



**Guide to Bilateral & Multilateral Cooperation Agreements
Supporting ICT/STI-related Activities in
IST-Africa Partner Countries**

Version 1 28 November 2014



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1. EXECUTIVE SUMMARY

1.1 Context and Objectives

The ICT environment in Africa is changing rapidly with improved infrastructure and increased awareness of the need to support entrepreneurship and research that is focused on addressing socio-economic challenges. ICT projects are initiated in many different ways and funded by a range of actors including national governments (either on a bilateral or multilateral basis), international organisations, foundations and non-governmental organisations (NGOs) and by the European Commission through the Framework Programme (FP7, H2020) and European Development Funds (EDF). Since the project "owners" are quite diverse and there is limited sharing of information in the normal course of events, there is significant data fragmentation at national and regional level. This raises challenges in terms of implementing a coherent approach to address national priorities, having a clear picture of what has been funded in the past and what lessons have been learnt and what types of projects could be adapted and replicated in other African Member States for greater socio-economic impact.

As a result the IST-Africa Consortium has undertaken a longitudinal study across the 18 participating African countries in North Africa (Egypt, Tunisia), West Africa (Senegal), East Africa (Burundi, Ethiopia, Kenya, Tanzania, Uganda), Central Africa (Cameroon) and Southern Africa (Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland) since 2009 to provide a comprehensive report that showcases ICT and Innovation related bi-lateral or multi-lateral projects.



The purpose of this study is to provide a starting point for a central repository of ICT projects and activities across Africa. It focuses on current ICT and Science, Technology and Innovation (STI) related bilateral and multilateral cooperation between 18 IST-Africa Partner Countries in North Africa (Egypt, Tunisia), West Africa (Senegal), East Africa (Burundi, Ethiopia, Kenya, Tanzania, Uganda), Central Africa (Cameroon) and Southern Africa (Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland) and Europe, but also between these African States and other key stakeholders. Where appropriate, it also reflects multi-country projects where at least one of the beneficiaries is an IST-Africa Partner Country.

It focuses primarily on bi-lateral or multi-lateral projects funded by governments, development agencies or international institutions due to the limited resources available for this task. However,

where particularly successful national or regional projects funded by other stakeholders are brought to the attention of contributors, these will be included in the repository.

As most projects have a fixed duration, this study requires regular updating. While IST-Africa Partners have taken care in identifying relevant projects, irrespective of funding, we invite key stakeholders to bring other relevant projects to our attention, to be incorporated in the next version.

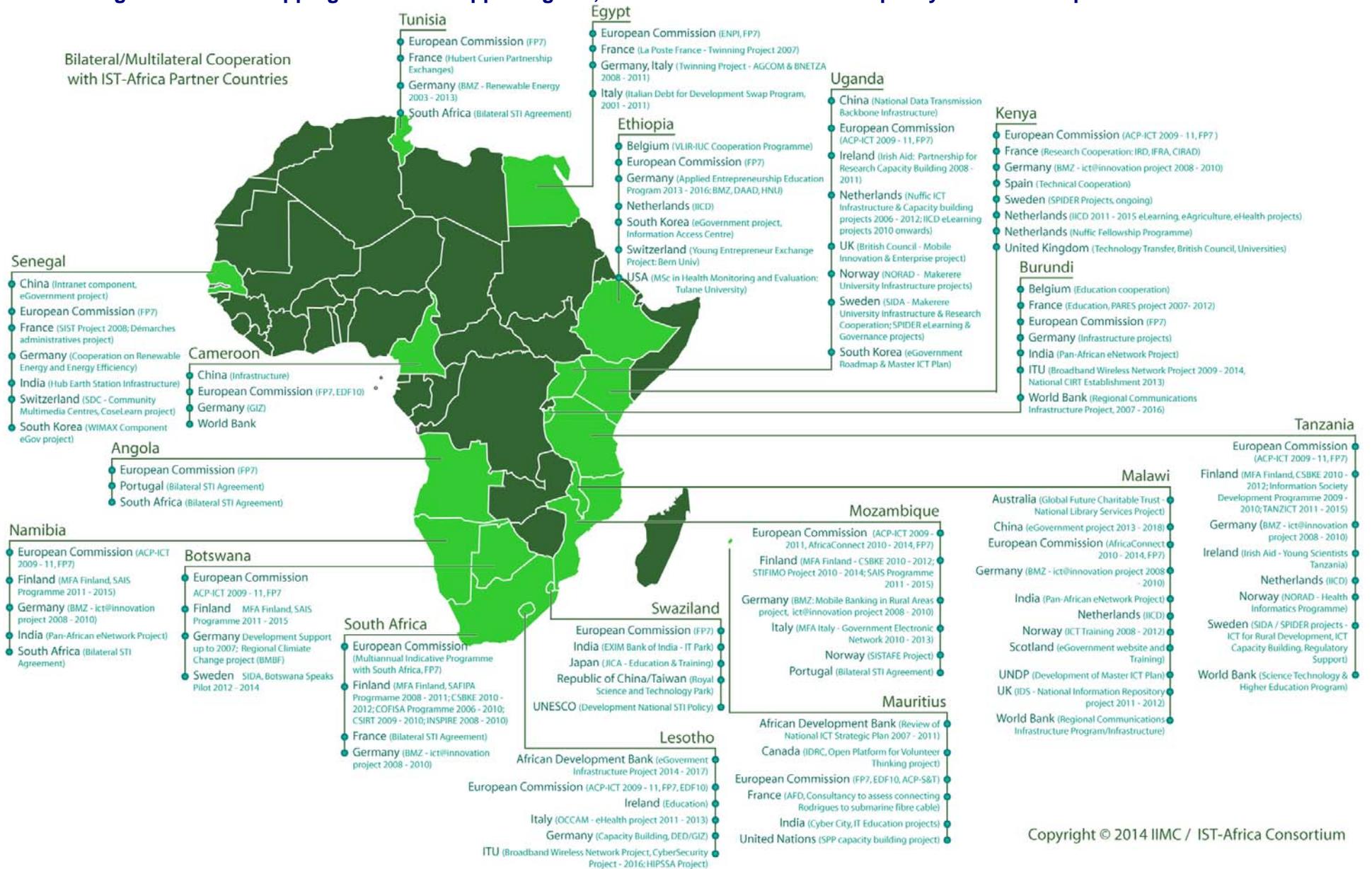
1.2 Methodology

This study builds on a previous study and body of knowledge collected by IST-Africa Partners during 2009 – January 2014.

This initial phase of this study has been undertaken from February to November 2014. The methodology leveraged qualitative data collection and face to face semi-structured interviews with key stakeholders in Botswana, Burundi, Cameroon, Egypt, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Senegal, South Africa, Swaziland, Tanzania, Tunisia and Uganda, supplemented by follow up e-mails, desk research and telephone interviews.

This study is complemented by two other IST-Africa studies entitled "Guide to Living Labs and Innovation Spaces in IST-Africa Partner Countries", November 2014, ISBN: 978-1-905824-49-6 and "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014, ISBN: 978-1-905824-47-2. All three studies will be updated during 2015.

Diagram 1: Initial Mapping of donors supporting ICT, Innovation and Research capacity in IST-Africa partner countries



1.3 Main Findings

Bilateral cooperation support for ICT, Innovation and Research Capacity building is primarily provided by Finland, Sweden, Norway, Germany, Italy, France, Switzerland, Ireland, Netherlands, UK, Belgium, Portugal, India and South Korea, Republic of China on Taiwan, China and Japan. Multilateral support is primarily provided by the European Commission, African Development Bank, World Bank, ITU, IICD, UNDP and UNESCO.

Diagram 1 above provides a visual representation of some of the donors support ICT, Innovation and Research capacity in IST-Africa partner countries.

The **Ministry of Foreign Affairs of Finland** (MFA) primarily focuses on supporting Innovation capacity building. The Finnish Programmes are based on a needs assessment agreed with the national government, implemented by a small technical support team from Finland in cooperation with a local team established by the hosting Ministry and focus on building capacity within existing national institutions. A number of projects were undertaken in **South Africa** between 2006 - 2011: SAFIPA Programme (2008 – 2011 €3 million), COFISA Programme (2006 – 2010 €3 million), Establishing National CSIRT Capacity for South Africa (2009 - 2010 €280k) and INSPIRE Programme (2008 - 2010 €4.07 million). Based on the lessons learnt from these Programmes two **regional** African projects were launched - *Creating Sustainable Business in the Knowledge Economy* (focused on improving capacity in Sub-Saharan business incubators in mobile application development, with pilots in Tanzania, Mozambique and South Africa, 2010 - 2012, €3.3 million, partners included InfoDev and NOKIA) and *Southern Africa Innovation Support Programme*¹ (focused on supporting a regional innovation system in SADC and promoting collaboration in relation to Innovation systems between **Botswana, Mozambique, Namibia and Zambia**, 2011 - 2015 €6.2 million). The STIFIMO Programme was launched in **Mozambique** to enhance the national Science, Technology and Innovation system (2010 - 2014, €22 million). Leveraging the success stories from the SAFIPA Programme, the Information Society and ICT Sector Development Programme (2009 - 2010 €500k) prepared the way for the TANZICT² Programme, which focused on strengthening the **Tanzania** Information Society and Innovation ecosystem (Sept 2011 - August 2015, €5 million). This project has been very successful providing assistance to undertake a review of the ICT Policy and prepare an Implementation Plan, providing grants to entrepreneurs under an ICT Innovation Fund, establishing an Innovation Space and pre-Incubation support, supporting emerging Living Labs as well as facilitating significant capacity building and exchange programmes. A follow on project is currently being prepared for Tanzania to leverage the success of the TANZICT Programme. Finland has also supported the Technology and Innovation Awards for Africa (TIA). **ALICT**³ was funded by MFA (initial budget of €3 million) as one of the 8th Partnership projects and

¹ www.saisprogramme.com

² <http://tanzict.or.tz/>

³ <http://www.gesci.org/african-leadership-in-ict-aliict.html>

implemented by GESCI in East and Southern Africa as a 7 month ICT Leadership Training Programme under the first Action Plan of the 8th Africa-EU Strategic Partnership.

Sweden provides support through bilateral programmes funded by **SIDA** in programme countries and grants provided by **SPIDER** (eDemocracy, eLearning, Open Access projects in **Kenya, Tanzania and Uganda**). In **Uganda** SIDA has provided direct support to Makerere University to incorporate ICT, in **Tanzania** SIDA has supported programmes for ICT for Rural Development, Mainstreaming of ICT in Ministry of Education, Teacher Training Colleges, Secondary Schools and Open University and Regulatory Support and in **Botswana** a Parliamentary Initiative leveraging ICT (Botswana Speaks⁴, 2012 - 2014).

Norway provides support through **NORAD** in programme countries. In **Malawi** NORAD provided training to ICT officers and support to the government sector from 2008 - 2012, in **Mozambique** support to the SISTAFE Public Financial Management Report from 2002 - 2009 and in **Uganda** significant support to the ICT Department in Makerere University. In **Tanzania** NORAD and the University of Oslo has provided support in relation to the Health Informatics System (DHIS) with financial support from the Embassy of Norway and setting up a Masters Programme in Health Informatics in cooperation with University of Dar es Salaam, School of Informatics and Communication Technologies and Muhimbili University of Health and Applied Sciences, School of Public Health.

Germany provides support through KfW and the German Federal Ministry of Economic Cooperation (BMZ) for Education and Entrepreneurship in **Ethiopia** (direct cooperation between Arba Minch University and Neu-Ulm University of Applied Sciences Germany), Renewable Energy and Energy Efficiency in **Tunisia** and **Senegal**, Interconnection of Electricity Grids in **Burundi** (Regional Initiative), ICT infrastructure for Education and Capacity Building in **Uganda**, Research focused on Climate Change in **Botswana**, and Rural Infrastructure in **Lesotho**, ict@innovation Open Source Regional Programme (2008 - 2012 in **Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia**, €1.6 million), and Mobile Banking in Rural areas project in **Mozambique** and **Ghana** (€9.5 million Ghana, €2 million Mozambique). In **Cameroon**, DED, GIZ and KfW funded seconded experts for a Health Programme (SWAp Health), programme for the support of decentralisation and local development projects (PAADL) and creation of a social and scientific research centre in Yaounde to the tune of €49 million.

Italy primarily focuses on Governance and eHealth. In **Mozambique** the Ministry of Foreign Affairs funded the Government Electronic Network (2010 - 2013 €4.8 million). In **Egypt** the Italian Debt for Development Swap Program funded ICT projects for Technical Education, SMEs and Modernising Industrial Schools using ICT. In **Lesotho** a project focused on an ICT Village in the community of Mahobong addressing food security, health and education was supported through OCCAM (2011 - 2103). Some other activities are funded through specific Municipalities in Italy such as the Maputo Living Lab.

⁴ <http://www.botswanaspeaks.org/>

France has supported two regional projects in **Burundi, Rwanda and DRC** (PARES and Great Lakes Inter-University Network); SIST (Information System for STI research, thesis and publications) and Demarches (Website to access administrative information) in **Senegal**; Twinning project between **Egypt** Post and Le Poste; Huber Curien Partnerships (Scientific and Technological Exchanges and Research funding) in **Tunisia**; Francophone Distance Education Masters (AUF, OIF) in **Burundi**, Postgraduate Scholarships through IRD, IFRA and CIRAD in **Kenya**, a Bilateral STI Agreement with **South Africa** and is supporting Consultancy to assess connecting Rodrigues to submarine fibre cable in **Mauritius**.

Switzerland supported Community Multimedia Centres and CoseLearn (Virtual Campus) in **Senegal** and Young Entrepreneur Exchange Project in **Ethiopia** (Hawassa and Bern Universities).

Ireland provides Education and Health support through Irish Aid in **Lesotho, Ethiopia**, Young Scientist (**Tanzania**) and Partnership for Research Capacity Building (Makerere University, **Uganda** and Irish HEIs).

The Netherlands supports Nuffic Fellowship Programme in **Uganda and Kenya**, ICT Capacity Building in Uganda (Makerere University) and Education Programme support in **Namibia**. IICD supports practical projects in the areas of eHealth, eAgriculture and Technology-enhanced Learning in **Ethiopia, Kenya, Malawi, Tanzania** and **Uganda** through the Connect4Change Consortium (IICD, Akvo, Cordaid, Edukans and ICCO) with financial support from the Ministry of Foreign Affairs of the Netherlands.

The UK primarily provides assistance through central budgetary support, Governance projects and has supported the National Information Repository Project in **Malawi** and Mobile Innovation & Enterprise project through the British Council in **Uganda**. Scotland provided assistance for the development and training for the Government website in Malawi.

Belgium has supported capacity building in **Burundi** and **Ethiopia** (VLIR-IUC Cooperation programme).

Portugal has bilateral Science Technology and Innovation Agreements with **Angola** and **Mozambique**.

India's Pan-Africa eNetwork Project provided video conferencing technology and access to remote lectures in a number of countries including Burundi, Malawi, Namibia and Senegal as well as Scholarships and Technology Transfer. In Mauritius, India has provided funding to develop the Cyber City and IT Education projects.

South Korea supports the **Uganda** eGovernment Roadmap and Master ICT Plan and establishing Information Access Centres and an advisory service for projects on the e-office service, the Government Integrated Data System project in **Ethiopia** (\$300k, commenced in December 2013), and the wimax component of the eGovernment project in **Senegal**.

The Republic of China on Taiwan is providing funding towards the Technology Park in **Swaziland**.

China is supporting the eGovernment Programme in **Malawi** (€135 million), the initial phases of the National Data Transmission Backbone Infrastructure (NBI) and the Electronic Government Infrastructure (EGI) in **Uganda**, National Backbone development in **Cameroon**, and has provided support to the intranet component of the eGovernment project in **Senegal**.

Japan is providing capacity building support including training in **Swaziland**.

The African Development Bank provides loans for infrastructure and policy development including the eGovernment Infrastructure Project (2014 - 2017) in **Lesotho** and Review of National ICT Strategic Plan 2007 - 2011 in **Mauritius**.

The World Bank provides loans focused on Infrastructures and developing Higher Education Institutions such as the **eGhana** project (€42 million 2006 - 2014), Regional Communications Infrastructure project (**Burundi, Kenya, Madagascar, Malawi** €201.9 million, 2007 - 2016) and the Science, Technology and Higher Education Program in **Tanzania** (\$100 million, 2008 - 2014, additional \$15 million 2014 - 2016).

ITU provides technical support in relation to Broadband Wireless Networks (**Burundi**, 2009 - 2014; **Lesotho**), establishing National Computer Incident Response Teams (Burundi 2013 - 2015), Cyber Security Project (Lesotho up to 2016), Digital Migration and Harmonisation of policies and regulatory guidelines (HIPSSA project "Support for Harmonization of ICT Policies in Sub-Saharan Africa").

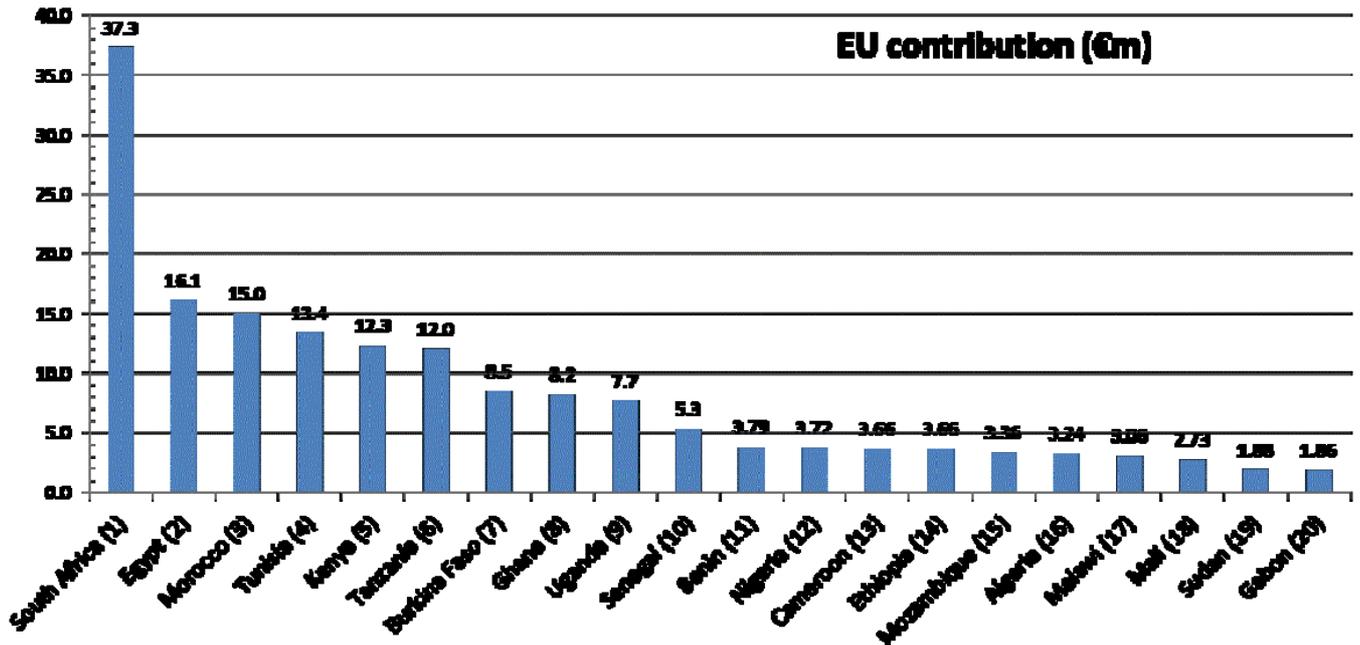
UNDP is supporting the development of the Master ICT Plan in **Malawi** and UNESCO supported the development of the National Science, Technology and Innovation Policy in **Swaziland**.

South Africa has bilateral Science Technology and Innovation Programmes in place with a number of other African Member States including Angola, Namibia and Tunisia. Joint Research Calls have been undertaken with Angola and Namibia in recent years with some ICT-related projects being selected for co-funding.

The **European Commission** provides support through European Development Funds (EDF), Framework Programme Research Grants (FP7, H2020), ACP-ICT capacity-building programme 2009 - 2011 and Africa Connect.

Under **FP7** there was a considerable increase in participation from African Member States in funded projects, which reflected the opening up of International Cooperation across all instruments and a number of specific thematic calls focused on research cooperation with Africa (Africa-2010 Call). There were more than 1,315 participations from 45 African countries in 565 FP7 projects with €178 million in research funding going into African institutions. Diagram 2 below outlines the leading African countries in terms of funding secured during FP7:

Diagram 2: Leading African Countries in terms of research funding under FP7

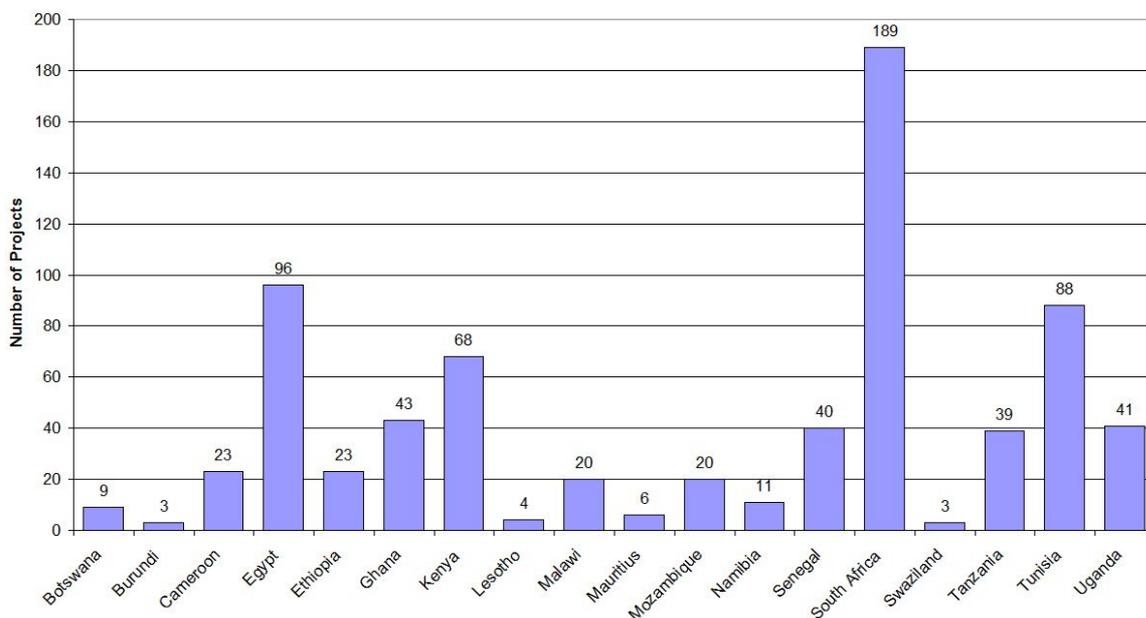


Source: S Hogan, EU Delegation to AU

The level of participation in FP7 from organisations in IST-Africa partner countries has grown dramatically over the past seven years as illustrated in Diagram 3 below. While this has brought much needed research funds in the beneficiary African institutions, it has also supported networking, capacity building and laid a solid foundation for future collaboration under Horizon 2020. There is now a greater awareness of the benefits of international collaborative research.

Diagram 3: Participation in FP7 (IST-Africa Partner countries)

IST-Africa Partner Countries - Participation in FP7 (Nov 2013)



The **European Development Fund (EDF)** supports the implementation of the European Union's (EU's) Cotonou Partnership Agreement and is the main instrument for providing support to African, Caribbean and Pacific (ACP) countries. It also provides funding for the EU's Overseas Countries and Territories. The EDF has a strong poverty focus and 85% of funds go to Low Income Countries. Since 2000, the Cotonou Agreement has governed relations between the 78 ACP countries and the 28 EU Member States. The EDF began in 1959 and is now in its 11th cycle (2014-2020).

IST-Africa partners have requested information from their National Authorising Authority (NAA) in relation to projects funded under EDF10 that incorporated an ICT component. To date Cameroon, Lesotho and Mauritius have identified projects with ICT components which are outlined below.

Table 1: ICT related projects funded under EDF10 in Cameroon

No	Program	Project/Activity	Amount (Euros)	Status	Remark
1	Public Finance Reform Support Program	Development of an integrated system of human resource management and payroll of government employees (SIGIPES II)	2,728,300	Ongoing	Overall cost of the project: 4 095 000 euros, Cameroonian Government covers the rest
2		Elaboration of a set of specifications for the purchase of a software package of an integrated tax management system	106,444.80	Ended	Reception date: January 2014
3	Customs Modernisation Support Program	Acquisition of ICT related equipments in Custom Offices Nationwide	303,562.62	Ended	Reception date: June to July 2013
4		Acquisition of Electronic Luggage Scanner at Douala International Airport	539,905.02	Ended	Reception date: September 2013
5		Acquisition of Solar Energy Plates in some Custom Offices Nationwide	344,767.50	Ended	Reception date: May 2014
6	Electoral Process Support Project in Cameroon	Acquisition of ICT related equipments	48,058.81	Ended	Reception date: February to May 2012

Table 2: Projects funded under EDF10 in Lesotho that had ICT components

Maseru Waste Water Project (€24.3 million): to rehabilitate and expand the sewage system in Maseru
Three Towns Water Supply and Sanitation project: to upgrade potable water supplies to the towns of Roma, Teyateyaneng and Maputsoe.
Turnkey Supply of an Integrated Financial Management Information System (IFMIS) (€7,299,701): contributes to the Government of Lesotho's effort to improve governance and accountability by improving Public Financial Management.

Table 3: ICT-related Projects funded under EDF10 in Mauritius

Project Name	Focus	Budget
Consultancy for 'Ensuring the compliance of the data protection legislation and principles of Mauritius with EU standards'	The global objective of this assignment is to amend the Data Protection Act in the perspective of achieving compliance with the EU data protection laws, and to improve the existing institutional set-up of the Data Protection Office to meet international standards.	€30,000
Capacity Building Programme on Green IT and Energy and Energy Efficient Data Centres	NCB organised three training sessions during the period May-June 2013: (a) Green IT (b) EU Code of Conduct for Data Centres and (c) Energy and Cost Management in Data Centres, all leading to industry certification from BCS, the Chartered Institute for IT. The objective of this Capacity building programme is to raise awareness on the opportunities for energy and cost efficiency within the industry and gives guidance on initiatives and changes that can be made to improve the efficiency of the data centre infrastructure, as well as the IT equipment.	Rs. 3.2 m (€83,756)
Consultancy Services on Sustainable Buildings and Construction for Mauritius	The Ministry of Environment and Sustainable Development (MOESD), in collaboration with the United Nations Environment Programme (UNEP), developed a National Programme on Sustainable Consumption and Production (SCP) for Mauritius for the period 2008 - 2013. One of the key priority areas identified in the SCP programme is Sustainable Buildings and Construction. In this context, the government requested for Consultancy Services to develop a policy on Sustainable Buildings and Construction, including guidelines on sustainable buildings. The global objective of this assignment was to establish a comprehensive framework to promote sustainable buildings in the Republic of Mauritius (island of Mauritius and Rodrigues).	€171,000
Consultancy Services on the development of national policy, strategy and action plan for the	This project is currently in progress where three experts funded by the European Union is developing the E-Waste Policy, Strategy and Action	€177,000

management of electrical and electronic equipment wastes (e-wastes)	Plan for Mauritius. The specific objectives of this project are: a) Assess and evaluate existing e-waste policy, initiatives, gaps, challenges and opportunities in/for the management of e-wastes in Mauritius. b) Develop comprehensive national e-waste policy, strategies and an action plan for the environmentally sound management (ESM) of e-wastes in Mauritius. c) Recommend appropriate economic and policy instruments and financing mechanism which will favour the ESM management of e-wastes in Mauritius d) Recommend appropriate legal, institutional and administrative framework for the ESM of e-wastes in Mauritius.	
National Open Source Policy, Strategy and Action Plan	A National Open Source Policy Strategy and Action Plan has been developed with the assistance of two consultants from Astec Global Consulting Ltd. The main objective of this project was to develop strategies and plans for reinforcing the use of Open Source Software to enhance value and improve efficiency within the Mauritian public and, indirectly, private ICT sector, SMEs and boosts local capacity to help develop local knowledge communities. Four Strategic Pillars associated with specific goals and targets have been identified as necessary for the growth of an OSS ecosystem namely: a) OSS enabled education system on all levels b) OSS based research activities on universities and tertiary education c) Common place for all Open Source Software, Open Standard, Open Content and Open Data activities d) Common collaboration platform and technology platform	Rs2.4 million (€63,224)

Table 4 below provides an overview of EDF10 and EDF11 in terms of funding level and focal areas agreed for each programme.

It is positive that the National Indicative Programmes for EDF11 incorporate "exploiting the potential of Information and Communication Technologies" as one of the cross cutting factors to be considered in the focal sectors, when designing sector interventions. It is clear that ICT should be an important horizontal enabler in Education, Health, Rural Development, Agriculture, Water and Transport. Africa is demonstrating leadership in innovative exploitation of mobile technologies and applications - it would be positive if this expertise is leveraged when developing sectoral applications.

