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WSIS Stocktaking Process

WSIS Stocktaking: Success Stories 2013



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Turning targets into action



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WSIS Stocktaking: Success Stories 2013



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OVERVIEW OF PROJECTS

C1. The role of public governance authorities and all stakeholders in the promotion of ICTs for development

Ministry of Higher Education, Kingdom of Saudi Arabia Safeer Programme

The Kingdom of Saudi Arabia has invested significant resources in a massive scholarship programme to advance citizens' education and bring higher levels of knowledge, research and openness on the world through the Safeer integrated online system. In the development, implementation and operation of Safeer, a number of government agencies in Saudi Arabia, such as the Ministry of the Interior, the Ministry of Education and the Ministry of Civil Services were extensively consulted and involved. This participation provided a prime example of how government agencies can collaborate and work together towards the common goal of promoting information societies. Safeer was designed to further develop Saudi Arabia's information society commitment to gender equality, citizens' education and empowerment and social justice among citizens. The Safeer system gives priority to disabled students.

C2. Information and communication infrastructure

Ministry of Education, Kingdom of Saudi Arabia Schools Connectivity project

The Schools Connectivity project is a part of a large nationwide connectivity project for the Ministry of Education. The aim is to connect more than 3 000 remote schools which have no Internet service, using satellite VSAT, and enhance and upgrade the available connectivity in more than 19 000 schools. This project is strategic and extremely important in terms of ensuring that all schools in the Kingdom of Saudi Arabia are linked to the ministry via the Internet, thereby enabling them to access and use the services provided by the ministry's major centralized systems, such as FARIS, NOOR and EduMap.

C3. Access to information and knowledge

Radislav Nikcevic Public Library, Republic of Serbia AgroLib Ja (Agricultural libraries in Jagodina)

Jagodina Library addresses the problems of the rural population in its local community. It transforms village libraries into communication, information and education hubs that lead to economic and social changes in the community and beyond. The project enables farmers to share information. Five rural library branches offer the following facilities: Internet access and ICT training (sharing best practices, searching for useful information, not least state subsidies and incentives); agricultural lectures (enhanced agricultural production by applying advice from renowned experts); agricultural journals and literature; and online marketplace (free registration and advertising, improved financial situation).

C4. Capacity building

Electronic Information for Libraries (EIFL), Italy

PLIP builds community ICT skills in 23 developing and transition countries

More than 7 500 people in 23 countries in Africa, Asia, Latin America and Europe have benefited from ICT training in local libraries. The new competencies thus acquired are helping women and girls, subsistence farmers, young people, the unemployed, those suffering from ill-health and many other disadvantaged communities to find jobs, do better in school, live healthier lives, improve farming methods and become socially and economically included. Since 2010, EIFL-PLIP has been supporting sustainable information access and learning opportunities for communities in developing countries, thereby enabling them to enjoy better lives.

C5. Building confidence and security in the use of ICTs

Ministry of Telecommunications and Information Society, Ecuador

Digital training through mobile classrooms

Ecuador's mobile classrooms are buses equipped with state-of-the-art technology that benefit all citizens through access to ICTs. They transport technology and knowledge all over the country, promoting the use of technological tools and offering training (especially for children) on the proper use of ICTs, while building confidence and security in use of ICTs. The project brings technology closer to people in all corners of the country. The Ministry of Telecommunications has been implementing the Internet for everyone project through mobile classrooms since November 2011. In 2015, the number of Ecuadorians using ICT in mobile classrooms is expected to rise to 500 000. http://www.youtube.com/watch?v=_RefxYOyQRk111 words

C6. Enabling environment

Ministry of Communications and Transportation, Mexico

Club Digital: Massive open online ICT courses

Through an innovative web-based learning model, the Club Digital initiative aims to promote entrepreneurship among young people in order to foster technological project development. This massive open online courses (MOOC) platform contributes to the creation of an environment for the use and appropriation of ICTs. Its content, provided by the Ministry of Communications and Transportation and its technological partners and entrepreneurship specialists, can be accessed at no cost. The participation of ICT partners promotes the appropriation of cutting-edge tools that facilitate Club Digital users' SMB entrepreneurial skills. In line with the Geneva Plan of Action, governments, in collaboration with stakeholders, are encouraged to formulate conducive ICT policies that foster entrepreneurship, innovation and investment.

C7.1 E-government

Network for Information and Computer Technology (NICT) Indore, Municipal Corporation, Indore and Bank of India, Republic of India
SAKSHAM project – ICT-enabled direct old-age pension distribution

The Network for Information and Computer Technology (NICT), a social enterprise working in the area of ICT for development, has taken advantage of the Indian Government's new IT and banking policies to create an enabling environment for ICT-based direct pension distribution by exploiting the synergies between government policies and two stakeholders, the Municipal Corporation of Indore and the Bank of India. Under the new policy, NICT has implemented a direct old-age pension distribution system with those stakeholders. The combination of stakeholders allows the creation of ICT-enabled pension distribution centres, which act as kiosk banks. Under the project, which is named SAKSHAM, NICT has created a network of kiosk banks in 15 locations and, after appropriate training, has deployed social entrepreneurs to run the kiosks, thereby enabling 13 000 elderly citizens to draw their pensions in the local area where they reside, without having to move from pillar to post.

C7.2 E-business

Ministry of Transport and Communications, National Information Technologies JSC and Ministry of Regional Development, Republic of Kazakhstan
E-licence information system

The e-licence information system, developed for the online issuing of licences and permits, also simplifies the process of obtaining licences and permits by automatically retrieving the required data from integrated state agency information systems. Thanks to the single registry of electronic licences, users can obtain information about the status of companies' licences and permits and check their authenticity. Since 2012, all electronic licences throughout Kazakhstan have been issued by e-licence, which greatly simplifies the process, especially for entrepreneurs from distant regions of the country.

C7.3 E-learning

African Forum for the Promotion of New Information and Communication Technologies (AFP-NICT), Republic of the Congo
Training and connecting rural people

This project, involving the populations of Ngo, Mpouya, Oyo, Kinkala and Djambala (Republic of the Congo) and Bolobo, Bumba and Muene-Ditu (Democratic Republic of the Congo), focuses on connecting the villages of sub-Saharan Africa and training villagers to use ICT, in recognition of the need to promote a culture of peace through new ICTs as a guarantee of harmonious social integration, and also the importance of educating people about the merits of ICT and its positive impact on improving conditions of life in towns and villages.

C7.4 E-health

Ministry of Health, Sultanate of Oman

Reduce childhood mortality rate: Infants and children under five years of age

With its Mother and Child system, the Omani Ministry of Health is providing holistic primary care for pregnant mothers (pre- and post-natal care) at all medical centres and towards birth at the tertiary hospital. The records are made available throughout pregnancy by recording the patient history for mothers and children, and then integrating it in the Childhood Illnesses System. Thanks to this system, Oman succeeded in reducing the maternal mortality rate in childbirth from 22 per 100 000 live births in 1995 to 13.4 in 2009, and the infant mortality rate from 20 per 1 000 live births in 1995 to 9.6 in 2009.

C7.5 E-employment

Civil Service Commission, State of Kuwait

E-employment system

The e-employment system facilitates the process of applying for a job in the governmental sector. Its government-to-consumer (G2C) e-service supports online submission of job applications, online tracking of applications and online notification of the status of the application by SMS. The system serves a large segment of the population, namely jobseekers.

C7.6 E-environment

University of La Punta, Argentine Republic

Zero Balance

Balance Cero (Zero balance) is a collaborative, digital and environmental plan to reduce global warming with primary-school students. Children visit every house in their home towns, to ascertain how much energy is consumed and how many equivalent tons of carbon dioxide are released into the atmosphere. Using their laptops and the "Efficient House" application (www.chicos.edu.ar), the information is uploaded to the website. The children are then able to determine the amount and type of trees that need to be planted to capture the equivalent in CO₂ emissions and hence restore the environmental balance.

C7.7 E-agriculture

Technical Centre for Agricultural and Rural Cooperation ACP-EU (CTA),

Kingdom of the Netherlands

Web 2.0 and social media learning opportunities

Starting in 2009, the Netherlands Technical Centre for Agricultural and Rural Cooperation (CTA), in partnership with national and international development agencies, organized a series of five-day training events (based on cost-sharing) designed to raise awareness and stimulate the adoption of Web 2.0 and social media in the context of development work. By the end of 2012, approximately 1 500 people (31 per cent of them women) had been trained in Benin (3 events), Burkina Faso (1),

Cameroon (2), Ethiopia (3), Fiji (4), Ghana (3), Kenya (5), Madagascar (2), Mauritius (2), Nigeria (4), Rwanda (5), South Africa (2), St. Lucia (1), Tanzania (3), Gambia (2), Senegal (3), Trinidad and Tobago (3) and Uganda (5)

C7.8 E-science

Abu Dhabi Technology Development Committee, United Arab Emirates Abu Dhabi Science Festival

The Abu Dhabi Science Festival is a strategic initiative undertaken by the Abu Dhabi Technology Development Committee (TDC) in the interests of engaging and inspiring the nation's youth with exciting hands-on science-related activities as part of a wider plan geared towards building a talent base in science, technology and innovation (STI). The 11-day festival attracted more than 120 000 visitors, an increase of 20 per cent over 2011. Over 20 000 students from 224 schools attended the festival. Collaboration with some of the leading universities in UAE and the recruitment and training of 800 university students as science communicators were key factors in the festival's success.

C8. Cultural diversity and identity, linguistic diversity and local content

Ministry of Information Technologies and Communications and Colnodo, Republic of Colombia En mi idioma ("In my language")

En mi idioma (In my language), which seeks to ensure the inclusion of indigenous communities in the technology and knowledge society through the use of ICT, is primarily aimed at preserving and promoting the dissemination of indigenous Colombian languages and knowledge. Training in use of ICTs, content generation and information publishing are supported by multiple international stakeholders. Active participation and empowerment of indigenous communities is a crucial aspect of the initiative, achieved through universal and equitable access, capacity building and knowledge sharing. The project is currently being implemented in seven indigenous communities in Colombia. (see: <http://www.enmiidioma.org/>)

C9. Media

Ministry of Youth and ICT and Workforce Development Authority (WDA), Republic of Rwanda Africa Digital Media Academy

The Africa Digital Media Academy (ADMA), a vocational training programme, initiated in March 2012 by the Workforce Development Authority (WDA) and Pixel Corps Ltd., equips students with the necessary skills to work in all areas of the digital media industry. It prepares Rwandan students for production work needed in digital media. Through live, hands-on learning in the computer lab and production studio, along with distance learning provided by television experts in the United States, students are able to proceed at their own pace with support from the instructors. The emphasis is on student collaboration with the community as the foundation for effective learning.

C10. Ethical dimensions of the information society

Ministry of Communications and Transportation, Mexico

Mujermigrante.mx: Promoting human rights for migrant women

ICTs help fulfil the government's moral obligation to defend human rights, particularly of vulnerable individuals and communities. Today, women represent 5 per cent of all migrants in Mexico. *Mujermigrante.mx* helps migrant women through the use of ICTs. The platform was created with the participation of more than 30 government and civil-society organizations. Through online, easy-to-understand web-enabled applications, videos, learning tools, chats and tutorials, it empowers women by granting access to information about human rights, health services, immigration support and government programmes. In the next phase, the project will expand to support mobile devices.

C11. International and regional cooperation

Child Helpline International, Kingdom of the Netherlands

Child helplines and telecoms: A toolkit to assist your child helpline to advocate for a free-of-charge telephone number

The goal of this project is to increase cost-free access for children and young people to child helpline services. Child helplines, which are currently operational in 142 countries, are instrumental in reducing violence against children. Since 2006, Child Helpline International and ITU have joined forces to encourage national telecom regulators to provide free-of-charge numbers for child helpline services. Since then, child helplines in 46 countries have been assigned toll-free numbers. To take this even further, CHI has developed a practical toolkit to help more child helplines obtain toll-free status by informing child helplines about basic telecommunication terms and processes, regulation issues and number implementation. The toolkit also highlights case studies and good practices that can be replicated and shared internationally.

C1. The role of governments and all stakeholders in the promotion of ICTs for development: Safer Programme (Saudi Arabia)

*Ministry of Higher Education
Dr Khaled H. AlAjmi*

This chapter presents the experiences of the Saudi Arabian Ministry of Higher Education in implementing the Safer application suite and streamlining organizational processes in order to enable the delivery of electronic services in support of the King Abdullah Scholarship Programme (KASP). It outlines the background of the project and the rationale and salient features of the Safer programme, and highlights the key lessons learned to date.

