Dear readers,

We are happy to present the first e-newsletter of the AFRICA BUILD Project. In this newsletter you will find information on the latest accomplishments of the project and its future plans. You will discover the first steps and successes of the first year of work of AFRICA BUILD, project funded by the European Commission, whose main objective is to improve capacity for health research and education in Africa, through Information Technologies.

We hope you will enjoy this newsletter. We would be delighted to hear your comments.

With Kind Regards,

Prof. Victor Maojo
AFRICA BUILD Project Coordinator

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AFRICA BUILD is a Coordination Action, funded by the European Commission, aiming to enhance health research and education in Africa through the creation of centers of excellence established around information technologies (IT).

During its first year, several challenges have been faced in AFRICA BUILD aimed at achieving the objectives of the project.

**Objectives**

- Study the state of the art in health research and education in Africa, with special emphasis on the use of Information Technologies. This analysis is intended to lead to a roadmap with actual needs and future actions.
- Develop a virtual platform where African researchers and physicians could access a wide variety of open source computational resources. The project aims to adapt several existing bioinformatics and learning resources to African needs.
- Create an inventory of courses and learning resources accessible through Internet to improve the quality of African Centers of Excellence.
- Promote the mobility of African researchers and their participation in international scientific communities.
- Analyze the impact of the AFRICA BUILD approach in two specific demonstration pilots: HIV/AIDS and reproductive health.
- Disseminate the results of the project through scientific conferences, journals media and workshops.

**Achievements**

- We analyzed the existing literature in Health Informatics in Africa (over 250 publications). We have also analyzed the training needs in Health Research in African institutions, facing several challenges such as creating online surveys in developing countries.
- Several tools have been adapted to a virtual platform (AFRICA BUILD Portal) designed to be a benchmark for African researchers. The biggest challenges are being: (i) the integration of heterogeneous resources in a virtual environment; (ii) access to new technologies from Africa; (iii) the creation of a community of developers from African partners (with a health profile).
- First courses and learning objects are being designed, focusing on their content (dependent on the training needs in health research), structure, comparability and technical features.
- Early mobility initiatives have been undertaken. We have taught on-site courses at the University of Ghana, and some African researchers are conducting stays in European centers.
- We have designed two research courses in HIV/AIDS and Reproductive Health, which will be conducted in Mali, Ghana and Cameroon in the coming months through the AFRICA BUILD Portal.
- AFRICA BUILD has participated in several conferences and we will organize our first International Conference in December 2012 in Egypt.
The European Commission launched a call for Africa (FP7-AFRICA-2010) addressing some of the Science & Technology objectives of the "Africa – EU Strategic Partnership". The main intention of this call was to strengthen local capacities in the relevant science and technology fields and their applications, through appropriate training activities and exchange of staff. This call funded 26 projects:

- 7 from Environment
- 15 from Health
- 4 from Food, Agriculture and fisheries, and Biotechnology

42 African and European countries are participating in the Africa Call.

The Information Technology Institute (ITI) - Biomedical Informatics Center of Excellence (BMICoE) offers educational-training programs through ITI Professional Training program in state-of-the-art software technologies. ITI is positioned under the umbrella of Ministry of Communications and Information Technology (MCIT).

BMICoE – aligning with ITI vision – aims at accelerating the development of the Biomedical Informatics discipline in Egypt via: 1) targeting the market needs; 2) offering various training programs for Egyptian Healthcare Professionals; and 3) initiating Research and Technology Development projects.

Role of ITI-MCIT in AFRICA BUILD

- **Leadership Role**: ITI-MCIT is the leader of Work Package 2.
- **Analytical Role**: ITI-MCIT conducting the eHealth state of the art analysis and its corresponding surveys.
- **Research Role**: investigating the importance of research and innovation in improving the African Health Systems.
- **Technical Role**: participation in developing the AFRICA BUILD portal
- **Educational Role**: Performing a comparison of OpenMRS and open source electronic medical records through the practicum module of the fellowship program.
- **Disseminator Role**: Organizing conferences and workshops of the AFRICA BUILD project. The first conference will be held in Cairo from 1-2 December 2012. The conference will be during the closing event of the EU-Egypt Year of Science and Innovation 2012 organized by The Research Development and Innovation (RDI) Programme.