Table 4: Overview of EDF10 & EDF11 (IST-Africa Partner countries)

IST-Africa Partner Country	EDF10 Funding (2007 – 2013)	EDF10 Focal Areas	EDF11 Funding (2014 – 2020)	EDF11 Focal Areas
Angola	€214 million +€13.9 million	Governance and Support to Economic and Institutional Reform; Human and Social Development; Rural Development, Agriculture and Food Security	To be concluded	Reconstruction and Rehabilitation of Social Infrastructure; Improvement of Social Situation, Health and Education; Capacity Building for Improved Public-Service Delivery
Botswana	€73 million + €4.3 million	Human Resources Development, Growth Promotion and Poverty Reduction (Empowering Civil Society, Technical Cooperation Facility)	€33 million	Inclusive and Sustainable Growth – Education Sector; Public Sector Reforms; Measures in Favour of Civil Society; Support Measures and NAO Support
Burundi	€210.7 million + €45.6 million	Health, Rehabilitation, Rural Development, Food Security, Budget Support, Good Governance, Civil Society	€432 million	Sustainable Rural Development for Nutrition; Healthcare; State Building; Sustainable Energy; Support to Civil Society
Cameroon	€239 million +6.9 million	Governance, Trade and Regional Integration		Finance; Forestry; Governance
Egypt (European Neighbourhood and Partnership Instrument)	€558 million (2007 – 2010) + €440.29 million (2011 – 2013)	2007 – 2010 Support Reforms in Democracy, Human Rights and Justice, Developing Competitiveness and Productivity of Egyptian Economy, Ensuring the Sustainability of the Development Process; 2011 -2013 Support Reforms in Democracy, Human Rights, Good Governance and Justice, Developing Competitiveness and Productivity of the Economy, Sustainability of the Development Process		In Preparation

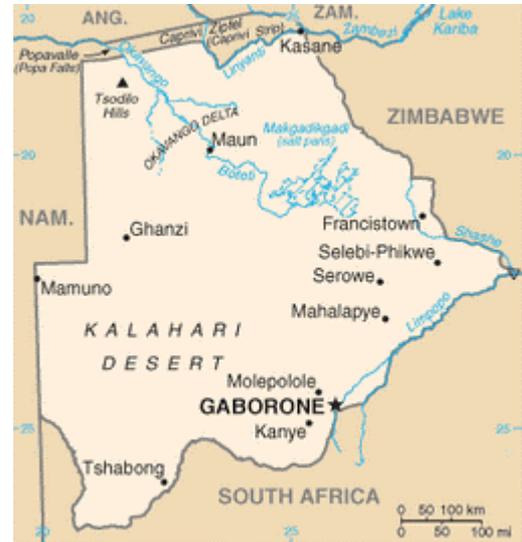
IST-Africa Partner Country	EDF10 Funding (2007 – 2013)	EDF10 Focal Areas	EDF11 Funding (2014 – 2020)	EDF11 Focal Areas
Ethiopia	€689 million	Transport and Regional Integration, Rural Development and Food Security, Macroeconomic Support and Governance	€745 million	Sustainable Agriculture and Food Security, Health, Roads (Phasing out) and Energy (Phasing in), Civil Society and Synergetic Governance, Support Measures
Kenya	€399.4 million	Transport Infrastructure, Agriculture and Rural Development, Macroeconomic Support	€435 million	Food Security, Sustainable Infrastructure, Accountability of Public Institutions, Support Measures
Lesotho	€136 million + 2 million	Human Development, Infrastructure	€142 million	Water, Energy, Governance
Malawi	€436 million +€15 million	Rural Development, Agriculture, Food Security and Natural Resources; Transport; General Budget Support;		Governance, Sustainable Agriculture, Secondary Education and Vocational Training
Mauritius	€51 million +€12.4 million	Improve Competiveness for Equitable Development		Under Preparation
Mozambique	€622 million + €12.1 million	Transport Infrastructure; Agriculture and Rural Development; Support Measures	€734 million	General Budget Support; Rural Development
Namibia	€103 million	Rural Development, Human Resources Development, Support Measures	€68 million	Education (including pre-primary, early childhood and vocational); Rural Development
Senegal	€317 million + €23m Emergency Support + €60m Sectoral/NGO Support	Trade/Regional Integration, Sanitation	€347 million	Democratic Governance, Sustainable Agriculture and Food Security, Water and Sanitation
South Africa (Multi-Annual Indicative Programme MIP)	€980 million	Employment Creation; Capacity Development for Service Delivery and Social Cohesion; Governance	€241 million	Employment Creation; Education, Training and Innovation; Building a Capable & Developmental State

IST-Africa Partner Country	EDF10 Funding (2007 – 2013)	EDF10 Focal Areas	EDF11 Funding (2014 – 2020)	EDF11 Focal Areas
Swaziland	63 million + €0.9 million	Health and Education, Improve Water Supply, Support Measures	€62 million	Agriculture and Food Security, Social Protection, Support Measures
Tanzania	€555 million + €10.1 million	Infrastructure, Communications, Transport; Trade and Regional Integration; Macroeconomic Support	€626 million	Good Governance and Development, Sustainable Agriculture; Energy
Tunisia (European Neighbourhood and Partnership Instrument)	€300 million (2007 – 2010), €240 million (2011 – 2013)	[2007 – 2010 Economic Governance, Competitiveness and Convergence with the EU, Improved Graduate Employability, Sustainable Development] [2011 – 2013 Employment and Social Protection, Integration, competitiveness of companies, justice sector]		Under Preparation
Uganda	€439 million +€21.9 million	Infrastructure, Rural Development, Macroeconomic Support	€578 million	Transport Infrastructures, Food Security and Agriculture, Good Governance

2. REPUBLIC OF BOTSWANA

2.1 Introduction

The Republic of Botswana is in Southern Africa. Botswana is bordered by Namibia on the west and north, Zambia at a narrow strip in the north, Zimbabwe on the east, and South Africa on the east and south. Botswana has an area of 581,730 sq km with an estimated population of 2.155 million inhabitants (estimate July 2014, CIA World FactBook) and a literacy rate of 85.1%. 63% percent of the total population is between 15 and 64 years of age. Gaborone, the capital city, has a population of about 233, 135 (2011). The official language is English.



Botswana is a middle-income country with relatively good infrastructure, fibre-optic networks and a National Backbone. The first National Information and Communications Technology Policy was approved by Parliament in 2007 [Maitlamo National Policy for ICT Development 2007] and the revised Research, Science, Technology and Innovation Policy was approved in 2012. The Botswana Innovation Hub was set up to encourage inward investment and support research, training and job creation in the areas of ICT, Bio-Technology, Energy and Mineral Technology. There are quite a lot of ICT Initiatives and projects funded at national level focused on reducing the digital divide and supporting the Information Society (Connecting Communities Programme, Kitsong Centres, Thuto-Net, Broadband Strategy, Universal Access), providing eGovernment services and supporting Innovation and Entrepreneurship. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to telecommunications, according to Botswana Communications Regulatory Authority at December 2013 there were 174,165 fixed phone lines subscriptions, 3.246 million mobile phone subscriptions and 21,590 broadband subscriptions. According to the BTA 2013 Annual Report, tele-density of mobile telephony was 153% in March 2013 and Internet usage (mobile and fixed) has increased from 13.8% in March 2012 to 48% in March 2013.

There are 2 public universities and 2 private institutions of Higher Education with 4 Departments focused on ICT/Engineering. There are also eight public Higher Education Institutes including DVET and nine private Higher Education Institutes

2.2 Bilateral Cooperation

Botswana is a signatory to the Cotonou Partnership Agreement, and is an Observer of the TDCA (Trade Development Cooperation Agreement) EU-RSA.

Botswana is considered to be a middle-income country and as a result the level of funding available through bilateral cooperation with EU Member States has been reduced gradually over the past decade. There are currently Embassies for France, Germany and UK in Gaborone. The Swedish Embassy closed in recent years. Under EDF10 (2008 - 2013) Botswana was allocated 73 million euro, which was focused around Human Resource Development, Growth Promotion and Poverty Reduction. Under EDF11 (2014 - 2020), Botswana is allocated €33 million with focal areas including Inclusive and Sustainable Growth – Education Sector; Public Sector Reforms; Measures in Favour of Civil Society; Support Measures and NAO Support

Bilateral Support for ICT-related activities is primarily provided by Finland (Southern Africa Innovation Support Programme) and Sweden (Botswana Speaks Parliamentary Initiative). Botswana was a beneficiary under EDF9 @CP-ICT Capacity Building Programme (Internet Governance and ICT Policy 2009 - 2011) and has been successful in securing participation in 9 FP7 projects (up to November 2013).

2.2.1 Finland

The Southern Africa Innovation Support Programme (SAIS)⁵ is focused on supporting a regional innovation system in SADC and promoting collaboration in relation to innovation systems between Botswana, Mozambique, Namibia and Zambia. It aims to establish sustainable knowledge-sharing networks for innovation support and partnerships; strengthen human capacity relation to innovation; adapt and replicate best practices and build institutional and organisational elements for national and regional innovation systems. SAIS supports Science Parks, incubation and entrepreneurship, co-creation and open innovation, mobile applications, and renewable energy and inclusive/frugal innovation. The Botswana Innovation Hub (BIH) is the national partner.

Partners: Botswana Innovation Hub (BIH), Namibia Business Innovation Centre (NBIC), National Technology Business Centre, Zambia and Mozambique ICT Institute (MICTI)

Funding: €6.2 million, Ministry of Foreign Affairs Finland 2011 – 2015

2.2.2 Sweden

Botswana Speaks⁶ was an eDemocracy project focused on supporting citizens, leaders and local kgotla assemblies in four constituencies of Botswana to share their views and policy concerns with their elected representative. It aimed to enable the National Assembly to enhance work efficiency and increase policy responsiveness with constituencies through the use of eParticipation and ICT tools. The project ran from September 2012 – April 2014 with a pilot running from April 2013. This project leveraged the experience and outputs from the Africa4All Parliamentary Initiative, co-funded under the ACP-ICT Programme.

⁵ www.saisprogramme.com

⁶ <http://www.botswanaspeaks.org/>

Partners: The Parliament of Botswana, eGovlab (Department of Computer and Systems Sciences, Stockholm University), Gov2u

Funding: SIDA

2.2.3 Germany

With Botswana's change in status to a middle-income country, official German development aid to Botswana was phased out in 1992 (financial cooperation) and 2007 (Technical cooperation). Germany has continued to support Botswana through SADC (Southern Africa Development Community) and the German Development Service (DED). Support from DED is based on an agreement whereby the Government of Botswana co-funds the work of DED and its development workers on specific agreed projects in Botswana. DED's areas of activity in Botswana are currently focused on Vocational Education, Road Safety and Transport Planning as well as Natural Resource Management. While some of the vocational education projects incorporate elements of ICT, it is not their predominant focus.

The German Government through its Ministry of Education and Research (BMBF) rolled out a high intensive research project for the region (Angola, Botswana, Namibia, South Africa and Zambia). The project is aimed at emphasizing regional collaboration in and between participating countries and the focus is on climate change and its impact in the region. It is a multi million project and since its orientation is specifically on Climate Change it is housed at the Department of Meteorological Services in the Ministry of Environment, Wildlife and Tourism.

2.2.4 France

Cooperation with France is primarily related to promotion of French teaching in Botswana through a cooperation agreement between Alliance Francaise and the University of Botswana. The Embassy of France does not currently directly support ICT-related projects in Botswana.

2.2.5 United Kingdom

Cooperation with the British High Commission in Gaborone has historically been focused around governance, energy and environment. The Embassy of the United Kingdom does not currently directly support ICT-related projects in Botswana.

2.3 Other Funding Mechanisms

2.3.1 Framework Programme 7

Botswana has gradually increased its participation in FP7 projects and up to November 2013 had secured participation in **9** FP7 projects – ICT (4 projects), INCO (1 project), Environment (1 project), Health (2 projects) and Food, Agriculture and Biotechnology KBBE (1 project).

The Department of Research Science and Technology (DRST) initially hosted IST-Africa training workshops in Gaborone without funding during 2006 - 2007. Botswana through DRST formally

joined the IST-Africa Initiative as a partner in 2008 and this responsibility was taken over by the Ministry of Transport and Communications in 2012 under the Department of Telecommunications and Postal Services (DTPS). DRST was also involved as a partner in the extended phase of CAAST-Net. DTPS are actively encouraging research institutions to build international partnerships and work to increasing the number of participations in the Framework Programme.

As a result of an IST-Africa Training Workshop on FP7-Africa 2010 hosted by DRST in Gaborone on 23 September 2009, the University of Botswana successfully participated in the submission of the RN4CAST proposal and the HURAPRIM⁷ proposal focused on Primary Health Care in Africa in cooperation with the University of Gent (BE), University of Oxford (UK), Medizinische Universitaet Vienna (AT), Wits University (ZA), Mbarara University of Science and Technology (UG), Ahfad University for Women (SD) and Universtite de Bamako (ML), which commenced in March 2011.

As part of its IST-Africa activities MTC circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, creates awareness of research centres in Botswana during international meetings and has undertaken an initial mapping of research capacity. MTC hosted an IST-Africa Horizon 2020 Workshop in Gaborone on 21 November 2013.

2.3.2 Capacity-building programme and Community Development in Internet Governance and ICT Policy (ACP/EDF9)

A Programme focused on Capacity-building and Community Development in Internet Governance and ICT Policy⁸ was funded under the ACP-ICT Call (ACP/EDF9). This project ran from 2009 – 2011 undertaking online training courses on Internet Governance and ICT Strategy, provide training through workshops and policy immersion fellowships.

African Target Countries: Botswana, Burundi, Congo and Kenya

Main partner: Diplo Foundation

Partner in Botswana: Botswana Information Technology Society⁹

Funding: 960k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

⁷ <http://www.huraprim.ugent.be/drupal/>

⁸ <http://www.diplomacy.edu/ACP/Programme/default.asp>

⁹ <http://www.bits.org.bw/index.htm>

3. REPUBLIC OF BURUNDI

3.1 Introduction

The Republic of Burundi is situated in Central Africa, sharing boundaries with Democratic Republic of the Congo, Rwanda and Tanzania. It is a landlocked country and has a surface area of 27,830 sq km, made up of 17 provinces. The population is estimated at 10,395,931 inhabitants (July 2014 est. CIA World FactBook) with a literacy rate of 67.2%. 51.8% of the total population is between 15 and 64 years of age. The capital city is Bujumbura with a population of 605,000 (2011). Kirundi is the national language with French as the official language. Other languages spoken are Swahili and English.



Burundi joined the East African Community in 2007, which improves regional trade ties. The economy is predominantly agricultural with primary exports of coffee and tea. Burundi is currently dependent on bilateral and multilateral aid.

Burundi is slowly building up the institutions and infrastructure following twelve years of crisis up to 2005. The National ICT Policy was revised and adopted in 2011, the National Policy for Science, Technology and Innovation (STI) adopted in 2011 with an implementation framework for 2014 - 2018 and the decree to establish the National Commission for Science, Technology and Innovation was signed in July 2014. A fibre-optic project is currently running to provide ICT infrastructure across the country alongside development of the National Backbone. The Burundi Education and Research Network (BERNET) has been established and the ICT Executive Secretariat has enabled the physical Last Mile connection to the 15 core members of BERNET. ICT initiatives are currently focused on eInfrastructure and eGovernment. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

In relation to Communications, there were 17,400 fixed phone lines in 2012 (32,600, 2010) and 2.53 million mobile phones in 2013 (2.4 million 2012) according to Agence de Regulation et del Controle des Telecom. There are six ISPs, with approximately 500,000 Internet users in May 2013 (ARCT).

There are 7 public universities and 24 private institutions of Higher Education.

3.2 Bilateral Cooperation

Burundi is a signatory to the Cotonou Partnership Agreement. Cooperation between the European Community.

Bilateral support is primarily from European Development Funds, World Bank, ITU Belgium, France, Italy and Canada (IDRC). Under EDF10 (2008 – 2013), 255 million euro was allocated with the focal areas including Health, Rehabilitation, Rural Development, Food Security, Budget Support, Good Governance, Civil Society. Under EDF11 (2014 - 2020) Burundi is allocated €432 million with focal areas including Sustainable Rural Development for Nutrition; Healthcare; State Building; Sustainable Energy; Support to Civil Society. ITU has started to implement infrastructure related projects (Broadband Wireless Network and National CIRT Establishment. The Government of Burundi is participating in a regional project with the World Bank and other partners to put the necessary infrastructure in place, which will ultimately provide the enabling environment for eGovernment applications.

There are currently two European Embassies in Burundi – Belgium and France. To date there is very limited support specifically focused on ICT-related initiatives. The sections below provide an overview of the types of support currently provided.

Support for ICT-related activities is primarily coming from ITU, World Bank and the European Commission (FP7).

3.2.1 Belgium

From 2010 Belgium has focused its support primarily on three priority areas: Health, Education and Agriculture. Overall, the support provided by Belgium towards addressing development problems in Burundi is in the form of promoting a favourable institutional environment; improving sector governance; capacity building and training.

Belgian Cooperation is strengthening sectoral strategies defined by the Burundian government to enhance the performance of national systems. Despite a gradual reduction in the governance component of the next few years, strengthening Justice and the modernization of the Civil Service remains a central concern for Belgian Cooperation. Technical support is provided in relation to education programmes in the Technical Schools.

3.2.2 France

Current support from the Embassy of France is primarily focused on cultural and language support (French Institute of Burundi) as well as University cooperation.

In relation to education, the French Development Agency (AFD) contributes to the Common Fund for Education (CFE), which supports investments required from pre-school to higher education, text books for school children, and the construction of 36 schools and nine colleges (2009 – 2015). The Initiative for Francophone Distance Education Masters (IFADEM), launched in 2007 by the Agence Universitaire de la Francophonie (AUF) and the International Organization of La Francophonie (OIF), is a project 75% financed by AFD aimed at strengthening the professional skills of teachers by supporting the Ministry of Basic Education in the establishment of a training programmes. During 2010 - 2012, the project involves 1,800 teachers and 750 student teachers. In support of the

Government policy to provide free basic education, AFD provides assistance in the recruitment of primary teachers through the 'C2D' contract. In 2010, 1,230 additional teachers were hired and paid through this budget support. The PARES project (2007- 2012 \$2 million) is focused on reform and revitalisation of higher education in Burundi through institutional support, strengthening institutional capacity of the University of Burundi and supporting teaching, learning and capacity building. France also supports the Great Lakes Inter-University Network (RIGL), chaired by the Rector of the University of Burundi, which includes 24 Universities in Burundi, Rwanda and the Democratic Republic of Congo.

3.2.3 Germany

Germany is supporting a project to interconnect the electricity grids as part of the regional initiative, through the development of electric power lines Rusizi III-Bujumbura. Germany is also supporting the sectoral programs focused on drinking water and sanitation, decentralization and poverty reduction.

3.2.4 Italy

Italy has funded a number of projects since 2008 related to youth (literacy and vocational training), health care for refugees returning to Burundi and improvement of sanitary conditions, food and water supply in the province of Cibitoke. These projects are primarily run by NGOs.

3.3 Other Funding Mechanisms

3.3.1 Framework Programme 7

Burundi secured participation in 3 ICT FP7 projects in partnership between Ministère de l'Enseignement Supérieur et de la Recherche Scientifique and IIMC International Information Management Corporation Limited (Ireland).

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique (MESRS), Burundi is a beneficiary under IST-Africa¹⁰ 2010 – 2011, IST-Africa 2012 – 2013 and IST-Africa 2014 – 2015. This participation has facilitated MESRS to host training workshops on FP7 and Living Labs in Bujumbura for the research community, support capacity building and encourage the research community to start to build international links towards securing direct research funding into their institutions. This partnership building takes time to put in place. It will also take time to build up a research culture in institutions that are primarily focused on teaching. As part of its IST-Africa activities MESRS circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, creates awareness of research centres in Burundi during international meetings and has undertaken an initial mapping of research capacity. MESRS hosted an IST-Africa Living Lab Workshop in

¹⁰ <http://www.ist-africa.org>

Bujumbura (26 - 27 September 2011) and is continuing to raise awareness of the potential of Living Labs in Burundi.

MESRS hosted an IST-Africa Horizon 2020 Workshop focused on ICT-39 in Bujumbura on 24 November 2014.

3.3.2 Broadband Wireless Network, Burundi

ITU is implementing the Broadband Wireless Network Project in Burundi. The main outputs of this project include: Deployment of wireless broadband infrastructure in Burundi; Development of ICT applications; Training local experts on the operation of deployed wireless communication networks; Development of national ICT broadband network plans for Burundi that will deliver free or low cost digital access for schools and hospitals, and for underserved populations in rural and remote areas; Development of an impact assessment report and reporting.

Implementing Agency: ITU

Timeframe: 01/07/2009 – 31/12/2014

Funding Level: More than 1'000'000 CHF

More information at <http://www.itu.int/ITU-D/projects/display.asp?ProjectNo=9BDI12011>

3.3.3 National CIRT Establishment - Burundi

ITU implemented the establishment of the National Computer Incident Response Team (CIRT) in Burundi. This project aimed to assist the Government of Burundi in building and deploying the technical capabilities and training required to establish the national CIRT. This will also assist in developing national cybersecurity capacity.

Implementing Agency: ITU

Timeframe: 01/01/2013 – 31/12/2013

Funding Level: 100,000 - 500,000 CHF

More information at <http://www.itu.int/ITU-D/projects/display.asp?ProjectNo=7RAF08073-02>

3.3.4 Regional Communications Infrastructure Project

The Regional Communications Infrastructure project is a regional project commencing with Burundi, Kenya and Madagascar. It is focused on the enabling environment, connectivity and preparation for eGovernment applications. The project in Burundi was restructured in April 2013 with the project life extended until April 2014. Phase I is starting to go into service.

Implementing Organisation in Burundi: Ministère des Télécommunications, de l'Information, de la Communication et des Relations avec le Parlement

Partners: World Bank, The African Development Bank, Agence Française de Développement, The Development Bank of Southern Africa, The UK Department for International Development, The

European Investment Bank, The European Union, KfW Bankengruppe (German development bank) and The Swedish International Development Cooperation Agency.

Timeframe: 21/08/2007 – 31/12/2016 (Extended timeframe)

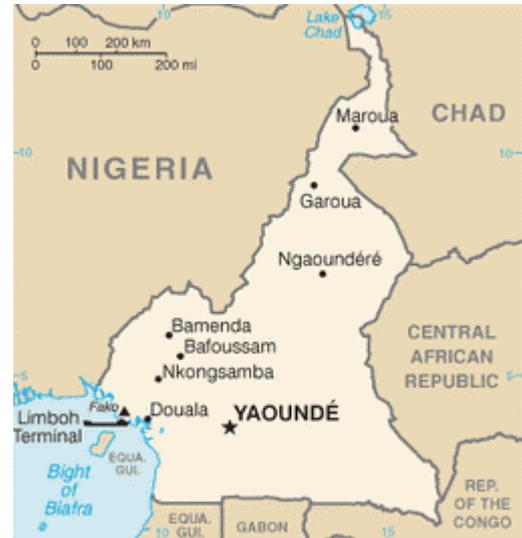
Total Project cost: \$201.9 million (IDA has contributed \$18.8 million in Burundi)

More information at <http://www.worldbank.org/projects/P094103/regional-communications-infrastructure-project?lang=en>

4. CAMEROON

4.1 Introduction

The Republic of Cameroon is situated in Central Africa, sharing boundaries with Nigeria to the west, Chad to the northeast, Central African Republic to the east, Congo, Gabon and Equatorial Guinea to the south with direct access to the Atlantic Ocean to the southwest. It is a unitary state, with a surface area of 475,442 square km, made up of ten regions subdivided into fifty-eight (58) divisions and further subdivided into 375 districts currently in the process of decentralisation. The population as at July 2014 was estimated at 23.130 million inhabitants with a literacy rate of 71.3% (CIA World Factbook). 53.9 percent of the total population is between 15 and 64 years of age. Yaounde, the capital city, has a population of 2.43 million (2011) and Douala has a population of 2.449 million (2011). The official languages are English and French.



Cameroon plays an important economic role in Central Africa. There is a good Policy Framework in place (ICT Policy 2007, Electronic Communications Law, CyberSecurity Law and Electronic Commerce Law) and the National ICT and Telecommunication Strategy is currently being revised. eInfrastructure is gradually improving with a national backbone of over 6,000 km of fibre optic cable, a fibre optic loop in Douala with a second being laid in Yaounde (Capital) and the ongoing establishment of a National Internet eXchange point (IXP). There are 60 operational tele-centres, with a further 110 being put into service and 15 under construction. ICT Initiatives are primarily focused on eGovernment Services (including Legal and Regulatory Framework), National PKI, ICT Programmes in Primary and Secondary Schools, National Identity Card Computerisation and Biometric Passports. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to Communications, according to 2012 figures (CIA World FactBook), there were 737,400 fixed phone lines in use compared with 13.1 million mobile phones. There were 10,207 Internet hosts (2012) and 749,600 Internet users (2009).

Cameroon has a good research base and experience in collaborative research with 8 public Universities (University of Yaounde I; University of Douala; University of Dschang; University of Buea; University of Yaounde II; University of Ngaoundere; University of Maroua and University of Bamenda), over 80 private institutions for Higher Education and several laboratories.

Bilateral and multilateral support for ICT / STI related activities is primarily from African Development Bank, World Bank, European Commission (FP7, EDF10) and China.

4.2 Bilateral Cooperation

There are eight European Embassies (Germany, France, Spain, Italy, Netherlands, UK, Netherlands and Belgium) as well as an EU Delegation in Yaounde. France, Germany and the EU delegation are particularly active in the areas of Health, Rural Development, Governance and Environmental issues, while the UK Embassy takes a particular interest in Human Rights.

Bilateral and multilateral support for ICT / STI related activities is currently primarily from African Development Bank, World Bank and European Commission (FP7).

4.2.1 European Union (EDF)

The European Union is active in Cameroon mostly through the European Development Fund (EDF). It operates within the framework of a bilateral agreement with Cameroon that is negotiated for five years laying out the principle areas of intervention and an overall amount of aid (National Indicative Program (NIP)). Based on the NIP, the European Union develops projects that, once approved, are turned into financial agreements. Under EDF 10 (2008-2013) €246 million was allocated, which was focused around Governance, Trade and Regional Integration. The agreement for EDF11 (2014 - 2020) is still being finalised but is likely that focal areas will include Finance; Forestry; Governance.

Table 1 below provides an overview of ICT-related projects funded under EDF10.

Table 1: ICT related projects funded under EDF10 in Cameroon

No	Program	Project/Activity	Amount (Euros)	Status	Remark
1	Public Finance Reform Support Program	Development of an integrated system of human resource management and payroll of government employees (SIGIPES II)	2,728,300	Ongoing	Overall cost of the project: 4 095 000 euros, Cameroonian Government covers the rest
2		Elaboration of a set of specifications for the purchase of a software package of an integrated tax management system	106,444.80	Ended	Reception date: January 2014
3	Customs Modernisation	Acquisition of ICT related equipments in Custom Offices Nationwide	303,562.62	Ended	Reception date: June to July 2013
4		Acquisition of Electronic Luggage Scanner at Douala International Airport	539,905.02	Ended	Reception date: September 2013

5	Support Program	Acquisition of Solar Energy Plates in some Custom Offices Nationwide	344,767.50	Ended	Reception date: May 2014
6	Electoral Process Support Project in Cameroon	Acquisition of ICT related equipments	48,058.81	Ended	Reception date: February to May 2012

4.2.2 France (AFD)

France is active in Cameroon mostly through the Agence Française de Développement (AFD). AFD has two main funding mechanisms in place in Cameroon: firstly, projects funded through regular case-by-case financial agreements between the Cameroonian government (MINEPAT) and AFD; secondly, through France's debt relief commitments (C2D) to Cameroon. These commitments are supplementary to the Heavily Indebted Poor Countries (HIPC) initiative. The reimbursements of C2D funds are channelled through investments in approved projects. The main difference between those two mechanisms is the ownership structure of the funds. While in the former case AFD disburses money directly to projects, in the latter case C2D funds are transferred directly to Cameroon and rest with the Central Bank until AFD approves disbursement. In the sectors analysed for this report, only C2D payments are used as funding mechanisms.

French bilateral aid in Cameroon is specifically targeted at poverty reduction. This aid amounted to €713 million from 2006 to 2011 and included 40 technical assistants.

This aid focused especially on the following areas:

- Health
- Agricultural development and food security
- Environment and forestry
- Democratic Governance and Financial related issues
- Urban Development
- Local Governance and Decentralization
- Cultural Cooperation
- Research
- Education and training
- Support to civil society

4.2.3 Germany (GIZ and KfW)

The German Development Service (DED), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the KfW Development Bank are the three pillars of German development cooperation in Cameroon. They employ in the region of 40 seconded experts, who

work closely with national and international partners. Since the beginning of 2010, DED, KfW and GIZ have occupied new joint office premises (German House). The German Finance Company for Investments in Developing Countries (DEG) has wide-ranging commitments in the form of guarantees, loans and interests, especially in the agro-industry, tourism and the energy sector.