I Background information

Retooling the national knowledge base

Saudi Arabian society is youthful: according to the Kingdom's Central Department of Statistics and Information, approximately 45 per cent of all Saudi nationals are under 14 years of age, and when those under 25 years of age are included, the youth segment accounts for close to two-thirds of the Saudi local population. A significant proportion of these young people seek entry into the national workforce each year, leading to an estimate that 4 million jobs would need to be generated within the Kingdom by the year 2020.

In its 'Vision 2020' strategy, the Kingdom's leadership squarely acknowledges this challenge, and envisages "a diversified and prosperous economy that guarantees the existence of rewarding job opportunities and higher levels of economic welfare for Saudi citizens and the provision of education for the population to equip the labour force with adequate skills." Saudi Arabia's Ninth Development Plan (2010–2014) concretely targets the establishment of various human resource development programmes that will "raise the capabilities of the national labour force to enable it to meet labour-market requirements."

The King Abdullah Scholarship Programme (KASP) is a reflection of this strong priority to develop the national skills base within the Kingdom. Established by Royal decree in 2005, and extended in 2010 and again in 2013 for a further five-year period, KASP is designed to prepare and qualify Saudi human resources at an international level, thereby providing an important source of highly qualified workforce for Saudi industry, academia and government. Disbursement of the scholarship fund is based purely on merit, irrespective of gender or disability. For those with disabilities or special needs KASP does provide the necessary support (which may include allowances for family members to travel and live with the scholar) to facilitate acquisition of the necessary knowledge and skills seen as beneficial to Saudi society.

Under the administration of the Ministry of Higher Education (MoHE), KASP has grown substantially over its eight-year programme tenure – from a total of 5 005 male and female scholars back in 2005

to a cadre of 30 491 students in the year 2012. More than 160 000 Saudi nationals have taken part in the programme since its launch. A large number of KASP alumni have since returned to the Kingdom, and are now actively involved in fields as varied as medicine, engineering, information technology, business administration and law.

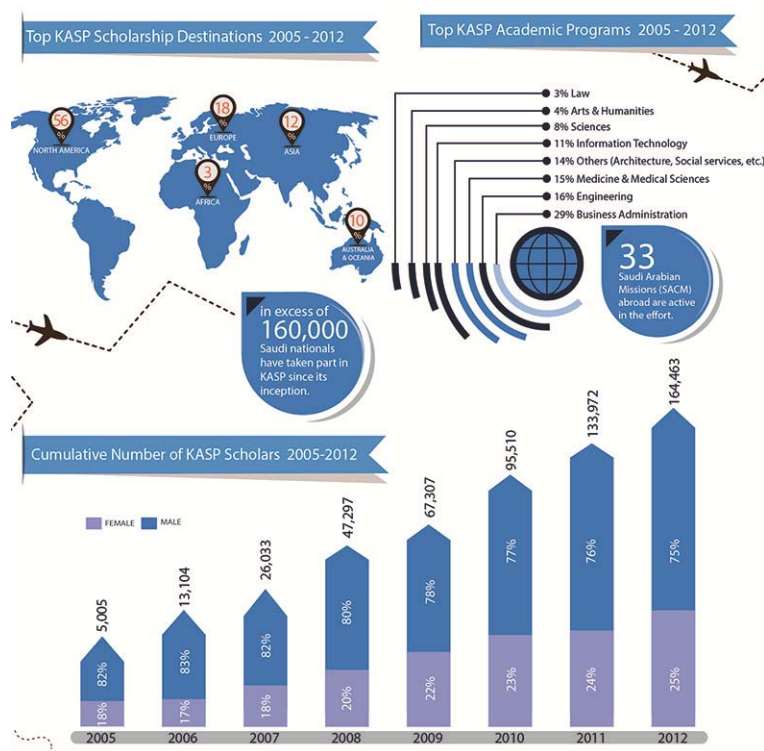


Figure 1: Historical performance figures for the KASP programme (2005- 2012)

II Goals and time-frame

Towards an integrated system for KASP administration

As the KASP initiative rapidly gained momentum, the capabilities of the MoHE's legacy information system were rapidly being outstripped by the various functionalities demanded by programme stakeholders. While the system was designed to effectively register and store scholar profiles, numerous incremental electronic services were required. For instance:

- KASP scholars wanted to be able to easily access the procedures for application and modification of their study details, follow up on a wide range of inquiries, and seek advice regarding their financial aid reimbursements and scholarship awards.
- The Saudi Arabian Cultural Missions (SACMs) needed to ensure scholarship pathways were as smooth as possible, and thus required a streamlined means to interface with higher-education institutions abroad, monitor and support students' progress in their studies and provide case-level reports to the MoHE.
- Scholarship destinations required a means to electronically provide feedback on scholars' academic performance, support the request and evaluation of student transcripts, and coordinate the financial processing of matriculation.

- KASP managers at the MoHE needed a way to manage and respond to requests and inquiries sent by SACMs, archive all official scholarship documents, and obtain relevant data to conduct detailed analysis of the programme's efficacy.
- Programme managers in other government ministries, such as the Ministry of the Interior, the Ministry of Education and the General Organization for Social Insurance, also needed to facilitate electronic exchange of information for KASP-related transactional, performance-management and reporting purposes.

In 2008, the vision of having an integrated system to support the various requirements of KASP stakeholders was crystallized into a modular application suite called *Safeer* (the word for 'ambassador' in Arabic). The Safeer system was completely designed and developed by a dedicated project team at MoHE with the end goal of enabling all KASP-related transactions to be conducted electronically without any need for physical paperwork.

III Project's added value and importance

Safeer system modules and services

Safeer currently has a total of seven modules and 88 electronic services straddling three service areas, namely academic services, financial services and administration services. The system enables parties from different departments within MoHE, representatives in the SACMs, KASP scholars and related parties at the scholarship destinations abroad to use these services.

The primary functionalities offered by Safeer modules to various programme stakeholders are described in Table 1.

Table 1 – Primary functionalities of Safeer's electronic service modules

Module name	Description
Safeer Study	This data repository and profile module allows access to all scholar information, thereby providing MoHE and SACMs with the means to monitor student progress, and interlink these entities with scholarship destinations abroad.
Safeer Workflow	This portal supports workflow management for all electronic requests to the different departments at MoHE, SACMs and the various scholarship destinations abroad.
Safeer Students	This portal eliminates a lot of the manual processes previously required of KASP scholars, by providing students with a range of frequently used electronic services.
Safeer Financial and Administration	This module facilitates all financial transactions between MoHE and the various scholarship destinations abroad.
Safeer Mobile	This module allows KASP scholars to make requests to MoHE through a mobile platform.
Safeer Documents	This module allows storage of all student documents and files electronically. It also allows SACMs to be linked with MoHE to simplify the transactions between both parties.
Safeer Reports	This module allows MoHE to create and review reports about students and system performance of the KASP effort and the Safeer program.

The Safeer system's functionality is constantly evolving on the basis of the needs of its stakeholders. Delivering services which are transformational rather than incremental has required Safeer's management team to do more than build up the necessary technical expertise, and implement much a broader set of organizational and process-related changes. Bringing the system's functionality up to this level of performance has been characterized by the following best practices:

Organizational structure designed to streamline service delivery

By 2008, the KASP initiative had gained the participation of 33 SACMs, hundreds of higher-education institutions abroad and over 45 000 registered scholars. Safeer's management team perceived that, for many of these stakeholders, its electronic services would likely function as the primary interface into KASP and thus form the basis for their impressions of the wider initiative. True to its name, Safeer would have to act as an ambassador of the MoHE's service delivery capabilities. Taking into consideration the wide range of stakeholder requirements, it became clear that beyond just deploying a technology solution, Safeer had to also build an optimal organization structure in order to carry out its mandate of facilitating KASP-related processes electronically.

For instance, as the participating SACMs were distributed throughout the world, Safeer had to be ready to provide one-off customizations to system functionality based on the unique education systems in which these missions operated. Safeer also had to provide a commitment for remote support around the clock to these cultural missions.



Streamlined service delivery could only be achieved by moving away from the hierarchical and 'siloes' organizational structures typical in many public-sector entities. Safeer's management decided its services had to be designed with customer-centricity as a core attribute. In practical terms, this meant that Safeer had to institute the necessary processes to deliver on the needs of its stakeholders: from actively seeking and gathering feedback, to prioritizing development efforts into those areas with greatest linkage to its goals, to efficiently developing high-value electronic services, to measuring system and organizational performance, and to continuously improving and adding new services.

Safeer's management has adopted IT Infrastructure Library (ITIL) standards in order to better align its technology services with the needs of its stakeholders. It has also instituted the Agile software development workflow in order to promote greater collaboration and adaptability of its software application suite.

The Safer team's organizational structure has also been set up to streamline service delivery. A Customer Relationship Management department was established to act as the interface between the organization and its stakeholders. While the bulk of this team is based in Riyadh, several dedicated customer relationship staff are co-located within the larger SACMs, such as those in the United States, Canada or Australia. These individuals evaluate all change requests and troubleshoot issues being experienced with Safer. Based on this department's advice, bugs or incidents are subsequently actioned by the Technology Development Management team, while change requests and new functionality requests are directed to the Business Development Management team for further analysis through a formal change-management process and Change Advisory Board meetings. Any measures taken on the basis of the actions by these two departments are first submitted to the User Acceptance Testing Management department prior to release. Alongside this effort, the Programme Governance department conducts compliance monitoring and audits to ensure that each department has followed all the appropriate processes in carrying out its required tasks, while the Change Management department ensures continued system coherence amidst all the functionality additions and modifications being made to Safer modules. The Programme Management Office acts as a central support structure, providing assistance to change and delivery initiatives, setting and reviewing objectives against actual progress, and coordinating activities across projects.

The Safer project team's more flexible, empowering type of structure is associated with less centralization and fewer management levels. Safer's leadership believes that this structure promotes greater specialization and opportunity for innovation. At the same time, each department clearly understands their core responsibilities and can be held accountable for them.

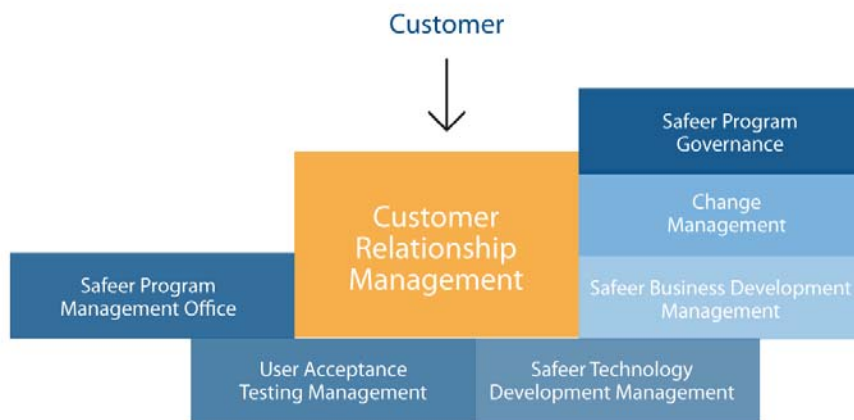


Figure 2: Safer functional organization structure

Scalable system architecture with no single point of failure

As the scale of KASP activity increased, individuals in any one of the SACMs that needed access to the system began to experience instances of performance degradation and system downtime due to overwhelming traffic, connectivity breakdown or other IT glitches. For instance, when the central server in Riyadh that provided the capability to process and store information went down, end users across the entire network had to wait for this server to be restored because of the lack of redundancy. The same challenge was also being experienced by scholars who needed to gain access to the KASP student portal.

After a detailed evaluation, Safeer's management team decided to structure the network to prioritize scalability, redundancy and reliability to ensure stakeholders abroad would be able to execute their tasks efficiently. Safeer implemented a 'shared-everything' architecture through an extended distance clustered solution to run its application suite across a server pool. In the event that one or more servers in the pool failed, Safeer modules would have the ability to continue to run on the remaining servers, and access to mission-critical data would not be interrupted. The solution also provides for load-balancing and load distribution based on the function to be performed.

Safeer's system architecture now provides enhanced reliability to its stakeholders. The speed of operations and access to the local system by the Safeer's end users has been enhanced. In addition, the current structure allows for flexible expansion and incremental growth of cultural mission systems.



Metrics-driven performance improvement

Beyond its role in efficiently administering and overseeing the KASP effort, MoHE also needed to ensure that educational outcomes were in line with the programme's vision and strategic objectives. It was thus essential to establish the necessary platform to allow KASP's stakeholders to evaluate its ongoing progress and detailed status. Such information would be critical if stakeholders were to be expected to proactively manage any gaps within their domains of responsibility. And as the old adage suggests, you can only manage what you measure.

