



**Telecommunication Policy Regulatory Reform (TP2R)
Rwanda, Kenya, Uganda & Ghana, TDY Report
21 March – 30 March 2010**

Background

In the United States and other countries, telecom providers are offering “Triple Play” options to consumers, to deliver simultaneously data via the Internet, telephone services, and television to the household. It is conceivable that in a few years, these services will be bundled and delivered entirely via the Internet, and companies like Microsoft are developing applications for this type of convergence. Similarly, mobile phones are increasingly being used for applications far beyond voice, essentially becoming mini-computers that can deliver Internet data (video, audio, and text), provide GPS-enabled services, etc. This type of convergence is likely to occur quickly in developing countries where the demographics are favorable (e.g., Brazil, India, Indonesia, South Africa) and where the telecom providers are highly sophisticated and well-financed.

The Telecommunications Policy Regulatory Reform (TP2R) Project funded by the United States Agency for International Development (USAID) and implemented by SRA International, Inc. (SRA) focuses on improving the telecommunications policy and regulatory environments in developing countries. One of the key tasks of the TP2R project is media/digital convergence. Under this task, SRA assists regulators with understanding such issues as spectrum allocation in the area of digital convergence/roll-out of broadband Internet infrastructure, and how regulatory responsibilities should be allocated (i.e. the overlap of television and radio broadcasting with telecommunications). To this end, SRA is implementing pilot projects that consider the types of enabling legislation necessary for regulators to effectively manage digital convergence.

This TDY is focused on ways to enhance the capacity of telecommunications regulators in developing countries to deal effectively with fast-moving changes in technologies and best practices in telecommunications law, as well ensure that these telecom regulators are well versed in the latest business and technical models related to pro-competitive service delivery and commitment to serving rural and underserved customers. The primary deliverables for this task are case studies resulting from conducting the pilot projects in up to four countries. Since Open ARIS is currently being utilized in Ghana, Rwanda, Uganda and Kenya; VIA Consulting choose those countries



mentioned above as pilot countries to perform the case studies. The case studies are to include the types of legislation and requirements necessary to transmit Open ARIS data, barriers and solutions for the barriers, total cost of ownership of such technology, costs to consumer, and other pertinent and relevant information.

TDY Participants

Jeff Street, VIA Consulting Group, LLC

Barbara Scarlette, VIA Consulting Group, LLC

Itinerary (Jeff Street and Barbara Scarlette)

Depart Atlanta GA, USA, March 20

Arrive Johannesburg, South Africa, March 21

Depart Johannesburg, South Africa, March 21

Arrive Kigali, Rwanda, March 21

Depart Kigali, Rwanda March 23

Arrive Nairobi Kenyatta, Kenya March 23

Depart Nairobi Kenyatta, Kenya March 25

Arrive Entebbe/Kampala, Uganda March 25

Depart Entebbe/Kampala, Uganda March 27

Arrive Nairobi Kenyatta, March 27

Depart Nairobi Kenyatta, March 27

Arrive Accra, Ghana March 27

Depart Accra, Ghana March 29

Arrive Amsterdam, Netherlands, March 29

Depart Amsterdam, Netherlands, March 29

Arrive Atlanta GA, March 30

Activities



March 20-21

- Flew to Rwanda

March 22

- Met with Dr. Hery Semitende, Database/Epidemiology officer for Rwanda Animal Resources Development Authority (RARDA) at the hotel. We confirmed that the hardware had been delivered and that Open ARIS version 2.0 was installed. In speaking with Dr. Hery of RARDA in Rwanda, VIA Consulting Group learned that there is a desire to collect data at the sector/village level (417 villages) but that an adequate communications infrastructure to for data capture does not exist. Dr. Hery talked about the importance of utilizing mobile technology and perhaps utilizing the method for capturing Open ARIS data from the mobile platform (developed in an earlier version of Open ARIS but not deployed).
- Dr Hery also pointed out that the ability to quickly provide livestock movement data as well as animal disease outbreak data directly impacts a Rwanda's ability to manage its import/export balance. Timing delays in the import system currently prevent the rapid data capture and reporting of disease outbreaks. We also learned from Dr. Hery that Rwanda was a part of the five-member East African Community bloc; representing a market of 126 million people. In that this trading bloc fosters enhanced cooperation and collaboration among commodity traders, agricultural investors, and infrastructure developers; Dr. Hery emphasized the critical nature of being able to collect and disseminate data quickly and cost effectively.
- In the context of Open ARIS, Dr. Hery mentioned that he was "very excited to begin the process of institutionalizing Open ARIS within RARDA". He was also encouraged by the continued support that USAID expressed and the support that VIA Consulting Group has provided prior to beyond December 10th project closure. He told us that RARDA is currently in need of training for our District Veterinarians on Open ARIS version 2.0. There is also additional functionality for Open ARIS that they would like to have incorporated to begin capturing production data from multiple sources such as animal population, farmer income, livestock movement, and import/export data.