According to Cameroon's Ministry of Economic Affairs, Planning and Regional Development, on March 01, 2010, two cooperation agreements (one concerning technical cooperation, the other concerning financial cooperation) amounting to a total of 49 million euros were signed between the Government of the Federal Republic of Germany and the Government of the Republic of Cameroon.

With the signing of the agreement concerning technical cooperation, the Federal Republic of Germany through its Agency for Technical Cooperation (GIZ) promotes programs related to Health, Environment, decentralisation and advisory services on implementing the Paris Declaration.

In relation to research, bilateral cooperation between Cameroon and Germany led to a project for the creation of a social and scientific research centre in Yaounde in 2011. The project was financed by the Thyssen Foundation and was estimated to cost over FCFA 80 million (121,959.21 EUR).

4.3 Other Funding Mechanisms

4.3.1 Framework Programme 7

Agence Nationale des Technologies de l'Information et de la Communication, Cameroon (ANTIC) is a beneficiary under the IST-Africa¹¹ Initiative since 2009. The Ministry of Scientific Research and Innovation was a beneficiary under CAAST-Net¹² (2008 – 2012).

Participation in IST-Africa facilitated ANTIC to host an IST-Africa FP7 Training Workshop in Yaounde in 21 March 2011 focused on FP7-ICT-Call 8 - 9 Calls for Proposals and undertake a consultation with the research community to map expertise. As part of its ongoing IST-Africa activities ANTIC circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. ANTIC is raising awareness of the potential of Living Labs in Cameroon.

Up to November 2013 Cameroon had successfully secured participation in **23** projects in FP7 and secured research funding in the region of **€3.66 million**. This is broken down thematically into ICT (4 projects), INCO (1 project), Environment (4 projects), Health (7 projects), Infrastructures (1 project), KBBE (1 projects), NMP (1 project), Science Society (1 project), Space (1 project) and SSH (2 projects).

¹¹ <http://www.ist-africa.org>

¹² www.caast-net.org/

5. EGYPT

5.1 Introduction

Egypt is situated in Northern Africa, bordering the Mediterranean Sea and sharing boundaries with Libya and the Gaza Strip. It has a surface area of 1,001,450 square km, made up of twenty-seven administrative divisions. The population is estimated at 86.89 million inhabitants (July 2014 CIA WorldFactBook) with literacy rate of 73.9%¹³. 62.9% of the total population is between 15 and 64 years of age. Cairo has a population of 12 million and Alexandria 4.387 million (2014). The official languages are Arabic, English and French.

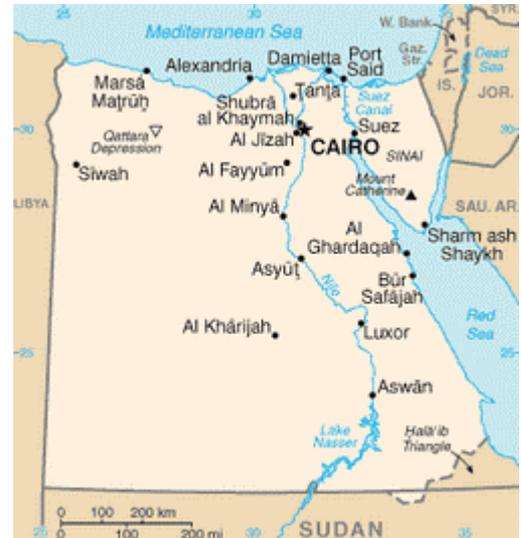
The Egyptian Government has significantly invested in capacity building, digital literacy and certification of skills, with over 126 IT Houses and 2,163 IT Clubs in operation around the country. The ICT Policy (2013 – 2017) is focused on achieving sustainable socio-economic development with key ICT sectors identified to include Digital Identity, Egypt Digital Hub, Basic Infrastructure (Broadband, Cloud Computing, Submarine Cables), Cyber Security & eSignature, Information Infrastructure & Digital Content, Electronics Design & Manufacturing, Legislative and Policies Framework. There is good eInfrastructure with links to three submarine cables, a national backbone and national Internet Exchange Point (IXP) in place. ICT Initiatives are focused on eLearning, eHealth, eGovernment, eContent, Community Integration and ICT for people with disabilities; Broadband Access Network and Internet of Things. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to Communications, according to MCIT and NTRA published statistics, there were 6.69 million fixed line subscribers and 95.84 million mobile subscribers (112.19% penetration) as at 30 August 2014. In terms of Internet usage, there were 46.29 million Internet users (54.19% penetration), with 2.93 million ADSL subscribers and 20.28 mobile Internet users as at 30 August 2014.

Egypt has a vibrant research community and strong experience in collaborative research with 29 public Universities, 33 private Universities and more than 400 private Higher Education Institutions.

5.2 Bilateral Cooperation

In recent years, Egypt has enjoyed strong bilateral relationships with a number of EU Member States, including Finland, Germany and Italy. Discussions are ongoing with Spain, Poland, Ireland



¹³ CIA World Factbook

and France. Egypt receives funding under the European Neighbourhood and Partnership Instrument (ENPI) and Erasmus Mundus Programme.

The Ministry of Communications and Information Technology and relevant agencies such as Information Technology Industry Development Agency (ITIDA) regularly lead delegations to ICT-related events in EU Member States to raise awareness of on-going activities in Egypt and encourage ongoing cooperation.

Egypt has been actively engaging with Nile basin countries and other African Member States to share experiences and provide ICT-related training. Engineers from Sudan, Eritrea and Burundi have been trained in Egypt. MCIT has signed Letters of Intent with Uganda, Ethiopia and South Africa outlining specific areas for ICT-related cooperation. A Cultural heritage project has been funded by MICT in Democratic Republic of Congo. Discussions are ongoing with Kenya, Rwanda, Tanzania and South Sudan.

5.2.1 General Cooperation with the European Union

Egypt receives funding under the European Neighbourhood and Partnership Instrument¹⁴ (ENPI). The budget allocation for Egypt from 2011 – 2013 was €449 million. Priority areas include reform in the areas of democracy, human rights and justice; competitiveness and productivity of the economy and sustainability of development; and better management of human and natural resources.

Egypt also benefits from the Erasmus Mundus Programme, which supports mobility and co-operation with the EU in Higher Education.

5.2.2 Cooperation with Italy

Egypt has had two projects with Italy: Italian Debt for Development Swap Program and Twinning Project with Italian Regulator, AGCOM.

5.2.4.1 Italian Debt for Development Swap Program

The first phase of the Italian Debt Swap Program was signed in 2001 with funding of \$149.09 million from 2001 - 2007 to finance 53 projects through government entities and NGO in the following fields: Smart School Network, Mobile IT Club, ICT for Illiteracy Eradication, Community Development Portal and Community Development Generation.

In 2007 Egypt and Italy signed the second tranche of the debt for development swap agreement with a total of \$100 million to finance projects in ICT, Environment, Poverty alleviation, Youth and Children, Health Sector and Gender and for a period of 5 years (2007-2011) and which including the following fields in the ICT area: Technical education, Small and Medium Enterprises and Modernizing Industrial Schools using Information and Communication Technologies- ICT for SMEs.

¹⁴ http://ec.europa.eu/europeaid/where/neighbourhood/country-cooperation/egypt/egypt_en.htm

The total budget allocated to ICT under phase two was \$4 million with 50% contribution from Italian Cooperation and 50% contribution from MCIT.

5.2.4.2 *Twinning Project with AGCOM*

MCIT through the National Telecommunication Authority (NTRA) had a twinning project with AGCOM, Italy & BNETZA, Germany (Junior Partner) from November 2008 until April 2011. Twinning with European regulators was part of the policy to empower the telecommunications sector through continued liberalization, ensuring that all stakeholders (citizens, government, operators and vendors) benefit throughout the process.

5.2.3 Cooperation with France

MCIT signed a Memorandum of Understanding with the French Ministry of Industry on 28th September 2003 in Cairo. The Memorandum of Understanding included the following areas of cooperation: eGovernment; Development of Digital economy; Regulation; Evolution of Postal Services; Encouraging and supporting partnerships between SMEs; Training and education; Development of IT –oriented technology parks and Multilateral issues (ITU, UPU etc).

MCIT signed an action plan with the French Ministry of Industry on 16th November 2005 in Tunis. This action plan signed by Dr. Tarek Kamel Minister of MCIT and Mr. Francois Loos Minister of Industry of the French Republic included the following areas of cooperation: Benchmarking on public policies and national strategies towards the development of knowledge based information society; Exchanges of best practices on postal and ICT regulation; E-commerce, electronic signature and security of electronic transactions; Smart cards in e-business and e-signature applications; Collaboration between software park and clusters and International issues, including the follow-up and implementation of the World summit on the Information Society (WSIS).

In addition a numbers of MoUs were signed during the Ministerial visit to France to participate in the Franco-Egyptian Presidential Council (CPAFE) meeting in 2007 between the Egyptian and the French Organizations in the ICT field:

- MoU between Sophia Antipolis Technology Park, ITIDA and the Smart Village company;
- MoU between Groupe La Poste (the French Post Organization) and the Egyptian National Post Organization (ENPO);
- ITIDA signed an MoU with IBM on training and human development and with Orange on establishing a technology innovation center in the Smart Village to be specialized in technology R&D; and
- Telecom Egypt signed a contract with Alcatel- Lucent.

5.2.8.1 *Twinning project between Egypt and France*

A Twinning agreement was signed between Egypt Post and French La Poste on 26th February 2007 to implement the Action for the Establishment of a Modern Postal Management for the Egyptian National Postal Organization [ENPO].

5.3 Other Funding Mechanisms

5.4.1 Framework Programme 7

The Ministry of Communications and Information Technology is a beneficiary under the IST-Africa Initiative since 2009. As part of its ongoing IST-Africa activities MCIT circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. MCIT hosted an IST-Africa Horizon 2020 Workshop in Cairo on 10 February 2014.

Up to November 2013 Egypt had successfully secured participation in **96** FP7 projects with research funding in the region of **€16.1 million** across the following themes: ICT (9 projects), Energy (4 projects), Environment (12 projects), Health (6 projects), INCO (19 projects), Space (3 projects), Social Sciences (7 projects), Transport (2 projects), Infrastructure (4 projects), NMP (1 project), People (7 projects), Science in Society (2 projects), Food Agriculture and Biotechnology (KBBE) (17 projects), Research Potential (2 projects) and Security (1 project).

5.4.2 EumedConnect: NReNs interconnection to GEANT

EumedConnect: NReNs interconnection to GEANT project¹⁵ builds on the previous phase of EUMEDCONNECT, which was originally launched in 2004 to develop an inclusive Information Society in the Mediterranean partner countries. It is focused on linking Mediterranean and European partners via GEANT to provide high-capacity Internet connectivity for academic and scientific collaborations.

Countries involved: Mediterranean Partner countries, including Morocco, Algeria, Tunisia, Egypt

Main partner: DANTE

Partner in Egypt: EUN – Egyptian Universities Network

Funding: 4M€ from ENPI (European Neighbourhood and Partnership Instrument) 2009-2011

5.4.3 NATP (New Approach to Telecommunications Policy): Support to Regulatory Reforms and Harmonization in the Mediterranean Region

THE NATP projects have focused on facilitating the creation of a harmonised and investment friendly environment in the electronic communication sector. NAPT-3 builds on the work undertaken in NATP-1 in relation to policy goals and creating awareness of the benefits of liberalising the telecommunications industry and NATP-2 which focused on regulatory reform. NATP-3 is focused on exploiting international cooperation between national regulatory authorities.

Countries involved: Mediterranean Partner Countries including North Africa (Morocco, Algeria, Libya, Tunisia, Egypt)

¹⁵ <http://www.eumedconnect2.net/server/show/nav.2167>

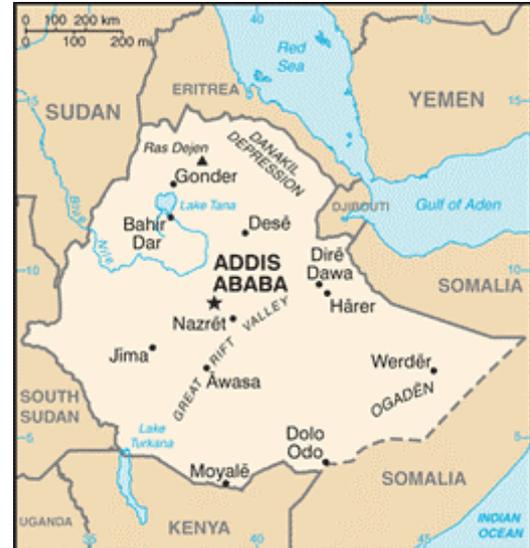
Main partner: EMERG (Euro-Mediterranean Group of Electronic Communications Regulators)

Funding: 1M€ from ENPI (European Neighbourhood Policy Instrument) 2009-2011

6. ETHIOPIA

6.1 Introduction

Ethiopia is situated in Eastern Africa and shares boundaries with Somalia, Kenya, South Sudan, Sudan, Eritrea and Djibouti. It has a surface area of 1,104,300 square kilometres and is a federal state with nine regional states and two city administrations. Its population is estimated at 96.6 million inhabitants (July 2014, CIA World Fact Book) with a literacy rate of 39%. Ethiopia is Africa's oldest independent country and its second largest in terms of population. Almost 53% of the total population is between 15 - 64 years of age. Addis Ababa, the capital city, has a population of 2.8 million (2009 CIA World Factbook). Although Amharic is the official language of Ethiopia; English and Arabic are widely spoken.



There is a good Policy Framework in place with the ICT Policy and Strategy (2009), National Science, Technology and Innovation (STI) Policy (2012) and ICTs in Education Implementation Strategy and Action Plan (2010). eInfrastructure is rapidly improving with 12,000 kms of optic fibre cable radiating from central Ethiopia across the country and connecting all cities, with the capacity to transmit 40 Gbps along with the national backbone. MCIT has established 200 Community Information Centres and 11 community radio stations across the country to provide information on new ICT technology transfer and implementations, healthcare, agricultural information and education issues. ICT Initiatives are primarily focused on eGovernment and Public Key Infrastructure (PKI), eInfrastructure including EthERNet (Ethiopian Education and Research Network), Entrepreneurship and eEducation. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

There were 797,500 fixed telephone lines in use in 2012 compared to 20.5 million mobile phones. There were also 179 Internet hosts (2012) and 447,300 Internet users (2009). MCIT has established 200 Community Information Centres and 11 community radio stations to date in remote areas of the country to provide information on new ICT technology transfer and implementations, healthcare, agricultural information and education issues. There is a Government call centre that citizens can ring via a toll free number and discuss their queries in relation to Government Ministries and Departments. The framework for the National Public Key Infrastructure (PKI) is completed and has now moved into the implementation phase.

Ethiopia has a good research base and experience in collaborative research with 31 public Universities and 42 private Higher Education Institutions.

6.2 Bilateral Cooperation

Bilateral support for ICT related activities is primarily from European Commission (FP7), the VLIR-IUC Belgian Programme, German Federal Ministry for Economic Cooperation and Development (Entrepreneurship project between Arba Minch University and Neu-Ulm University of Applied Sciences, Germany), Bern University in Switzerland, Republic of South Korea and United States.

Under EDF10 (2008 – 2013), 689 million euro was allocated with the focal areas including Transport and Regional Integration, Rural Development and Food Security, Macro-economic Support and Governance. Under EDF11 (2014 - 2020) Ethiopia is allocated €745 million with focal areas including Sustainable Agriculture and Food Security, Health, Roads (Phasing out) and Energy (Phasing in), Civil Society and Synergetic Governance, Support Measures.

6.2.1 Belgium

The VLIR-IUC programme aims at building the institutional capacity of a selected number of universities in the South. The IUC-JU Institutional University Cooperation project is a collaboration between Jimma University and the different Flemish universities under the umbrella of the Flemish Interuniversity Council (VLIR-UOS). The IUC-JU project focuses on the impact of the Gilgel Gibe hydro-electric dam in terms of human and animal health, ecology and agronomy. Joint research is undertaken in different disciplines in the Gilgel Gibe area to improve the quality of life of communities. Furthermore, it is envisaged that the research and educational capacities of Jimma University academic staff will be extended.

Main Partners: Jimma University, VLIR

Funding: VLIR

6.2.2 Germany

Arba Minch University has recently forged a fruitful alliance with the Neu-Ulm University of Applied Sciences, Germany (HNU) and signed a Memorandum of Understanding (MoU) for the joint project, 'Applied Entrepreneurship Education Program' (AEEP), in Neu-Ulm, Germany on October 18, 2013.

This project is a three-year capacity building project that will run until 2016. The main aim of this project is to harness and promote entrepreneurial aspirations amongst Electrical Engineering students in AMU and its staff.

Main Partners: Arba Minch University, Neu-Ulm University of Applied Sciences Germany (HNU), German Federal Ministry for Economic Cooperation and Development (BMZ), DAAD

Funding: German Federal Ministry for Economic Cooperation and Development (BMZ)

6.2.3 Switzerland

Hawassa University has signed a Memorandum of Understanding with Bern University of Switzerland to work on the Young entrepreneur Exchange Project (YEEP).

The purpose of the YEEP project partnership is to

- Mobilize young Ethiopians and Swiss with innovative business ideas
- Develop an entrepreneurial culture in all areas of study (teaching/learning) at both institutions
- Support project participants in developing their own business ideas
- Encourage and support new start-ups through an entrepreneurial network
- Provide opportunities for intercultural learning and capacity building

Main Partners: Hawassa University, Bern University

Funding: Bern University of Switzerland through fund raising

6.2.4 South Korea

The Republic of South Korea is providing support through different bilateral cooperation projects including the establishment of the Information Access Centre and an advisory service for projects on the e-office service and the Government Integrated Data System project.

The South Korean National Information Society Agency (NIA) and MCIT signed an agreement for the establishment of Information access center in Addis Ababa, which will serve the community by providing access to the Internet and information sources. The Ministry of Science and Technology was selected to host the center, which has been inaugurated and commenced activities.

Main Partners: Ministry of Science and Technology, Ministry of Communication and Information Technology

Funding: 300,000 USD, project commenced in December 2013

6.2.5 United States of America

Jimma University collaborated with the School of Public Health and Tropical Medicine at Tulane University (USA), the Federal Ministry of Health (Ethiopia), Centers for Disease Control and Prevention (CDC) and the National School of Public Health (ENSP/Fiocruz, Brazil) on a MSc in Health Monitoring and Evaluation to assist in building capacity in the Ethiopian health system.

The Masters in Health Monitoring and Evaluation started in February 2006 in the Department of Health Services Management in Jimma University. To date, a total of 130 students have graduated in four cohorts of postgraduate training in Health Monitoring and Evaluation of which 11 (8.5%) are international students from different African Countries.

The program has evolved as a center of excellence in the field under the College of Public Health and Medical Sciences with wider range of services including the MSc level training in Health M&E, researches on evaluation, short term trainings in M&E and consultancy services for evaluation clients.

Currently, ICME – JU has enrolled fifth cohort trainees composed of both national and international different departments in Jimma University, Tulane University (New Orleans, USA), National School

of Public Health (ENSP/Fiocruz, Rio de Janeiro, Brazil) and other Ethiopian and US Based Universities to offer standard training in Program Evaluation applied to Public Health.

Main Partners: Jimma University, Tulane University, Federal Ministry of Health, Center for Disease Control and Prevention and National School of Public Health (ENSP/Fiocruz, Brazil)

6.3 Other Funding Mechanisms

6.3.1 Framework Programme 7

The Ministry of Science and Technology (MoST) and the Ministry of Communications and Information Technology are beneficiaries under IST-Africa since 2011. Participation in IST-Africa facilitated MCIT to host an IST-Africa Stakeholder Meeting in Addis Ababa on 05 December 2013 to undertake a consultation with the research community to map expertise. As part of its ongoing IST-Africa activities MCIT circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. MICT has established a National Contact Point for ICT for Horizon 2020, which has also increased visibility of Ethiopian research institutions. MCIT hosted an IST-Africa Horizon 2020 Workshop in Addis on 05 December 2013 and a further workshop specifically focused on ICT-39 on 17 November 2014.

Up to November 2013 Ethiopia had successfully secured participation in **23** projects in FP7 with research funding in the region of **€3.66 million** as well as funding secured by 24 individual researchers through Marie Curie Actions. This is broken down thematically into: ICT (2 projects), Environment (8 projects), Health (5 projects), KBBE (3 projects), Space (2 projects) and SSH (3 projects).

7. KENYA

7.1 Introduction

Kenya is situated in East Africa, bordering the Indian Ocean and sharing boundaries with Tanzania, Uganda, South Sudan, Ethiopia and Somalia. It has a surface area of 580,367 square km, made up of forty seven (47) counties. The population as at July 2014 was estimated at 45 million inhabitants with a literacy rate of 87.4% (CIA World Factbook). The national population based on the 2009 census data (KNBS) was 38.4 million. 54.8 percent of the population is between 15 and 64 years of age. Nairobi, the capital city, has a population of 3.36 million (2011 - CIA World Factbook). The official languages are English and Kiswahili.



There is a good Policy Framework in place including Kenya ICT Policy 2006 (under review), eGovernment Strategy, Kenya ICT National Master Plan 2017, Kenya Science, Technology and Innovation (STI) Policy 2012 and Vision 2030. There is good eInfrastructure with a national fibre optic infrastructure and links to four submarine cables. KENET is the 2nd largest NREN in Africa supporting 115 campuses and managing the largest IP network in Kenya. ICT Initiatives are focused on eEducation & eSkills, Digital Inclusion, Business Process Outsourcing, Local Content, Information Security and eGovernment. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

According to Communication Authority of Kenya statistics, mobile penetration is at 79.2% as at June 2014¹⁶, with 32.2 million subscriptions compared with 30.5 million in June 2013. Fixed lines have continued to decrease to 201,233 as at June 2014. Internet penetration increased to 54.8% with internet subscriptions increasing to 14 million in June 2014 compared with 12.4 million in June 2013.

Kenya has a vibrant research community and strong experience in collaborative research with 22 fully chartered Public Universities, 9 public University Constituent Colleges, 6 public research institutes, 17 accredited private Universities, 11 private Universities with letter of interim authority and 5 private University Colleges.

8.2 Bilateral Cooperation

Kenya has sectoral bilateral cooperation agreements in relation to Science Technology and Innovation/ICT in place with France (through IRD, IFRA and CIRAD), United Kingdom (through the

¹⁶ CA Quarterly Sector Statistics Report, April - June 2014

British Council), Spain, Netherlands, Germany, Norway, Finland and Sweden. Kenyan organisations are also beneficiaries in a number of FP7 co-funded research projects and ACP co-funded projects.

The table below presents current collaborations with EU Member States and European institutions.

COLLABORATIONS	LEAD MINISTRY	STATUS	THEME	COMMENT
EUROPE				
France (IRD, IFRA, CIRAD)	MoEST	Signed: June 2009	Multi thematic	1 st Conference on Biomathematics was held on 22nd -26th June 2009. Workshop on Geology (gemstones and Gemology) held in October 2011 IRD has so far awarded two PhD scholarships to Kenyan students under this agreement. French Embassy offers 30 Msc/PhD scholarships annually
British Council (AKTP)	MoEST	Signed, November 2009	Technology Transfer, Private Partnerships	Co-hosted Africa Knowledge transfer partnerships in February 2009
IAEA	National Council for Science and Technology (NCST)	Ongoing	Atomic Energy	
Italy (San Marco)	MoEST	Signed March, 1995; Expired March, 2010: Review in progress	Space Science	San Marco satellite Tracking and Launching Station was established in Malindi, Kenya. Both Kenya and Italy Governments have exchanged their respective draft copies of renewal agreements and are waiting a negotiation date in order to agree one document for signature.
Germany	MoEST	Under negotiation	Multi thematic	Existing cooperation on training of scientists in National priority sectors
Spain	MoEST	Signed		Cooperation in Technical, Industrial, Vocational and Entrepreneurial Training
Netherlands	Government of Kenya			Through the Nuffic Fellowship Programme (NFP)
University of Northampton (UK)	MoEST and Universities	Signed	eWaste Management	Agreement between MoEST, University of Northampton and several

				Universities on Implementation
EU development Agencies	DANIDA, DAAD, SIDA, DFID, GIZ		Research components in sectoral areas	Development aid to Kenya from the EU development agencies has focused on capacity building which involves graduate training (MSC/PhD) on related aspects of S&T

Other international programmes on Environment, climate change, agriculture and Forestry are funded through UNESCO, UNEP, UNDP and FAO regional offices based in Nairobi.

There is also direct institutional support to programmes in Universities and Research Institutes by European Union Members States.

Under EDF10 (2008 – 2013), 399.4 million euro was allocated with the focal areas including Transport Infrastructure, Agriculture and Rural Development, and Macroeconomic Support. Under EDF11 (2014 - 2020) Kenya is allocated €435 million with focal areas including Food Security, Sustainable Infrastructure, Accountability of Public Institutions, and Support Measures.

ICT related bilateral support is primarily from Sweden (SPIDER Programme) and Germany (ict@innovation Open Source Regional Project). IICD funded several ICT for Education projects. Kenya was a beneficiary in a number of ACP-ICT Capacity building projects. Kenya secured participation in 68 FP7 projects (up to November 2013) and secured €12.3 million. in research funding.

8.2.1 Sweden

8.2.1.1 Empowering SHGs in Kenya and India through ICT for better education and alternative livelihood opportunities

The overall objective of this project is to empower Self Help Groups (SHGs) to identify viable livelihood opportunities in order to improve their socio-economic status whilst bringing the well being of the environment into the equation. ICTs will provide an important tool in acquiring information and learning, but also to new market opportunities. ICT will be introduced in parallel with education to illustrate how it can improve their every day situation. This project ran from March 2007 – February 2010.

Main Partners: CORDIO East Africa - Costal Oceans Research and Development -Indian Ocean (Kenya); SDMRI -Suganthi Devadason Marine Research Institute (India); Nyköping Folkhögskola (Sweden)

Funding: SEK 2.500.000 through SPIDER Programme (Funded by SIDA)

8.2.1.2 Open access: knowledge sharing and sustainable scholarly communication in Kenya, Tanzania and Uganda

This project aims to raise visibility and accessibility of research outputs in Kenya, Tanzania and Uganda using free and open source software for open repositories and open access journals in higher education and research institutions. It aims to develop a sustainable network of open access champions and reinforce local capacity in the management of open access journals and repositories.

Main Partners: EIFL (Electronic Information for Libraries) in cooperation with *Kenya Library and Information Services Consortium and Medical Students' Associations of Kenya (MSAKE)*, *The Network of African Science Academies (NASAC)*, *National Council for Science and Technology, Directorate of Higher Education, Ministry of Education, Science and Technology Kenya*; Consortium for Tanzania Universities and Research Libraries and Ifakara Health Institute (IHI), Sokoine University of Agriculture (SUA), University of Dar es Salaam (UDSM), Muhimbili University of Health and Allied Sciences (MUHAS), Ministry of Health and Social Welfare (MoHSW) and Tanzania Commission for Science and Technologies (COSTECH); and Consortium of Uganda University Libraries (CUUL) and Inter-University Council for East Africa (IUCEA), National Council for Higher Education, National Information Technology Authority Uganda (NITA-U), Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Research and Education Network of Uganda (RENU) and Uganda National Council for Science and Technology (UNCST)

Target Countries: Uganda, Kenya, Tanzania

Funding: 500,000 SEK from SPIDER, June 2013 - May 2014

More information available at <http://spidercenter.org/projects/project-overview/open-access-knowledge-sharing-and-sustainable-scholarly-communication-in-kenya-tanzania-and-uganda-1.149779>

8.2.1.3 M-Governance: Exploring conditions for successful Mobile Governance in Kenya

The project aims to identify, describe and undertake an analysis of the conditions that can promote the use of mobile phones for increased citizen participation and successful delivery of government services in Kenya. Face-to-face interviews will also be conducted with government officials from the Ministry of Health, Agriculture, Water, and Education in order to understand the real potential for m-governance in these agencies.

Target Country: Kenya

Funding: 500,000 SEK from SPIDER, September 2011 – February 2013

More information available at <http://spidercenter.org/projects/project-overview/m-governance-exploring-conditions-for-successful-mobile-governance-in-kenya-1.149827>

8.2.1.4 Acceleration of ICTs in Human Rights and Democracy Project - Kenya

This project builds on a previous project run by Kenya Human Rights Commission (KHRC's) and aims to train grassroots community based human rights networks known as HURINETS with particular emphasis on mobile phone use, expand the project to five more HURINETS with capacity to implement the ICT4D project, Conduct community outreach on the use of ICTs in informal settlements where many violations occur and harness KHRC use of ICTs in human rights and democracy.