Accordingly, Safeer incorporated the necessary processes and technology to collect, analyse, and report on a wide range of service-level quality and programme-performance measures. In order to develop a relevant set of metrics, Safeer created an internal team to obtain the input of individuals responsible for the various programme areas to be measured. Once stakeholders identified the key performance results they were aiming for, it became a simpler task for Safeer to establish the necessary performance indicators. This process of seeking wider involvement in the effort of defining metrics also helped Safeer obtain buy-in from stakeholders. Some of the key metrics being tracked by Safeer are shown in Table 2.

Table 2 – Selected Safer performance metrics

Performance Area	Selected metrics being tracked
Safer Service Monitoring, Availability, and Incident Management	<ul style="list-style-type: none"> • Incidents restored within target period • Downtime • Mean time to repair • Mean time between failure • Mean time between system incidents
SACM Outreach and Network	<ul style="list-style-type: none"> • Number of participating KASP scholars • Number of scholars that self-registered on the Safer Student module • Number of system users within a SACM • Number of KASP scholar supervisors • Electronic interaction with students • Electronic interaction with employees and payroll • Generation of electronic inventory reports
SACM Workflow Digitization and Efficiency	<ul style="list-style-type: none"> • Ratio of electronic transactions versus paper correspondence • Volume of electronic inbound and outbound correspondence • Number of system discrepancies • Average number of applications submitted per SACM system user • Percentage of delayed/pending versus all transactions • Date of oldest delayed/pending transactions • Percentage of student files that have been archived • Total number of scanned documents per system user

Safer has institutionalized performance measurement as part of a regular performance review programme for each of the 33 SACMs. Its performance reporting scorecards are circulated monthly to give stakeholders at the SACMs actionable measures including key indicators, comparisons with other SACMs and changes over time.

Safer continues to draw upon the lessons learned from its launch of customer-focused electronic services, even as it now looks to undertake further enterprise-wide initiatives. The best practices from the Safer's journey can help other public-sector organizations to prepare not only for a prospective electronic service launch, but also for many major enterprise-scale technology migrations. Public-sector organizations looking to evaluate new electronic services or ramp up existing ones can benefit from the following suggested actions.

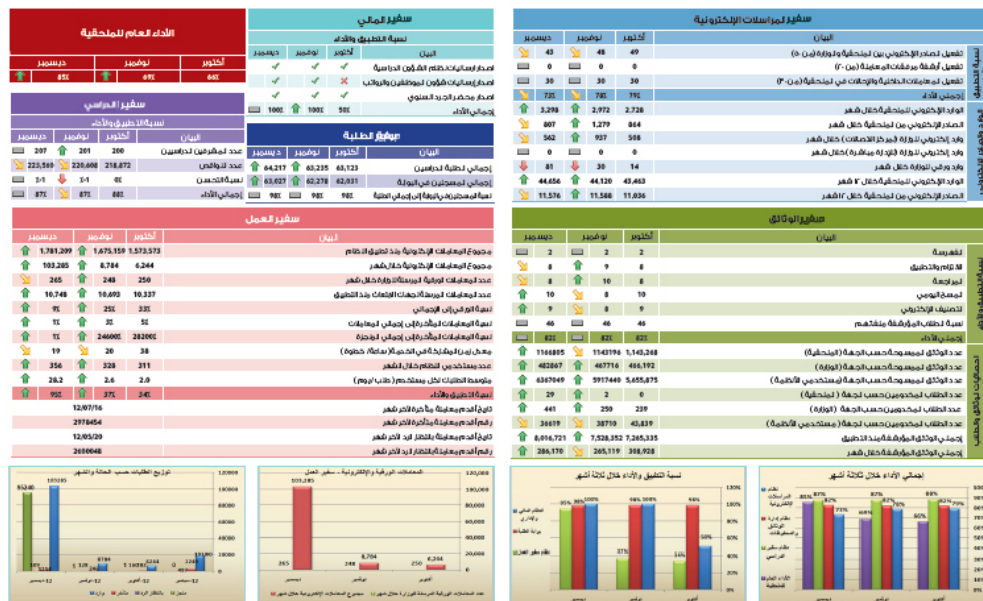


Figure 3: Sample SACM Monthly Scorecard

IV Challenges

Ensuring management buy-in and organizational alignment

Any project perceived as being a significant change to the *status quo* should expect some initial criticism and resistance which must be overcome. The complexity and wide-ranging scope of Safer's service transformation effort meant that successful deployment required the coordination of a wide range of stakeholders as well as full alignment on each party's role.

MoHE ensured that the organization's senior management was always visibly supportive of the initiative. Safer staff also exerted a lot of effort to collect system requirements across SACMs, involving a large number of line-of-business owners, stakeholders and partners from an early stage. MoHE ensured that roles and responsibilities of all the parties involved in Safer were clearly defined and comprehensive risk mitigation took place at every stage.

Phased implementation

It is important to take incremental steps in order to prevent overloading the capacity of an organization to manage a service transformation process as well as allowing time to demonstrate the project's viability to any skeptical parties.

Safer, for instance, put plans into place to react to potential resistance from SACMs that may have already implemented their own 'one-off' unique service processes. Safer was launched in phases, initially targeting four SACMs of varying sizes (in Jordan, Austria, Bahrain and Canada). This allowed staff to develop operational expertise that was useful in both gaining the confidence of and effectively deploying the service to other Saudi cultural missions abroad. It also allowed Safer to go beyond showcasing a proof-of-concept, and instead demonstrate a 'live' implementation in order to demonstrate the system's value.



Disciplined approach towards service delivery optimization

Leadership must have a strong conviction that service evolution must be linked to overall programme goals. Furthermore, leaders should institute a multi-pronged approach towards identifying the priorities for service evolution, including stakeholder feedback, the viewpoints of system power users and innovative practices of global peers.

In Safeer's case, all new projects are evaluated on the basis of how they can contribute towards the ability to provide services anytime, anywhere, while concurrently eliminating the need for physical paperwork. Approximately 200 system change requests are actioned by Safeer within each quarterly release period.

In general, there are three ways in which Safeer identifies new ICT projects to embark upon. First, Safeer staff can suggest the introduction or revision of module functionalities based on their current interaction with the system. Second, Safeer's leadership team can champion for specific features to be added or revised based on global best practices that have come to their attention. Lastly, Safeer's business development team can escalate change requests based on feedback provided by internal stakeholders, students, and cultural missions.

V Conclusion

A vision for the future

Looking ahead, Safeer's management team continues to plan further enhancements to the system. Leveraging the fact that the system's stakeholders are geographically dispersed and highly technology savvy, key initiatives are being planned to expand Safeer's accessibility via the mobile service channel. Offering a wider range of transactional services via mobile applications is expected to help Saudi scholars abroad become more engaged with the wider KASP community. Another channel being considered is a shared call centre that is spread out geographically in order to handle KASP-related inquiries on a 24/7 basis.

In addition, Safeer's leadership has also initiated a project to create a performance-management dashboard which can serve select stakeholders' on-demand reporting requirements. A centralized complaints system is another ongoing initiative with the aim of gaining better insight into key areas for system improvement. Both these projects are anticipated to further promote metric-driven decision-making amongst KASP partners.

In the coming years, Safeer also aims to create system modules to further extend the existing core programme and support the inclusion of additional training and vocational centres, as well as cultural centres, to the list of sanctioned universities and academic institutes overseas. The intention behind this is to allow all KASP scholars to enrol in various courses to be able not just to pursue academic knowledge, but also support their development into well-rounded individuals.

To date, Safeer has gained wide recognition within the Kingdom and across the Gulf Cooperation Council (GCC) bloc for its efforts in improving electronic service delivery among its constituents. In 2010, MoHE won the Middle East Excellence Award at the 16th GCC E-Government and E-Services Conference, acknowledging the valuable contribution made by the Safeer system. Also in 2010, MoHE received an award during the National Conference for Electronic Transactions in Riyadh, recognizing its achievements in implementing Safeer's electronic services.

While there may be no single 'correct' approach to launching or managing electronic services, Safeer's commitment to service optimization, its keen focus on its stakeholders' requirements and its forward thinking are key characteristics that will help ensure the programme is relevant and supportive of the Kingdom's efforts to prepare its youth for the challenges of the 21st century.

C2. Information and communication infrastructure: Schools Connectivity project (Saudi Arabia)

*Ministry of Education
Dr Talal H. Maghrabi*

I Background information

The main idea of the Schools Connectivity project is to enable all Saudi schools in all regions to connect to the Internet through reliable and acceptable links.

The project is aimed at helping teachers, students and school administrators to access and use valuable services provided by the Internet in general, and NOOR services in particular. The Kingdom of Saudi Arabia has more than 23 000 schools in different geographical locations, cities and regions, a good proportion of which have access to Internet services, but with an unreliable and low level of quality.

In order to provide students in all schools with equal education opportunities, it is important to connect all schools to the Internet. This project will improve/upgrade current wired/wireless connectivity in schools to direct Internet access (DIA), which is a better, faster and more reliable technology. The project also includes connecting all remote rural schools to the Internet via satellite, using VSAT. This will enable schools to utilize all the Ministry of Education (MoE) centralized applications and services, as well as using the Internet to improve education, at competitive and affordable prices.

The number of schools covered will be doubled in each of the coming four years, and the project is expected to be completed in five years, at which point all students and teachers will enjoy the benefits of a better infrastructure and educational environment.

II Goals and time-frame

This project is part of a bigger programme to establish a complete virtual network that covers all MoE departments, offices and schools. MoE decided to adopt a step-by-step approach to building such a network and achieving its goals. Four years back, it launched a unique initiative to establish around 50 smart schools scattered all over the Kingdom, and on the basis of the outcome of that initiative and the lessons learned, the decision was taken to adopt a simpler approach to introduce Internet as a tool in education, thus resulting in the launch of this project.

The short-term objective of the project is to provide fast and reasonable connections to all schools, according higher priority to high schools. The long-term goal is to have a reliable expandable infrastructure meeting the respective connectivity needs of each school. Large and/or advanced schools may be equipped with higher bandwidth in order to meet their needs, while smaller schools will receive sufficient bandwidth.

The main goal in the future is therefore to transfer the existing access technologies to form part of the MoE's private cloud.

III Project's added value and importance

The strength of the project can be summarized as follows:

- The implementation is planned to be gradual and in phases so as to ensure its execution with the available allocated budgets. It also provides for flexibility of execution by different telecommunication providers in different areas and schools, based on their readiness and strength. This will ensure faster implementation times.
- The project's approach helps top management within MoE to review policy and regulation on the use of Internet as an education tool within and outside schools and revise their plans in this regard.
- The involvement of all regional education branch staff and school staff helps to build the IT skills needed locally, which will support MoE in other modernization efforts that contribute to enhancing education processes.

With this approach, the project can be easily replicated in other countries and it will be a good indicator guideline.

IV Challenges

A project of this size is unique and may be expected to face many challenges. Some of the major ones that have already arisen include:

- Getting telecommunication companies to invest in the project, especially in rural and remote locations
- Obtaining the required large budget foreseen for the project on account of the large number of schools
- Managing the 33 000 schools involved
- The diversity of technologies used depending on the readiness of each location added difficulties in terms of operation, management and switching between them
- Keeping pace with the fast-changing technology market, and the deployment of new access technologies, which called for constant upgrading or replacement.

V Conclusion

Although the purpose of the first phase of implementation of this huge project was to provide connectivity to every school, there are still many steps to be taken to raise connection quality up to a level that is sufficient to enable each school to use ICTs. However, many lessons have already been learned from this experience. Some of the most important are as follows:

- Initial planning is crucial for very large projects
- Continuous work with clients in directorates and schools is a must, otherwise the project will fail
- Support from the Ministry of Communication and Information Technology and other regulatory bodies related to the communication industry in the country is vital: there are still a few areas in Saudi Arabia that are considered to be rural areas
- Establishment of a service quality mechanism to ensure that good service is provided in the school is a major factor

- Implementing a balanced (centralized/decentralized) management and monitoring process for the project activities is vital for achieving a reliable and stable service
- Participation of the telecommunication providers as partners is imperative for achieving the goals.