Main inputs of ITI-MCIT into AFRICA BUILD

- Incorporating the final results of the AFRICA BUILD project into the Egyptian ICT policies for health through the close collaboration between MCIT and the Ministry of Health in Egypt.
- Understanding the technical challenges facing eHealth in the North African countries (which are multilingual Arabic-English and French).
- Introducing AFRICA BUILD and disseminating the final results in all ITI-MCIT participation in various activities ranging from purely medical conferences (MEDICONEX CAIRO HEALTH- March 2012), to ICT meetings and workshops (The 1st annual meeting of ICT leaders in the Arab World – Sharm El Sheikh, October 2012), World Congress (Biosoft 2012 – Beijing, March 2012), and International Research and Innovation Forums (EuropeScience Open Forum (ESOF)- Dublin July 2012).
- Conducting the AFRICA BUILD surveys to multidisciplinary participants: Healthcare professionals (Fellowship Program Trainers), Biomedical Engineers (Cairo University), ICT professionals (ITI and MCIT staff).
- Facilitating the implementation of AFRICA BUILD final results into new future projects, for example, implementing the ITU eHealth toolkit in Egypt. This activity can be carried through the close relationship of ITI-MCIT and EU-funding schemes in Egypt (RDI Programme) and ITU office in Egypt.
In order to educate physicians in clinical management of HIV infection the Institute of Tropical Medicine (ITM) in Antwerp delivers twice per year, once in French and once in English, the “electronic Short Course on Antiretroviral Treatment (eSCART), a 4-month distance learning training on HIV/AIDS care for health care workers (HCWs) based in resource-poor countries. This course started in 2008, following the presentational SCART delivered as a face-to-face training since 2003.

Moodle is the Learning Management System (LMS) used for the eSCART in order to offer the educational content and to track and monitor the online students. The didactical content in eSCART is built in a “problem based learning” manner, with clinical cases, tutorials, additional readings and self-assessments for each module. A workload of 8 study hours student investment time per week is estimated.

The alumni of this electronic course are afterwards kept in a Community of Practice (CoP). CoPs are groups of people who share a concern or a passion for something they do and they learn how to do it better by interacting on an on-going basis. Over the last years, several communities of practice have been launched at international level. Alumni of the eSCART (and the former presentational course, SCART), are invited to join after course’s completion an online CoP. The community counts at the moment more than 500 members and it aims at facilitating information exchange about HIV/AIDS treatment and care between ITM HCWs working in resource-limited settings. The CoP discussion includes communication about highlights and challenges of existing projects as well as establishing and communicating best practice models. The CoP discussions include clinical and organizational aspects and aim at improving collaboration between SCART/eSCART alumni and other colleagues. CoP is an essential characteristic to network HCWs and it is an example of successful application with a great potential for dissemination of information and sharing of best practices.

http://e.itg.be/demo/escart2013eng/itm.html
http://e.itg.be/demo/escart2013fr/itm.html
The quality and visibility of health research in developing countries and specifically in Africa still suffers from isolation. Given the deficit in funding for research, lack of tools and relevant research areas, researchers from the South have to more than in the past match their efforts on research networks which is capable of providing a forum for expression, offensive enough to produce results in a competitive research environment, in this framework EVIPNet support Africa Build to fill this gap. The EVIPNet, which includes several research and policy networks composed of researchers and policymakers from the South, is now an indispensable platform for the promotion and use of research in developing countries. The need to bring together researchers and policymakers in a network today is more than absolutely necessary. The reasons being that the dispersion of results, the non-standardization of tools and research methods leads to the ineffectiveness and unreliability of research results produced in developing countries.