Target Country: Kenya

Funding: 500,000 SEK from SPIDER, July 2013 to October 2014

More information available at <http://spidercenter.org/projects/project-overview/acceleration-of-icts-in-human-rights-and-democracy-project-kenya-1.146840>

8.2.2 Germany

8.2.2.1 *ict@innovation*

*ict@innovation*¹⁷ is focused on building capacities in African Small and Medium sized ICT enterprises in relation to using Free and Open Source Software (FOSS) by spreading FOSS business models for enterprises in Africa, fostering FOSS certification and supporting innovative local FOSS applications for social and economic development.

Target Countries: Eastern and Southern Africa (Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia)

Main partners: Partnership of FOSSFA (Free Software and Open Source Foundation for Africa) and InWEnt - Capacity Building International on behalf on behalf of German Federal Ministry of Economic Cooperation (BMZ), the Open Society Initiative for Southern Africa (OSISA).

Funding: 1.6m euro from German Federal Ministry of Economic Cooperation (BMZ), 2008 – 2010 first phase

8.3 Other Funding Mechanisms

8.3.1 Framework Programme 7

The Ministry of Education Science and Technology (MoEST) is a beneficiary under the IST-Africa Initiative¹⁸ since 2009. As part of its ongoing IST-Africa activities MoEST circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. Participation in IST-Africa has facilitated MoEST to host a joint IST-Africa/CAAST-Net Horizon 2020 Workshop in Nairobi on 21

¹⁷ <http://www.ict-innovation.fossfa.net/>

¹⁸ <http://www.ist-africa.org>

January 2014, which trained over 150 researchers and a second IST-Africa H2020 Workshop focused specifically on ICT-39 on 14 November 2014.

Kenya made good progress in raising awareness of capacity under FP7 and up to November 2013 has successfully secured participation in **68** projects with research funding in the region of **€ 12.3 million**. This is broken down thematically into: ICT (5 projects), INCO (4 projects), Environment (18 projects), ERC (2 project), Health (14 projects), Food, Agriculture and Biotechnology KBBE (13 projects), INFRA (3 projects), People (3 projects), Science in Society (2 projects), Space (2 projects), Social Sciences (1 project) and Transport (1 project). Up to September 2013, Kenyan organisations had secured in funding under FP7.

8.3.2 TACIT¹⁹: Tackling Aids and Tuberculosis through Communication and Information Technologies

Target Countries: Southern and Eastern Africa, pilots in Kenya, Zambia, Uganda and Namibia

Main partner: International HIV/Aids Alliance

Funding: 960k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

8.3.3 Africa4All Parliamentary Initiative²⁰

Through the IST-Africa Initiative, the Parliament of Kenya was included in the Africa4All Parliamentary Initiative, which was funded under the @CP-ICT Call.

Target Countries: Eastern and Southern Africa with pilots in Kenya, Tanzania, Uganda, Lesotho, Namibia

Main partner: Gov2u

Partner in Kenya: National Assembly of Kenya

Funding: 410k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

8.3.4 Capacity-building programme and Community Development in Internet Governance and ICT Policy (ACP/EDF9)

A Programme focused on Capacity-building and Community Development in Internet Governance and ICT Policy²¹ was funded under the ACP-ICT Call (ACP/EDF9). This project, which runs from 2009 – 2011 undertook online training courses on Internet Governance and ICT Strategy, provided training through workshops and policy immersion fellowships.

African Target Countries: Botswana, Burundi, Congo and Kenya

Main partner: Diplo Foundation

Partner in Kenya: The Multimedia University College of Kenya

¹⁹ <http://www.aidsalliance.org/newsdetails.aspx?id=242>

²⁰ <http://www.africa4all-project.eu/>

²¹ <http://www.diplomacy.edu/ACP/Programme/default.asp>

Funding: 960k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

8.3.5 Enhancing Energy Accessibility & Efficiency through Sustainable STI Support National Networks with a Regional Dimension in East Africa (ENRICH)

The overall aim of ENRICH project is to strengthen Science, Technology and Innovation (STI) co-operation in East African (EA) countries by promoting operational and effective management of research and innovation activities with a special focus on energy access and efficiency

Partners in Kenya: Ministry of Education Science and Technology, Moi University and African Virtual University

Main Partner: Alicante University of Spain

Funding: ACP-EU

8.3.6 IICD

8.3.6.1 Promoting Quality Education through ICT

The project aims at promoting quality education in 11 primary schools and village polytechnics in Kajiado County, in school administration and class management through ICT by 2015. It also focuses on improvement of management of TIVET institutions and the acquisition of pertinent skills for the labour market through ICT. The project also aims at improving the ICT infrastructure in primary schools to be used for school administration, class management as well as School Management Committee Management.

Target Area: Kajiado County, Kenya

Main partners: Connect4Change, Edukans, IICD (Netherlands), Dupoto (Kenya).

Funding: €170,848, Edukans Netherlands, 2011 - 2015

More information available at <http://projects.iicd.org/en/project/587/>

8.3.6.2 Integration of ICT in vocational courses

The project focuses on integration of ICT in vocational training courses that are trained at youth polytechnics. The pilot phase focuses on Motor Vehicle Technology and Fashion Design and Garment making Technology and also include entrepreneurship skills, life skills and reproductive health topics. Nairobits will deal with the technical capacity component, while the Ministry will provide the infrastructure and technical capacity specific the courses

Target Country: Kenya

Main partners: Connect4Change, Edukans, IICD (Netherlands), Nairobits (Kenya).

Funding: €60,904, Edukans Netherlands, 2012 - 2015

More information available at <http://projects.iicd.org/en/project/402/>

8. KINGDOM OF LESOTHO

8.1 Introduction

The Kingdom of Lesotho is located in Southern Africa, an enclave of South Africa. Lesotho has an area of 30,355 km, with 10 administrative divisions (Berea, Butha-Buthe, Leribe, Mafeteng, Maseru, Mohale's Hoek, Mokhotlong, Qacha's Nek, Quthing, Thaba-Tseka). The population as at July 2014 was estimated to be 1.942 million²² with a literacy rate of 89.6%. Sixty one percent of the population is between 15 and 64 years of age (median 23 years). Maseru, the capital city, has a population of 239,000 (2011 CIA World Factbook). The official languages are Sesotho and English.

Key sectors in Lesotho are agriculture, followed by industry and services. Lesotho produces about 90% of its own electrical power needs. Economic growth is dependant on manufacturing and services. Export partners include US, Belgium and Canada.

There is a good Policy Framework including the ICT Policy (2005), Universal Access Fund (2009), Science Technology and Innovation Policy (2010), Communications Act (2012) and National Strategic Development Plan (2013 – 2017). The mountaineous terrain presents challenges for eInfrastructure which is improving gradually with a national backbone (mix of copper cables, fibre optic cables and satellite), links to two submarine cables, IXP being established and the completion of 17 GSM network infrastructure projects with subsidies from the Universal Access Fund. ICT Initiatives are primarily focused on eLearning, eHealth, eGovernment, Cyber Security and eInfrastructure. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to Communications, according to 31 March 2013 there were 50,290 fixed phone lines in use compared with 1.581 million mobile phones. Internet uptake has been hindered by high bandwidth costs and slow and unreliable connectivity. Overtime this should change as Lesotho now has access to highspeed international bandwidth thourgh EASSy. While tehre has been an increase in Internet cafes they are primarily in urban areas with 40% in Maseru. There has been a gradual increase in mobile broadband usage. Lesotho currently has two mobile telecoms providers – Econet Telecom Lesotho and Vodacom Lesotho, which both provide a similar level of 2G and 3G



²² CIA Factbook

voice coverage. The use of smartphones and other mobile devices has made the rollout of 7.2Mbs 3G coverage a mandatory development route for both operators.

Lesotho is gradually increasing the focus on research with one public university (National University of Lesotho), Lerotholi Polytechnic, Lesotho College of Education, National Health Training Centre and a private university (Limkokwing University of Creative Technology).

8.2 Bilateral Cooperation

EU bilateral cooperation with Lesotho is focused on supporting poverty reduction through economic growth and enhanced provision of basic services. Lesotho has active cooperation agreements with Ireland, Germany, Italy and the United Kingdom.

The activities of the donors is coordinated through the European Development Agencies in Lesotho (EDAL) with participation of Ireland, UK and Germany and Development Partners Consultative Form (DPCF) including UN agencies, World Bank and countries assisting Lesotho (USA, China, Libya) and the Donor Round Table. GIZ cooperates with the World Bank on Fiscal Decentralisation and Capacity Building and with EU Member States on Capacity building support to decentralisation.

8.2.1 European Union

Under EDF10 (2008 – 2013), 138 million euro was allocated with the focal areas including Human Development, Infrastructure.

Table 2 below provides an overview of projects funded under EDF10 that had ICT components.

Table 2: Projects funded under EDF10 in Lesotho that had ICT components

Maseru Waste Water Project (€24.3 million): to rehabilitate and expand the sewage system in Maseru
Three Towns Water Supply and Sanitation project: to upgrade potable water supplies to the towns of Roma, Teyateyaneng and Maputsoe.
Turnkey Supply of an Integrated Financial Management Information System (IFMIS) (€7,299,701): contributes to the Government of Lesotho's effort to improve governance and accountability by improving Public Financial Management.

Under EDF11 (2014 - 2020) Lesotho is allocated €142 million with focal areas including Water, Energy, Governance. These focal areas are guided to development challenges aligned with Lesotho's Vision 2020. Water and Energy are key factors both for economic development as well as raising the living standards of urban, peri-urban and rural populations.

8.2.2 Germany

Germany is focused on Governance, agrarian reform and rural infrastructure through strengthening administration and governance at a district level, policy advice and promotion of local economic

development including employment. Technical support is provided through DED and capacity building through GIZ.

Germany's development cooperation focuses on providing aid in the priority area of decentralized rural development, which was agreed upon in 2003. Funding has been made available for the main element of development cooperation until February 2014. Its aim is to establish efficient decentralized institutions, including service providers at district level but in particular local self-government authorities, with a view to improving services, especially for the poor, and strengthening public political participation. This is helping to implement the government of Lesotho's national development strategy, complementing the projects being conducted by other European donors and the EU, with which it is coordinated.

German development agency GIZ and the African Regional Agricultural Association (AFRACA) have also assisted the Central Bank of Lesotho strengthen its micro-finance operations by reviewing policy and legal framework.

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) has an office in Lesotho.

8.2.3 Ireland

Irish Aid's Programme is focused on Health (HIV/AIDS), Education (resources in primary schools and curriculum development), Water/Sanitation and Governance (Government Public Financial Management Programme, Parliamentary Reform Committee and Improvement of service delivery).

Lesotho is one of Ireland's nine priority countries for long-term strategic assistance. Ireland has had a development programme through Irish Aid in Lesotho since 1975, making it Ireland's oldest development partnership.

Development Cooperation Ireland (DCI) signed an €85 million agreement with the Government of Lesotho through which the Irish agency will help finance projects in education, enterprise development, governance, health, rural infrastructure, water and sanitation and, public sector improvement and reform.

Ireland and Cyprus have signed a partnership agreement to improve access to education in Lesotho. The cooperation agreement comprises of three phases

- Phase One (2007-2008)- €351,000: Construction of a dormitory, dining and kitchen areas and equipment which enabled 64 girls to attend school at Sekonyela High is a girl's boarding school in Mokhotlong district in the mountainous eastern part of Lesotho.
- Phase Two (2009-2010) - €540,000: The Lowlands Primary School Project, funded by Cyprus and managed by Ireland rebuilt four schools in 2010, which had been destroyed by high winds. A total of 12 classrooms, four administration blocks, one kitchen and toilet facilities were constructed that will benefit more than 600 students.

- Phase Three- €440,000: The construction of facilities at the Lerotholi Polytechnic, which will increase enrolment and tackle the skills shortage in the areas of science, mathematics and engineering in Lesotho. 600 additional Polytechnic students will be accommodated and will benefit from this initiative, which was completed in 2011.

8.2.4 Italy

Following the first meeting between OCCAM and the Ministry of Communication, Science and Technology of Lesotho held in May 2008 in Geneva on the occasion of the XI Session of the UN Commission of Science and Technology for Development, the subsequent exchange of letters and the fact finding mission in Lesotho that took place on June 26-30, 2009, it was agreed to create an ICT Village in the community of Mahobong (District of Leribe) in 3 areas of actions, namely food security, health and education.

The aims of the project are:

- a) Improvement of health conditions of pregnant women, foetus and newborns in Mahobong area. OCCAM in partnership with the Hospital of Lodi and the scientific society WINFOCUS has realized a pilot project based on the use of the ultrasound. Due to its basic functions the ultrasound can be used by the medical staff and also by the nurses and midwives.
- b) Increase in the agricultural production of the community in order to make it independent from the point of view of food security and to get a surplus that might be sold on the market.

Training on the use of ultra sound machine has been done for the nurses in Leribe. This has also been extended to The Faculty of Health at the National University of Lesotho and also St. Josephs School of nursing based next to the university at Roma.

8.2.5 Spain

The assistance Lesotho receives from Spain through the European Union (EU) has enabled the country to make visible strides on infrastructure development particularly construction of roads.

8.2.6 Denmark

Lesotho and Denmark have worked together on significant development projects in Lesotho including the Abattoir, Footbridges, Rural Clinics, Assistance to the Cooperative College, Good governance, and Meteorology.

8.2.7 Sweden

Lesotho and Sweden have successfully collaborated on a number of development and trade initiatives both at the bilateral and multilateral levels. Some of the notable examples of this collaboration include the development assistance offered by the Government of Sweden through the Swedish International Development Agency (SIDA) and the involvement of Swedish Construction and Engineering Companies in the Lesotho Highlands Water Project.

8.2.8 United Kingdom

The United Kingdom is focused on Governance (Government Public Financial Management Programme, Reform of the Justice sector, establishment of Revenue Authority), Health (establishment of National Aids Commission to work with UNAIDS) and Food Security. DFID works closely with Irish Aid and GIZ.

To date ICT has not been highlighted as a national priority for donor support.

8.3 Other Funding Mechanisms

8.3.1 Framework Programme 7

Lesotho secured participation in 4 ICT FP7 projects in partnership between Ministry of Communications, Science and Technology and IIMC International Information Management Corporation Limited (Ireland).

The Ministry of Communications, Science and Technology, Lesotho is a beneficiary under IST-Africa²³ Initiative 2008 – 2009, IST-Africa Initiative 2010 – 2011, IST-Africa Initiative 2012 – 2013 and IST-Africa Initiative 2014 – 2015.

Participation in IST-Africa facilitated MCST-L to host an IST-Africa FP7 Training Workshop in Maseru in September 2009, focused on FP7-ICT-Call 5, FP7-Infrastructures-2010-2 and FP7-AFRICA-2010 Calls for Proposals and a Stakeholder meeting focused on Horizon 2020 in November 2013. A number of proposals were submitted under FP7-Africa-2010 Call but unfortunately they were not short listed for funding. As part of its IST-Africa activities MCST-L circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has commenced an initial mapping of research expertise. MCST-L hosted a workshop on Living Labs in Lesotho in November 2012. MCST-L is working with the universities to gradually encourage the institutions to gradually transform from primarily teaching institutions to research and innovation engines to drive socio-economic development. The Ministry and IST-Africa continue to encourage the research community to explore opportunities for international research projects and build links to secure direct research funding. MCST-L hosted an IST-Africa Horizon 2020 workshop on 11 November 2013.

8.3.2 Africa4All Parliamentary Initiative²⁴

Through the IST-Africa Initiative, the Parliament of Lesotho was a beneficiary in the Africa4All Parliamentary Initiative, which was funded under the @CP-ICT Call. This was a very important milestone for Lesotho and the Parliament benefited for this participation in terms of introducing new working methods to the MPs and support teams leveraging ICT tools.

²³ <http://www.ist-africa.org>

²⁴ <http://www.africa4all-project.eu/>

Target Countries: Eastern and Southern Africa with pilots in Kenya, Tanzania, Uganda, Lesotho, Namibia

Main partner: Gov2u

Partner in Lesotho: National Assembly of Lesotho

Funding: 410k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

9. MALAWI

9.1 Introduction

Malawi is situated in the southern part of the East African Rift Valley, located between Mozambique in the east, Tanzania in the north and Zambia in the west. It has a surface area of over 118,000 square km, which consists of 28 administrative districts (Balaka, Blantyre, Chikwawa, Chiradzulu, Chitipa, Dedza, Dowa, Karonga, Kasungu, Likoma, Lilongwe, Machinga, Mangochi, Mchinji, Mulanje, Mwanza, Mzimba, Neno, Ntcheu, Nkhata Bay, Nkhatakota, Nsanje, Ntchisi, Phalombe, Rumphu, Salima, Thyolo, Zomba). The population is estimated to be in the region of 17.3 million (July 2014 CIA World FactBook) with an average yearly growth of around 3.2 % and a GDP per Capita of 900 USD. Fifty percent of the population are between 15 - 64 years of age, with a literacy rate of 74.8%. The economy is heavily based on agriculture, with a largely rural population of 80% mainly engaged in small holder farming. Lilongwe, the capital city, has a population of 772,000 (2011). The official languages are English and Chichewa, with other local languages also in use.



Malawi is among the world's least developed countries. The Government depends heavily on outside aid to meet development needs and faces challenges in building and expanding the economy, improving education, health care, environmental protection, and becoming financially independent. The foreign policy is pro-Western and includes positive diplomatic relations with most countries and participation in several international organisations. Natural resources include limestone, arable land, hydropower, coal and bauxite.

There is a good Policy Framework including the revised ICT Policy (2005) to include Universal Access (2013), National ICT Master Plan for 2014 – 2031 (under development), Vision 2030 and Malawi Growth and Development Strategies (2011 - 2016). eInfrastructure is gradually improving with an expanded fibre infrastructure, IXP and Last Mile Connectivity & Universal Access projects. ICT Initiatives are primarily focused on eGovernment, eInfrastructures, eHealth, Technology-enhanced Learning and Digital Repositories. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to Communications, according to 2012 figures (CIA World Factbook), there were 227,300 fixed phone lines in use compared with 4.42 million mobile phones. There were 1,099 Internet hosts (2012) and 716,400 Internet users (2009)..

Malawi has a good research base and experience in collaborative research with 3 Public Universities (University of Malawi, Mzuzu University and Malawi University of Science and Technology), 7 public Polytechnics and specialised Colleges and 4 private Colleges.

9.2 Bilateral Cooperation

Donors in Malawi are increasingly implementing the Paris Declaration Principles in their development assistance. Malawi's main donors are DFID (UK), EC, World Bank, African Development Bank, Norway, Germany, USAID, and China, which established diplomatic ties with Malawi in 2007. These account for over 90 percent of Malawi's development assistance. Other donors include the traditional UN institutions (notably UNDP, UNICEF, WHO, and WFP), Global Fund, JICA, ICEIDA, and Ireland. The fundamental principles of Malawi's budget support cooperation are based on commitment to poverty reduction, good governance, and sound economic management.

The EU Delegation's cooperation with the Government of Malawi is governed by the Cotonou Agreement. Under EDF10 (2008 – 2013), 255 million euro was allocated with the focal areas including Rural Development, Agriculture, Food Security and Natural Resources; Transport; General Budget Support. EDF11 (2014 - 2020) is still being finalised but it is likely that the focal areas will include Governance, Sustainable Agriculture, Secondary Education and Vocational Training.

Bilateral support for ICT related activities is primarily from Norway, UK, Scotland, Netherlands (IICD) China, India and Australia. The World Bank is providing support towards the Regional Communications Infrastructure Program and the Infrastructure Services Project. UNDP is providing support towards the development of the Master ICT Plan.

9.2.1 Norway

Norway and Malawi have engaged in long-standing development cooperation as reflected in the Memorandum of Understanding concerning development co-operation signed in April 2001. The Government of Norway is currently providing training to ICT officers. Norway allocated a minimum of NOK 200,000,000 per year for support to the government sector in Malawi for the period 2008 - 2012.

9.2.2 United Kingdom

With funding from the Institute of Development Studies (IDS) of the UK, the Malawi Library and Information Consortium (MALICO) is running a one year National Information Repository project from October 2011 with a budget of US\$37,992.40. The main objective of the project was to set up a national digital repository of research from Malawi, collecting research outputs from Malawian institutions and building their capacities in global knowledge sharing. It is envisaged that the increased accessibility and visibility of Malawian research outputs will increase their impact on policy and bring more transparency to research institutions. IDS funding finished in 2013 and MALICO and the National Library have taken the responsibility for funding this work going forward.

A second aim is to learn from and utilize the related work of the Malawi Development Exchange (MDE) and NCST, ensuring close collaboration, identifying opportunities for further collaboration, identifying opportunities for further collaboration and avoiding duplication of effort. MDE focuses on

development information from Malawi and on the people who produce it. It offers a collection of online documents, a daily selection of news and commentary, discussion items, occasional feature articles, profiles of Malawian development practitioners and a search of Malawian websites.

9.2.3 Scotland

Malawi and Scotland agreed that Scotland should assist Malawi Government to develop the Malawi Government website. Training was done in Scotland for two ICT officers that were responsible for the website.

9.2.4 China

The Malawi government embarked on an eGovernment programme in 2013, which will cost US \$135 million over a four to five year period, with support from the Government of China. The projects include establishment of a national data centre, a Government Wide Area Network that will have a one integrated government network connecting all government offices in the country up to the district level, provision of e-services such as e-immigration, e-national registration and identification system, sharable geographic information system, electronic document management system, e-Learning platform for the public sector, enhanced electronic communication systems, electronic marketing systems and electronic security systems. Other activities include e-training for the civil service and an immigration system. The eGovernment project will help to provide easy access and sharing of information; easy management of systems and applications i.e. government website, e-mail services and easy management of Government computers in terms of security and virus protection. Additionally Government officials are also sent to China for short-term technical courses every year.

9.2.5 India

Since independence, there has been bilateral cooperation with India in a number of areas such as agriculture, trade and investment, capacity building and more importantly technology. Because of increased cooperation, Malawi opened a resident Mission in New Delhi in February 2007.

Over the years, India has provided its assistance to Malawi mainly through the Export-Import Bank of India (EXIM Bank), Indian Technical and Special Economic Cooperation (ITEC) and the Commonwealth African Assistance Plan. Under ITEC, India offers scholarships and short-term training for transfer of technology. These initiatives continue to assist in the development of Malawi within the framework of the Malawi Growth and Development Strategy (MGDS).

India is also supporting a five year PAN African e-network Project whereby the University of Malawi (Chancellor College in Zomb), a hospital in Lilongwe and the State House has been twinned with its counterpart in India through the e-VVIP connectivity. Through this initiative, Malawi has benefited in terms of eHealth, eLearning and eGovernance. The initial five years is now coming to a close and Chancellor College intends to continue to provide eLearning based on the experience and lessons

learnt from the Pan African eNetwork. As part of the plan it is envisaged that eLearning centre would be set up in regional cities in Malawi.

9.2.6 Australia

The Global Future Charitable Trust of Australia is sponsoring a National Library Services Project that will document and preserve Malawian Folktales through UNESCO offices in the country. The project is concerned with collecting folk- tales for education purposes. After the collection, the folktales will be put on various media devices such as CD's, DVDS as well as production of radio and television educational programmes.

An online annotated bibliographic index consisting of links to primary sources of the folk tales will be available in the public domain as well as scholarly discussions on these subjects will be established. The project has a budget of US\$187,000. Sony of Japan has donated Video and still Cameras for the project.

9.3 Other Funding Mechanisms

9.3.1 World Bank

The World Bank has supported several ICT projects in Malawi. Firstly, there is the “Regional Communications Infrastructure Program” which is a Government of Malawi led intervention in the ICT sector to support policy and legislative reforms and provide affordable Internet capacity to the nation. The project aims at facilitating the provision of a wet portion (submarine cable) solution to dry portion (overland) connectivity to eligible countries. It is managed by the Privatisation Commission, in partnership with MACRA and the eGovernment Department.

Under the Enabling environment activity, the project intends to review the Communication Act of 1998; build capacity amongst its agencies especially those involved in the policy and regulatory supervision of the ICT sector.

Another component of the Project is focused on Connectivity, which will provide ICT equipment, Internet and free audio editing to selected public institutions in the country. By September 2013, the Last Mile Connectivity Initiative, which is the third phase of the project was implemented. The initiative saw 145 sites, which includes Teachers Development Centres, Teachers Training Colleges, District and Regional information offices being connected against a target of 100 sites. The second phase of the project saw the provision of Internet connectivity, terminal equipment, ICT equipment to all 30 District and Regional Information Offices in the country. This wound up in November 2013.

For the 145 connections to enjoy full Internet provisions through improved quality, availability and affordability of Internet capacity within Malawi for both public and private users, a consultant (SimbaNET) was identified to carry out this aspect. This will be realised in 2014 by the commissioning of a Virtual Landing Point (VLP) in Lilongwe which will be connected to two

redundant routes, one through the northern corridor to Tanzania and another one through Mchinji boarder to Zambia.

Monitoring and evaluation will be undertaken during 2014 to determine if the third phase has started bearing fruits in the targeted institutions.

The World Bank through the Malawi Rural Finance is funding a project that complements and extends the existing portfolio of projects focused on agricultural development in Malawi to strengthen rural financial markets and improve the livelihoods of rural households. This project with a budget of US\$ 224,220 aims to demonstrate how biometric technology can help improve the functioning of rural credit markets in Malawi by providing a way to uniquely identify borrowers. In particular, the project looks into whether fingerprinting of borrowers coupled with the use of fingerprint-based credit history databases can help lenders withhold credit from past defaulters, and expand credit to borrowers who have proven reliable, as well as increase borrowers' incentives to repay their loan.

The World Bank is funding the Infrastructure Services Project which will provide electricity; roads; piped water and sanitation as well as ICT communication to open up the rural areas. The ICT component includes 10 telecentres and 1274 telephones in the first phase.

Furthermore, the World Bank has collaborated with various donors in improving public sector management; for example: Implementation of an Integrated Financial Management Information System in collaboration with USAID and UNDP; Institutional strengthening and capacity development of the Central Internal Audit Unit in collaboration with the European Commission, including provision of training, equipment, software and work environment facilities.

9.3.2 UNDP

UNDP through its Public Reform Department provided funding towards the development of the Master ICT Plan. Its objective is to operationalise the approved National ICT Policy in order to realise the vision of making Malawi a knowledge based economy by 2031. The plan for 2014 to 2031 is split into four (4) separate plans and incorporates both remedial and proactive interventions to create opportunities for Malawian citizens in order to create wealth and enhance people's quality of lives. The recommendations focus on the need to transform the society on four dimensions with ICT: capacity and knowledge community, businesses, infrastructure and the Government

9.3.3 Africa Connect, European Commission

Through the Malawi Research and Educational Network (MAREN), Malawi is a beneficiary of a major AfricaConnect four-year project that started in May 2010.

The AfricaConnect project aims to establish a high-capacity Internet network for research and education in Southern and Eastern Africa to provide the region with a gateway to global research collaboration. The project consists of two phases, the first of which will be to consult, plan and procure the network and is expected to last up to twelve months. It has a budget of € 14,750,000,

80% from European Commission and 20% from the 13 African National Research and Education Networks. The Project is coordinated by DANTE Ltd, the manager of GEANT, the pan European research and education network. The Malawi Government has made the initial deposit and intends to pay the balance of its contribution by July 2013 to facilitate Malawi to participate in Phase II.

9.3.4 Framework Programme 7

The National Commission for Science and Technology (NCST) is a beneficiary under the IST-Africa Initiative since 2011.

Participation in IST-Africa facilitated NCST to host an IST-Africa FP7 Training Workshop in Lilongwe focused on FP7-ICT-Call 8 - 9 Calls for Proposals, a Stakeholder Meeting focused on Horizon 2020 on 24 January 2014, and a follow on workshop specifically focused on ICT-39 on 12 November 2014 as well as undertake a consultation with the research community to map expertise. As part of its ongoing IST-Africa activities NCST circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. NCST is raising awareness of the potential of Living Labs in Malawi.

Up to November 2013 Malawi has been successful in securing participation in **20** FP7 projects with research funding in the region of **€3.06 million** in the following thematic areas: ICT (2 projects), INCO (1 project), Infrastructure (5 projects), Environment (2 projects), Health (8 projects), KBBE (1 project) and Science in Society (1 project). Up to September 2013, Malawi organisations had received in funding under FP7.

The National Commission for Science and Technology as part of its activities under the IST-Africa Initiative is actively encouraging national stakeholders to continue building on the success to date.

10. MAURITIUS

10.1 Introduction

Mauritius is situated in the South West Indian Ocean, slightly over the tropic of Capricorn, in latitude 20° south and longitude 57° east of Greenwich. It is 2,000 km off the east coast of Africa and some 855 km east of Madagascar. An island of volcanic origin with an area of 1,864 km², it is almost entirely surrounded by coral reefs. There are nine administrative districts and three dependencies*; Agalega Islands*, Black River, Cargados Carajos Shoals*, Flacq, Grand Port, Moka, Pamplemousses, Plaines Wilhems, Port Louis, Riviere du Rempart, Rodrigues* and Savanne.