Acronyms:

MoE Ministry of Education

NOOR A web-based school management system that is being used by all schools, teachers, students and parents in Saudi Arabia

C3. Access to information and knowledge: AgroLib Ja (Agricultural libraries in Jagodina) (Serbia)¹

*Jagodina Public Library
Vesna Crnkovic*

I Background information

The Republic of Serbia covers a surface area of 88 361 km², of which 65 952 km² are rural areas. Some 66.03 per cent of the country's territory is agricultural land. Of this, apart from 40 per cent arable land, 21 per cent is covered by perennial crops and 28 per cent of the remaining land is under forests. The share of agriculture in the gross domestic product of rural areas is about 30 per cent, significantly higher than in other transition countries. Part of the explanation may be found in the valuable resources for agricultural production Serbia possesses. On the other hand, Serbia's agricultural productivity and intensity are considerably below the European average. The reason for this is unfavourable living standard of farmers.²

Unfavourable demographic trends have resulted in an unfavourable educational structure for the rural labour force, whose performance cannot meet the requirements of the labour market. The modest knowledge and lack of skills of the rural population in general are confirmed by survey data on living standards, according to which 97 per cent of the rural population said they did not attend additional education courses and 54 per cent had no additional knowledge and skills.³

The opportunities for virtual library services are also greater in urban areas. The inhabitants of small rural settlements are deprived of this type of library services, because they generally do not have equipment for their use at home, and there is no library where they live. This is supported by data from the Statistical Office.⁴ Overall, a total of 50.4 per cent of Serbian households own a computer, and 39 per cent of households have an Internet connection. However, the respective proportions of computers and Internet access in urban and rural areas are significantly different - 58.7 per cent and 49.3 per cent in urban areas, compared with 38.3 per cent and 24.1 per cent in rural areas.

¹ Note to the reader: Much of the text is taken from the paper Agricultural Rural Libraries in Serbia in the Era of Information Technology / Vesna Crnkovic, published at the 78th IFLA General Conference and Assembly, Helsinki, Finland: <http://conference.ifla.org/past/ifla78/205-crnkovic-en.pdf>

² Agricultural development strategy of Serbia http://www.srbija.gov.rs/vesti/dokumenti_sekcija.php?id=45678 (downloaded on 15 April 2012)

³ National Rural Development Programme 2011-2013 <http://www.ruralinfosrbia.rs/dokumenta/Nacionalni%20program%20ruralnog%20razvoja.pdf>, (downloaded on 15 April 2012)

⁴ Dragan Vukmirovic, Kristina Pavlovic, Vladimir Sutic, *Upotreba informaciono-komunikacionih tehnologija u Republici Srbiji : domacinstva/pojedinci*, preduzeca, Beograd: Republicki zavod za sttistiku, 2010



In terms of the whole library network in Serbia, it should be noted that in urban areas it is fully developed, and people have all types of libraries at their disposal to serve their diverse cultural, educational, professional, scientific, research, entertainment and other purposes. It is in rural areas, and in particular in small villages, where there are no public libraries, and often no schools, that the network of libraries is underdeveloped and that all users' needs cannot be satisfied. Nor do any other types of library for specific purposes exist in small rural settlements.⁵

The total number of rural libraries in Serbia is 326. The term *rural library* means public and local library branches in areas outside the municipal centres. For 2010, data were submitted by a total of 296 rural libraries (272 branches and 24 local libraries), out of which 132 own computers, 18 have the Internet and 12 have the Internet for users. These are computers with different kinds of configurations, and there are some libraries with completely outdated equipment.⁶

According to the IFLA/UNESCO Public Library Manifesto, public library services are required to be physically accessible to all members of the community and tailored to their diverse needs in rural and urban areas. That means providing outreach services for those who cannot visit the library.⁷

⁵ Marina Mitric, Mreza javnih biblioteka u naseljenim mestima Srbije in 2009. <http://www.nbss.rs/skup1.html> (downloaded on 15 April 2012)

⁶ Data downloaded from the database of Library Network of Serbia for 2010 <http://www.nb.rs/pages/article.php?id=1284> (downloaded on 16 April 2012)

⁷ IFLA/UNESCO *Smernice za razvoj javnih biblioteka*, prevodilac Gordana Ljubanovic, Beograd : Narodna Biblioteka Srbije: Biblioteka grada Beograda, 2005.

Problems in rural libraries in the municipality of Jagodina

In mid-2008, the Public Library in Jagodina conducted a survey among a sample of 100 subjects in the rural population to identify the needs of farmers. The subjects were between 30 and 50 years old (50 per cent male and 50 per cent female) and consisted of respondents from several villages in the municipality of Jagodina. Questions were related to the way the rural population obtained information on agricultural issues and the techniques and methods used to improve agricultural production. The reply options offered included professional journals, agricultural literature, Internet or traditional techniques and methods of conveying experience and knowledge from generation to generation. Most of the respondents (82 per cent) said they did not have a computer and had no computing knowledge, 90 per cent had Internet at home, 72 per cent used traditional methods of knowledge transfer, 88 per cent wanted to attend a computer school, 84 per cent wanted training through professional lectures, 100 per cent would like to visit a library to find literature in the field of agriculture, and 92 per cent said that their biggest problem was the lack of organized markets for agricultural products.

According to the 2002 census, Jagodina municipality (town and the country) had a total population of 70 894. The urban population was 35 589 inhabitants, while the rural population stood at 35 305 inhabitants.⁸ This shows that half of the Jagodina's population lives in the city, and half in villages; and the rural population does not have the ability to use library services.⁹ A massive 70.1 per cent of the total area of the municipality is agricultural.¹⁰



⁸ Statistical Office of the Republic of Serbia <http://webrzs.stat.gov.rs/WebSite/Default.aspx> (downloaded on 15 April 2012)

⁹ www.jagodina.org.rs

¹⁰ http://www.nbss.rs/skup/023_per_cent20Vesna_per_cent20Crnkovic_per_cent20Suzana.pdf (downloaded on 15 April 2012)

The statistics show that almost 50 per cent of the total population in the territory of Jagodina (rural population) are unable to use library services. This is at odds with the declared principle of libraries regarding equality in the availability of information, as well as the fact that the parent public library is required to organize and improve the entire library network in the district "taking into account the demographic, social and geographical conditions and trying to make library and information material available to people in their own villages".¹¹

There are 16 village libraries located in the municipality of Jagodina. During the 70s and the 80s, all bigger villages had village libraries. At that time, library services were traditional and users were students and literature fans. In 2008, the Radislav Nikcevic Public Library in Jagodina conducted a survey on the condition of rural libraries in the municipality and the needs of the agricultural population. The results showed that rural libraries were in poor condition, and the book collections were outdated and inadequate. The predominantly rural population could not use computers and did not understand the benefits of using ICT technologies. On the other hand, the Serbian government and institutions in Serbia had moved to an electronic notification system. Notices concerning subsidies and incentives for farmers are published on the website of the Government of the Republic of Serbia and the Ministry of Agriculture, without regard for the level of ICT literacy of the rural population. Having understood the problems in Jagodina's rural libraries and the issues facing the agricultural population in the villages, it was concluded that modernized and revitalized rural libraries could bring about change in the villages. The concept of a village library that would be the information, communication and cultural hub for local communities was designed.¹²

II Goals and time-frame

Possibilities for overcoming problems in rural libraries

Research results and the situation on site in libraries provided the starting point for developing the guidelines of the AgroLib Ja (Agricultural Libraries in Jagodina) project.

The plan is that the main beneficiaries of the AgroLib Ja project should be farmers from 52 villages in Jagodina municipality, to whom the library services would be available in five revitalized rural libraries (Bagrdan, Glogovac, Bunar, Glavinci, Majur). The objective of AgroLib Ja was improving life in the country, through revitalized rural libraries to develop new services using information technology and the Internet.

The first assumption is that the village libraries should be intermediaries in connecting end-users with a source of information, in this case linking farmers and the state, the farmers themselves in the exchange of knowledge and experience, and the farmers with potential sellers or buyers of agricultural products, machinery and services. This connection can be made if the rural library becomes a place which attracts those who, like farmers, meet and socialize, and can connect via the Internet and social networks. In order to achieve this, it was necessary to start upgrading information literacy among the rural agricultural population. The next assumption is that libraries are institutions

¹¹ Serbian Library Association, Standards for public libraries in the Republic of Serbia, <http://www.bds.rs/> (downloaded on 15 April 2012)

¹² AgroLib Ja – improving the lives of farmers, Vesna Crnkovic. – Jagodina, Narodna biblioteka "Radislav Nikčević", 2012.

that adjust their book collections and services to the needs of local people and that we should abandon the classical model of the library, which is based only on working with a book in hand. The conclusion drawn was that libraries should pay attention to socially vulnerable groups and assist them in adopting modern business concepts. Libraries are thus recognized as places where the residents of rural areas will be taught computer skills and where a qualified person (librarian) will assist in information literacy.

According to IFLA's recommendation, libraries should promote media and information literacy and lifelong learning. Media and information literacy covers knowledge, attitudes and skills that are needed in order to know when and what information is needed, where and how to obtain this information, how to evaluate it critically and organize it once it is there, and how to use it ethically. This concept goes beyond communication and information technologies and involves learning, critical thinking and interpretative skills within and outside professional and educational boundaries. Media and information literacy encompasses all types of information resources: oral, print and digital.¹³



Libraries – information and communication centres of the local community

Modelled on modern libraries of the 21st century, the concept of a modern village library was devised. The Public Library in Jagodina decided to revitalize five village libraries in the municipality of Jagodina and introduce new library services which would promote village libraries as cultural and informational hubs of their local communities through the AgroLib Ja (Agricultural Libraries in Jagodina) project. The ultimate goal of the project is to improve the economic and social status of farmers.

¹³ IFLA's recommendation about media and information literacy, libraries should promote media and information literacy. <http://bdsrs.blogspot.com/2012/04/prevod-ifla-preporuke-o-medijskoj-i.html> (downloaded on 8 March 2012)

III Project's added value and importance

The project makes the following available to the agricultural population in rural libraries:

Agricultural magazines and literature

As the rural population is mainly engaged in agriculture, rural library collections are enriched with current monographic and serial publications in this field. For all four libraries, a total of 185 current professional books in various fields of agriculture and 10 agriculture encyclopaedias were purchased. Annual subscriptions to eight professional journals in the field of agriculture were taken out, and one journal is obtained as a donation.

During the year following implementation of the project, agricultural literature was used in all four villages 1 655 times.¹⁴

The analysis of these indicators shows that the current abundant supply of agricultural material has contributed to popularizing the library as a place that preserves knowledge.

ICT training

In order for a librarian to be able to work as a knowledge guide, they need to use computers and to be able to guide users to websites that are useful for their work.

In the space of a year, six computer schools were organized, five for farmers and one for librarians. A total of 59 farmers, four rural librarians and a partner in the project were trained.

Participants in the ICT training for farmers differed in terms of their initial level of knowledge, their training needs and their specific interests. Each training course was based on an individual approach and the teacher adapting to the level and needs of each student. The number of classes varied depending on the interests of participants.

After the successful training of farmers in how to use new information technologies, the number of library users who use the Internet increased. The total number of visits to the Internet in all four libraries rose to 3 524.¹⁵

Lectures in the field of agriculture

Lectures and panel discussions in the field of agriculture are another form of education where farmers, in discussion with prominent Serbian experts in various fields of agriculture, have the opportunity to learn first-hand about innovations in agricultural production, examples of good farming practices and the work of agricultural associations both nationally and worldwide. Also, after the lectures they have the option to ask for advice or present their agricultural production problem, and thereby obtain advice and expertise at the highest level.

Farmers were very interested in this type of education. There have been 1 249 visits by farmers to lectures in all four villages. The lectures gave rise to lively discussions and farmers asked lecturers various questions. Each subsequent lecture attracted more and more visitors from the host village

¹⁴ <http://www.eifl.net/service-areas-replication-case-studies> (downloaded on 16 April 2012)

¹⁵ <http://zajednica.nb.rs/files/biblionet/2011/vesnajagodina.pdf> (downloaded on 15 April 2012)

and surrounding villages. Some farmers, after attending lectures, decided to expand their agricultural work or to start a new agro-business.

Website www.agrolib.rs

This website contains:

Weather forecast (http://www.agrolib.rs/?page_id=608&lang=en).

Digitized magazines and books (<http://www.agrolib.rs/digital/zbirka/>): As at end May 2011, collections on the site comprised 11 agricultural journals (Jutro) and the old and rare book "Belica," which talks about the genealogy of the Morava population. It also contains back issues of agricultural journals that offer valuable information that still remains useful for a long time after the journals were published.

Agrolib market (www.agrolib.rs/pijaca): AgroLib market, whose contents are edited by the users, is a place where users can advertise their products and share experiences from the field of agriculture, handicrafts and rural tourism.

The AgroLib market website is designed for people seeking or offering products and services in the domain of agriculture, rural tourism and old crafts. All site users, including unregistered users, can search the product database and the database of registered users, and view their profiles. After successful registration and account activation, users are able to regulate certain activities independently. Users with an active account can edit their own data about themselves, their businesses and their products within their user profile. When entering a product, the user must enter the product name, select the product type from hierarchically ordered structures and enter the product description. As a part of the text editor, a user can use the file-management program, enabling them to upload a photo (jpg, png or gif) to the server and include it in the description. Each user has their own folder, available only to them.