EVIPNet (Evidence Informed Policy Network), which regroups a network of researchers and policymakers from Southern countries, is an innovative initiative which promotes a systematic usage of research results, for a better evidence-informed policy-making in the health sector. EVIPNET promotes sustainable partnerships at the global, national and regional level between policymakers, researchers and civil society to improve evidence-informed policies about public health issues to strengthen health systems and services in low- and middle-income countries, to help improve health outcomes. This model is a bottom-top dynamic approach. In other words, it gradually breaks the approach which is based on policy development by policymakers alone without involving the potentials of the critical mass to participate in the building of knowledge. The initiative to group together several research and policy networks with emphasis on southern countries aims at encouraging the set-up of a research and policy platform where exchanges between researchers and policymakers from diverse perspectives are made to facilitate health policy development and implementation. This platform can take into consideration the dynamics of a joint and shared action and maintain a learning environment at individual and collective levels between various actors.

AFRICA BUILD Initiative that aims to foster Health Research in Africa and EVIPNet appear relevant platforms to promote the systematic use and access to research in Low Middle Income Countries and to strengthen South-South partnership and collaboration. WHO EVIPNet provide different services can be useful to disseminate the results and work of AFRICA BUILD initiative: Virtual health Library or Clearing house to collect all evidence-based on health issue or topic, rapid response mechanism to answer quickly to question from senior policy makers, evidence brief for policy, national deliberative dialogue, e-learning environment platform on evidence informed policy-making. EVIPNet is web-enabled platform of dissemination through discussion forum (for francophone speakers with 25 countries and 300 members), listserv with the new relevant articles on evidence-informed policy-making (1,500 members from all countries in the world).

AFRICA BUILD in the RAFT Meeting
by Nathalie Flore, FMSB (Cameroon)

During the meeting of the coordination of the African French speaking network for telemcine (RAFT) held in Brazzaville from the 21 to 23 th September 2012, the AFRICA BUILD project was presented (Pr Djientcheu). Since there is a project of the creation of a Master in Medical Informatics in Yaounde (the beginning of the lectures probably in October 2013) and Bamako the discussion was to see how the AB of AFRICA BUILD project can be used for distance learning to compensate the large deficit of lectures in our different countries. Dr Check Omar Bagayoko proposes a 50% balance between distance learning and face to face learning. The representative of different countries (Cameroon, Congo, Guinea Conakry, Chad, Mali, Madagascar, Ivory Coast, Niger, Senegal, Burkina faso, France and Switzerland) found that the duration of the face to face learning was too long and proposed to reduce to few months (1 to 2 month/year).

Dr Check Omar Bagayoko (Mali) and Pr Djientcheu (Cameroon) were committed to put in place the content, the strategies and the action plan. It was a specially asked to Dr Check Omar Bagayoko to put on details since he is a specialist of Medical informatics. The feedback will be shared during the next meeting of RAFT next year.
Between March 5th and 16th 2012, partners of the AFRICA BUILD Consortium met at the University of Ghana in Accra. It was the first meeting following the kickoff meeting in Madrid. Additionally, it was held in Ghana, one of the African country partners. During the meeting, we held a workshop, a course and a seminar, and visited health facilities in the country's capital, Accra.

Technical Workshop
The first three days of the meeting were focused on a Technical workshop about the technical features of the AFRICA BUILD Portal, collaborative environment and development of web applications. The Technical Workshop began on Monday, 5th March and involved selected IT developers from the African partners of AFRICA BUILD (Egypt, Mali, Cameroon and Ghana). Presentations and demonstration sessions were used to introduce the African partner developers to the AFRICA BUILD Portal. The sessions about the architecture of the platform, tools used and some practical sessions were facilitated by the representatives of the University Polytechnic of Madrid. This workshop marked the launching of the community of developers of the AFRICA BUILD Portal.