The population is estimated at 1.3 million inhabitants in 2013 with a literacy rate of 89.8% (Statistics Mauritius 2013). In 2012, nearly seventy percent of the total population was between 15 and 64 years of age. Port Louis, the capital, has a population of 128,000 (Statistics Mauritius 2013). The languages are Creole, Bhojpuri, French and English.

In just four decades, Mauritius has grown from an isolated mono-crop dependent country into a services-led economy enjoying sustained growth. The Mauritian economy rests on five pillars, namely sugar, tourism, textile, financial services and ICT. Although the tourism and the financial sectors are well anchored in its traditional economic setup, the ICT sector has recently been propelled into a major pillar of the Mauritian economy.

There is a good Policy Framework including the National ICT Strategic Plan (NICTSP), National Broadband Policy 2012 - 2020, eGovernment Strategy 2013 - 2017 and National Cyber Security Strategy and Action Plan (2014 - 2019). eInfrastructure is well developed across the island with a IXP, National PKI, links to three submarine cables, 264 computer clubs with free internet access and 100 public internet access points in Post Offices. ICT Initiatives are primarily focused on eEducation, Digital Divide, eGovernment, Cyber Security, Entrepreneurship and Green IT. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

In relation to Communications, according to 2013 figures, there were 356,500 fixed phone lines in use and 1.465 million mobile phones. There were 51,139 Internet hosts (2012) and 598,900 Internet subscribers (as at June 2013).

Mauritius has a good research base with 5 Public Universities (UoM, UTM, UDM, MIE, Open University) and 3 private Universities (Charles Telfair, Middlesex, EIILM).



10.2 Bilateral Cooperation

France and the United Kingdom have active cooperation agreements with Mauritius. General budget support for the economic reform of the Government of Mauritius is provided by the World Bank, the Agence Française de Développement (AFD), African Development Bank and the EC (EDF 10).

India is contributing funding to develop the Cyber City and IT Education projects in Mauritius.

During 2013 the EU Delegation in Mauritius has provided funding for National Computer Board to run events and training related to raising awareness and providing certification in relation to Green ICT, which is a priority area for Mauritius.

10.3 Other Funding Mechanisms

10.3.1 Framework Programme 7

The National Computer Board is a beneficiary under the IST-Africa Initiative²⁵ since 2009.

Participation in IST-Africa facilitated NCB to host an IST-Africa FP7 Training Workshop in Port Louis focused on FP7-AFRICA-2010 and FP7-ICT-Call 6 Calls for Proposals in 2009. NCB funded an additional IST-Africa FP7 Training Workshop in Port Louis focused on FP7-ICT-Call 10 and Call 11 and an IST-Africa Living Lab Workshop in November 2012. NCB hosted a Stakeholder meeting focused on Horizon 2020 in November 2013. As part of its ongoing IST-Africa activities NCB has undertake a consultation with the research community to map expertise, circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. NCB in collaboration with the Ministry of ICT hosted the 9th edition of the prestigious IST-Africa Conference from 06 - 09 May 2014 which attracted over 460 delegates from 44 countries representing policy makers, practitioners, and researchers from leading commercial, government and research organisations around the world. NCB undertook a survey of Living Labs and Innovation Spaces active and emerging in Mauritius and is raising awareness of the potential of Living Labs in Mauritius.

Up to November 2013 Mauritius has secured participation in **six** projects under FP7: ICT (3 projects), Infrastructure (2 projects) and Health (1 project).

There is now an appetite for participation in internationally funded research including EU funded research, and the number of funded projects is expected to increase in future years.

10.3.2 European Commission - EDF & ACP-S&T

Under EDF10 (2008 – 2013), 63.4 million euro was allocated. The National Authorising Authority is still finalising the National Indicative programme for EDF 11 (2014 - 2020).

Table 1 below provides an overview of ICT-related projects funded under EDF10.

²⁵ <http://www.ist-africa.org>

Table 3: ICT-related Projects funded under EDF10 in Mauritius

Project Name	Focus	Budget
Consultancy for 'Ensuring the compliance of the data protection legislation and principles of Mauritius with EU standards'	The global objective of this assignment is to amend the Data Protection Act in the perspective of achieving compliance with the EU data protection laws, and to improve the existing institutional set-up of the Data Protection Office to meet international standards.	€30,000
Capacity Building Programme on Green IT and Energy and Energy Efficient Data Centres	NCB organised three training sessions during the period May-June 2013: (a) Green IT (b) EU Code of Conduct for Data Centres and (c) Energy and Cost Management in Data Centres, all leading to industry certification from BCS, the Chartered Institute for IT. The objective of this Capacity building programme is to raise awareness on the opportunities for energy and cost efficiency within the industry and gives guidance on initiatives and changes that can be made to improve the efficiency of the data centre infrastructure, as well as the IT equipment.	Rs. 3.2 m (€83,756)
Consultancy Services on Sustainable Buildings and Construction for Mauritius	The Ministry of Environment and Sustainable Development (MOESD), in collaboration with the United Nations Environment Programme (UNEP), developed a National Programme on Sustainable Consumption and Production (SCP) for Mauritius for the period 2008 - 2013. One of the key priority areas identified in the SCP programme is Sustainable Buildings and Construction. In this context, the government requested for Consultancy Services to develop a policy on Sustainable Buildings and Construction, including guidelines on sustainable buildings. The global objective of this assignment was to establish a comprehensive framework to promote sustainable buildings in the Republic of Mauritius (island of Mauritius and Rodrigues).	€171,000
Consultancy Services on the development of national policy, strategy and action plan for the management of electrical and electronic equipment wastes (e-wastes)	This project is currently in progress where three experts funded by the European Union is developing the E-Waste Policy, Strategy and Action Plan for Mauritius. The specific objectives of this project are: a) Assess and evaluate existing e-waste policy, initiatives, gaps, challenges and opportunities in/for the management of e-wastes in Mauritius. b) Develop comprehensive national e-waste policy, strategies and an action plan for the environmentally sound management (ESM) of e-wastes in Mauritius. c) Recommend appropriate economic and policy instruments and financing mechanism which will favour the ESM management of e-wastes in Mauritius	€177,000

	d) Recommend appropriate legal, institutional and administrative framework for the ESM of e-wastes in Mauritius.	
National Open Source Policy, Strategy and Action Plan	<p>A National Open Source Policy Strategy and Action Plan has been developed with the assistance of two consultants from Astec Global Consulting Ltd. The main objective of this project was to develop strategies and plans for reinforcing the use of Open Source Software to enhance value and improve efficiency within the Mauritian public and, indirectly, private ICT sector, SMEs and boosts local capacity to help develop local knowledge communities.</p> <p>Four Strategic Pillars associated with specific goals and targets have been identified as necessary for the growth of an OSS ecosystem namely:</p> <ul style="list-style-type: none"> a) OSS enabled education system on all levels b) OSS based research activities on universities and tertiary education c) Common place for all Open Source Software, Open Standard, Open Content and Open Data activities d) Common collaboration platform and technology platform 	Rs2.4 million (€63,224)

10.3.2.1 Collaborative Curriculum Development on Waste Management in Africa and the Pacific Region (CODWAP), 2008-2011

CODWAP aimed to establish an active and sustainable co-operation forum on curriculum development, which is consistent with APR socio-economic development priorities. The development of Solid Waste Management (SWM) educational tools, which are customised, easy-to-use, practical and suitable to the needs and priorities of the participating African and Pacific Region (APR) countries, is formulated around a Master Course on SWM (to be piloted by the University of Mauritius), as well as a number of related training courses, both in the EU and APR countries. <http://acp-edulink.eu/content/codwap-collaborative-curriculum-development-waste-management-africa-and-pacific-region-0>

The partners included University of Mauritius, Papua New Guinea University of Technology, University of Sierra Leone, Bremen University of Applied Sciences (Germany). The project duration was 36 months with EU funding amounting to EUR 497,819.00

10.3.2.2 Small Developing Island Renewable Energy Knowledge and Technology Transfer Network (DIREKT), 2009-2012

The Small Developing Island Renewable Energy Knowledge and Technology Transfer Network (DIREKT) is a cooperation scheme involving universities from Germany, Fiji, Mauritius (University of Mauritius), Barbados and Trinidad & Tobago with the aim of strengthening the science and technology capacity in the field of renewable energy of a sample of ACP (Africa, Caribbean, Pacific)

small island developing states, by means of technology transfer, information exchange and networking. Developing countries are especially vulnerable to problems associated with climate change and much can be gained by raising their capacity in the field of renewable energy, which is a key area.

The project was funded by the ACP Science and Technology Programme, an EU programme for cooperation between the European Union and the ACP region (Africa, Caribbean, Pacific). <http://www.direkt-project.eu/>

10.3.2.3 L3EAP, 2013 – 2016

The purpose of the L³EAP project is to increase the capacity of universities in African, Caribbean and Pacific Group of States (ACP) SIDS to deliver high-quality Lifelong Learning courses on the topics of energy access, security and efficiency.

The three-year half million Euro project will be coordinated by Hamburg University of Applied Sciences in partnership with USP, University of Mauritius and Papua New Guinea University of Technology. The project is ongoing. <http://project-l3eap.eu/>

10.3.3 Review of the National ICT Strategic Plan (NICTSP) 2007–2011

The review of the National ICT Strategic Plan (NICTSP) 2007–2011 is one of the three activities undertaken under the Competitiveness and Public Sector Efficiency (CPSE) program, which aims to sustain growth and employment, while helping Mauritius to address the impact of the global recession. The CPSE program aligns with Mauritius' long-term development objectives. These centre on the kind of economic development that will allow it to move away from low-wage, labour-intensive exports to more skilled, high value-added, knowledge-based ones. It seeks to deepen the reforms initiated in 2006, and supports Government's more immediate efforts to help the country ride out the global economic downturn.

The funding was from the African Development Bank Group under the MIC Grant Supporting the Mauritius Competitiveness and Public Sector Efficiency Program (CPSE)

Funding: 299,840 USD

10.3.4 Development of an open platform for “Volunteer thinking”

The project is being undertaken by the University of Mauritius. It is funded by International Development Research Centre (IDRC), a Canadian funding agency, as a wider effort to promote open science. The initial investigation will look into how problems can be broken down into tasks so that they can be outsourced to volunteers, an undefined public. A proposal is actually being sought out in collaboration with researchers from CERN (European Organization for Nuclear Research.) and co-founders of the Open Knowledge Foundation. The considered direction is how problems related to skin lesions in developing regions can be applied with crowd-based analysis to detect skin cancers as well as other diseases.

10.3.5 Connection of Rodrigues to submarine fibre optic

The Government is committed to bring Rodrigues to the same level of development as Mauritius in the ICT field and believes that, to achieve this objective, connecting Rodrigues to a submarine fibre optic cable is essential. The “Agence Française de Développement” (AFD) has funded the consultancy exercise for the feasibility study to the tune of €100,000.

10.3.6 Open Hardware Web API

The main aim of the project is to provide a tool that supports Machine to Machine interaction in the context of pervasive computing. We are studying the possibility of devising the tool for real time web based interaction with the physical world sensors. This tool will help programmers/engineers with basic or no knowledge of C/C++ or electronics to use and access sensors on programmable boards remotely through a secure web API.

Funded by France Telecom (Orange Labs) to the tune of € 5000.

10.3.7 Sustainable public procurement (SPP)

Sustainable public procurement (SPP) is a tool that allows governments to leverage public spending in order to promote the country’s social, environmental and economic policies. The present public procurement policy in Mauritius does not formally take into account sustainability aspects. The Government of Mauritius recognises that procurement decisions by public bodies have inherent social, public, health, environmental and economic impacts both locally and globally and; both at present and in the future. Since 2009, the United Nations Environment Programme (UNEP) has been running a project aimed at supporting the development of SPP policies and the implementation of SPP in pilot countries including Mauritius. The Government of the Republic of Mauritius has agreed to be one of the pilot countries for the SPP capacity building project administered by UNEP on behalf of the Marrakech Task Force on SPP, led by Switzerland. The Public Procurement Office has been identified as the enabler for implementing the SPP project. An agreement has been signed between the PPO and UNEP for financing the SPP project.

Funding: An amount of Rs 700,000 has been obtained by the PPO for training purposes. A further sum of Rs 2M will be given by UNEP for further training.

11. REPUBLIC OF MOZAMBIQUE

11.1 Introduction

The Republic of Mozambique is located in Southern Africa, bordered by Malawi, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The Mozambique Channel is to the east. Mozambique has an area of 799,380 km² and eleven provinces: Cabo Delgado, Niassa, Nampula, Tete, Zambézia, Manica, Sofala, Inhambane, Gaza, Maputo Province and Maputo-Cidade. The population is estimated at 24.69 million inhabitants (July 2014 CIA World Factbook) with a literacy rate of 56.1%. Fifty one percent of the population is aged between 15 and 64 (median 17 years)²⁶. The capital city is Maputo with a population of 1.15 million (2011 CIA World Factbook). Portuguese is the official language and there are several indigenous languages as national languages. English is widely used in business and government.



Mozambique is still heavily dependant upon foreign assistnace to support its annual budget. As part of a diversification programme the Government of Mozambique has encouraged donors of invest in ICT and to assist in developing ICT-related systems, infrastructure and human capacity within the Government as part of the ICT Implementation Strategy and eGovernment Strategy and also in the Higher Education Institutions.

There is a good Policy Framework including the ICT Policy (2000) and ICT Policy Implementation Strategy (2002). eInfrastructure is gradually improving with a National Broadband Backbone providing optical fibre connection to all 11 provincial capitals, provincial Digital Resource Centres, an IXP in Maputo, the Mozambique Research and Education Network and links to two submarine cables. ICT Initiatives are primarily focused on eGovernment, eHealth, eInfrastructure, Digital Content and Digital Divide. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

Mozambique reformed its telecommunications landscape in 1992. There is one fixed line operator - Telecomunicações de Moçambique (TDM) and three mobile operators providing services - mCel, the incumbent mobile subsidiary of TDM, Vodacom Mozambique (2003) and Movitel (2012). While the mobile sub-sector experienced growth rates with the introduction of competition, growth has slowed due to ineffective cost structures and insufficient infrastructure. Market penetration is below the African average, with 88,100 fixed phone lines in use and 8.108 million mobile phones (2012 CIA World Factbook). Internet penetration is quite low with 613,600 users in 2009 (CIA World Factbook). During 2013 the Government initiated a revision of the 2004 Telecommunications Act to support the development of infrastructure and greater competition.

²⁶ CIA Factbook

Mozambique has research capacity and a track record in collaborative research with 2 Public Universities, 8 public Higher Education Institutions, 10 private Universities and 22 private Higher Education Institutions. Twenty-two institutions are dedicated to research activities, 15 of which are government institutions and 7 private.

11.2 Bilateral Cooperation

Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom, Canada, Japan and US provide donor support to Mozambique, primarily toward general budgetary support. focused on national development priorities including Macro-economic, Financial and Trade Policies; Good Governance, Legality & Justice, Capacity Building in Education and Health and Priority Sector (Agriculture & Rural Development, Transport Infrastructure, Energy and Water and Sanitation). In the case of Finland, Germany and Italy, specific ICT/Innovation-related projects have also been launched.

11.2.1 Finland

11.2.1.1 *STIFIMO (Programme of Cooperation in Science, Technology & Innovation between Finland and Mozambique)*

The main purpose of this Programme is to enhance the national science, technology and innovation system, so that it contributes effectively to economic growth and poverty alleviation. With an overall objective of accelerating the transformation of the social, economic, environmental and institutional dimensions of Mozambique, to be characterised by a widespread culture of innovation and strong innovation capacities, high-quality human resources, active and innovative public and private sectors with the ability to identify and resolve current and future development-related challenges coherently, and collaboratively supported by scientific and technological knowledge, in line with international good practices.

The Programme leverages the experiences of launching Innovation Programme such as SAFIPA in South Africa.

Target Country: Mozambique

Main partners: Ministry for Foreign Affairs Finland (MFA), Ministry of Science & Technology Mozambique (MST), private sector partners

Funding: €22M, 2010-2014

11.2.1.2 *CSBKE (Creating Sustainable Business in the Knowledge Economy)*

Finland, Nokia, and infoDev were partners in the Creating Sustainable Businesses in the Knowledge Economy Programme, with the aim of encouraging innovation and competitiveness among SMEs in the information and communication technologies and agribusiness sectors in particular. This programme focused on improving capacity of Sub-Saharan business incubators in mobile applications development, social networking and market deployment.

Target Countries: Southern and Eastern Africa, pilots in Tanzania, Mozambique and South Africa

Main Partners: Ministry for Foreign Affairs Finland (MFA), InfoDEV Programme, Nokia Corporation

Funding: Global programme of which €3.3 M allocated to Africa from MFA for period 2010-2012

11.2.1.3 Southern Africa Innovation Support Programme (SAIS)

SAIS²⁷ is focused on supporting a regional innovation system in SADC and promoting collaboration in relation to innovation systems between Botswana, Mozambique, Namibia and Zambia. MICTI is the national partner.

Partners: Mozambique ICT Institute (MICTI), Botswana Innovation Hub (BIH), Namibia Business Innovation Centre (NBIC) and National Technology Business Centre, Zambia

Funding: 6.2 million € Ministry of Foreign Affairs Finland 2011 - 2015

11.2.2 Germany

11.2.2.1 Mobile Banking in Rural Areas

Banco Oportunidade of Mozambique received 2 million Euro to co-finance a business development project to build capacity to sustainably finance agriculture, particularly targeting smallholders. Banco Oportunidade de Mocambique financed the remaining portion of the project costs from its own funds. The partnership with development institutions and donors helped Banco Oportunidade de Mocambique to train staff, develop new products, and establish new distribution channels through satellite branches and new mobile banks. These efforts are expected to significantly increase its planned outreach in rural areas to benefit agriculture customers.

Target Countries: Ghana, Mozambique

Main partners: KfW on behalf of German Federal Ministry of Economic Cooperation (BMZ)

Funding: €9.5 M (Ghana), €2 M (Mozambique)

11.2.2.2 ict@innovation

ict@innovation²⁸ was focused on building capacities in African Small and Medium sized ICT enterprises in relation to using Free and Open Source Software (FOSS) by spreading FOSS business models for enterprises in Africa, fostering FOSS certification and supporting innovative local FOSS applications for social and economic development.

Target Countries: Eastern and Southern Africa (Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia)

²⁷ www.saisprogramme.com

²⁸ <http://www.ict-innovation.fossfa.net/>

Main partners: Partnership of FOSSFA (Free Software and Open Source Foundation for Africa) and InWEnt - Capacity Building International on behalf of German Federal Ministry of Economic Cooperation (BMZ), the Open Society Initiative for Southern Africa (OSISA).

Funding: 1.6m euro from German Federal Ministry of Economic Cooperation (BMZ), 2008 – 2010 first phase

11.2.3 Italy

11.2.3.1 *Government Electronic Network – E-Governments in the Districts*

The Mozambican Government Network was established in 2004 with the support of the Italian Government and during its first phase a number of selected public institutions at central level were linked, through a communication platform that provided email services, connection to Internet a Government Portal was designed that provided Intranet facilities for public servants and information of government services, plans, acts and documents. From 2005 to 2009 the network was extended to cover all provincial capitals and from 2010 to 2013 this network will be extended to all the 128 districts. The project also strengthened government capacity building programs and provided applications through which services will be delivered using electronic tools. The project aimed to improve the organization and efficiency of the public administration.

Target Countries: Mozambique

Main partners: Ministry for Foreign Affairs Italy (MFA), Ministry of Science & Technology Mozambique (MST)

Funding: 4.8M€ 2010-2013

11.2.4 Belgium / Norway

11.2.4.1 *SISTAFE*

The Government of Mozambique is carrying out a Public Financial Management Reform as an integral part of a wider Public Sector Reform aiming at promoting good governance. Commitment to the Public Financial Management Reform was demonstrated by the Parliament's approval of the SISTAFE law in 2002. The SISTAFE law covers the 5 functional areas: public sector budgeting, accounting, fixed asset management, treasury operations and internal control and set out a vision for Public Financial Management in line with international standards.

Norway provided support to the SISTAFE reform since the beginning of the reform in 2002 until 2009. The implementation of the reform has led to significant improvements in public financial management as documented in the PEFA-study published in 2008. Currently, Belgium has put some money on the SISTAFE Common Fund, with the objective of introducing a modern and integrated system for budget preparation, budget execution and treasury activities in the Government of Mozambique.

Target Countries: Mozambique

Main Partners: Belgium, Norway, Ministry of Finance Mozambique (MF)

Funding: 2.5M€ 2010 – 2012

11.2.5 EU

Under EDF10 (2008-2013) €634 million was allocated, with the focal areas including Transport Infrastructure; Agriculture and Rural Development; Support Measures. Under EDF11 (2014 - 2020) Mozambique is allocated €732 million with focal areas including General Budget Support; Rural Development.

11.2.5.1 Rural Telecommunications Network Improvement Phase II

Rural telecommunications network improvement - phase II commitment 2: telvent contract- supply and installation of rural telecom networks in the Provinces of Gaza & Inhambane. The overall objective is to grant access to basic telephony services to the majority of rural inhabitants. Phase II is specifically focused on providing rural communities of the Provinces of Gaza and Inhambane (not covered under Phase I of the project) with a reliable rural telecommunication system, which will provide telephone services between districts and provincial capitals and thus access to the national network.

Target Countries: Mozambique

Main Partners: Gaza and Inhambane Provincial Governments

Funding: 1,223,087€

11.2.5.2 Co-operation Protocol between Portugal and Mozambique in the postal and telecommunications sectors

The co-operation protocol includes a number of technical missions and training in the following areas: a) Normalization, Equipment certification and ITED; b) Accounting and Financial Management, Management of Human resources and Services of Documentation and Attendance to the Public; c) Regulation of the Postal Sector and of the Telecommunications sector; d) Engineering of Telecommunications and Management of the Spectrum, Numeration and Fiscalization.

Target Countries: Mozambique

Main Partners: Ministry of Foreign Affairs Portugal and Ministry of Transport and Communication Mozambique, National Telecommunication Regulator (INCM)

Funding: €282,288

11.3 Other Funding Mechanisms

11.3.1 Framework Programme 7

Instituto Nacional das Tecnologias de Informação e Comunicação (INTIC) is a beneficiary under the IST-Africa Initiative since 2005.

Participation in IST-Africa facilitated INTIC to host an IST-Africa FP7 Training Workshop and a Stakeholder Meeting focused on Horizon 2020 in Maputo in December 2013. As part of its ongoing IST-Africa activities INTIC circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research expertise. INTIC is raising awareness of the potential of Living Labs in Mozambique.

Mozambique has built up a good track record of participation in FP7 with successful participation in **20** projects and research funding in the region of **€3.36 million**: ICT (5 projects), Environment (3 projects), Health (6 projects), Food, Agriculture and Biotechnology KBBE (2 projects) and Space (4 projects). This is a direct result of the greater international visibility achieved by hosting the IST-Africa 2007 Conference in Maputo and the sensitisation undertaken during IST-Africa FP7 Workshops at a national level.

11.3.2 ExTTI: Excellence in ICT Use for Learning Purposes – Developing Competences and Establishing Best Practices

ExTTI - "Excellence in ICT use for learning purposes - developing competences and establishing best practices", was a project of institutional cooperation, financed by the European Commission's 9th European Development Fund, within the ACP (Africa, Caribbean and Pacific) - Information and Communication Technologies Programme (@CP-ICT Programme) - ACP Science and Technology Programme.

Target Country: Mozambique

Main partners: Instituto Superior de Estatística e Gestão de Informação da Universidade Nova de Lisboa

Funding: 560k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

11.3.3 TIC (Through Innovative Contributions): Students eSkills Development Programme & Distance Learning

"ICT-Through Innovative Contributions" was a metrical action, intended to be innovative by providing a cross between education and professional training, use and access of ICT tools, the MDGs aspirations and the empowerment of the targeted audiences, in conjunction with a view to reduce poverty in specific locations in Mozambique and Cape Verde. The notion of a metric also concurs in this project for the articulation between the involved features in each country, supposing that the results of one are conditioned by the characteristic of another. Assuming ICTs as a compulsory and cross-cutting area of action and recognizing the thematic areas such as: HIV / AIDS, Food security and Hygiene, Gender Equality and Entrepreneurship. This project is a result of a partnership between the Portuguese Piaget Institute, as a coordinator, and the Universities of Piaget Mozambique and Cape Verde, through EDF (EuropeAid via the ACP group) funding.

Target Countries: Mozambique, Cape Verde

Main partner: Instituto Piaget

Funding: 780k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

12. REPUBLIC OF NAMIBIA

12.1 Introduction

Namibia is situated in South Western Africa, bordered by the Atlantic Ocean in the west, Angola and Zambia in the north, Botswana and Zimbabwe in the east and South Africa in the South. The country has a surface area of 824,292 km² with 14 administrative divisions. The population as at July 2014 was estimated at 2.19 million inhabitants with a literacy rate of 88.8%²⁹. Sixty-three percent of the total population is between the ages of 15 - 64, with a median age of 22 years. Windhoek, the capity city, has a population of 325,858 (2011, Namibia Census Report). Namibia is multi-cultural with English as the official language, and 16 other languages spoken. Namibia is one of the first countries to incorporate protection of the environment into its constitution with approx 14% of its land being protected including the Namib Desert coastal strip.



Namibia is an arid country with generally low and highly variable rainfall. Agriculture, largely subsistence, is the main economic activity for the rural population, contributing about 7% of GDP. Other activities include Industry (29.4%) and Services (62.7%) estimate 2012. Diamonds, Minerals, Fish, Livestock and Livestock by-products are the country's principal exports.

There is a good Policy Framework in place including Vision 2030; National Development Plan 4, NRSTIP, ICT Policy (1995), eGovernment Policy (2005) and ICT in Education Policy (2005). eInfrastructure is improving with fibre optic cables connections to all major towns, investment in a nationwide terrestrial fibre backbone infrastructure, IXP, Xnet (NREN) and links to two submarine cables. ICT Initiatives include eEducation, eHealth and eGovernment. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

In relation to Communications, according to figures provided by the Communication Regulatory Authority of Namibia (CRAN) there were 181,696 fixed phone subscribers, 2.3 million mobile phone subscribers and 1.2 million Internet Users in June 2013.

Namibia is gradually increasing the focus on research with 2 Public Higher Education Institutions (University of Namibia, Polytechnic of Namibia) and one private University.

²⁹ CIA World FactBook

12.2 Bilateral Cooperation

European Embassies in Namibia include Germany, France, Spain, UK, Portugal, Finland and the EU Delegation.

Under EDF10 (2008 – 2013), 103 million euro was allocated with the focal areas including Rural Development, Human Resources Development, Support Measures. Under EDF11 (2014 - 2020) Namibia is allocated €68 million with focal areas including Education (including pre-primary, early childhood and vocational); Rural Development.

Bilateral Support for ICT-related activities is primarily from Finland (Southern Africa Innovation Support Programme) and India (Pan African e-Network) at present. Germany provided support to the regional *ict@innovation* Open Source Project and Germany and the Netherlands have contributed towards education programmes in the past. Namibia and South Africa have a Bilateral STI Agreement which has launched a number of Joint Research Calls with some ICT-related projects selected for funding.

12.2.1 Finland

The Southern African Innovation Support Programme (SAIS)³⁰ is focused on supporting a regional innovation system in SADC and promoting collaboration in relation to innovation systems between Botswana, Mozambique, Namibia and Zambia. The Namibia Business Innovation Centre (NBIC) is the Namibian partner and the Programme was launched in Windhoek on 13 May 2011.

Partners: Namibia Business Innovation Centre (NBIC), Botswana Innovation Hub (BIH), National Technology Business Centre, Zambia and Mozambique ICT Institute (MICTI)

Funding: 6.2 million € Ministry of Foreign Affairs Finland 2011 – 2015

12.2.2 Germany

*ict@innovation*³¹ is focused on building capacities in African Small and Medium sized ICT enterprises in relation to using Free and Open Source Software (FOSS) by spreading FOSS business models for enterprises in Africa, fostering FOSS certification and supporting innovative local FOSS applications for social and economic development.

Target Countries: Eastern and Southern Africa (Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia)

Main partners: Partnership of FOSSFA (Free Software and Open Source Foundation for Africa) and InWEnt - Capacity Building International on behalf on behalf of German Federal Ministry of Economic Cooperation (BMZ), the Open Society Initiative for Southern Africa (OSISA).

Funding: 1.6m euro from German Federal Ministry of Economic Cooperation (BMZ), 2008 – 2010 first phase

³⁰ www.saisprogramme.com

³¹ <http://www.ict-innovation.fossfa.net/>

12.2.2 India

The Government of Namibia signed a project agreement with the Government of India in 2009 for the establishment of a Pan African e-Network that provides specialist e-health, quality tertiary level e-education and VVIP direct connectivity to Namibia. Significant progress has been achieved with project implementation of the e-education centre. The e-health centre at the Windhoek Central Hospital has been equipped with VSAT connectivity and the virtual doctor's rooms as well as a continuous medical training studio are nearing completion.