Examples of farmers who have improved their sales or sold larger quantities of goods after advertising on the site www.agrolib.rs/pijaca/ are recorded.¹⁶

ICT training, lectures and use of sites has contributed to popularizing the library as an information and communication centre for the local community. Many examples of cooperation and contacts in farming, consumer crafts and rural tourism come to our attention quite by accident, when attending events or when someone give us a call to thank us. Libraries and the website have become places for exchanging good ideas and even for starting agro-businesses. A lot of people have shared their stories about how using the website or going to the library has helped them. It may be assumed that there are numerous success stories, since the village libraries and the AgroLib market website are increasingly visited.

From 1 January to 18 April 2012, the site <http://www.agrolib.rs/pijaca> registered 16 179 visits by 12 334 visitors, and displayed 46 286 pages. This means that, from the beginning of 2012, there were 165 daily site visits, 126 visitors per day and 479.3 average page views a day. From the beginning of the year until 22 March 2013, the website recorded 16 559 visits, which is about 10 per cent higher than over the same period in the previous year.¹⁷

Librarians also made a big contribution to the AgroLib Ja project ideas. Examples of farmers who took significant decisions about agriculture after receiving the help of librarians were recorded. The librarian in Bagrdan helped a farmer from Batocina to find out what type of nuts are most suited for cultivation in that part of Serbia. These examples show that librarians adhere to the concept of librarians acting as knowledge guides who, in addition to using books and magazines, use websites to help library users.¹⁸

The project's success was achieved after overcoming a major obstacle, namely farmers' resistance to ICT technology in the early stages of the project implementation. As soon as we gained the trust and support of beekeepers from Bagrdan, farmers' attitudes towards new information technologies started to change. Farmers are now members not only of rural libraries, but also of the town library, the public library in Jagodina.

Key outputs for a three-year period of project implementation

- Over 900 farmers are now regularly using the village libraries and the AgroLib Ja service.
- Over 150 farmers were trained to use the Internet in three years - and 87 per cent of farmers say they are using the Internet at the library to look for agricultural information.
- In just three years, over 1 000 farmers attended panel discussions and lectures.
- The library launched the AgroLib Ja website - www.agrolib.rs, which attracted over 30 000 visitors in 2011 and over 60 000 visitors in 2012, and in 2013 there have been about 10 per cent more visits to the site than in the same period last year.
- Five village libraries were renovated and equipped and are now vital community centres.¹⁹

¹⁶ <http://zajednica.nb.rs/files/biblionet/2011/vesnajagodina.pdf> (downloaded on 15 April 2012)

¹⁷ http://jagodinalibrary.blogspot.com/2013_03_01_archive.html (downloaded on 21 April 2013)

¹⁸ <http://www.youtube.com/watch?v=rvQaVE4RNZU&feature=relmfu> (downloaded on 16 April 2012)

¹⁹ Public libraries empower innovations in the community : Regional Conference - Radoviš, 2013.

Replication

Three libraries from three different countries (Latvia, Lithuania and The Former Yugoslav Republic of Macedonia) have adapted the AgroLib Ja project to the needs of farmers in their local communities and since 2012 have been implementing the idea of rural libraries as information and communication centres for local communities.

Klintaine Public Library in Latvia has established a network of rural libraries. To save the costs of attending seminars and lectures, the library organizes webinars for farmers. Librarians in Klintaine Public Library would like as many farmers as possible to attend lectures and seminars, but the majority of them cannot afford financially to pay for the journey to the location where the lectures take place. The goal of this library is to enable farmers to access information related to agriculture from the Ministry of Agriculture through webinars, allowing them to gather in libraries and communicate with some of the representatives of government agencies and agricultural experts, thereby obtaining first-hand information.

Taking advantage of the fact that Lithuanian farmers are already familiar with computers and have the related skills, Pasvalys Marius Katiliskis Public Library in Lithuania is developing a service with so-called smartphones. Thanks to the smartphones, farmers will be able to access the Internet and use cameras and media players. They will have a web portal where they will be able to track information related to agriculture, and a service for printing business cards and flyers for farmers.

Farmers will be trained how to use QR codes (bar codes) that will enable them to identify their business cards and various bar codes on products, etc. By using smartphones and certain software, a phone camera reads a code and leads users directly to the URL address where they can find the desired information. In this way, the library connects farmers and gives them access to knowledge and useful information. The library is developing a site that will be helpful to farmers' communication.

Macedonians have copied the AgroLib project completely, which is not surprising given that the situation in their country is almost identical to that of Serbia. The only difference is they are not revitalizing rural libraries since they use infobuses, and they inform farmers about training and on various types of financing that are intended for them through text messages.²⁰

Changes in the local community

The relationship between the village agricultural population and the library has changed thanks to new information technologies. Farmers have become members of village libraries and started using the Internet, professional books and magazines in the domain of agriculture and the AgroLib Internet market for advertising their agricultural products and services, as well as other websites for agricultural business. Moreover, they are interested in connecting through social networks like Facebook. They have realized that only those farmers who are willing to acquire new knowledge and skills and who are trained to use information technology will be successful. Radovan Tasic, farmer from a village near Bunar in the Jagodina area, said that a literate person in the village used to be someone who can read and write, but now it is a person who knows how to use the Internet.²¹

²⁰ <http://www.eifl.net/our-current-grantees> (downloaded on 16 April 2012)

²¹ <http://www.youtube.com/watch?v=fJUQBQwBr7U&feature=relmfu> (downloaded on 17 April 2012)

The profile of users in the Radislav Nikcevic town library in Jagodina has changed. Prior to 2010 there were no farmers among the members of the library. At end March 2011, there were 46 of them, and owing to the AgroLib market the library has become a place visited by farmers on a daily basis (for information or mediation in resolving problems).

Farmers have learned that through certain websites they can obtain useful information, exchange experiences and establish cooperation. Also, they have understood that products can be sold and advertised on the Internet.

The revitalization of the five rural libraries in the municipality of Jagodina and the successful application of new services in rural libraries have generated interest on the part of the representatives of many local village communities to open or revitalize rural libraries, as appropriate. All of the above shows that the people in authority in Jagodina and government representatives in the villages are aware of the importance that libraries have for the information literacy of the agricultural population, which leads to the development of agriculture and society in general.

There is a great interest among local authorities in Serbia and other countries in the region to adapt the idea of village libraries to their local communities. A number of libraries all over the world are also showing interest in replicating the AgroLib Ja project and adapting it to the needs of their countries. The long-term aim of the Jagodina public library is to extend the idea of village libraries as local community hubs. As an example, the library in TFYR Macedonia that replicated the AgroLib Ja project shows that the project can be transposed to the whole region of neighbouring countries, because their social and economic situations are similar and there is no a language barrier.



IV Conclusion

Today, libraries promote and support social equity and are a relevant and key mechanism for the searching and selecting required information. Modern 21st century libraries are places where people's needs for knowledge and culture are met, and a space where they socialize. They are local community centres, particularly in small communities. They promote personal development and support all forms of learning and literacy as well as quality leisure time. They support equality, encourage reading, disseminate knowledge, contribute to improving learning skills, foster community

identity and develop a sense of community. Modern libraries are interesting and attractive places for people of all ages, backgrounds and cultures.²²

Libraries should have services for all types of users and adapt their collections and activities to the needs of users in their local community. The AgroLib project as well as projects by other libraries which implement similar ideas show that rural libraries should be given a new role in modern librarianship. They should become educational, informational, communication and cultural centres in their local communities. Also, they can be triggers for social and economic change in communities and beyond. New information technologies, the use of social networks and certain websites can be an important factor in educating and associating farmers. Rural libraries can be places that encourage professional and ICT education of farmers. Inspired by the modernization of rural libraries in Serbia, a lot of libraries are now showing interest. What they lack are the necessary incentives. To implement great ideas that trigger changes in a society, initial investment is needed.²³

²² http://www.mla.gov.uk/what/strategies/~media/Files/pdf/2008/library_action_plan (downloaded on 16 April 2012)

²³ AgroLib Ja – improving the lives of farmers, Vesna Crnkovic. – Jagodina, Narodna biblioteka „Radislav Nikčević“, 2012

C4. Capacity building: PLIP builds community ICT skills in 23 developing and transition countries (Italy)

*EIFL Public Library Innovation Programme
Rima Kupryte and Ramune Petuchovaite*

I Background information

The Electronic Information for Libraries (EIFL) Public Library Innovation Programme (PLIP) ([EIFL-PLIP](#)) works in developing and transition countries, at grassroots level, to improve standards of living and transform lives through supporting innovative use of information and communication technology (ICT) in public libraries.

EIFL-PLIP's target audience is the communities served by libraries, especially people in need of information and ICT skills, but who lack access to ICT. Since 2010, EIFL-PLIP has awarded small grants to 39 library projects in 23 countries in Africa, Asia, Europe and Latin America. Communities reached include farmers, health workers and patients, women and girls, job seekers, the disabled and vulnerable children and youth.

There are over 230 000 public libraries in developing countries. Known and trusted in their communities, staffed by trained librarians, and increasingly connected to the Internet, they are uniquely positioned to change lives and build strong communities. But this opportunity to reach people with vital information remains untapped.

Recent research²⁴ provides evidence that in most developing countries public libraries are under-resourced, technology infrastructure is poor and the digital information and services available are insufficient to meet user needs. Governments see libraries as a valued asset, but are often unaware of the dynamic role they are or could be playing in communities. Public libraries are viewed as quiet spaces, for books and study, rather than as modern, dynamic places where people can access ICT and find information that is needed in everyday life.

The EIFL-PLIP programme was initiated to change this situation by supporting libraries in implementing innovative services that improve lives in their communities, and through demonstration projects that show how public libraries contribute to achieving national and local government development goals.

²⁴ Public Access landscape study - <http://cis.washington.edu/landscape/library/working-documents/>, and Perceptions of Public Libraries in Africa, research commissioned by EIFL in six countries – Ethiopia, Ghana, Kenya, Tanzania, Uganda and Zimbabwe – and conducted by TNS RMS East Africa (EIFL, July 2011).



II Goals and time-frame

EIFL-PLIP's goal is to transform libraries to become centres of community life by offering non-traditional services that meet community needs.

EIFL-PLIP works through grant-making, awards and knowledge sharing.

Grant-making

In the space of three years, EIFL-PLIP has published three invitations to public and community libraries in developing and transition countries to apply for small grants (ranging from USD 15 000 to USD 30 000) to implement innovative community development services, using ICT. Over 500 libraries from 50 countries applied, and EIFL-PLIP has supported 39 new services in 23 countries.²⁵

The services use traditional and modern ICT in creative combinations – print, radio, computers, Internet, websites, video, mobile and smartphones – in addition to organizing meetings and public lectures. All the services include building community ICT capacity through training and workshops in which community members learn to use basic and more advanced computer software, to research the Internet and to use social networking tools as well as other digital skills.

Innovation awards

In addition to providing financial support, the [EIFL-PLIP Innovation Awards](#) was launched to recognize public and community library services that improve lives, and which are implemented without EIFL-

²⁵ The 23 countries are: Africa – Ghana, Kenya, South Africa, Tanzania, Uganda, Zambia; Asia – Cambodia, Kyrgyzstan, Kazakhstan, Mongolia, Nepal; Europe – Armenia, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Latvia, Lithuania, Macedonia, Serbia; Latin America – Chile, Colombia, Mexico.

PLIP support. This brings to light more examples of innovative public library services, and shows that the projects supported are not isolated cases.

EIFL-PLIP has launched five Innovation Award calls. No fewer than 112 candidatures were received in response to the first four calls, and a total of 14 winners in have been named in a number of categories: [improving community economic well-being](#); [contributing to community health](#); [contributing to social inclusion](#) in the community; and contributing to [open government and e-government services](#). In May 2013, the fifth call, for public and community libraries that use [ICT to empower women and girls](#), was still open for candidatures.

Knowledge sharing

At the end of their grant contracts, libraries assess the impact of their services and share results through the media, through advocacy with national and local government officials, and at international conferences. EIFL-PLIP develops case studies based on the results of impact assessments, and shares them widely to encourage replication or adaptation of innovative services.



III Project's added value and importance

Development is more cost-effective when it uses existing institutions. National public library networks – funded by governments – are sustainable, local institutions. They have branches in capital cities, provincial towns and villages. There are mobile library services which reach deep into rural areas. For example, Ghana Library Board deploys mobile libraries, some equipped with WiFi and laptop computers, in each of Ghana's ten regions. In some countries, vibrant community library sectors have mushroomed. Community libraries are largely funded with community support. In Uganda, there are 80 registered community libraries; Ghana has over 100. EIFL-PLIP builds on this existing infrastructure, increasing libraries' resources, skills and reach.