Seminar and Courses
Prof Victor Maojo, Coordinator of AFRICA BUILD Project, gave a Seminar on “Biomedical Informatics Situation and Challenges for Africa” in the University of Ghana. It was well attended by faculty and staff of the University of Ghana as well as stakeholders in the health and Informatics community in Accra. The challenges encountered in the use of information technologies as experienced in Western countries were also discussed. Eventually, Prof Maojo concluded that African countries have an opportunity to successfully transition from paper based health records to electronic health records.

During the second week, Ana Jimenez (University Polytechnic of Madrid) taught a intensive course of 5 days about “Web 2.0 and Introduction to Mobile Technologies” to the students of the Master of Health Informatics of the School of Public Health.

Visiting hospitals
Members of AFRICA BUILD visited the facilities of several hospitals in Accra. We observed a common problem: paper-based patient health records were stored in several dedicated rooms for this purpose. Most records were placed in cardboard boxes. Various hospital services and patient care should benefit by the introduction of (open?) Electronic Health Records, which is still a pending issue in many locations in Africa. Such analysis is also an objective of AFRICA BUILD.
Awareness Creation of Africa Build in India
By Ebenezer Afari-Kumah, UG-SPH (Ghana)

“My visit to India was sponsored by the C.V Raman International Fellowship for African Researchers.

I was awarded the fellowship to undertake part of my Ph.D. research work in the area of eHealth and telemedicine in particular “An analysis of eHealth Implementation in Low resource-settings: Actor Network Approach” which is the topic of my Doctor of Philosophy (PhD) that has been registered with the Open University of Malaysia through the Accra Institute of technology. The fellowship period started from 1st April and completed on 30th June 2012. I had chosen the STBMI, SGPGIMS, Lucknow as my host Institution in India under Prof. S. K Mishra as the host scientist.

As part of the fellowship, I made presentations to faculty and staff of the school. One of such presentations was titled “A look at two Telemedicine and eHealth Initiatives in Ghana”. My presentation covered the Africa Build and Bonsaaso Millennium Village Project (MVP) in Ghana. Below are snap shots from the seminar.”

To expand the dissemination of the project results and create future collaborations —such as virtual networks—, a list of associates of AFRICA BUILD has been created. institutions like universities, hospitals or research centers can be members of the Associates’ List of AFRICA BUILD. Free membership of the AFRICA BUILD associates’ list entitles to:
1. Receiving the latest news and activities of the project through mailing lists and website
2. Networking with other members and AFRICA BUILD associates
3. Invitation to participate in several project activities such as conferences, workshops, whitepapers, surveys, etc.
4. Being considered as potential partners for future projects

Tasks of AFRICA BUILD associates are (on a voluntary basis):
1. Contribute with their experience in preparing and reviewing project documents or surveys and provide feedback in several activities, debates and discussions.
2. Suggest new research or strategic directions
3. Participate as volunteers in the training and technological activities of AFRICA BUILD
4. Provide feedback for the Consortium tasks

To join the associates’ list of AFRICA BUILD, please go to: www.africabuild.eu/associates/join

What we’re learning from online education

In this video, Daphne Koller (Professor in the Department of Computer Science at Stanford University) urges universities worldwide to provide online access to their courses, not just as a service, but as a way to research how people learn (http://www.ted.com/talks/daphne_koller_what_we_re_learning_from_online_education.html)
Interviews with the experts

Lucila Ohno-Machado

Lucila Ohno-Machado, MD, PhD is Associate Dean for Informatics and Technology at the School of Medicine, University of California San Diego, founding chief of the Division of Biomedical Informatics and Professor of Medicine. She received her medical degree from the University of São Paulo and her doctoral degree in medical information sciences and computer science from Stanford. She leads a group of biomedical informatics faculty with diverse backgrounds in biomedicine, and quantitative sciences. Prior to her current position, she was faculty at Brigham and Women’s Hospital, Harvard Medical School and at the MIT Division of Health Sciences and Technology and former director of its informatics training program. Dr. Ohno-Machado is an elected fellow of the American Institute for Medical and Biological Engineering, the American College of Medical Informatics, and the American Society for Clinical Investigation. She is Editor-In-Chief for the Journal of the American Medical Informatics Association (AMIA) and past chair of the scientific program committee for the AMIA Annual Symposium, and the general chair for the 2nd IEEE Conference on Health Informatics, Imaging, and Systems Biology.