- Later that afternoon, we met with Justin Rudasingwa of Rwanda Tel. We discussed the current state of digital convergence technology in. It was interesting to learn that an infrastructure roll-out was initiative underway by joint efforts of Telecoms companies and Rwanda information Technology Agency (RITA).
- We then traveled to the Rwanda Utility Regulatory Authority (RURA) that afternoon to meet with the Director of ICT Scarce Resource Management (SPECTRUM) Mr Francis Ngabo. He discussed with us the current state of the regulatory environment in Rwanda to include spectrum allocation, Triple Play, and the potential impact on an application such as Open ARIS. Mr. Ngabo specifically mentioned that a new comprehensive Telecom Law is currently being established by the Ministry of ICT. In his opinion this law will help enable regulatory reform in support of the deployment of Triple Play services. We learned that Rwanda’s core communications networks cannot support convergence but that a National Backbone project (run by the Rwanda Devt. Board) is underway to connect all 30 districts and support public-private partnerships.
- Had subsequent meetings with Dr. Hery, Felix Akorli, the head of the ICT Department for National University of Rwanda, and a variety of staff other members of RARDA . We discussed the role Open ARIS could potentially play as “Triple Play” develops through out Rwanda.
- Flew to Kenya on the 23rd

March 23rd

- Met with Jeffery Austin of USAID/Kenya in the morning. We discussed the status current of the Open ARIS project and well and the East Africa Plant Information System (EAPIS). We learned that the EAPIS is a key focus of the USAID/Kenya within the space of Risk Assessment and Risk Analysis. There were discussions around converted EAPIS into an Open Source environment. Currently FAO is has 51% ownership of the technology. With the East Africa Trading Bloc becoming official in July 2010; the need for systems like Open ARIS and .EAPIS has increased tremendously. Along with the aggressive development of Triple Play; East Africa appears to be well positioned to take advantage of these technologies.
- Traveled to AU-IBAR to meet with Burhau Bedane and Dennis Gitonga. When meeting with AU-IBAR, several key factors to the further development and enhancement of Open ARIS in Kenya were discussed, some of which rely on the incorporation and use of emerging technologies such as Triple Play:



1. Rapid data capture and leveraging Triple Play technologies and network infrastructures to facilitate rapid data capture at the field level.
2. Enhances connectivity and greater bandwidth for data transfer over mobile connections
3. Robust knowledge and disease information management; tying together “One World, One Health” initiatives and the use of Triple Play services
4. In- Country sustainability that lowers the cost of data transmission through Triple Play services
5. Definition of linkages and responsibilities among key stakeholders
6. Usability and Value

Berhanu also expressed some concern over the use of university resources for further development. He also mentioned that well defined linkages and responsibilities were necessary and that “modalities of operation” must also be well defined. He mentioned that up to this point rapid data capturing” had not been a real focus of AU-IBAR and he expressed interest in the use of mobile technology. Berhanu stressed that AU-IBAR is still very interested in Open ARIS and would like to see how the partnership can move forward.

April 25th

- Flew to Kampala, Uganda (extreme travel congestion issues precluded a departure the evening of the 24th)

April 25th

- Met with Dr. Noelina Nantima and the staff of the Ministry of Agriculture. On the first day we had a meeting to discuss the current state of the Open ARIS program and how the convergence of Triple play might enhance the ability to capture data. She stressed the importance of “institutionalizing” Open ARIS and continued support for the program. On the second day we verified that Open ARIS version 2.0 had been installed and Barbara Scarlette of VIA Consulting held a training session with Esther Nambo (data entry personnel) and with Dickson Muyomba of AVOIR (Makerere University), a key individual that has been supporting the Open ARIS system. Dr. Nantima expressed gratitude for the support provided by USAID and SRA/VIA Consulting thus far with the Open ARIS program.
- We were unable to meet with regulatory authorities in Uganda prior to leaving due to last minute scheduling conflicts but we were able exchange emails with some of their representatives once we return to the states.



March 27th

- Arrived in Ghana

March 29th

- Traveled to the University of Ghana, Legon to meet with Patrick Kuti, AVOIR developer. He provided an update on the current status of Open ARIS and verified the arrival of the hardware and the installation of Version 2.0. Patrick set up a time from us to meet that day with Mr. Francis Boachie, and a member of a committee within the Ghana's National Communication Authority currently addressing the process of digital convergence. This was a very good discussion. He shared with us a presentation that he had recently given on the "Telecommunications Boom in Ghana and the Challenges of Sitting of Telecommunications Masts". Of particular interest, we learned that mobile deployment in Ghana is continually hindered by cell tower sitting issues and the fact that deployment is driven by population and not by future projections of demand. He also told us that there is the potential for spectrum allocation just for agricultural markets, which would be of particular interest to future Open ARIS deployments. We discussed Triple Play regulations and the impact of current demand, costs, and new backbone infrastructure projects.
- Later that afternoon we met with Dr. Dakubu, University of Ghana, Legon. He is also a participant in The Africa Connect project supporting the development of regional research and education networks in Sub-Saharan Africa and their interconnection with the European GEANT2 network. He mentioned that the abundance of fiber on Ghana's west coast supports this initiative in providing high speed access for research and collaboration.
- We left Dr. Dakubu's office to meet with Dr. Yebuah, Ghana Ministry of Agriculture. He provided a current status of the Open ARIS project and expressed their desire to increase the utilization of Open ARIS.

March 29th

- Arrived in Amsterdam, Netherlands

March 30th

- Arrived in Atlanta, GA USA

Major Accomplishments

- Confirmed that the Open ARIS hardware had been received by all countries, that version 2.0 was installed and the countries were entering data into the system. Also received



confirmation that the Ministries of Agriculture in each country were all supportive of continued development efforts of the Open ARIS system and committed their support.

- Established good relationships with those in the regulatory arena in Ghana, Uganda and Rwanda.
- Had an excellent first face-to-face meeting with Dr. Burhau Bedane and Dennis Gitonga of AU-IBAR. They also spoke very highly of the development efforts to date of the Open ARIS system and offered their support for future Open ARIS development efforts.

Next Steps

- **TBD**

Recommendations

- Has a 1-2 hour Open ARIS presentation to all USAID stakeholders.