Over 9 000 people in 23 countries in Africa, Asia, Latin America and Europe have received ICT training in local libraries as a result of EIFL-PLIP support. New ICT skills are benefiting subsistence farmers, vulnerable youth, those suffering from ill-health, health workers struggling to update their knowledge, unemployed women, the homeless and many other disadvantaged communities. A total of 25 libraries have completed one-year projects and conducted impact assessments, 12 in 2011 and 13 in 2012. A further 15 libraries, in Ghana, Kenya, Tanzania and Uganda, completed projects and impact assessment research in May 2013. Impact assessment results for 25 services, detailing numbers of people who received ICT training and the benefits of training, are presented on the EIFL-PLIP website at <http://www.eifl.net/plip-impact>.

Agriculture – improving farmers’ lives

In 2011, [the Public and University Library ‘Goce Delcev’ Stip](#) in the Former Yugoslav Republic of Macedonia launched a mobile ICT training and agricultural information service for farmers in four villages that did not have libraries. The service trained farmers to use ICT to apply for grants and subsidies. In less than a year, the library reached 357 farmers through seminars and trained 42 to use ICT. Local municipalities reported a 20 per cent increase in the number of farmers applying for agricultural production subsidies.

‘By working with this library service, we help farmers to prepare their documents more easily and quickly, so that they can access the funds they need. They are now applying for different kinds of funds and subsidies,’ – Mr Riste Oganov, Agency for support of Rural Agriculture Development, Stip, TFYR Macedonia.



[The Public Library ‘Laboratorio del Espiritu’](#) uses ICT to improve the lives of fruit, vegetable and livestock farmers living in six villages around El Retiro in Colombia’s Antioquia district. The ICT for Rural Development service, which was launched in 2011, trained 130 farmers to use computers, to research the Internet and to use e-mail and social networking tools. The service increased the number of people using ICT at the library from 20 in 2011 to 150 in 2012 and sparked interest in new income-generating activities. Through the Internet, women farmers learnt now to make handbags from recycled cloth and now meet every week to make bags and to research marketing opportunities online.

In Serbia, [the Radislav Nikcevic Public Library's AgroLib Ja service](#), launched in 2010, offers an online market and ICT skills training service through five village libraries. In 2012, the library conducted a survey to assess the impact of AgroLib Ja: over 80 per cent of farmers surveyed said they used AgroLib Ja to look for agricultural information, and over 70 per cent said the information helped them boost production and improve farming methods.

Serving the unemployed and improving community economic well-being

In Bulgaria, [the Lyuben Karavelov Regional Library](#) trained 68 long-term unemployed people aged over 40 to use ICT. In less than a year, the Knowledge for New Opportunities for Work (KNOW) project, which was launched in 2011, helped 44 trainees find jobs.

'The library changed attitudes of the unemployed to job hunting, and their self-confidence grew. The trainees have qualities and skills that are valued by employers.' – Sonya Kamenovska, Bulgaria Employment Agency.

In The Former Yugoslav Republic of Macedonia, [the Braka Miladinovci Public Library's](#) ICT and employment information service, launched in 2010, helped 39 women (48 per cent of the library's trainees) find work in less than a year. The library's service is now integrated into the local municipality's services for the unemployed.

In Croatia, [Zagreb City Libraries'](#) ICT skills training and employment information service for the homeless, launched in 2011, helped 22 people find permanent, temporary or part-time jobs. The service also trained 63 homeless people to use ICT skills – more than 15 per cent of all registered homeless in Zagreb.

'As policy-makers working with socially vulnerable groups, we were positively surprised to see a cultural institution – the library – showing such sensitivity and ability in improving the lives of homeless people.' – Romana Galic, City of Zagreb Office of Social Protection and Persons with Disabilities.

Youth development

In less than a year, [East Kazakhstan Oblast Pushkin Library's](#) ICT skills and employment information service for vulnerable and marginalized youth trained 244 young people to use ICT. Skills included basic word processing but also more complex software, such as an accountancy program used by the local administration and software for audiovisual media production. The service built jobseekers' employment application skills, employability and confidence. In just six months, over 50 of the young trainees succeeded in finding jobs, developing small businesses or improving their positions at work. Another 10 entered colleges of further education. The service won recognition of the local authorities and international agencies, and the library is now managing a United Nations Development Programme project to roll out ICT to rural communities through 17 village libraries.

'At the library, I learned how to advertise my skills on the internet and to create a website. I sent out résumés and looked for a job online. Fortune smiled on me!' – Kuanysh Dyusupov, successful jobseeker.

[The National Library of Uganda's](#) ICT skills training and employment information service for vulnerable youth, launched in 2011, trained over 560 young people to use ICT in less than a year. The service also uses mobile phone text messaging (SMS) to alert young people in the capital city, Kampala, and two district centres, Masindi and Lira, to further education and job opportunities.



In South Africa, [the Masiphumelele Community Library's](#) ICT and job-seeking skills training service, launched in 2011, for vulnerable youth living in an impoverished informal settlement near Cape Town, trained over 1 540 beginners and 48 intermediate ICT students. In less than a year, over 20 trainees found jobs and 31 entered further education.

'The library has changed my life because I am learning and I will get a certificate instead of just sitting at home doing nothing,' – Sikhumbuzo Tsobo, Masiphumelele Community Library ICT course graduate.

Improving community health

In 2010, [the Kenya National Library Service](#) installed e-health corners in two provincial branch libraries, in Kisumu and Eldoret. The e-health corners offer free ICT access and skills training. In just one year, librarians trained over 1 600 health workers, students and members of the public to use ICT to access online health resources. Working with the Ministry of Public Health and Sanitation, the two branch libraries regularly host public lectures on topics including HIV/AIDS and other sexually transmitted diseases, personal hygiene, malaria and TB.

In Kyrgyzstan, [the Kyrgyz Libraries Information Consortium \(KLIC\)](#) mobilized and trained over 800 'No to TB' campaigners (teachers, pupils, parents, social workers, doctors' assistants, journalists and librarians) to raise awareness about tuberculosis (TB) in vulnerable communities, and to use ICT to support their campaigns. Since the project began in 2011, campaigners have reached thousands of people with vital health information, demonstrating the power of a public library network (190 libraries) in supporting delivery of a national government health programme. KLIC also created a lively TB information website, which has attracted over 7 000 visitors, and an e-resources repository, including articles, books, handouts and videos.

'My father was sick and we did not want to go to the hospital. At the village meeting we learned that our library had a lecture on TB. We came to the library, and librarians were very sensitive in approaching our problem. They told us about tuberculosis and its symptoms and how to prevent TB. They recommended that we should go to the hospital. Thanks to the

librarians and their advice, and the doctors, we were able to overcome this disease!’ – Jukov family, Novopodrovka Village, Kyrgyzstan.

In Armenia, [the Lori Regional Library’s](#) Health Bridge service, launched in 2011, included ICT training for doctors, librarians and the general public; a website with health information; an online service for patients to consult their doctors; and public lectures, film screenings and seminars to raise awareness about local health issues. The service trained over 110 service users to use ICT to research health information, responded to more than 2 600 requests for health information and recorded over 6 000 visitors to the Health Bridge website, including 133 online consultations with doctors.

‘When my children have health problems, I research the Health Bridge website to find the right specialists – and I find detailed information,’ – Ms Gayane Pogosyan, who learned how to use ICT at the library.

Replication and scale-up of innovative services

A grants programme was designed to test whether services could be replicated. After completion of the first 12 pilot projects, we issued a second call for proposals to replicate these projects. The results of the second call clearly demonstrate that innovative library services can be replicated in very different geographic, institutional and socio-economic contexts. For example, [the Kenya National Library Service’s](#) e-health corners were replicated by libraries in Armenia, Kyrgyzstan and Lithuania. [The Berd Public Library in Armenia](#) and [Laboratorio del Espiritu in Colombia](#) are both replicating a public library service for farmers living in remote communities in the Andes mountains of southern Chile.²⁶



²⁶ Panguipulli Public Library No. 296 – ‘Communicating farmers’ project - <http://www.eifl.net/panguipulli-public-library-no296>

There is also evidence of replication taking place in countries where EIFL-PLIP partner libraries have implemented services. For example, inspired by East Kazakhstan Oblast Pushkin Library's youth development service, two local authorities (Zharma district administration and Shygis village administration) are setting up community e-learning centres in their areas.

'I saw how people admire the library and how participants are proud to use computers. And I thought – we will have the same library [service] in our region.' – Mr Amanzhol Dautov, Head of the Culture Department, Zharma District, who has allocated funds for a computer room in Kalbatatu library.

Innovative services are also attracting government attention, and are receiving support to scale up their services. With EIFL-PLIP support, [the Utena A&M Miskiniai Public Library](#) in Lithuania developed a computer game to encourage schoolchildren – who were avoiding school and were coming to the library during school hours – to reconnect with their schools. In 2010, the library introduced the game through 25 libraries, reaching 13 schools and about 1 700 children. In 2013, it received funding from the European Social Fund and the Lithuanian Government to expand the 'Play to Study' service to more than 50 schools in nine municipalities, reaching 7 000 children.

IV Challenges

Overcoming challenges and learning lessons

Challenges encountered were primarily context-based, and experiences differed from country to country.

Technology

Libraries in less well-developed countries, for example countries in Africa, struggled with the purchase, installation and maintenance of technology. Obstacles included importation costs, including duties and taxes, and access to technology installation and maintenance skills, particularly in rural areas. In addition, rural libraries in Kenya, Uganda and Ghana reported frequent and lengthy power outages, unreliable Internet connections and inadequate bandwidth, leading to disappointment and disillusionment of trainees. Libraries in transition countries in Europe also encountered technical challenges, but to a lesser degree.

To overcome these challenges, libraries revised community training schedules to accommodate the extra time needed to install computers and Internet connections and, in some places, resorted to installing expensive generators to power computers and stabilizers to prevent computers being damaged by power surges.

The Berd Public Library, which serves a small town of about 9 000 people and surrounding villages in Armenia, struggled to find local technicians to install and maintain computers. Their solution was to train a community member to provide technical support for the library's computer laboratory, and to train librarians to troubleshoot software problems and to communicate effectively by telephone with technicians in Armenia's capital city, Yerevan, over 100 km away.

Human resources and skills

Librarians reported challenges in delivering non-traditional community services and working with particular target communities. For example, libraries offering agricultural services in Serbia and TFYR

Macedonia did not anticipate farmers' schedules, and had to adapt their training programmes because farmers could not attend training during harvest times.

In the National Library of Uganda, librarians found that their young trainees could not understand English well enough to read training manuals. Librarians therefore translated their manuals into local languages.

V Conclusion

EIFL-PLIP's experience and impact evidence from innovative services show that public libraries in developing and transition countries are ready and – with minimal additional support – able to provide services that change lives and improve livelihoods. In developing and transition countries, public libraries are under-resourced, lacking finance and technology. Given their numbers, their reach and their proven potential, this should not be the case. It is time to bring public libraries fully into the development arena.

'It is of great importance that in each community there is a place where people gather, exchange information and learn. Such centres should be libraries.' – Bojana Dimitrijevic, Deputy of the Town Assembly, Jagodina, Serbia.

Acronyms

EIFL	Electronic Information for Libraries
EIFL-PLIP	EIFL's Public Library Innovation Programme
ICT	Information and communication technology

C5. Building confidence and security in the use of ICTs: Digital training through mobile classrooms (Ecuador)

Ministry of Telecommunications and Information Society
Mobile classrooms

I Background

What is the main idea behind the project?

Following an assessment, it was determined that there are several factors underlying the digital divide in Ecuador, including, *inter alia*, lack of infrastructure to educate people in information and communication technologies (ICTs); poor broadband network coverage; lack of trained teachers to provide education in the use of ICTs, leading to low digital literacy; and rare use of ICTs by productive microenterprises and for online government services.

As a result, a solution was envisaged to develop transportable centralized technology (mobile classrooms) that can be condensed and mobilized in order to bring ICTs and knowledge closer to all of Ecuador, particularly in rural and marginal urban areas, so as to reach people who in the past have never had an opportunity to learn about computers or the existence of the Internet, its benefits and how to use the Internet in a secure environment. In addition, through workshops and training, mobile classrooms impart knowledge and tools that help build confidence and security in the use of ICTs.

Who is the target audience?

The project targets especially inhabitants of rural and marginal urban areas where there is no access to ICTs, and also people in the lower socio-economic strata who are the most in need, as well as those who, even though they may be literate, have no experience with technology.

Who are the main beneficiaries of the project?

At the moment, the main beneficiaries of the project are children and teenagers, who represent 86 per cent of the people served and who did not previously have access to the use of ICTs. As at 18 April 2013, a total 175 043 children and 203 614 teenagers have benefited from the services provided by the mobile classrooms.

