 million to support a pan-African scheme of research grants through the AUC
- Regional Strategy Paper (RSP) and Regional Indicative Programme (RIP) for 2008–2013 under 10th EDF also has resources that could be accessed by nation states for RI development
- The 11th EDF is expected to have an explicit window for S&T that could support RI development



RI Financing Options 2

(2) European Neighbourhood Policy Instrument (ENPI)

- The ENPI provides support to Eastern European and Southern Mediterranean countries in promotion of cross-boarder cooperation and development
- Countries in the northern part of the African continent are eligible for support under the ENPI
- The priorities of the policy instrument include market liberalisation, energy, transport, information society, environment and research and development
- Extending the ENPI to include rest of Africa



RI Financing Options 3

(3) Development Cooperation Instrument (DCI)

- The DCI consolidated several instruments of the EU for effectiveness
- The DCI supports programmes in 47 developing countries in Latin America, Asia, the Gulf Region and South Africa.
- Priorities include environment, natural resources management, water resource management, energy technologies, ICT and infrastructure development
- A total of EUR 16.9 billion is allocated for the period 2007-2013



RI Financing Options 4

(4) The EU-Africa Infrastructure Trust Fund

- This is an instrument of EU-Africa partnerships on infrastructure
- Emerged out of the 2005 EU strategy for Africa focusing on the Millennium Development Goals
- Capitalised on Africa's quest for greater regional integration in science, technology and development
- The Fund prioritises harmonisation of transport policies, integrated water management, regional energy infrastructure and bridging the digital divide in Africa



RI Financing Options 5

(5) 7th Framework Programme

- The EU supports a number of INCO-Nets such as CAAST-Net, ERAfrica and PAERIP that promote the building of research infrastructures through:
 - Policy studies, discourses and proposals to AUC and EUC on the infrastructure requirements
 - Provision of direct grant support with large infrastructure development components
- The EU has earmarked EUR 11 million for research funding in agriculture, health, climate change and energy within the framework of ERA-Net for Africa project
 - The research grant will call for proposals starting January 2013 from 15 participating countries
 - The contribution is EUR 5 million by African partners while EUR 6 million will come from European partners



RI Financing Options 6

(6) ACP-EU Cooperation Programme

- The programme which issued its second call (S&T II) supports the strengthening of ST&I in developing countries
- Priority areas are energy, agriculture and food security
- Grants ranging from EUR 300,000 to 1 million are provided for capacity building, public awareness and S&T promotion, including RI development



RI Financing Options 7

(7) Horizon 2020

- **Successor programme to the FP7 programme starting in 2013**
- **Expected to support RI development under various partnership models (private-private, private-public, public-public)**
- **The level and modality of RI funding is optimistically anticipated by research partners in Africa and Europe**



RI Financing Options 8

(8) African Science and Innovation Fund (ASIF)

- ASIF has been proposed by the African Union in consultation with EU, UNECA. The Fund will be capitalised by AU member states, international donors and the private sector to support research and innovation projects
- The amount and modality of funding are undergoing review for approval by AMCOST



Conclusion

- **Research infrastructures constitute a significant challenge to the strengthening of Africa's S&T capabilities**
- **The fragmented nature of Africa's RI reinforces the disparities in S&T and economic development among African countries and between Africa and Europe**
- **Varied levels of RI development between Africa and Europe provide a basis for greater and mutually beneficial cooperation between the two continents**
- **Implementation of several planning instruments for development at regional and continental levels in Africa faces infrastructure, financial and human resource challenges that can be met through greater EU-Africa cooperation via the available instruments, including development cooperation**
- **The private sector has previously proved to be a vital development partner that should not be excluded from RI development efforts**





Thank you

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