12.3 Other Funding Mechanisms

12.3.1 Framework Programme 7

The Ministry of Education, Directorate of Research, Science, Technology and Innovation is a beneficiary of the IST-Africa Initiative since 2007. IST-Africa is the first FP7 project in which Namibia is involved. The IST-Africa Initiative instigated the Africa4All Parliamentary Initiative in which the Parliament of Namibia was a beneficiary. Namibia's participants in the Framework Programme have increased after hosting IST-Africa 2008 in Windhoek. The National Commission on Research, Science and Technology (NCRST) is now responsible for IST-Africa activities.

Participation in IST-Africa facilitated MoE to host an IST-Africa FP7 Training Workshop in Windhoek focused on FP7-ICT and FP7-Africa2010 Calls for Proposals and NCRST to host a Stakeholder Meeting in Windhoek in November 2013 focused on Horizon 2020. As part of its ongoing IST-Africa activities MoE / National Commission on Research, Science and Technology circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research expertise. The National Commission on Research, Science and Technology hosted an IST-Africa Horizon 2020 Workshop in November 2013 and is working with the universities to encourage the institutions to gradually transform from primarily teaching institutions to research and innovation engines to drive socio-economic development. National Commission on Research, Science and Technology is also raising awareness of the potential of Living Labs in Namibia.

Up to November 2013 Namibia has successfully secured participation in **11** FP7 projects in ICT (4 projects), Environment (1 project), Health (1 project), INCO (1 project), Infrastructure (1 project), Food, Agriculture and Biotechnology KBBE (2 projects) and Science in Society (1 project).

12.3.2 Africa4All Parliamentary Initiative³²

Through the IST-Africa Initiative, the Parliament of Namibia was included in the Africa4All Parliamentary Initiative, which was funded under the @CP-ICT Call. The timing of the Parliament's participation was well aligned with its goal to move towards new working methods leveraging ICT.

³² <http://www.africa4all-project.eu/>

Target Countries: Eastern and Southern Africa with pilots in Kenya, Tanzania, Uganda, Lesotho, Namibia

Main partner: Gov2u

Partner in Namibia: National Assembly of Namibia

Funding: 410k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

12.3.3 TACIT³³: Tackling Aids and Tuberculosis through Communication and Information Technologies

Target Countries: Southern and Eastern Africa, pilots in Kenya, Zambia, Uganda and Namibia

Main partner: International HIV/Aids Alliance

Funding: 960k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

³³ <http://www.aidsalliance.org/newsdetails.aspx?id=242>

13. SENEGAL

13.1 Introduction

Senegal is the most advanced Western African country along the Atlantic Ocean, with major sea and air routes to Europe, other African countries and the Americas.

Covering an area of 196,722 km², it is bordered on the north by Mauritania, east by Mali, south by Guinea and Guinea Bissau, west of the Gambia and a coastline along the Atlantic Ocean for 500 km. Senegal is a flat country with sandy soil not exceeding 130m except at the south-eastern border of Republic of Guinea. Three rivers cross the country from east to west: Senegal (1700 km) north, Gambia (750 km) and Casamance (300 km) south. Senegal consists of 14 administrative regions: Dakar,



Diourbel, Fatick, Kaffrine, Kaolack, Kedougou, Kolda, Louga, Matam, Saint-Louis, Sedhiou, Tambacounda, Thies and Ziguinchor. The population as at July 2014 was estimated at 13.6 million inhabitants, with a literacy rate of 49.7% (CIA World Factbook). Fifty four percent of the total population is between 15 and 64 years of age. Dakar (550 km²), the capital, is a peninsula in the far West with a population of 3.035 million (2011 CIA World Factbook). The official language is French, with English being used in business. The national languages include Diola, Malinke, the Pular, Serer, Soninke and Wolof.

There is a good Policy Framework in place to address Electronic Transactions, Cybercrime and Data Protection. A National Strategy for developing ICT was defined in 2000 with the State Information Technology Agency (ADIE) created in 2004. The Science Technology and Innovation Policy is under development. In terms of eInfrastructure there are links to three submarine cables, all regions are connected via fibre optic, the national backbone is under construction and SnREN (National Research and Education Network) is supporting HEIs. ICT Initiatives are focused on eGovernment, Digital Divide, Research, eInfrastructures, Entrepreneurship and eEducation. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

Senegal has a good telecommunication infrastructure and Internet access is cheaper than in other African countries. International bandwidth for Internet access is currently 12.4Gbps. There are 3 mobile providers (Orange, Tigo and Expresso). According to figures published by L'Autorite de Regulation des Telecommunications et des Postes (ARTP), as at 30 September 2014 there were 317,653 fixed phone lines (346,980 September 2013) and 14.35 million phones (12.72 million in September 2013) as at 30 September 2014. There were 6.675 million Internet subscribers as at 30 September 2014 compared with 1.429 million in September 2013.

Senegal has a good research base with six public Universities (3 more being created), 7 private Universities, 5 public Higher Education Institutions and 141 private Higher Education Institutions.

13.2 Bilateral Cooperation

Senegal enjoys bilateral relations with a number of European Member States, including France, Belgium, Spain, Italy and Germany, each of which has a slightly different focus to their engagement. Bilateral Support for ICT-related activities is primarily from China, France, Germany, India, Switzerland and South Korea. The World Bank and the European Union are the two major multilateral donors.

Under EDF10 (2008 – 2013), 317 million euro was allocated with the focal areas including Trade/Regional Integration, Sanitation. Under EDF11 (2014 - 2020) Senegal is allocated €347 million with focal areas including Democratic Governance, Sustainable Agriculture and Food Security, Water and Sanitation.

13.2.1 France

After more than three centuries, France and Senegal have remained very close since the independence of nations. A shared history, a tradition of cooperation in all fields, a stream of constant human and material exchanges in both directions, support this cooperation.

France supports the strategy for achieving the Millennium goals for Senegal, focusing primarily in three key sectors: education, the productive sector and infrastructure.

13.2.2.1 *SIST project*³⁴

This project involves the establishment of an Information System Science and Technology web platform receiving all research records, thesis and publications of Senegal. The portal went live on 30 March 2008.

Funding: €50,000

13.2.2.1 *Démarches administratives project*³⁵

The main purpose of this web site is to make reliable administrative information (legal, consistent and updated) accessible to a majority of users, individuals and professionals in a simple and structured manner according to their requirements. The web site then directs users to appropriate services.

13.2.2 Belgium

The main objective of Belgian international cooperation is poverty reduction and in particular improving the well being of the rural population.

³⁴ www.sist.sn

³⁵ <http://www.demarches.gouv.sn/>

13.2.3 Switzerland

Senegal has a limited program with the Swiss Agency for Development and Cooperation (SDC). SDC withdrew from Senegal in 2010. Actions could be maintained as part of a framework for development and regional integration. In Senegal, the commitment from Switzerland has focused primarily on rural development from the late 70s, and Information Technology and Communication. The Swiss official development assistance to Senegal was between 4 and 5 million Swiss francs per year.

13.2.3.1 Community Multimedia Centres

On the occasion of World Information Summit in Geneva in 2003, SDC, UNESCO and the Heads of State of Senegal, Mali and Mozambique launched Community Multimedia Centres (CMCs, with access to the Internet) in marginalized areas of the country. These centers are designed to meet the needs of local people in terms of access and exchange information in their own language. They include a radio transmitter, computers for Internet browsing and also offer business services such as telephone, fax and email services. The first phase saw the creation of 24 CMCs in Senegal, including 20 with Swiss funds. Switzerland also provided funds to the second phase. One of the challenges is to ensure better production and distribution of content. There are currently 30 centres functioning in Senegal.

13.2.3.2 CoseLearn

The CoseLearn project, funded by SDC, also emerged after the World Summit on Information at Geneva. This project involved the gradual introduction of Virtual Campus Regional involving several countries in Francophone Africa, training in forty universities including the University Cheikh Anta Diop in Dakar, nearly 170 experts worked to train specialists and to contribute to content creation, training of nearly 500 specialists in teaching and technical support and building a large catalogue of several hundred modules of courses and several projects pilots involving several thousand students. This ambitious project is under implementation with the assistance of national steering groups. The project is ongoing with over nineteen course from University Cheikh Anta Diop.

13.2.4 Spain

The Technical Office of Spanish Cooperation is present in Senegal since 2004 and serves as a regional office with expertise in the following countries: Senegal, Gambia, Guinea Bissau, Guinea Conakry, Sierra Leone, Liberia, Cote d'Ivoire, Burkina Faso and Niger.

Spanish Cooperation has worked in sectors such as education, health, vocational training, environment or gender equity.

13.2.5 Italy

The most significant initiatives underway in the country concern the areas of agriculture and rural development, food security and protection of child rights in collaboration with UN agencies.

13.2.6 Germany

Senegal is one of the major partner countries of Germany. The strategy for the reduction of poverty in Senegal is used as a starting point to guide the portfolio of activities of cooperation. In intergovernmental negotiations in November 2012, Germany and Senegal agreed to development cooperation of €57 million for the period 2012-2014. Ongoing collaboration in Decentralization and sustainable economic development will end. Cooperation between the two countries will now focus on Renewable Energy and Energy Efficiency.

13.2.7 India

The Hub Earth Station infrastructure is designed to provide online services, distance learning and telemedicine remote. This ongoing project aims at interconnecting 53 learning centres, 53 hospitals, 5 regional universities and 5 regional hospitals

Main partners: India

Funding: 40 million US dollars

13.3 Other Funding Mechanisms

13.3.1 Framework Programme 7

Ministère de l'Enseignement Supérieur et de la Recherche, Senegal is a beneficiary of the IST-Africa Initiative since 2009.

Participation in IST-Africa facilitated MESR to host an IST-Africa FP7 Training Workshop in Dakar focused on FP7-ICT in November 2010 and raise awareness of the opportunities for participation in international research projects with the wider research community. As part of its ongoing IST-Africa activities MESR has undertaken a mapping of expertise and circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings. MESR is encouraging the take-up of Living Lab concepts in Senegal.

Up to November 2013 Senegal has successfully secured participation in **41** FP7 projects with research funding in the region of **€5.3 million**: ICT (7 projects), INCO (3 projects), Infrastructures (1 project), Environment (9 instead of 7 projects), Health (5 projects), Food, Agriculture and Biotechnology KBBE (9 projects), IDEAS (1 project), People (1 project), Space (1 project) and Social Sciences (4 projects).

13.3.2 Government Intranet

The Government Intranet project commenced in 2004 and provides a network that covers almost all the departments and wires 665 buildings (office buildings, city halls, hospitals, etc.)

Main partners: World Bank, China, Korea

Funding: 75 million US dollars

14. REPUBLIC OF SOUTH AFRICA

14.1 Introduction

The Republic of South Africa occupies the southernmost part of the African continent, stretching latitudinally from 22° to 35° south and longitudinally from 17° to 33° east, flanked on the west by the Atlantic Ocean and on the east by the Indian Ocean, whose waters meet at the country's most southern tip, Cape Agulhas. South Africa has common boundaries with Namibia, Botswana and Zimbabwe, while Mozambique and Swaziland lie to the north-east. The Kingdom of Lesotho is completely enclosed by South African territory in the south-east.



South Africa has a surface area of 1,219,909 sq km, made up of nine provinces, each with its own legislature, premier and executive councils. The provinces (Western Cape, the Eastern Cape, KwaZulu-Natal, the Northern Cape, Free State, North West, Gauteng, Mpumalanga and Limpopo) have their own distinctive landscapes, vegetation and climate.

According to the 2011 Censuses Report, South Africa has a population of 50.6 million, of which 3 million households have computers, 3 million households have access to satellite television, 10.8 million households have access to a television set, 12 million households have access to a cell phone and 14 million householders have access to the Internet. The literacy rate is estimated at 93% (2011). Pretoria, the capital city has a population of 1.501 million, Johannesburg 3.844 million, Durban 3.012 million and Cape Town 3.362 million (2011, CIA World Factbook).

There is a good Policy Framework including the ICT Policy (under review), Broadband Policy (2013), ICT RDI Implementation Roadmap (2013) and CyberSecurity Policy. eInfrastructure for research is well developed with TENET (Tertiary Education and Research Network of South Africa) operating the South African National Research Network ("SANReN"), which comprises of a national backbone, several metropolitan rings, and some dedicated long-haul circuits to connect specific research installations. TENET provides Internet and related services to around 170 campuses of 55 institutions. ICT Initiatives focus on eInfrastructure, Digital Access, eSkills, Smartcard IDs and TV White Spaces Trials. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

In relation to Communications, according to 2012 figures (CIA World FactBook), there were 4.03 million fixed phone lines in use compared with 68.4 million mobile phones. There were 4.761 million Internet hosts (2012) and 4.42 million Internet users (2009)..

South Africa has a vibrant, well-developed research community and a good track record in collaborative research with 25 state-funded tertiary institutions (Universities & Universities of Technology) and 87 private institutions of Higher Education.

14.2 Bilateral Cooperation

South Africa enjoys strong bilateral relations with a number of European countries. Bilateral Support for ICT and Innovation related activities is primarily from Finland, France and Germany. Finland has been particularly active in supporting ICT related activities over the past few years and France supports bilateral research projects. Germany provided support to the regional ict@innovation Open Source Project. The European Union is a major multilateral donor.

Under the Multi-Annual Indicative Programme (MIP) for 2007 - 2013 South Africa was allocated €980 million with the focal areas including Employment Creation; Capacity Development for Service Delivery and Social Cohesion and Governance. Under MIP (2014 - 2020) South Africa is allocated €241 million with focal areas including Employment Creation; Education, Training and Innovation; Building a Capable and Developmental State.

14.2.1 Finland

14.2.1.1 SAFIPA Programme

The SAFIPA Programme³⁶ (South Africa – Finland Knowledge Partnership on ICT) focused on institutional capacity building on development and deployment of ICT service applications. This programme finished at the end of September 2011.

Target Country: South Africa

Main partners: Ministry for Foreign Affairs Finland (MFA), Department of Science & Technology South Africa (DST), CSIR/MERAKA Institute, private sector partners

Funding: 3 M€ from MFA for period 2008-2011

14.2.1.2 COFISA Programme

The COFISA Programme (Cooperation Framework on Innovation Systems between Finland and South Africa) was focused on providing support for enhancing innovation systems including the use of ICT in service delivery. This programme finished at the end of 2010.

Target Country: South Africa

Main partners: Ministry for Foreign Affairs Finland (MFA), Department of Science & Technology South Africa (DST), private sector partners

Funding: 3 M€ from MFA for period 2006-2010

³⁶ <http://safipa.com/>

14.2.1.3 Establishing National CSIRT Capacity for South Africa

This Programme between Finland and South Africa was focused on institutional cooperation on Information Security.

Target Country: South Africa

Main partners: Ministry for Foreign Affairs Finland (MFA), Department of Science & Technology South Africa (DST), Finnish Communications Regulatory, CSIR private sector partners

Funding: 280k € for period 2009-2010

14.2.1.4 INSPIRE (Provincial Information Society Strategies)

The INSPIRE Programme between Finland and South Africa focused on providing technical assistance to support the development and deployment of an integrated, comprehensive and feasible Provincial Information Society Strategies.

Target Country: South Africa

Main partners: Ministry for Foreign Affairs Finland (MFA), PNC on ISAD, Department of Communications (DoC) South Africa, provincial governments of Northern Cape and Limpopo

Funding: 4,07 M€ for period 2008-2010

14.2.1.5 CSBKE (Creating Sustainable Business in the Knowledge Economy)

This programme was focused on improving capacity of Sub-Saharan business incubators in mobile applications development, social networking and market deployment.

Target Countries: Southern and Eastern Africa, pilots in Tanzania, Mozambique and South Africa

Main Partners: Ministry for Foreign Affairs Finland (MFA), InfoDEV Programme, Nokia Corporation

Funding: Global programme of which 3,3 M€ allocated to Africa from MFA for period 2010-2012

14.2.2 Germany

ict@innovation³⁷ was focused on building capacities in African Small and Medium sized ICT enterprises in relation to using Free and Open Source Software (FOSS) by spreading FOSS business models for enterprises in Africa, fostering FOSS certification and supporting innovative local FOSS applications for social and economic development.

Target Countries: Eastern and Southern Africa (Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia)

Main partners: Partnership of FOSSFA (Free Software and Open Source Foundation for Africa) and InWEnt - Capacity Building International on behalf on behalf of German Federal Ministry of Economic Cooperation (BMZ), the Open Society Initiative for Southern Africa (OSISA).

³⁷ <http://www.ict-innovation.fossfa.net/>

Funding: 1.6m euro from German Federal Ministry of Economic Cooperation (BMZ), 2008 – 2010 first phase

14.3 Other Funding Mechanisms

14.3.1 Framework Programme 7

The Department of Science and Technology South Africa is a beneficiary of the IST-Africa Initiative since 2007. DST also runs the ESASTAP Programme to encourage take up of opportunities under the Framework Programme in South Africa and is a beneficiary of CAAST-Net & CAAST-Net Plus.

Up to November 2013 South Africa has successfully secured participation in **189** projects and **€37.3 million** in funding under FP7: ICT (19 projects), INCO (11 projects), Energy (5 projects), Environment (28 projects), EURATOM-FISSION (4 projects), Health (30 projects), Infrastructure (11 projects), Food, Agriculture and Biotechnology KBBE (32 projects), NMP (3 projects), People (8 projects), Security (2 projects), Science in Society (5 projects), SME (3 projects), Space (9 projects), Social Sciences (12 projects), Transport (7 projects).

15. SWAZILAND

15.1 Introduction

The Kingdom of Swaziland is a landlocked country in Southern Africa, bordered by South Africa to the North, South and West and Mozambique to the East. Swaziland consists of four administrative districts namely Hhohho, Manzini, Lubombou, and Shiselweni as shown in the map. It has a surface area of 17,363 square kms. The population is estimated at 1.4 million inhabitants (est July 2014 CIA World FactBook) with a literacy rate of 87%. 59 percent of the total population is between 15 and 64 years of age. Mbabane, the capital city, has a population of 66,000 (2011, CIA World Factbook). The official languages are English and Siswati. Swaziland is classified as a low middle-income developing country with a GDP per capita of US\$5,700 (2013 est).



Swaziland is a Member State of the Southern African Development Community (SADC), the Common Market for Eastern and Southern Africa (COMESA). The economy of Swaziland faces serious challenges. Manufacturing and mining in general have been in decline and unemployment is rising. Outside of agriculture, there are relatively few prospects for the significant numbers of young job-seekers entering the labour market.

There is a good policy infrastructure focused on the adoption of ICT to support socio-economic development (ICT Policy 2004, National Information and Communication Infrastructure Policy 2006, Science Technology and Innovation Policy 2012 and Swaziland Communications Commission Act 2013). eInfrastructure is gradually improving with a fibre optic backbone network, IXP established in 2014, connection to two submarine cables through Mozambique and South Africa and free internet access in schools and hospitals through ITU. ICT Initiatives are primarily focused on eGovernment and development of the Science and Technology Park with funding from Taiwan. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

In relation to Communications, Swaziland has two telecommunications service providers (Swaziland Posts and Telecommunication Corporation and MTN) with 80% mobile penetration. The country's backbone infrastructure is NGN and is connected to the SEACOM undersea cable through Maputo, Mozambique and EASSy undersea cable through Mthunzini South Africa for redundancy. Fibre optic is laid through out the country. There are four Internet providers including the government computer services department and 90,000 Internet users (representing 6.6% penetration).

According to 2012 figures (CIA World FactBook), there were 48,600 fixed phone lines compared with 805,000 mobile phones. The national Internet Exchange Point (IXP) was put in place in April 2014. Free internet access is provided to schools and hospitals through ITU. Digital migration is due to be completed in July 2015.

Swaziland is gradually increasing the focus on research with one public University (the University of Swaziland) and three private Higher Education institutions (the Southern Nazarene University, Limkokwing University and the Christian Medical University, which opened in August 2013.)

15.2 Bilateral Cooperation

Overseas Development Assistance for Swaziland comes mainly from the African Development Bank, European Union (EU Delegation), Japan (JICA), Republic of China/Taiwan, the traditional UN institutions (UNESCO, UNDP, UNICEF, WHO, and WFP), United States (USAID, Global Fund), the World Bank and the Import Export Bank of India (EXIM Bank of India). Bilateral Support in relation to ICT activities is currently primarily from Republic of China on Taiwan and India.

Under EDF10 (2008 – 2013), 63.9 million euro was allocated with the focal areas including Health and Education, Improve Water Supply, Support Measures. Under EDF11 (2014 - 2020) Swaziland is allocated €62 million with focal areas including Agriculture and Food Security, Social Protection, Support Measures.

The table below summarises the main areas where each donor is currently focused:

NAME OF COOPERATING PARTNER	AREA OF ASSISTANCE
African Development Bank	Water, Agriculture, Infrastructure
European Union	Education and Training, Water and sanitation, Agriculture, infrastructure, Social protection, Governance
Japan (JICA)	Education and Training, Health, Water and Sanitation, Agriculture.
Republic of China/Taiwan	Education and Training, Health, Water and Sanitation, Agriculture, Infrastructure, Commerce Industry and Trade, Governance, Science and Technology
(UNESCO, UNDP, UNICEF, WHO, and WFP)	Education and Training, Health, Water and Sanitation, Agriculture, Governance, Science and Technology
USAID	Water and Sanitation, Commerce industry and Trade, Public Order and Safety, Housing and Community Development
Global Fund	Health

The World Bank	Health, Social protection, Governance
Import Export Bank of India (EXIM Bank of India)	Education and Training, Agriculture, Science and Technology

15.2.1 Development Funds for Science, Technology and Innovation

The Republic of China on Taiwan has been the main cooperating partner in the area of Science and Technology and has provided grants for infrastructure development, Education and Training and provision of hardware and software.

UNESCO has provided direct assistance in relation to the development of National Science, Technology and Innovation (STI) Policy 2012.

Swaziland has benefited from human resources development programmes mounted by SADC and the AU in cooperation with many other partners.

The EXIM Bank of India is a more recent player in this area (March 2010) and is providing low interest loans for the development of Information Technology Park (US\$20million).

15.3 Other Funding Mechanisms

15.3.1 Framework Programme 7

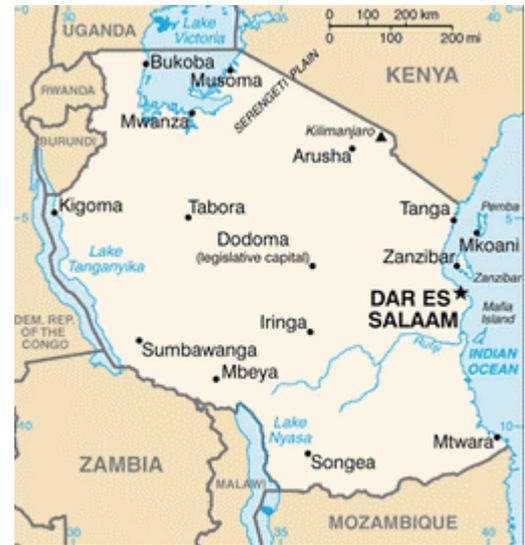
The Ministry of Information Communication Technology is a beneficiary under IST-Africa since 2011. Participation in IST-Africa facilitated MICT to host an IST-Africa FP7 Training Workshop in Mbabane in November 2011 focused on FP7-ICT-Calls 8 - 9 and undertake a consultation with the research community to map expertise. As part of its ongoing IST-Africa activities MICT circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken a mapping of skills.

Up to November 2013 Swaziland has successfully secured participation in **3** projects in FP7: ICT (2 project) and Space (1 project).

16. REPUBLIC OF TANZANIA

16.1 Introduction

The United Republic of Tanzania is situated in East Africa, with borders with Kenya, Uganda, Rwanda, Burundi, Democratic Republic of Congo, Zambia and Mozambique. It has a surface area of 947,300 sq km, made up to 30 administrative divisions. The population is estimated at 49.6 million (2014, CIA World Factbook) with a literacy rate of 67.8%. 52.2% of the total population is between 15 – 64 years of age. Dar es Salaam has a population of 3.5 million (2011, CIA World Factbook). Dodoma is the official capital and home to Tanzanian Parliament while the Government Ministries and major institutions and diplomatic missions are located in Dar es Salaam. Zanzibar has its own government and its own Ministry of Education and several other ministries, which do not fall under union matters. The official languages are Swahili and English (primary language for business, Government affairs and Higher Education).



The Government of Tanzania recognises the importance of ICT and Innovation to support socio-economic development. Two of the three main policies supporting Innovation and Entrepreneurship are under revision: the updated Science Technology and Innovation (STI) Policy will incorporate Entrepreneurship and the National ICT Policy of 2003 is under review as part of the development of a new implementation strategy. eInfrastructure has dramatically improved with the fibre-optic network, investment in local Internet Exchange Points, migration to IPv6 and construction of the National ICT Backbone (NICTBB). The Tanzania Education Research Network (TERNET) has connected 14 Institutions (min 10Mbps) to the Network Operations Centre (NoC) at COSTECH. ICT Initiatives are primarily focused on eInfrastructure, eEducation, eHealth, Information Society & Entrepreneurship. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to Communications, according to the TCRA published statistics³⁸, there were 150,073 fixed lines and 28.73 million mobile subscribers, giving a teledensity penetration of 64% as at 30 June 2014. TCRA reported 9.3 million Internet users during 2013 compared with 7.5 million during 2012. Mobile money applications are very popular for paying water/electricity bills and sending or receiving funds, with M-Pesa provided by Vodacom Tanzania, Airtel Monday provided by Airtel and Easy-Pesa provided by Zantel.

³⁸ TCRA Quarterly Telecom Statistics, Quarter 4 (June 2014) Report

Tanzania has good research capacity with 11 Public Universities, 17 private universities and 26 private institutions of Higher Education.

16.2 Bilateral Cooperation

Tanzania has bilateral cooperation agreements in place with Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Sweden, United Kingdom, India, Japan and South Korea. The World Bank and the European Union are the two major multilateral donors.

Bilateral Support for ICT and Innovation related activities is primarily provided by Finland, Sweden, Norway and Netherlands (IICD). Germany provided support to the regional ict@innovation Open Source Project and Ireland is providing support to the Young Scientist Competition.

Under EDF10 (2008-2013) €565 million was allocated, with the focal areas including Infrastructure, Communications, Transport; Trade and Regional Integration and Macroeconomic Support. Under EDF11 (2014 - 2020) Tanzania is allocated €626 million with focal areas including Good Governance and Development, Sustainable Agriculture and Energy.

16.2.1 Finland

Finland is actively involved in ICT and Innovation initiatives in Tanzania. A programme preparation phase was undertaken during 2009 – 2010 to prepare for the launch of TANZICT, which commenced in September 2011.

16.2.1.1 CSBKE (*Creating Sustainable Business in the Knowledge Economy*)

This programme is focused on improving capacity of Sub-Saharan business incubators in mobile applications development, social networking and market deployment.

Target Countries: Southern and Eastern Africa, pilots in Tanzania, Mozambique and South Africa

Main Partners: Ministry for Foreign Affairs Finland (MFA), InfoDEV Programme, Nokia Corporation

Funding: Global programme of which 3,3 M€ allocated to Africa from MFA for period 2010-2012

16.2.1.2 *Information Society and ICT Sector Development Programme*

This Programme is focused on providing technical assistance for the deployment of ICT policy and strategy.

Target Country: Tanzania

Main Partners: Ministry for Foreign Affairs Finland (MFA), Ministry of Communication, Science & Technology of Tanzania

Funding: 500 k€ 2009-2010 (programme preparation phase)

16.2.1.3 TANZICT³⁹

TANZICT⁴⁰ is an Information Society and ICT Sector development bi-lateral project between the Government of Tanzania and the Government of Finland, which is hosted by COSTECH and commenced in August 2011. It is focused on strengthening the Tanzania Information Society through a revision of the national ICT Policy and associated Implementation, strengthening the institutional capacity of MCST and creating a Tanzania Innovation programme. It has created a community spirit through support for pre-Incubation, training for women entrepreneurs, community events and hands-on support.

TANZICT set up an open Innovation Space and pre-Incubation space in October 2011 on the ground floor of COSTECH, which is now called Buni Hub. The Innovation Space provides co-working space with Wi-Fi Internet access for up to 40 people, a meeting space for up to 60 people, regular training and networking events. TANZICT and DTBi launch joint Call for Pre-Incubation and Incubation.

TANZICT co-operated with IIMC in relation to the second IST-Africa Living Lab Workshop⁴¹ in Dar es Salaam in May 2012. TANZICT is providing hands on support to emerging Living Labs in Iringa, Kigamboni, Mwanza, Mbeya, Zanzibar and Arusha.