Young people are the future consumers and generators of information and, through this project, they are planting the seeds for interest and confidence in the use of ICTs, which is one of the main achievements to harness for the present and the future.

In terms of gender, 48.83 per cent of the direct beneficiaries of the mobile classrooms are women, which underscores how the project benefits gender equality.

In rural parishes, approximately 17.5 per cent of those trained by mobile classrooms are from groups requiring special attention, including single mothers, neighbouring border citizens, unemployed people, children and young people.

In terms of numbers of direct beneficiaries, it has been determined that 203 614 inhabitants of 23 provinces have been introduced to the use of technology.

Why is this project necessary?

A number of factors inhibiting digital literacy development were identified, particularly the cost of Internet services, infrastructure for ICT education and common services such as electricity, resulting in a complex situation in which rural areas were lagging behind in terms of development, having been left out and having never had access to ICTs. Yet, when the local inhabitants in these areas get to know the benefits of ICTs, the local demand for online services explodes and prompts calls for the government to provide for permanent implementation of these services in local areas.

What is the scope of the project?

In its Phase I, the project’s scope is to promote the need for use of ICTs in Ecuador. The first stage of the digital training project through mobile classrooms, beginning on 21 November 2011, with a completion date of 28 December 2015, is expected to achieve the following result:

- 350 000 beneficiaries in rural and urban marginal areas made aware of the use of ICTs.

In its Phase II, the project will drill deeper in terms of the knowledge to be transmitted, complemented by content that supports production, focusing on the type of training and on reaching rural parish areas where access is difficult, with an estimated coverage of 90 per cent of such parishes (MINTEL forecasts).



Where is the project executed?

The project is executed in continental Ecuador, in all rural and urban marginal areas, where the population has a high percentage of functional literacy and where deficiencies in electricity and Internet connection exist.

How can this project contribute to the WSIS objectives ?

This project is aligned with the WSIS objectives and the Millennium Development Goals, including, notably, eradicating hunger and extreme poverty, since the use of and access to ICTs are a proven factor in increasing GDP per capita in localities where ICTs are adopted.

It contributes to gender equality and empowerment of women, as seen from the fact that 48.83 per cent of direct beneficiaries are women. In this specific case, the project seeks to offer women a first approach to ICTs and then consolidate this through the use of ICTs, thus dispelling the fear of using new technologies and helping them gain confidence in the use of ICTs.

In line with the Geneva Plan of Action, the project focuses mainly on promoting user education and awareness about online privacy and the means of protecting privacy.²⁷

To build confidence in the use of ICTs, two instructors per mobile classroom provide friendly guidance and support, the training focuses on the use of ICTs and also how to create a secure online space for users.



²⁷ Geneva Plan of Action, § 12c)

II Goals and time-frame

What are the short-term and long-term goals of the project?

The short-term goal is reaching the projected beneficiaries for 2015: 350 000 people made aware of ICTs with the seven mobile classrooms currently in operation plus additional mobile classrooms that are planned for 2013.

The long-term goal is to complement the current project with other projects that can provide permanent access for the populations that have benefited from the Mobile Classrooms project.

III Added value and significance of the project

What is the project's strength?

The greatest strength of this project is the low cost of training per capita and the mobility of the units, allowing greater territorial coverage in a short space of time, reaching people in less served rural areas in the country using rapidly deployable mobile classrooms equipped with the latest technology offering the same tools and resources as in large cities.

Can the project be easily replicated in other countries?

The project can be replicated: the mobile classroom concept only requires vehicular access to the target sites, which is possible internationally.



IV Challenges

Is there any particular challenge in the execution of the project?

The project has to overcome a number of potential challenges:

- Rural parishes located in places that are not easily accessible by transport
- Unavailability of electricity supply in several rural areas
- Unavailability of Internet service from phone operators and other suppliers
- Ways to increase the involvement of people in the urban areas that are visiting, many of whom cannot attend the mobile classrooms owing to their economic activities
- Overcoming resistance to change, especially among the older generation.

How to overcome these challenges?

Solutions include hiring services offering a turnkey-type project, generating electricity with mobile generators, and recourse to satellite Internet service as a back-up service of the Internet operators.



V Conclusion

What lessons have been learned from the project?

The main lesson learned from this project is the need to move ahead quickly and provide broad access to ICTs for the Ecuadorian population that currently has no services supporting such access.

The government's decision and determination to push forward to reduce the digital divide is very important, so that rural areas can progressively generate demand for ICT-based services in order to build a knowledge and information society.

Children and young people are the main stakeholders and beneficiaries of the services that are being provided through the mobile classrooms, regardless of their geographical location. They are the present and future of the information society that we are building.

This project allows us to break down cultural barriers, as women - despite restrictions and situations – access the knowledge and use ICTs in pursuit of better days for them and their families.

Acronyms

MINTEL Ministry of Telecommunications and Information Society

C6. Enabling environment: Club Digital: Massive open online ICT courses (Mexico)

*Ministry of Communications and Transportation
Coordination of Information and Knowledge Society*

I Background information

Club Digital was created to promote digital inclusion in Mexico, through a model of technological appropriation targeted at young people and implemented by the Ministry of Communications and Transportation (SCT).

According to the 2010 population census, 51.2 per cent of Mexicans between the ages of 16 and 19 attended school, as against only 22 per cent in the 20 to 24 age group. Furthermore, only 14.5 per cent of the population older than 19 had some sort of high-school education.

These figures indicate that a high percentage of the population between 16 and 19 years drops out of formal school for various reasons. It is therefore necessary to generate both non-formal education options and employment opportunities for this group, especially considering Mexico's demographic bonus.

It is essential for a country with a large population group of productive age to invest in the creation of training models to generate human capital if it wishes to promote equal opportunities. The concept of Club Digital arises from the need for training opportunities and useful learning for young people between 16 and 29 years of age, whether they attend school or not.

The goal of Club Digital is to provide a free online platform for young people with training content, tools and custom consulting. It builds and strengthens their technological and entrepreneurship skills, and encourages interest in technology and the creation of their own projects.

Club Digital currently has 25 online challenges and 82 tutorials, and the number is constantly increasing. New content will expand the areas of knowledge and add levels of difficulty to the materials available today in the platform. Usage statistics of the website reflect:

- 5 470 registered members in the website
- 993 members enrolled in challenges
- 12 677 tutorial consultations (it is not necessary to be registered to consult the tutorials)
- 368 direct questions about challenges and tutorials

No fewer than 37 Club Digital centres, acting as physical meeting points for members, were installed in order to complement and enhance the impact of the online platform. These centres are equipped with computers and were housed in spaces which, by nature, cater to young people: local spaces from the Instituto Mexicano de la Juventud (*Mexican Youth Institute, IMJUVE*), public high schools

and the CANIETI²⁸ Business Innovation and Technology (BIT) Centre in Tijuana, all of them strategic partners of Club Digital.

ICTs have become an effective means to generate new ideas for learning. The ministry is responsible for supporting and coordinating initiatives that use ICTs in the service of the community. With Club Digital, the ministry contributes to the education of young citizens through an online training programme.

Club Digital has an impact in reducing the digital divide. It promotes equality through free online access for anyone who is interested in learning the use of technological tools and entrepreneurship. It provides content and a platform to meet the interests and needs of society.

Club Digital is presented as a platform built for a young audience which, on the basis of the statistics, may not continue studying formally. For this reason it is a self-learning option for the use of technology and entrepreneurship.



II Goals and time-frame

- To promote the development of young and talented human capital capable of entering the labour market in the area of technological entrepreneurship.
- To become an international reference as a generator of significant knowledge for young people in order to offer them genuine opportunities for professional development through the use of ICTs.

²⁸ Cámara Nacional de la Industria Electrónica, de Telecomunicaciones y Tecnologías. (National Chamber for the Electronics, Telecommunication and Information Technology Industry)

- To become a collaborative space where different groups participate actively, sharing their interest in technology.
- To promote the model of “learning by doing”.
- To become one of the most used MOOCs (massive online open courses)²⁹ by young people in Mexico and Latin America. MOOCs are the future of online open education.



III Project's added value and importance

One of the added values of Club Digital is the possibility of “learning by doing” through an online platform of challenges and tutorials. This model is strengthened by the advice of expert tutors who support the learning process in topics such as graphic design, multimedia, software development, databases, leadership, e-commerce and business models, among others.

The model proposed by Club Digital promotes self-sufficiency, since it allows people to design a self-learning path according to the time available to them and the interests of each partner. In addition, it uses a gamification³⁰ system that assigns points to members, which are converted into benefits, such as awards and scholarships. The system also promotes participation in other, unexplored areas of the website.

When a member completes a challenge, Club Digital awards them a certificate validating successful completion. In addition, the website has a vocational assessment function allowing users to test their real skills and make decisions regarding Club Digital and their future education. Another characteristic of Club Digital is how it promotes creativity among its members, using the available resources for innovating in the interests of their personal development.

²⁹ The characteristics of a MOOC are: unlimited number of enrolments; able to be followed online; and offering open and free content. <http://www.mooc.es/que-es-un-mooc/>

³⁰ Gamification is the use of game thinking and game mechanics in a non-game context in order to engage users and solve problems. It is employed in applications and processes to improve user engagement.

Through an accessible, innovative and attractive platform, Club Digital provides content and tools that are useful and valuable in the labour market. The content and tools are provided by strategic technology partners such as Red Hat, Intel, Cisco, Microsoft and Choose Right. These partners were brought on board in order to create job opportunities and launch new projects in the field of technology.

Club Digital is a laboratory that offers a great opportunity to improve knowledge and understanding of a wide range of topics, such as online training of young people, interaction between the public and private sectors in regard to technological entrepreneurship projects, and the participation of governmental entities as drivers of development and equality through ICTs, to name but three examples.

Club Digital's model can be replicated in other countries, considering key factors such as partnerships between the public and private sectors and clear and active coordination between the players involved.

A platform such as Club Digital may contribute in the long term to the construction of ecosystems that generate local development and technological entrepreneurship.



IV Challenges

The aim of Club Digital is that, in the future, young users will determine the content and the dynamics of the platform, and that the private initiative and investors will use Club Digital as a tool to hire young talent and obtain innovative investment proposals.

An important factor for follow-up of the project is analysing indicators of the use of the website, the behaviour of users and the success of the content. It is important to link these data to the trends and needs of the local and national market, in order to shape new content.

Club Digital's partners can be a breeding ground for talent that should open up channels for those young people who stand out for their high performance in the platform. For them, the model should consider a support mechanism that may range from scholarships to continue their training process to access to credits for undertaking projects of their own.

One of the biggest challenges for Club Digital is to encourage the participation of young people in places where the digital divide is greater, using the infrastructure of the Club Digital centres and with the support of its strategic partners.



V Conclusion

In Club Digital, ICTs generate social and economic development and provide free training opportunities to thousands of young people. Club Digital also promotes innovation and entrepreneurship through an online platform capable of connecting technology developers, government entities, academies and young users in the same space and at the same time.

Club Digital can be replicable as an online model with educational and employment opportunities.

Club Digital is possible thanks to government interest in the projects and the commitment of strategic partners, in order to promote the use of technology for social welfare. It is important to emphasize that this kind of project is not necessarily expensive in monetary terms, and that its real value lies in the combination of high added value and good coordination of the actions necessary to fulfil the goals set.

C7. ICT applications: Benefits in all aspects of life

C7.1 E-government: Project SAKSHAM – ICT-enabled direct old-age pension distribution (India)

*Network for Information and Computer Technology (NICT), Indore
Mr Mukesh Hajela*

I Background information

Ageing is a natural process that occurs inevitably in all human beings, leading to reduced functional capacity of a person to work and earn. It affects everyone, rich or poor, although some may be able to sustain their capacity while others may not.

The poor, who manage their livelihoods on the basis of day-to-day-wages and survival, find it difficult to do so with advancing age, and face increasing challenges as they lose the capacity to work as they grow old. The socio-economic condition of poor families exacerbates the situation, which worsens and may even become pathetic as they reach and go beyond the age of 55. A family which is already in the phase of extreme poverty, i.e. below the poverty line (BPL), finds itself in a horror livelihood scenario.





It is not that people and populations discard senior citizens, but their economic condition and constraints make it impossible for them to manage the situation. Weakening family and social support systems and the growing number of old-aged people is always matter of concern to the government, at federal and provincial level.

The population of 60-plus citizens is increasing in the world. UNESCO has estimated that the figure of 540 million old people in 2005 is set to double by 2025. In India, according to census data, the figure in 1961 stood at 5.3 per cent, and it is expected to reach more than 10 per cent by 2020.

Senior citizens are a reservoir of knowledge and experience and the “encyclopaedia” of a growing society, which are important for the development of communities, and despite physical limitations they can always contribute to and mentor socio-economic growth, provided they are given the necessary respect, opportunity and space in the community where they live.