AB: How long have you been working in Health Informatics for developing countries? Can you briefly sum up your career in this area?

LOM: I started to work in health informatics for developing countries 25 years ago, first as a medical student and resident in Brazil, then as a faculty member and subsequently director of the Harvard-MIT training program. Our Brazil-USA training program in global health informatics started in 1999 in Boston with collaboration with Dr. Marin from São Paulo and is now centered at the University of California San Diego, where it had a significant extension to Mozambique in 2009.

AB: You have a long experience in capacity building for developing countries. In your opinion, what are the main challenges that you have found?

LOM: The main challenges continue to be securing long-term sustainable funding, as there is a real risk that grants could be not renewed or programs discontinued. Another challenge for academics in the USA is that some of these international efforts are not always recognized as being critical to the university's mission, and hence there is limited material support for this type of activities.

AB: Access to courses could improve professional training in Africa, however accreditation systems are needed to access jobs and there are few training (and expensive) programs in Africa in different areas. Do you think that information technologies could help in this issue?

LOM: Technology will not only decrease geographical barriers, but in terms of health informatics it is a fundamental building block for professional training. Inexpensive access to the Internet has a profound transformative impact on professional training and should be aggressively sought.

AB: In your opinion what is the role of biomedical informaticians to facilitate information management in Africa?

LOM: We can partner with our African colleagues to learn from each other on several fronts, for example: (1) how to implement and evaluate health information systems in low resource environments, (2) how to effectively share data without compromising individual and institutional privacy, and (3) how to design scalable systems that can interoperate across national boundaries.

AB: Have you found problems of collaboration between institutions in Africa? Which are the main barriers?

LOM: At this point, my experience in Africa is limited to collaborations with a single institution in a single country, therefore I have not encountered this type of barriers.

AB: What is your opinion about biomedical informatics training in Africa? How do you foresee open access to medical information, resources and publications from developing countries?

LOM: There is a great need for biomedical informatics training in Africa and consequently a great potential to make a significant impact. Bioinformatics training in Africa is one of the most exciting activities for an educator in our specialty. Although some logistical challenges may exist (e.g., high cost of Internet), there is such a fertile ground for innovation in education and research that the opportunities seem endless. Open access to medical information, resources and publications are necessary to promote science and quality healthcare. Publishers have taken a big step with HINARI, and other such initiatives should be promoted (e.g., open access software, subsidized hardware and Internet).

AB: Do you think that Electronic Health Records can decisively improve health education, research and care in Africa? Which should be the best approach?

LOM: There is no question that better documentation of episodes of care can greatly elevate the quality of education, research, and care in Africa. One cannot improve what one cannot measure, and EHRs can help improve health in Africa. However, it is important to note that the ability to make use of this information is directly related to having appropriate human resources and a suitable setting for data integration, analysis, and sharing. There is likely no ‘one-size-fits-all’ approach, as each African nation has a particular system (or in many cases many systems within a single country). Therefore it becomes extremely important to train professionals who fully understand the healthcare and research systems in their countries, as well as information technology and the foundations of biomedical informatics.
AFRICA BUILD 1st International Conference
Call for Abstracts & Posters
Cairo, Egypt

“Gathering experts, professionals, students and people interested in using Information and Communication Technologies to improve Health Research and Learning in Africa”

Expected for March 2013. More news coming soon...

Other past & future events

ISTOfrica

Geneva Health Forum
April 19-20, 2012

MedeTel LUXEMBOURG BY ISPTEN

Open Access Africa

ESOF 2012 Dublin
June 20-22, Rome, Italy

CBMS 2012

2012 Africa-EU Cooperation Forum on ICT
Nov 28-29, 2012
Lisbon, Portugal