TANZICT launched the FEMTANZ 3 month Programme in December 2012 to provide business support training to women who wish to establish the grow their own technology-enabled businesses. Participants came together in Dar es Salam for three 2.5 day workshops during December 2012, January 2013 and February 2013. The initial training was provided by Tina James and Jill Sawers of FEMTECH. Fifteen people were involved in the first course, which was provided free of charge in English and three people were trained as trainers. In the future it may be necessary to translate the materials into Swahili.

TANZICT and COSTECH launched an ICT Innovation Fund in 2012 to provide seed funding to develop a prototype or pilot a service, which is managed by COSTECH and funded by TANZICT. The grant (\$7,000 - \$10,000) is focused on funding development of a prototype, technical work and technical skills but is not aimed at supporting the running costs of a start-up. It is a requirement that the recipient is hosted at an existing Incubator or Hub such as DTBI, Buni Hub, university incubator or KINU Innovation Hub that can provide mentoring and monitor their progress. The first Call for Applications closed in November 2012, received 25 applications with the first cohort of six grantees announced in April 2013 with funding of €50,000 in total. The second call received 44 applications with ten grantees announced in October 2014 and funding of €70,000 in total. The third Call closed in September 2014.

³⁹ <http://tanzict.or.tz/>

⁴⁰ <http://tanzict.or.tz/>

⁴¹ http://www.ist-africa.org/home/files/ISTAfrica2012_LivingLabsWorkingGroupMeetingReport.pdf

This programme has had a high impact in Tanzania in terms of actively supporting Policy review, Innovation activities and capacity building. A follow on project is currently being prepared for Tanzania to leverage the success of the TANZICT Programme.

Target Country: Tanzania

Main Partners: Ministry for Foreign Affairs Finland (MFA), Ministry of Communication, Science & Technology of Tanzania, COSTECH

Funding: Government of Finland, 5 million euro (Sept 2011 – August 2015)

16.2.2 Norway

16.2.2.1 *Health Informatics Systems Programme*

In order to strengthen the collection and handling of health information and improving health services management, the Ministry of Health and Social welfare, the University of Dar es Salaam and the University of Oslo, implemented and rolled out of DHIS throughout the health sector including all facilities, districts and regions.

Target Country: Tanzania

Main Partners: University of Dar es Salaam, School of Informatics and Communication Technologies in cooperation with University of Oslo

Funding: Embassy of Norway in Tanzania, University of Oslo

16.2.2.2 *Masters Programme in Health Informatics*

In an effort to build capacity of health managers and health professional in ICT the University of Dar es Salaam School of Informatics, School of Public Health and Social Science MUHAS and the University of Oslo is offering a Masters Programme in Health Informatics already underway to cater for lower level cadre.

Target Country: Tanzania

Main Partners: University of Dar es Salaam, School of Informatics and Communication Technologies, Muhimbili University of Health and Allied Sciences (MUHAS) School of Public Health in cooperation with University of Oslo

Funding: NORAD

16.2.3 Sweden

Swedish International Development Agency (SIDA) is funding a number of ICT-related initiatives that are being implemented by COSTECH, Ministry of Education and Vocational Training, Ministry of Communications, Science and Technology Open University of Tanzania, Dar es Salaam Institute of Technology and Tanzania Communication Regulatory Authority.

16.2.3.1 TANSENE for Post Doctoral Support

As a result of the government decision to invest in research, COSTECH has been able to attract external funding of research for development. Tanzania, Sweden and the Netherlands have agreed to set a “Common Fund” named “TASENE” for post doctoral support for scientists from Tanzania, Sweden and Netherlands. The fund has already attracted a total of Euro 1,800 millions in equal contributions as a pilot project. A joint first call for competitive research projects was made in June 2011, which allows the scientists and researchers from the three countries to jointly apply for grants.

Funding: Tanzania, Sweden and Netherlands

16.2.3.2 ICT for Rural Development

ICT4RD⁴² is a research and development project in the area of broadband connectivity to rural of Tanzania, utilizing available infrastructures mainly fibre optic and outdoor wireless. Its focus is improving services by making information easily available and accessible in the areas for education, health and local government management.

The main objective of the project is the establishment of sustainable broadband markets in rural areas offering connectivity, system integration and capacity building programmes, including project management skills, technology and entrepreneurship; in close cooperation with partners already working with healthcare, school, local administration and small and medium enterprises

The project has deployed Health Management Information System (HMIS) to health centres and district hospitals, which allows easy collection and analysis of information.

Other services deployed include an eLearning system in the secondary schools and hospitals. The eLearning supports guided learning and individual learning, teachers are using the platform to create and store content for students. Using the content on the server (repository), teachers, students as well as hospital staff use the platform for self-learning.

Target Country: Tanzania

Main Partners: Tanzania Commission for Science and Technology (COSTECH)

Funding: Swedish International Development Agency (SIDA)

16.2.3.3 ICT Leadership Project

Following the adoption of the National ICT policy in 2003 it was realised that in order to implement ICT effectively participation of top leadership involvement is required for effective adoption of ICT. The project aimed at creating sensitization and awareness among decision makers at various levels enabling them to integrated ICT into the poverty reduction strategy.

Target Country: Tanzania

Main Partners: Tanzania Commission for Science and Technology (COSTECH)

Funding: Swedish International Development Agency (SIDA)

⁴² <http://www.ict4rd.ne.tz/>

16.2.3.4 ICT in Teacher Training Colleges

This project was implemented by the Ministry of Education and Vocational Training, with support from SIDA. It involved providing computer labs and broadband Internet connectivity to all Teacher Training Colleges, training of tutors in computer skills and offering computer training to all teacher trainees. The project was very successful. After the initial funding from SIDA the government has streamlined it and is being developed into a Teacher Professional Development Framework

Target Country: Tanzania

Main Partners: Ministry of Education and Vocational Training

Funding: Swedish International Development Agency (SIDA)

16.2.3.5 ICT Pilot in Secondary Schools

This project intends to pilot the use of ICT in teaching and learning in secondary schools. Due to resource constraints 200 secondary schools will be used for piloting of ICT application

Target Country: Tanzania

Main Partners: Ministry of Education and Vocational Training

Funding: Swedish International Development Agency (SIDA)

16.2.3.6 ICT Consultancy to Ministry of Education and Vocational Training

The Ministry of Education and Vocational Training is in the preparation of the strategic plan and implementation plan on Information and Communication Technology (ICT) Policy for Basic Education. The ICT policy for Basic Education was adopted in 2007, an implementation plan is required to guide the implementation of the policy.

Target Country: Tanzania

Main Partners: Ministry of Education and Vocational Training

Funding: Swedish International Development Agency (SIDA)

16.2.3.7 Mainstreaming of ICT

The project provides an opportunity to document and show how Tanzania is successfully supporting its national development, poverty reduction, and reform efforts through ICT. The project focuses on high-level negotiations aimed at getting ICT champions in each priority sector.

Target Country: Tanzania

Main Partners: Ministry of Communication Science and Technology

Funding: Swedish International Development Agency (SIDA)

16.2.3.8 Integrating ICT into OUT activities (Institutional Capacity Building)

The Open University of Tanzania (OUT) is a distance learning institution whereby educational delivery is attained through various means of communication such as broadcasting, telecasting,

Information and Communication Technologies (ICT), correspondence enhanced face to face, seminars, contact programmes

OUT is increasingly using e-Learning as a mode of delivery through the Learning Management system Moodle. It has recently received funding from SPIDER for the establishment of Tanzania's first e-learning center, which will be located at the Headquarters of OUT in Dar es Salaam. The E-learning Centre will focus initially on the building the capacity of the staff and then students from OUT and other universities and colleges. SIDA will also support the capacity-building work of the E-learning Centre.

Target Country: Tanzania

Main Partners: Open University of Tanzania

Funding: Swedish International Development Agency (SIDA)

16.2.3.9 Training of IT Technicians

In order to meet the market demand for IT professionals, the Dar es Salaam Institute of Technology developed a special course for training IT technicians. This is a one-year course imparting skills in Computer maintenance.

Target Country: Tanzania

Main Partners: Dar es Salaam Institute of Technology

Funding: Swedish International Development Agency (SIDA)

16.2.3.10 NET-TEL Africa⁴³ – Regulatory Support for ICT across Africa

The project aims at strengthening and supporting the country's policy and regulatory environment in addition to promoting reform within the sector as a way of capitalizing on the benefits of increased access to international bandwidth.

Target Country: Tanzania

Main Partners: Tanzania Communication Regulatory Authority

Funding: Swedish International Development Agency (SIDA)

16.2.3.11 Training in IT - Student or staff exchange programme

The University of Eastern Finland, Technical University of Denmark, University of London and Helsinki University are cooperating with Tumaini University in relation to exchange of personnel and training in IT.

Target Country: Tanzania

⁴³ <http://www.nettelafrika.or.tz/>

Main Partners: Tumaini University with support from University of Eastern Finland (Prof. Matti Tedre), Technical University of Denmark (Prof. Henrik Lund), University of London / Royal Holloway (Prof. Tim Unwin) & Helsinki University (Dr. Tomi Pasanen)

16.2.3.12 Open access: knowledge sharing and sustainable scholarly communication in Kenya, Tanzania and Uganda

This project aims to raise visibility and accessibility of research outputs in Kenya, Tanzania and Uganda using free and open source software for open repositories and open access journals in higher education and research institutions. It aims to develop a sustainable network of open access champions and reinforce local capacity in the management of open access journals and repositories.

Main Partners: EIFL (Electronic Information for Libraries) in cooperation with Kenya Library and Information Services Consortium and Medical Students' Associations of Kenya (MSAKE), The Network of African Science Academies (NASAC), National Council for Science and Technology, Directorate of Higher Education, Ministry of Education, Science and Technology Kenya; *Consortium for Tanzania Universities and Research Libraries and Ifakara Health Institute (IHI)*, *Sokoine University of Agriculture (SUA)*, *University of Dar es Salaam (UDSM)*, *Muhimbili University of Health and Allied Sciences (MUHAS)*, *Ministry of Health and Social Welfare (MoHSW)* and *Tanzania Commission for Science and Technologies (COSTECH)*; and Consortium of Uganda University Libraries (CUUL) and Inter-University Council for East Africa (IUCEA), National Council for Higher Education, National Information Technology Authority Uganda (NITA-U), Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Research and Education Network of Uganda (RENU) and Uganda National Council for Science and Technology (UNCST)

Target Countries: Uganda, Kenya, Tanzania

Funding: 500,000 SEK from SPIDER, June 2013 - May 2014

More information available at <http://spidercenter.org/projects/project-overview/open-access-knowledge-sharing-and-sustainable-scholarly-communication-in-kenya-tanzania-and-uganda-1.149779>

16.2.4 Germany

ict@innovation⁴⁴ was focused on building capacities in African Small and Medium sized ICT enterprises in relation to using Free and Open Source Software (FOSS) by spreading FOSS business models for enterprises in Africa, fostering FOSS certification and supporting innovative local FOSS applications for social and economic development.

Target Countries: Eastern and Southern Africa (Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia)

⁴⁴ <http://www.ict-innovation.fossfa.net/>

Main partners: Partnership of FOSSFA (Free Software and Open Source Foundation for Africa) and InWEnt - Capacity Building International on behalf on behalf of German Federal Ministry of Economic Cooperation (BMZ), the Open Society Initiative for Southern Africa (OSISA).

Funding: 1.6m euro from German Federal Ministry of Economic Cooperation (BMZ), 2008 – 2010 first phase

16.2.5 Ireland

The Irish Government through Irish Aid is replicating the BT Young Scientists and Technology Exhibitions in Tanzania. Young Scientists Tanzania⁴⁵ was launched by Hon. Prof. Makame Mbarawa, Minister of Communication, Science and Technology during the National Science Week in November 2011. A delegation from Tanzania visited the BT Young Scientist Exhibition in Dublin in January 2012 to experience the event first hand. The first Exhibition took place in Dar es Salaam in October 2012. The second Exhibition took place in Dar es Salaam in September 2013 and third Exhibition in August 2014.

This initiative is providing practical support to improving the teaching of science by secondary schools to identify and prepare projects to inclusion in the competition process. Winning teams have the opportunity to travel to Dublin, Ireland with their teacher to visit the BT Young Scientist and Technology Exhibition the following January, thus increasing the knowledge exchange between Ireland and Tanzania.

Main partners: Ministry of Education and Vocational Training, COSTECH

Funding: Irish Aid and Pearsons

16.3 Other Funding Mechanisms

16.3.1 Framework Programme 7

The Tanzania Commission for Science and Technology (COSTECH) is a beneficiary of the IST-Africa Initiative since 2005.

Participation in IST-Africa facilitated COSTECH to host IST-Africa FP7 Training Workshops in Dar es Salaam to raise awareness of FP7 and undertake a consultation with the research community to map expertise. As part of its ongoing IST-Africa activities COSTECH circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of research capacity. COSTECH is raising awareness of the potential of Living Labs in Tanzania. COSTECH hosted an IST-Africa Horizon 2020 Workshop in Dar es Salaam in January 2014.

⁴⁵ <http://www.youngscientists.co.tz/>

Up to November 2013 Tanzania has successfully secured participation in **39** FP7 projects with research funding in the region of **€12 million** in ICT (5 projects), Environment (4 projects), Health (19 projects), Infrastructure (1 project), Food, Agriculture and Biotechnology KBBE (5 projects), SME (1 project), Space (1 project), Social Sciences (2 projects), Transport (1 project).

16.3.2 Africa4All Parliamentary Initiative⁴⁶

Through the IST-Africa Initiative, the Parliament of Tanzania was included in the Africa4All Parliamentary Initiative, which was funded under the @CP-ICT Call.

Target Countries: Eastern and Southern Africa with pilots in Kenya, Tanzania, Uganda, Lesotho, Namibia

Main partner: Gov2u

Partner in Kenya: National Assembly of Tanzania

Funding: 410k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

16.3.3 World Bank

Science Technology and Higher Education Program (STHEP) is a World Bank funded project to the Government of Tanzania, implemented through the Ministry of Education and Vocational Training (MoEVT) program with support from the Ministry of Communication Science and Technology (MCST). This was initially a seven-year program, which was approved in 2008 and divided into two phases of activities. APL1 activities were to be implemented within the first two years and APL2 activities were to be accomplished within the last five years of the program. The long-term purpose of STHEP is to improve development of human capital in area of Science and Technology (S&T) and create a knowledge-based economy within the next ten years. 128 Higher Education and Research Institutions (HERIs) are under STHEP program.

STHEP has four program components: Component 1A – Investments in Priority Discipline for Economic Growth; Component 1B – Expanded capacity for Teachers preparation and for graduate's studies in education; Component 2A – Strengthening Key Higher Education Agencies and Institutions; Component 2B – Investments in ICT based Higher Education Systems. STHEP Component 2B is focusing on four (4) major areas being; National Research and Education Network (NREN), Education Management Information system (EMIS), E-Library, and E-Learning. Shared mechanisms to support the implementation of Component 2B of STHEP have being established between all 128 HERIs under this program.

TERNET⁴⁷ was established in 2008 (component 2B) as the National Research and Education Network (NREN) to: better manage the increasing numbers of students as the education sector expands; improve the quality of data used in decision making and resource management; enhance

⁴⁶ <http://www.africa4all-project.eu/>

⁴⁷ www.ternet.or.tz

knowledge sharing; improve transparency; improve classroom student-teacher participation; and improve research capability. By December 2014 18 Institutions will be connected to the NoC hosted at COSTECH.

The final findings of the feasibility study for the development of E-libraries and EMIS was presented on 18th December 2012. The piloting of the e-learning system commenced in February 2013 with five Universities. The piloting for E-libraries and EMIS will be undertaken with eight institutions from February 2013.

In June 2014, the Program was extended for a further 18 month period with an additional loan of \$15 million to finish existing activities (\$6.37 million) and commence new activities to pilot reforms introduced by STHEP-1 related to secondary school science teachers and support the tertiary education system to be more responsive to the labour market demand.

Funding agency: World Bank, IDA credit, \$100 million + further \$15 million

17. TUNISIA

17.1 Introduction

Tunisia is located in North Africa, in the eastern part of the Maghreb; bordered to the north and east by the Mediterranean Sea, to the south by Libya and to the West by Algeria; a crossroads between Europe on the one hand and the Middle East and Africa on the other hand. The name Tunisia is derived from its historic and economic capital, Tunis, located in the northeast and known as Carthage City. Tunisia has a surface area of almost 164,000 square kilometres (64,000 sq mi), made up of 34 governorates (administrative divisions). The population as at July 2014 was estimated at 10.9 million inhabitants with a literacy rate of 79% (CIA World Factbook). 69 percent of the total population is between 15 and 64 years of age. Tunis, the capital city, has a population of 790,000 (2011, CIA World Factbook). The official language is Arabic, and French and English are also fluently spoken.

Tunisia has a strategic location and is diversity in climate and natural environment. Education is considered to be of high priority with expenditure of almost 7% of GDP. Basic education for 6 to 16 years olds is compulsory. The development of the ICT sector is also considered to be a priority in terms of infrastructure and highly qualified personnel.

Tunisia considers the development of ICT to be a priority in terms of economic and social activities, health, e-learning, renewable energy and control of the natural environment. There is a good policy Framework in place and good eInfrastructure with links to three submarine cables, a National backbone based on fibre optic cables and a National IXP. ICT Initiatives are focused on eGovernment Services, eInfrastructure for Education and Research, eInfrastructure for Innovation (such as Technology and Cyber Parks) and support measure for software companies and start-ups. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled "Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries", November 2014.

In terms of Communications, there are three main phone companies (Tunisiana, Tunisie Telecom and Orange) and one main Internet wholesaler (Agence Tunisienne de l'Internet). Since January 2013, the three phone companies had direct access to the international Internet backbone. Based on statistics published by the Ministry of Higher Education and Scientific Research and Information



and Communication Technologies⁴⁸, the levels of mobile subscriptions continue to increase gradually from 13 million in 2013 to almost 14 million in 2014. During 2014, the number of Internet subscribers increased to 1.57 million.

Tunisia has a strong research base with 13 public Universities including a virtual university, 15 public Higher Education Institutions and more than 44 private Higher Education Institutions.

17.2 Bilateral Cooperation

There are 18 European Embassies (Austria, Belgium Bulgaria, Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, Malta, Netherlands, Poland, Portugal, Romania, Spain, Sweden and United Kingdom) in Tunisia.

Tunisia has enjoyed strong bilateral relations with a number of European countries. France, Germany and Italy are particularly active in supporting ICT and Innovation related activities and research programs. Portugal, Switzerland, Spain, Belgium, Greece and South Africa support bilateral research projects.

The European Commission is a significant multilateral donor through the European Neighbourhood and Partnership Instrument (ENPI). Under ENPI (2007-2010) €300 million was allocated, with the focal areas including Economic Governance, Competitiveness and Convergence with the EU, Improved Graduate Employability, Sustainable Development and ENPI (2011 - 2013), €240 million allocated with focal areas including Employment and Social Protection, Integration, competitiveness of companies, justice sector. The next phase of ENPI is under preparation.

17.2.1 France

17.2.1.1 *The Partnership Hubert Curien (PHC) Utique⁴⁹*

The Hubert Curien Partnerships (PHC) are part of the French Ministry of Foreign Affairs' policy of support international scientific and technologic exchanges. They are implemented with the support of the French Ministry of National Education and Ministry of Higher Education and Research. It has supported Franco-Tunisian interuniversity scientific cooperation for the past 22 years.

This bilateral program is implemented by the Ministry of Higher Education and Scientific Research (MHESR) Tunisia and the Ministry of Foreign and European Affairs and Higher Education and Research, France. Managed by the Department of Cooperation and Cultural Action of Tunis, the PHC Utique mobilizes a mobility operator (EGIDE) and the Center for Research and Higher Education Lyon is in charge of the logistics of research projects since 2005. Coordination, monitoring and evaluation of the program and defining its scientific and strategic directions are provided by the Joint Committee of University Cooperation (CMCU), which consists of fifteen Tunisian experts and fifteen French experts.

⁴⁸ <http://www.mincom.tn>

⁴⁹ <http://www.campusfrance.org/fr/utique>

The objective of PHC Utica is to develop scientific exchanges of excellence between research laboratories in France and Tunisia, fostering new collaborations and promoting doctoral studies through international cooperation. Covering all disciplines developed in academic research, it is open to private and industrial partners.

Implemented through an annual call for tenders, the program currently funds 113 projects (3 years of research) and involves approximately 300 laboratories between France and Tunisia, with the aim to: train and undertake research; participate in joint research on topics of shared priorities; contribute to the structuring of national research systems and to recognise the emergence of centres of scientific excellence.

Main Partners: Ministry of Higher Education and Scientific Research (MHESR, Tunisia), Ministry of Foreign and European Affairs and Higher Education and Research managed by the Department of Cooperation and Cultural Action of Tunis - EGIDE (France).

17.2.2 Germany

17.2.2.1 *Promotion of Renewable Energies and Energy Efficiency in Tunisia*⁵⁰

This bilateral project supports the Tunisian Government in aligning its energy policy with its sustainable development strategy. It also provides advice on how to create an enabling environment that promotes renewable energies and energy efficiency. A key area is its support for implementation of Tunisia's Solar Plan (Plan Solaire Tunisien), which was approved in 2009. The project works with Tunisia's Ministry of Industry, Energy Agency and other government, private sector and civil society actors.

The project promotes investment in renewable energies and energy efficiency by providing information and technical advice and by supporting relevant projects. Advice is offered to providers of energy technologies and services on how to improve their products and services. Information is disseminated to Tunisian energy consumers on how to use renewable energies, save energy and access funding instruments in these fields. Training is provided to consulting engineers, private companies, architects and public sector employees in the field of renewable energies and energy efficiency. Through development partnerships with the private sector, the project supports European and Tunisian companies in their endeavours to transfer sustainable energy technologies.

Funded by: German Federal Ministry for Economic Cooperation and Development (BMZ)

Lead Executing Agency: Agence Nationale pour la Maîtrise de l'Energie (ANME), an agency of the Ministère de l'Industrie

Project Duration: 2003 to 2013

⁵⁰ <http://www.giz.de/Themen/en/dokumente/giz2012-en-erneuerbare-energien-tunesien.pdf>

17.3 Other Funding Mechanisms

17.3.1 Framework Programme 7

Ministere de l'Enseignement Superieur, de la Recherche Scientifique et TIC, Tunisia is a beneficiary under IST-Africa since 2011. As part of its ongoing IST-Africa activities MESRS circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects, promotes the research centres during international meetings and has undertaken an initial mapping of skills related to Horizon 2020.

Up to November 2013 Tunisia had successfully secured participation in **87** projects with research funding in the region of **€13.4 million** under FP7. This is broken down thematically into: ICT (5 projects); Energy (2 project); Environment (13 projects), Health (10 projects); INCO (17 projects); Infrastructures (1 project), Food, Agriculture and Biotechnology KBBE (19 projects); NMP (3 projects); PEOPLE (2 projects); REGPOT (6 projects); Security (1), Science in Society (2 project); SME (1 project); Space (1 project); SSH (2 projects); Transport (2 projects). Up to September 2013, Tunisian organisations had secured **€13.4 million** in funding under FP7.

18. REPUBLIC OF UGANDA

18.1 Introduction

The Republic of Uganda is located in East Africa, bordered by Democratic Republic of the Congo, Kenya, Rwanda, Sudan and Tanzania. Uganda has an area of 241,038 km² and 112 administrative districts. The population as at July 2014 was estimated at 35.9 million inhabitants with a literacy rate of 73.2% (CIA World Factbook). Forty nine percent of the population is between 15 and 64 years of age. Kampala, the capital city, has a population of 1.659 million (2011, CIA World Factbook). English is the official language.

Uganda is a fertile country with regular rainfall and mineral deposits of copper, cobalt and gold. Oil has recently been discovered. Agriculture is the most important sector of the economy, employing over 80% of the work force, followed by services and industry.



There is an Innovation friendly Policy Framework which has actively supported growth in the ICT sector including Science Technology and Innovation Policy (2009), ICT Policy 2003 (under review), Rural Communications Development Policy and eGovernment Strategy (2011). eInfrastructure is rapidly improving with a national backbone of over 5,000 km of fibre optic cable, National Data Transmission Backbone Infrastructure (NBI) and Electronic Government Infrastructure (EGI) being finalised and links to three submarine cables. ICT Initiatives are primarily focused on eInfrastructure, eGovernment, Technology-enhanced Learning, eHealth, eCommerce and ICT for Rural Development and Entrepreneurship. More information in relation to these activities are outlined in a complementary IST-Africa Study entitled “Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries”, November 2014.

In relation to Communications, according to Uganda Communications Commission there were 19.5 million subscribers (fixed and mobile) and a teledensity of 53.3% as at June 2014. There were 4.19 million mobile internet subscribers, 106,900 fixed internet subscribers and an estimate of 8.5 million internet users as at June 2014.

Uganda has a strong research base and good experience in collaborative research with 6 Public Universities, 29 Private Universities, 40 public Tertiary Institutions and 51 private Tertiary Institutions.

18.2 Bilateral Cooperation

The EU has provided long term development support to Uganda through the Contonou Partnership agreement and through European Development Funds, which supported programmes focused on

improving road networks, increasing agriculture productivity, and promoting democracy and good governance by working for peace and stability in the country and surrounding region. Under EDF10 (2008-2013) €461 million was allocated, with the focal areas including Infrastructure, Rural Development, Macroeconomic Support. Under EDF11 (2014 - 2020) Uganda is allocated €578 million with focal areas including Transport Infrastructures, Food Security and Agriculture, Good Governance.

Uganda has bilateral cooperation agreements in place with Belgium, Denmark, Germany, France, Iceland, Ireland, Italy, Austria, Netherlands, Norway, Sweden, UK, Rwanda, Burundi, India, China and South Korea.

Belgium has historically focused on supporting interventions in the areas of decentralization, health, environment, education, private sector development and good governance. France has focused on water and sanitation, rural development and civil society with projects managed by AFD. Italy has focused on health, water, education, training and agriculture. Denmark is supporting ICT initiatives through the encouragement of partnerships between Ugandan and Danish companies interesting in outsourcing activities.

Bilateral Support for ICT / Innovation-related activities and supporting Infrastructure and Capacity building in Higher Education Institutions is primarily provided by Germany, Ireland, Netherlands, United Kingdom, Norway, Sweden and IICD.

18.2.1 Germany

Germany has supported infrastructure for ICT Initiatives as part of its focus on Education and Capacity Building.

Germany is Uganda's principal EU trading partner (€200 million in trade in 2011), ahead of the Netherlands and Belgium. Bilateral trade with Uganda shows a €20 million surplus in Germany's favour. Uganda's main exports to Germany are coffee, fish, small quantities of other agricultural produce, cobalt and simple technical products. Uganda's main imports from Germany are machinery and chemical products.

Development and humanitarian cooperation

Since its resumption in 1986, bilateral government development cooperation has totalled over €640 million. At the Ugandan-German intergovernmental negotiations in May 2010, a new commitment of €120 million was agreed for a three-year period (€100 million for financial cooperation and €20 million for technical cooperation), an increase of 58 per cent compared with the previous commitment period.

Ugandan-German development cooperation is aligned with Uganda's Poverty Eradication Action Plan (PEAP) and focuses on the priority sectors: water supply and sanitation, financial system development and the promotion of renewable energy and energy efficiency. Germany supports the implementation of Uganda's National Development Plan by providing budget aid.

The German Federal Government's main objective is to provide expert advice and conducting peacekeeping operations in the north of Uganda and to provide development-oriented emergency and refugee relief in Uganda's Karamoja district.

Government development cooperation is implemented by the KfW Development Bank (Financial Cooperation), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the Centrum für Internationale Migration und Entwicklung (CIM).

18.2.1.1 PCs for Vocational Training Centres

Target Country: Uganda

Main partner: KfW on behalf of German Federal Ministry of Economic Cooperation (BMZ)

Funding: 2M€ for ICT Component

18.2.1.2 *ict@innovation Open Source Regional Project*

ict@innovation⁵¹ is focused on building capacities in African Small and Medium sized ICT enterprises in relation to using Free and Open Source Software (FOSS) by spreading FOSS business models for enterprises in Africa, fostering FOSS certification and supporting innovative local FOSS applications for social and economic development.

Target Countries: Eastern and Southern Africa (Kenya, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Ethiopia, Namibia, Zambia)

Main partners: Partnership of FOSSFA (Free Software and Open Source Foundation for Africa) and InWEnt - Capacity Building International on behalf on behalf of German Federal Ministry of Economic Cooperation (BMZ), the Open Society Initiative for Southern Africa (OSISA).

Funding: 1.6m euro from German Federal Ministry of Economic Cooperation (BMZ), 2008 – 2010 first phase

18.2.2 Ireland

Ireland has focused on education, health, governance, agriculture and HIV/AIDs.

18.2.2.1 *Irish-African Partnership for Research Capacity Building*

The Irish-African Partnership for Research Capacity Building (2008-2011) brought together all nine Irish Universities and four Universities in Uganda, Tanzania, Mozambique and Malawi to develop a coordinated approach to Research Capacity Building in higher education institutions. The IAPRCB aimed:

1. To build the capacity for development research in Irish and Northern Irish universities
2. To build the capacity for research in the four African universities in health and education, and the cross-cutting themes of ICT and gender.

