

# **Building sustainable capacity for research for health in Africa: first stages of the AFRICA BUILD Project**

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In recent years, the support of the European Commission and other European and national institutions, has created many post-graduate programs —Masters and Doctorates— that has led to produce a sustainable research technological infrastructure in the health domain. Meanwhile, few efforts have been dedicated by the EU to promote related infrastructures for neighborhood countries, such as in Africa, where such platforms could have great influence in health care and practice as well as in education. In addition, Africa is a broad and diverse continent with many different situations in their 54 countries, where more than one billion people live. African academic institutions offer numerous undergraduate and graduate degrees, but additional efforts must be dedicated to increase these numbers and the quality of their contents.

Africa is a diverse continent, which can be divided, from a technological and scientific perspective, in various areas. Infrastructures, access to Internet networks, computing facilities vary greatly among different areas and regions, with strong differences —e.g., Mediterranean, sub-Saharan countries, Southern countries, etc. The lack of technological and information resources, the price of technologies —especially broad bandwidth Internet access—, are some of the reasons why many African institutions have not obtained substantial benefit yet from distance learning programs, such as those offered in the first world.

Information and Communication Technologies have a great potential in providing access to resources and to these new methods. However, access to these technologies is a problem in many African regions. Often the computers are donated by NGOs and they are discarded computers in the first world, so the execution of programs with a high level of processing is complicated. African professionals with advanced ICT skills are necessary to manage technological resources and create new ones adapted to local situations. In such context, the use of open source and cloud computing can help improving these situations. The AFRICA BUILD project, based on the use of these and other technologies, aims to create the infrastructure to support research in Africa.

AFRICA BUILD is a European Project, supported by the European Commission, which began in August 2011 and will run for three years. The project involves four European institutions (UPM, UniGe, WHO-RHR and ITM) and four African institutions (ITI-MCIT, FMPOS, FMSB and UG-SPH). The main objective of the project is to improve the health research capacity in Africa through new technologies creating virtual communities of African researchers. To achieve this objective we have proposed other sub-objectives: (i) to analyze the state of the art in health research in Africa and collect the list of training needs in this topic; (ii) to develop the technological infrastructure —The AFRICA BUILD Portal— to facilitate research and learning of African professionals; (iii) to elaborate a comprehensive catalog of online and on-site courses stored in the AFRICA BUILD Portal, improving the education capacities of health-focused

institutions in Africa.; (iv) encouraging mobility of researchers between institutions; (v) to validate the AFRICA BUILD impact in pilot research and education initiatives related to reproductive health and HIV/AIDS research; and (vi) to disseminate the project results at conferences and international journals, media and workshops.

In the first eight months of the project we have obtained different results. For instance, we have analyzed the training needs in the four African institutions. All of them manifest needs related to (i) qualified teachers trained in new areas and computer skills, (ii) appropriated post-graduated programs, (iii) technical infrastructures to support their research activity, and (iv) to expand their areas of research and research skills, especially in Health Informatics. The AFRICA BUILD Portal is a virtual platform based on Web 2.0, Web 3.0 and Cloud Technology. Through this portal African researchers will create virtual communities in different areas for education, training and research. We have begun with the development of this platform with the participation of the four African partners.

In the coming months we will continue with the development of courses and pilots in HIV/AIDS and reproductive medicine. The mobility of teachers has already begun and one of the authors has developed a course on Web 2.0 and mobile technologies at the University of Ghana. We will continue analyzing the current situation in health research in Africa to develop a Roadmap for future European activities in the area. We will also continue the development of the AFRICA BUILD Portal, one of the main outcomes of the project. This portal will be developed with a significant contribution by African technicians and will include a variety of training and research resources. This platform will be a meeting point for health professionals and researchers in Africa, following an approach that emphasizes South-South collaboration. After the end of the project, the main objective will be to create a sustainable infrastructure that will facilitate exchanges between African institutions and can launch a new IT industry in the health area, leading to new opportunities for exchanges between Africa and the EU.