⁵¹ <http://www.ict-innovation.fossfa.net/>

The Partnership was funded as a pilot project under the Programme of Strategic Cooperation between Irish Aid and Higher Education and Research Institutes (2007-2011). It was organised under the umbrella of Universities Ireland, which also provides some matching funding.

The administrative leader of the Partnership is the Centre for Cross Border Studies, with offices in Armagh and at Dublin City University.

Target Countries: Uganda, Tanzania, Mozambique and Malawi

Partners: Participating higher education institutions: University of Dublin/Trinity College, Queen's University Belfast, Dublin City University, University of Limerick/Mary Immaculate College, University College Dublin, University of Ulster, National University of Ireland Galway, National University of Ireland Maynooth, University College Cork, Makerere University (Uganda), University of Dar-es-Salaam, Universidade Eduardo Mondlane (Mozambique), University of Malawi, Centre for Cross Border Studies

Funding: Pilot project, Irish Aid with matching funding from Irish Universities

18.2.3 Netherlands

Netherlands has focused on education, decentralization and governance.

18.2.3.1 NPT Project on 'Strengthening ICT Training and Research Capacity in the Four Public Universities in Uganda'

The initial Nuffic project completed in 2008 and focused on addressing Information and Communication Technology (ICT) capacity building in the four Public Universities in Uganda. The target group was the staff and students in the Ugandan institutions and mid-career ICT professionals. The project provided expertise from the Netherlands to support curriculum development and implementation, development of research capacity and to advise in the establishment of a Centre of Excellence for ICT Training and Research. 38 members of staff from the four universities were trained and a few are in the final stages of their studies in the Netherlands and in Uganda. This grant provided funding of €3.4 million euro.

A follow on project proposal was approved, which is focused on strengthening the Capacity of Makerere University Faculty of Computing and IT, the Institute of Computer Science at Mbarara University of Science and Technology, the Departments of Computer Science at Kyambogo and Gulu Universities to develop, implement and manage relevant educational and research programmes for poverty alleviation, rural and economic development.

The target group was University staff and students in the above institutions and ICT Policy makers.

Main partners: The lead institution in Uganda was Makerere University with Mbarara University of Science and Technology, Gulu University and Kyambogo University as partners; and the lead institution in the Netherlands was the University of Groningen with Radboud University Nijmegen (RUN) and Eindhoven University of Technology (TUE) as the consortium partners.

Funding and Duration: The project was implemented over four years, commencing in 2008 with a maximum Nuffic grant of 5.7 million euro. The southern partners were to contribute to the project in form of financial and material inputs such as complementary funding and equipment, physical infrastructure and human resources. Thus it is expected that at completion, the total cost of the project would be €6.2 million.

More information is available at <http://cit.mak.ac.ug/projects.php>

18.2.3.2 NPT Project on 'Strengthening the Institutional Capacity of Uganda's Technical Colleges

As a result of the initial Nuffic project with the four universities, a project was subsequently awarded by Nuffic to the four technical colleges in Uganda: Uganda Technical College (UTC) Bushenyi; UTC Elgon; UTC Kichwamba and UTC Lira to building institutional capacity.

Main partners: The Lead institution in the Netherlands was Hanze University Groningen. Co-partners in Uganda were Makerere University and Kyambogo University.

Funding and Duration: This project ran from 2006 – 2009 with a Nuffic grant of €1.99 million.

18.2.4 United Kingdom

The UK has focused on governance, health, education and water and sanitation.

18.2.4.1 Mobile Innovation and Enterprise

The *Mobile Innovation and Enterprise project* aimed to respond to the fast growing mobile market in the country in particular and in the region in general. It aimed to blend teaching on mobile computing and innovation with experiences of entrepreneurship and user-centered design hoping to develop a cohort of young minds who have the skills to lead Ugandan innovation in mobile sector. Specific key expected outputs of the project included:

1. A cohort of students with skills in mobile computing, user-centered design, entrepreneurship and innovation.
2. A structure for continuing the training to develop more students in future years.
3. A group of staff at Makerere who can lead skills development in mobile computing, user-centered design, entrepreneurship and innovation.
4. A new set of relationships between Makerere and local and international businesses, non-governmental organizations and community organizations.
5. A business plan to develop a mobile business incubation centre at Makerere where graduates will work with local and international businesses to develop innovative mobile phone business concepts and spin outs.

Main Partners: Faculty of Computing and IT at Makerere University and the Faculty of Arts, Computing, Engineering & Sciences at Sheffield Hallam University, UK. Private sector partners include Orange Labs and DMark Mobile, Ugandan premier telecom value added service provider

Funding: Grant from British Council's competitive Educational Partnership in Africa Programme

18.2.5 Norway

Norway through the Norwegian Agency for Development Cooperation (Norad) has provided significant support to the ICT Department in Makerere University providing a new ICT building and the provision of administrative software systems for Finance, Academic Records and Human Resources.

18.2.5.1 Makerere University Institutional Development Program

Norwegian Support to Makerere University dates back to the 1960s (with Department of Botany in the Faculty of Science and Department of Forestry then under the Faculty of Agriculture and Forestry). After a 15-year period (1970-1985) of political instability, support was renewed in mid 1990s to the then Department of Forestry under the Faculty Agriculture. This support resulted into the development of a fully-fledged Faculty of Forestry and Nature Conservation at Makerere. The support helped to resource the new Faculty in terms of building, equipment and human resource development.

In 2000, this support expanded in scope to cover the entire University's Institutional Development Programme for an initial 5 year period. The support agreement was signed on 28 June 2000 with a total grant of 110m NOK. A new bilateral frame agreement between the Government of Uganda and Government of the Royal Kingdom of Norway for continued support was signed on 27th October, 2005 for four years (2005/06 – 2008/09) worth 60m NOK (approx.US\$9m). Priority areas for continued Norwegian support were discussed and agreed upon between Makerere University and the Norwegian Embassy in Uganda. These priorities were in line with the University's strategic plan 2000/01-2006/07 and the Government over-arching policy of Poverty Eradication Action Plan (PEAP).

Norwegian support over this period was initially channeled through the Norwegian Agency for International Development (NORAD). The support has introduced important interventions aimed at relating higher education to the needs of society by supporting the development of human resources in various fields and increasing the practical orientation of the graduates. Through synergies with other partners, the support has enhanced the University's delivery capacity and also facilitated innovations and quick response to the changing needs of society.

The support has greatly helped in expanding physical infrastructure which in turn has facilitated the university to cope with increased demand for higher education; development of the human resource in various fields; contribution to ICT-enabled operations in administration and Library service delivery; enhanced capacity for gender mainstreaming; refurbishment of laboratories with specialized scientific equipment; strengthened research and research coordination: publication, outreach activities, institutional collaboration, partnerships and networking.

The main objectives in relation to the different Program components included:

A: Good governance and Gender Mainstreaming - To promote research, design curriculum and engage institutions for good governance with gender equality starting with Makerere University itself.

B: Food, Nutrition and Value Addition - To promote scientific research, design curriculum and engage both public and private sector to enhance food production, nutrition and value addition.

C: Strengthening University Management - To improve efficiency and effectiveness through strengthening the planning, development and human resource management functions at Makerere University.

D: Development of infrastructure and ICT - To expand space, ICT infrastructure to support the University's teaching, research and outreach function in critical areas for national development

More information is available at

<http://www.norway.go.ug/Embassy/Development/makerereuninstiutionaldevprog/>

18.2.6 Sweden

The strategy for development cooperation with Uganda from 2009-2013 was focused on helping to implement Uganda's poverty strategy through The National Development Plan (NDP) for 2010-2014. The country frame is 260 MSEK per year.

The bilateral research cooperation with Uganda was initiated in 2000 and its main objective is to enhance research and research training capacity of public higher education institutions. This to conduct and sustain strategic and quality research, which can contribute to national development needs, through building a critical mass of independent thinking researchers. The purpose is to build capacity at Makerere University, the largest public university in Uganda by supporting Masters, PhD Programmes and postdoctoral training in relevant fields (e.g. basic science, technology, agriculture, health, veterinary medicine, social sciences and humanities) and to strengthen the institutional capacity for research management. The 2010-2014 support focuses on collaborative research and PhD research training at Makerere University as well as building an enabling environment for research which includes improvement of research management capacity, administrative and financial systems, library services, research funds, ICT, demographic surveillance site, laboratory infrastructure, and gender mainstreaming. In addition, support will target administrative reforms, quality assurance of postgraduate training, research communication and dissemination, the Innovation Systems and Cluster Program in Uganda, and PhD and Masters training at Makerere University for staff from four other public universities in Uganda. The programs are implemented in collaboration with Swedish universities and research training will be conducted both in Sweden and in Uganda.

Sweden is supporting ICT initiatives through projects supported by SIDA and the SPIDER Programme.

SIDA is supporting Makerere University to incorporate ICT in all its functions; to provide Internet connectivity to research groups supported by SIDA long-term research co-operation; to build technical and managerial capacity in information technology at all levels; and to integrate ICT in the main library operations.

To a large extent the goals of this project have been met, and in cases where they are not yet completed, plans have been adjusted to address the needs in the next project phases.

DICTS: The Directorate for ICT Support has been created and is functioning relatively well. The unit has been quite well accepted on campus, and their leadership role is appreciated. As is typical with this type of operation, they are somewhat short staffed (a combination of requiring specialized skills and lack of sufficient budget).

Makerere-net: The campus network was designed, installed and is functioning as per expectations. The actual connection to the Internet is funded by the University and not SIDA. The connection speed has increased in recent years as the per-unit cost of this bandwidth has dropped but is still not considered adequate by users.

Research Local Area Networks: These networks were all installed and are operational, much to the delight of their users.

E-mail and web infrastructure: The core web services applications (e-mail, web servers, network infrastructure) are in place and operational. Most staff members and many students have access to Makerere e-mail addresses, although there is still heavy use of non-Makerere addresses (such as Yahoo). The Makerere web site is active, but still needs additional coverage, particularly at the faculty and department level.

End User Training: The original plan was to provide basic computer training for all academic staff, administrative staff and students within one year, and that the majority of the training would be computer-based (no instructor). This plan was overly ambitious and the target was not met. The training program was re-aligned to include classroom instruction. To date, about half of the staff have been trained. As of the 2004/5 academic year, all entering students must complete a basic ICT training course. Staff training is continuing, and is expected to take several more years to complete.

Library Automation: A library management system was selected, installed and is now online. The conversion of the card catalogue has taken longer than expected, and that project is ongoing. The other functionality of the system, including all of the internal library functions, is slowly being implemented.

Access to Electronic Journals: Prior to this project, only paper journals were available. Due to the price and delivery problems, their use was limited. The e-journal project has made nearly 8,000

journals in a wide range of disciplines available, and this has virtually revolutionized Makerere's ability to produce world-class research.

Doctoral Training: This aspect of the project was subject to many delays and has only recently gotten underway in a substantive way. The delays were largely due to the inability of Makerere to release staff from their regular duties. The ability to release staff is still an ongoing problem. For a number of reasons, it appears that these doctoral programs will not result in increased research capacity, but rather on sustaining and improving the level of ICT-based services at Makerere.

The Swedish development cooperation with Uganda focuses on:

- Democratic governance, including peace and security
- The health sector
- Private sector development, including international trade and financial systems
- Research cooperation

Two former sectors are already phased out: the energy sector and the water and sanitation sector. The reason for this is that Sweden shall have fewer cooperation sectors in accordance with policies regarding aid effectiveness and division of labour among donors.

Support to Bilateral Research Cooperation (current status)

The Makerere-Government of Sweden Bilateral Research Program

Makerere Research Capacity Building Programme supported by Government of Sweden started in 2000 with a preparatory period and was followed by two phases of support, 2001-2005, 2005-2009 and now Phase III 2010 to 2014. A number of units in the University were supported. These included; the former Faculties of Agriculture, Technology, Medicine, Social Sciences, School of Public Health, Department of Mass Communication; School of Graduate studies (SGS)/Directorate of Research and Graduate training, Gender Mainstreaming, Directorate of Information and Communication Technology and the Library.

The Makerere University Government of Sweden Bilateral Research Program (Phase III) has a total allocation of 181million SEK, (USD 25 million) for four years January 2010-June 2014. Phase III complements the remarkable achievements made creating an environment conducive to high quality relevant research through investment in human resource development, ICT, library resources, laboratory and field site infrastructure. Some of the notable achievements to date include:

- a) Established functional field research sites. The Demographic Surveillance Site (DSS) in Iganga/Mayuge is now fully operational. Data collection continues in an area of over 50,000 people involving 16,000 households. The site continues to attract other research projects.
- b) Biomedical Laboratory –Department of Pharmacology in CHS. The laboratory now fully functional and can be accessed by students and researchers
- c) State of the art GIS unit set up in the CEDAT (formerly Faculty of Technology) - Laboratory now fully functional and can be accessed by interested units

- d) In the area of ICT, the optical fibre network covers the main campus, Medicine, MUARIK, MUBS. Computers and LANS set up in supported faculties including student kiosks with 165 computers setup in various units. All (100%) of the university units have web presence compared to 5% in 2000. There are more than 20,000 e-mail users registered on the local mail system compared to 50 in 2000. A functional Online Public Access Catalogue (OPAC) with more than 14,000 journals on line giving access to the most recent literature. The library staff in region e.g. University of Juba trained and supported library automation
- e) Increased visibility, acceptability and upward movement of women into leadership positions. Makerere University now recognized as a pace setter in gender mainstreaming in Universities in sub Saharan Africa
- f) 196 Ph.D. students, 40 Masters Students under Government of Sweden support. More publications have contributed to improved university rankings. The number of linkages/collaborations is on the rise e.g. Uganda Virus Research Institute (UVRI), Irish-African Research Capacity Building Program (IARCBP), and University of Copenhagen (UC-LIFE) among others.
- g) Reduced brain drain - Researchers staying and doing work in Uganda
- h) Created centres of Excellence in Makerere University including Health in the area of Malaria, TB, HIV, Mental health, Reproductive health; Technology and engineering in the areas of research in energy and energy conservation (CREEC), Innovative systems and Clusters; Agriculture - Centre for Crop Waste Management; ICT regional centre and Library e-resources.

18.2.6.1 Converging ICT4D tools to Promote Public Accountability for Improved Service Delivery & Democratic Engagement

This project is focused on promoting public accountability for improved service delivery in the Rwenzori region, in western Uganda. It will use local FM radio broadcasting stations as “hubs” for the convergence of information and knowledge provided by internet and mobile technology tools. The broadcast media practitioners and staff from 10 FM radio stations in the Rwenzori region will be trained on how to design programs and broadcast relevant content and information that empowers local citizens to democratically engage their leaders for development planning and budgeting as well as how to use online social media tools to undertake research, document and disseminate information. The project also aims to train 500 rural women and youth leaders who will be organised into 14 Advocacy Forums.

Main Partners: Toro Development Network, FrontLineSMS-UK

Funding: 485,000 SEK from SPIDER, July 2012 - June 2014

More information available at <http://spidercenter.org/projects/project-overview/converging-ict4d-tools-to-promote-public-accountability-for-improved-service-delivery-1.149784>

18.2.6.2 Makerere MobiClass

Given the size of the student population undertaking undergraduate and post graduate studies, it is a priority for Makerere University to leverage online learning. Makerere University has a Learning Management System (LMS), called MUELE (Makerere University E-Learning Environment) running under Moodle. While this platform is accessible on desktops and laptops, it is not fully accessible on all mobile phones because the system is heavy and has a number of features which require adjustment and reworking to enable it usable on mobile devices. The Makerere MobiClass project intends to make mobile learning a priority for users of the MUELE system by developing suitable plugin, training users, developing appropriate policies, improving instructional designs for learning and formulating better strategies for mobile and e-Learning. The introduction of MobiClass will provide a means of ensuring that the lecturers are able to frequently interact with their students appropriately, timely, anytime and anywhere. It is expected that 100 students and 3 lecturers in 5 courses will pilot test the mobile application of MUELE and participate in the evaluation study.

Main Partners: Makerere University

Funding: 500,000 SEK from SPIDER, June 2013 - May 2014

More information available at <http://spidercenter.org/projects/project-overview/makerere-mobiclass-1.149765>

18.2.6.3 Open access: knowledge sharing and sustainable scholarly communication in Kenya, Tanzania and Uganda

This project aims to raise visibility and accessibility of research outputs in Kenya, Tanzania and Uganda using free and open source software for open repositories and open access journals in higher education and research institutions. It aims to develop a sustainable network of open access champions and reinforce local capacity in the management of open access journals and repositories.

Main Partners: EIFL (Electronic Information for Libraries) in cooperation with Kenya Library and Information Services Consortium and Medical Students' Associations of Kenya (MSAKE), The Network of African Science Academies (NASAC), National Council for Science and Technology, Directorate of Higher Education, Ministry of Education, Science and Technology Kenya; Consortium for Tanzania Universities and Research Libraries and Ifakara Health Institute (IHI), Sokoine University of Agriculture (SUA), University of Dar es Salaam (UDSM), Muhimbili University of Health and Allied Sciences (MUHAS), Ministry of Health and Social Welfare (MoHSW) and Tanzania Commission for Science and Technologies (COSTECH); and *Consortium of Uganda University Libraries (CUUL) and Inter-University Council for East Africa (IUCEA), National Council for Higher Education, National Information Technology Authority Uganda (NITA-U), Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Research and Education Network of Uganda (RENU) and Uganda National Council for Science and Technology (UNCST)*

Target Countries: Uganda, Kenya, Tanzania

Funding: 500,000 SEK from SPIDER, June 2013 - May 2014

More information available at <http://spidercenter.org/projects/project-overview/open-access-knowledge-sharing-and-sustainable-scholarly-communication-in-kenya-tanzania-and-uganda-1.149779>

18.2.6.4 iParticipate Uganda

iParticipate aims at sharing information, making it accessible and reusable by stakeholders such as citizens, civil society and the media, repackaging the information and availing it online and in print, generating evidence on the impact of information access and use on transparency and accountability, engaging lawmakers to embrace open governance, building skills and knowledge for citizens to access and gainfully use open data and public domain information.

Main Partners: Collaboration on International ICT Policy for Eastern & Southern Africa (CIPESA)

Funding: 500,000 SEK from SPIDER, July 2013 - October 2014

More information available at <http://spidercenter.org/projects/project-overview/iparticipate-uganda-1.149745>

18.2.7 Belgium

Uganda is one of 18 Belgian Bilateral partner countries. The MoU for Belgian Bilateral Cooperation in Uganda was signed in 1995 and focused on projects in the areas of transport and telecommunications sectors and institutional capacity building of local governments. The first General Convention was signed by the two Governments on the 1st February of 2005. A first 'Indicative Development Cooperation Program' (IDCP 2005-2008), was followed by a second IDCP (2008-2012) which was signed on 5th of November 2008. A third IDCP (2012-2016) was signed by H.E. M. Kiwanuka, Minister of Finance and Mr. P. Moors, Director DGD on the 5th of April 2012.

The new cooperation program contributes to the realization of the PEAP (Poverty Eradication Action Plan, 2004-09), the NDP (National Development Plan, 2010-15) and targets of the MDGs (Millennium Development Goals) in Uganda.

Projects and programs are implemented by the Belgian Technical Cooperation (BTC) and focus on technical & professional education and on primary health care. The total budget (2009-2016) is €138 million (64 + 64 + 10) with a significant amount provided through budget support (€20 + 12 million in health sector and €12 + 14 million in education sector). Several projects implemented through budget support include: (1) Institutional Capacity Building in the Health Sector – in execution – €6.5 million (with delegated cooperation of Sida/Sweden) and (2) teacher training in the educational sector - €17.5 million, €8 million in BTVET-subsector and €8 million in PNFP-health – subsector. Other areas being supported include the agro-industrial sector, annual scholarship programmes (€1 million grant per year) and a micro projects program (€125,000 per year).

18.2.8 Rwanda

As a follow up to the visit by H.E the President of the Republic of Uganda to Rwanda in July 2011, a Memorandum of Understanding (MoU) was signed on July 29th 2011, under the umbrella of the 7th session of Joint Permanent Commission on cooperation between the two countries with regard to the Information and Communications Technology (ICT) sector.

Subsequently, a delegation from the Republic of Rwanda led by Hon. Ignace Gatere, the Minister in the President's Office in Charge of Information and Communications Technology made a visit to Uganda on 16 - 17 November 2011, at the invitation of Hon. Ruhakana Rugunda, the Minister of ICT. The objective of the visit was to discuss and share experiences with regard to areas of cooperation as elaborated in the MoU on ICT sector, and lay the ground for implementation.

During the discussion, Telecommunications, Information Technology, Broadcasting, Postal Services and Human Resources were discussed. The National Information Technology Authority (NITA-U) will be leading of the areas related to fiber connectivity and information technology.

It was agreed that a task force was established to monitor availability of the fibre links between Kampala and Katuna, connectivity between the two National backbones be established by December 2012 and the two countries work together to secure satellite bandwidth. It was agreed to use the alternative route through South Sudan, Ethiopia and Djibouti to have access to other international submarine cables and to put measure in place to ensure that the regional internet traffic between the two countries is routed through the most efficient route using fibre linkage.

The countries also agreed to cooperate and share experience and expertise in the establishment of their respective Computer Emergency Response Teams (CERTs), and will also ensure that the CERTs share information. Other areas of cooperation were the ID project, public ICT access points, capacity building and BPO.

19.2.9 Burundi

State visits by the Presidents of Uganda and Burundi have strengthened bilateral relations A number of cooperation agreements and MOUs have been negotiated and concluded including agriculture, transport, education, health, security, ICT, trade and investment.

18.2.10 India

On 18th April 2013, Hon. Salman Khurshid, the Minister of External Affairs of India and his delegation held official bilateral negotiations with a Ugandan delegation led by Hon. Sam Kutesa, the Minister of Foreign Affairs.

Following the talks Hon. Kutesa indicated that areas of cooperation agreed included the development of the energy sector, ICT, trade and commerce, as well as defence matters. The follow-up mechanism was put in place to fast track the implementation of the decisions reached during the discussions. Hon. Salman Khurshid said that India will continue to support Uganda in

important fields such ICT for e-governance and software development. Some of the areas identified for fast tracking include the strengthening of Uganda-India trade; and setting up an incubation centre for food industries and equipment, including micro and small scale industries at village level.

18.2.11 South Korea

The Government of Uganda through the Ministry of ICT is in the process of establishing collaboration in ICT with the Government of Republic of Korea (ROK) through the National IT Promotion Agency (NIPA) under the Korea Ministry of Knowledge Economy. A delegation from NIPA visited Uganda in June 2012 to begin preparations to provide technical assistance to NITA on the eGovernment Roadmap and Master ICT Plan for Uganda integrating all sectors of the economy.

18.2.12 Iceland

Iceland's development cooperation with Uganda is focused on reducing poverty and improving poor communities where fisheries play a significant role in cooperation with District authorities to assist in achieving the Millennium Development Goals (MDGs).

18.3 Other Funding Mechanisms

18.3.1 Framework Programme 7

The Uganda National Council for Science and Technology (UNCST) is a beneficiary of the IST-Africa Initiative since 2007.

Participation in IST-Africa has facilitated UNCST to host IST-Africa FP7 Training Workshops in Kampala and undertake a consultation with the research community to map expertise. As part of its ongoing IST-Africa activities UNCST circulates updates on open Calls for Proposals as they are available, encourages the research community to explore these opportunities for international research projects and promotes the research centres during international meetings. UNCST is raising awareness of the potential of Living Labs in Uganda. UNCST has established a National Contact Point for ICT, which has also increased visibility of Ugandan research institutions. UNCST has hosted an IST-Africa Workshop focused on Horizon 2020 in Kampala in January 2014 and a follow up workshop specifically focused on ICT-39 in November 2014.

Up to November 2013 Uganda had successfully secured participation in **41** projects with research funding in the region of **€7.7 million** under FP7: ICT (6 projects), INCO (2 projects), Environment (6 projects), Health (16 projects), Infrastructure (1 project), Food, Agriculture and Biotechnology KBBE (6 projects), People (3 projects) and Social Sciences (1 project).

18.3.2 Africa4All Parliamentary Initiative

Target Countries: Eastern and Southern Africa with pilots in Kenya, Tanzania, Uganda, Lesotho, Namibia

Main partner: Gov2u

Partner in Kenya: National Assembly of Uganda

Funding: 410k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

18.3.3 TACIT: Tackling Aids and Tuberculosis through Communication and Information Technologies

Target Countries: Southern and Eastern Africa, pilots in Kenya, Zambia, Uganda and Namibia

Main partner: International HIV/Aids Alliance

Funding: 960k€ from EDF9 (@CP-ICT capacity-building programme) 2009-2011

18.3.4 Carnegie Corporation Support for Institutional Development

The last decade has witnessed remarkable support by the Carnegie Corporation of New York to Makerere University in different phases. Phase I run from 2001 to 2005, Phase II from 2006 – 2008 and Phase III from 2008 to 2011 under the thematic area of Food, Nutrition and Value Addition. Over the last decade, the CCNY has supported Makerere University with over USD 16 million.

Overall cumulative progress and impact was made in Library, ICT development and use, gender and equity, human resource development, science practical training & research.

Main partners: Carnegie Corporation of New York, Makerere University, Uganda

Funding: 16 million USD

18.3.5 Prepare PhD Project

The PREPARE-PhD project was a three-year (2008-2011) multi-country project funded by the European Union under the ACP-EU Cooperation Programme in Higher Education (EDULINK). This project was part of STRAPA Partnership.

The purpose of the project was to create efficient and effective PhD training systems through strengthening local research capacity and regional networking in the participating higher education institutions (HEI). The key outputs of this project include development of harmonized guidelines for PhD training in the region, supervision and mentoring skills that have been strengthened as well as Makerere University PhD students formed an Association, called the PhD Forum: PF@mak in June 2012. The association for the first time has brought together PhD students from all disciplines at Makerere to share knowledge, experiences and networking.

Main partners: Makerere University, Uganda, Sokoine University of Agriculture, Tanzania, University of Nairobi, Kenya, and University of Copenhagen, Denmark.

Funding: ACP-EU Cooperation Programme in Higher Education (EDULINK), 2008 - 2011

18.5.6 IICD

18.5.6.1 Improving Learning Outcomes through ICT

The "Improving Learning Outcomes through ICT" project commenced in December 2011 and it will run until 31 December 2014. It is focused on improving learning outcomes for girls in particular in primary schools in the Apac District of Uganda through access to ICT. It aims to train teachers and school administrators in learner centered teaching and learning methodologies, facilitate access to up to date teaching and learning materials, build capacity of teachers, facilitate networking between schools and provide life skills to pupils for improved self confidence. The target group is 100 primary school pupils and 40 primary school teachers.

Main Partners: Connect4Change, Edukans, IICD (Netherlands) and Education Local Expertise Centre Uganda, FAWEU and I-Network (Uganda).

Funding: Grant of €36,000 from Edukans, Netherlands.

Geographic scope and time frame: Apac District of Uganda, December 2011 - December 2014.

More information available at <http://projects.iicd.org/en/project/355/>

18.5.6.2 ITELE for ICT (Improving Literacy and Numeracy in Primary Education through ICT)

IICD launched the "ITELE for ICT" project in December 2011 and it will run until 31 December 2014. It is focused on improving literacy and numeracy in primary education in the Serere District in Eastern Uganda through the integration of ICT in teaching and learning processes. The project aims to train 20 teachers in 8 targeted primary schools and then 10 teachers per school by 2014 to develop Information Communication based teaching content, lesson planning and scheming and support pupils to design, develop and disseminate IEC materials that address community needs and concerns.

Main Partners: Connect4Change, Edukans, IICD (Netherlands) and Education Local Expertise Centre Uganda, HNU and I-Network (Uganda).

Funding: Grant of €39,568 from Edukans, Netherlands.

Geographic scope and time frame: Serere District in Eastern Uganda, December 2011 - December 2014.

More information available at <http://projects.iicd.org/en/project/354/>

18.5.6.3 Helping teachers use ICT for teaching

IICD launched the "Helping teachers use ICT for teaching" project in December 2010 and it is still active. It is focused on training teachers and sensitising Head Teachers in Western Uganda and West Nile of the importance of using ICT for Education and for school management. It aims to train 400 teachers and senior staff on how to use computers to improve classroom instruction, teaching materials and school administration in 13 schools.

Main Partners: Connect4Change, CharITy, IICD (Netherlands), Close the Gap (Belgium) and Computers for Schools Uganda (CFSU), I-Network (Uganda)

Funding: Funding of €110,820 from CFSU (€18,203), IICD (€35,117), Close the Gap (€47,500) and CharITy (€10,000)

Geographic scope and time frame: Western Uganda and West Nile, December 2010 - ongoing

More information available at <http://projects.iicd.org/en/project/213/>