In order to create a conducive environment and to provide a better life for older citizens, the Government of India and the provincial government of Madhya Pradesh has undertaken a series of efforts by launching and implementing various schemes for old-aged citizens, such as the Renbasera senior citizens home, the National Social Assistance Programme (NSAP), the National Old-Age Pension Scheme (NOAPS) and the India Gandhi National Old-Age Pension Scheme (IGNOAPS).

Need to implement the project

Unfortunately, owing to intermediaries, illiteracy, lack of awareness and loose monitoring and control systems, benefits have not been reaching the beneficiaries as intended, in spite of the federal and provincial governments’ endeavours and the implementation of various schemes to provide an enabling environment through the banking system so as to avoid percolation and ensure that benefits reach the beneficiaries.

The Municipal Corporation of Indore, a local body under the leadership of the Honourable Mayor Mr Krishna Murari Moghe, together with his colleague in charge of the Indore Welfare Department Municipal Corporation, Ms Padma Bhoje, decided to implement comprehensive schemes and provide close support to old-aged citizens residing in the Indore area by distributing pensions under various policy provisions and schemes.

Accordingly, Indore Commissioner Nagar Nigam strove continuously to work out a strategy whereby pensions can be distributed without any percolation and senior citizens are not pushed from pillar to post in the office of Municipal Corporation. He also sought a strategy that would enable the distribution of old-age pensions to be decentralized through zonal offices.

Target audience and beneficiaries

In Indore, approximately 60 000 old-aged citizens are identified to whom old-age pension benefits need to be extended. It is felt that these beneficiaries, in spite of their difficult livelihood situations, face problems in receiving their minimum survival old-age pension/social-security pension, i.e. INR 150 (USD 2.76) and INR 350 (USD 6.45), respectively. The population of every zone of the Municipal Corporation below the poverty line should enjoy this coverage.

Scope of project

The Network for Information and Computer Technology (NICT), a social enterprise working in the area of ICT for development, is taking advantage of the Indian Government’s new IT and banking policies to create an enabling environment for ICT-based direct pension distribution by exploiting the synergies between government policies and two stakeholders, the Municipal Corporation of Indore and the nationalized Bank of India. Under the new policy, NICT has implemented a direct old-age pension distribution system with those stakeholders.



Bank of India, Municipal Corporation and NICT Team



NICT Dravid Nagar Zone Kiosk for Old Age Pension Distribution

The Stakeholders



Bank of India



Municipal Corporation, Indore



Network for Information and Computer Technology (NICT)

The combination of stakeholders allows the creation of ICT-enabled pension distribution centres, which act as kiosk banks. Under the project, which is named SAKSHAM, NICT has created a network of kiosk banks in 15 locations and deployed manpower to run the kiosks.

The kiosk centre

The kiosk is an ultra-small branch of the Bank of India established in various zones of the Municipal Corporation Indore by NICT, enabling old-age pension beneficiaries to draw their pensions in the local area where they reside, without having to travel to municipal headquarters or a branch of the Bank of India. Otherwise, when they are obliged to travel to the municipal corporation's office or a bank branch, they can get trapped by intermediaries and sometimes end up paying for local transport and commission to intermediaries, leaving them with only half of their minimum survival pension.

Advantages of the project

The Bank of India NICT kiosks not only empower old-aged citizens by addressing their critical socio-economic situation, but also provide employment to young entrepreneurs who run the ultra-small branches/kiosk banks. Implementation of the Saksham project thus brings a twofold benefit for strengthening the socio-economic scenario of the urban poor: the "2Es" – empowerment and employment.

Area covered

The project is rolled out in the entire area of the Municipal Corporation of Indore, divided into 15 zones. With the implementation of these 15 kiosks, people do not now have to travel long distances, but receive their pensions through the kiosk bank established in their zone.

SN	NICT old-age pension kiosk	SN	NICT old-age pension kiosk	SN	NICT old-age pension kiosk
1	Kila Maidan	6	Subhash Nagar	11	Nehru Stadium
2	Rajmohalla	7	Scheme No. 54	12	Harsiddhi
3	Shantipath	8	Vijaynagar	13	Bilawali
4	Sangam Nagar	9	Pancham ki fel	14	Hawa Bunglow
5	Sukhliya	10	Saket Nagar	15	Dravid Nagar

NICT old-age pension kiosk - Performance by zone (As at 15 April 2013)

Zone	Amount disbursed	Accounts opened
Kila Maidan	305 217	650
Rajmohalla	588 531	623
Shantipath	541 000	770
Sangam nagar	438 074	904
Sukhliya	662 160	1 458
Subhashnagar	922 480	1 287

Zone	Amount disbursed	Accounts opened
Sch. No.54	217 002	1 011
Vijaynagar	206 599	398
Pancham ki Phel	372 428	1 079
Saket Nagar	230 115	504
Stadium	421 470	1 471
Harsiddhi	754 201	815
Bilawali	434 229	974
Hawabanglow	60 350	387
Dravidnagar	533 401	733
Total	6 687 257	13 064

Project contribution to achieving the WSIS goals

As we move towards the global and inclusive society of the new millennium, the project contributes to the process in a number of ways.

- It helps in the eradication of extreme poverty and hunger.
- It helps to ensure a sustainable environment conducive to empowerment of women and gender equality.
- It supports the WSIS Action Line on ICT applications: Benefits in all aspects of life, e-government.
- By harnessing ICT to leverage the government system already in place, it ensures that the benefit schemes are properly implemented and reach the grassroots individual.
- Through the restructuring of government policies and synergic coordination, it redefines government operations in the area of social welfare schemes.
- It eliminates intermediaries and ensures smooth delivery of services to the beneficiaries, thereby turning the receipt of services under the local urban government's scheme into a satisfactory experience.
- It contributes to self-sustainable enterprise and partnership for development.
- The kiosks also work as information-dissemination centres.
- It contributes to the establishment of an inclusive development-oriented information society.
- It empowers poor people residing in urban areas as well as people living in remote rural areas.

II Goals and time-frame

The project was started on 12 April 2012, inaugurated by the Honourable Mayor of Indore, in the presence of the official in charge of the Welfare Department, Ms Padma Bhoje, and the Commissioner Nagar Nigam, Indore, who are the driving force in ensuring the hassle-free direct distribution of old-age pensions in the Municipal Corporation area of Indore.



The project aims to cover all citizens under the scheme, i.e. around 60 000 people over a five-year period; in first phase April 2012 - April 2013, 15 000 beneficiaries have been covered. It is envisaged that, after successful roll-out and once the model matures, all remittances such as scholarships, primary school education fund grants, etc. will be routed through kiosk banking.

III Project's added value and importance

Furthermore, it is planned that the kiosks will act as information-dissemination centres and that other government services such as payment of electricity bills and obtaining domicile certificates will be provided in the kiosks in addition to their banking services. By end May 2013, it is proposed to start the PFRDA (Pension Fund Regulatory Development Authority) pension scheme for old-aged people in rural areas.

The project can easily be replicated in all parts of the country, in rural or urban administrative units, and many more government remittances, such as scholarships and maternity security funds, can be routed to beneficiaries through the Bank of India NICT business correspondent kiosk networks, which limits percolation and ensures that benefits reach the beneficiary account directly.

The project has already scaled up to the Gram Panchayats (local government) level in rural areas, where banking kiosks have been established by NICT after identifying an appropriate business correspondent and, following the example of this project, the nearby village of Indore Metro has also started a benefit remittance scheme.



IV Challenges

The biggest challenge faced in establishing the banking kiosk is the trained manpower to run the kiosk. A further challenge is lack of availability of a location. The manpower issue has been addressed through NICT's social enterprise model, whereby young unemployed people from the local area are identified by NICT and then trained and given close support, thereby providing them with sustainable employment. The issue of location and space to establish kiosks has been resolved by the Municipal Corporation of Indore, which is allocating space in all of its zones.

The public-private partnership ensures timely implementation and the ability to bridge the various infrastructure, awareness and knowledge gaps.

The Bank of India, one of the leading public-sector banks, ensures quality-monitoring procedures through their ICT-based kiosk solution.

The process re-engineering has been facilitated by continuous coordination meetings between all three stakeholders organized by NICT. Now, for the Municipal Corporation, the task of having to sign thousands of vouchers and cheques and cope with the hassle of thousands of people descending on its office has vanished, thanks to decentralization of transactions to the zonal office kiosks. The Municipal Corporation remits a single cheque for all 13 000 or so beneficiaries, the bank places the amount in the beneficiaries' account and the NICT kiosks disburse the amount to the recipients using biometric identification.



V Conclusion

A review of the project's achievements shows that, as from April 2012, more than 13 000 beneficiaries are covered under the project. The project clearly demonstrates that ICT, if made an integral part of governance, ensures the successful implementation of benefits schemes without any percolation, and contributes to achieving the goals of human rights and fundamental freedom. It also ensures better and more transparent functioning of government.

ICT has proven to be one of the key technologies having a direct impact on improving the livelihood of human beings. It contributes to the development of a sustainable inclusive society. As such, it can be stated that **ICT is a techno-socio-economic phenomenon**.

C7.2 E-business: E-licence information system (Kazakhstan)

Ministry of Transport and Communications, National Information Technologies JSC and Ministry of Regional Development

I Background information

Primarily, the e-licence information system was developed to automate the process of obtaining licences and permits.

Nowadays, the system has a wide range of advantages, among which:

- It makes it possible to maintain a single register of licences, and subsequently all types of permits, in the Republic of Kazakhstan, with unique numbering in the register. The historical information stored in the register is created and delivered in electronic form, and can also be transferred to the entities when needed.
- It simplifies the application process for a licence or permit. The system offers a single access point for obtaining licences and permits. Users can access all the documents and fill out forms, which have moreover been simplified in the course of the automation process. In case of difficulty, users can call the 24/7 toll-free call centre.
- It makes the process of obtaining a licence or permit transparent. The user can monitor the whole application processing. In the event that the application is refused, the user is provided with the justification in accordance with the law. These measures are highly effective in fighting corruption.
- It optimizes and automates the process of providing public services. Citizens can appeal directly to the public authority. The users and regulatory authorities can monitor the performance of public services. The performance results are available in electronic form.
- It reduces administrative costs.
- It saves time and speeds up decision-making on the part of the state authorities issuing licences and permits. The processing of applications is simplified thanks to the centralized registry of applications. Verification of submitted statements is automated through the integration of several information systems.
- It increases the efficiency of interaction between state agencies, which can exchange information in electronic form.

The main users are state agencies authorized to issue licences and permits (and several interested agencies, like customs, investigation and tax agencies) and the business community, individuals and legal entities.

II Goals and time-frame

Implementation of the project was divided into two stages. The first stage (2008-2012) was dedicated to the automation of licences.

In 2008, the experts made a survey of the area: they studied regulations, business processes for licensing, as well as the concept and logistical aspects of the project.

In 2009, a pilot version of the system was created and the prototype was tested in nine state agencies.

The system was developed and implemented in the central governmental agencies in 2010.

In 2012, the conversion of all types of licences into electronic format was completed, since which time, therefore, all electronic licences throughout Kazakhstan have been issued through the e-licence system.

Now the project is in its second stage, covering the period 2012-2014.

The main goal of this stage is the automation of permits.

III Project's added value and importance

This project is very promising from a strategic point of view.

For instance, the historical and continuously expanded database of licences (and, as from 2015, of all other permit-type documents) can also be used for other purposes. The stored data is highly important both for Kazakhstan and for the members of the Customs Union.

The system is truly unique, because it was created from scratch instead of using an off-the-shelf solution.

The question of replication of the e-licence system in other countries is quite complex. On one hand, transparency and the reduction of administrative barriers are matters of high importance in every nation. On the other hand, the different technology standards used and the uniqueness of national licensing systems in each particular country have to be taken into account.

IV Challenges

When setting up small or medium-sized enterprises, businessmen faced challenges, such as:

- Variety of permit procedures.
- Lack of a unified approach to issuing permit documents. Some issuing procedures were regulated by legal acts, while others were regulated by the state agencies granting the licence or permit. The lack of a unified approach was liable to result in low-quality service or delays in the issuing of permit documents by state agencies.
- The opaqueness of issuing procedures, which can lead to high levels of corruption.
- The lack of a single source of accurate, up-to-date information on licences, permits and state agencies issuing permit documents.
- Difficulties with checking the validity of permit documents.

In addition, state agencies faced some problems, too. For instance, an increasing number of departmental information systems for licensing focused on solving local problems. As a result, budget was spent on the development and support of those information systems, which were unable to integrate with other components of e-government. One of the biggest problems, however, was lack of interest in the project on the part of the participants.

As a solution to these challenges, a step-by-step automation approach was adopted. Owing to the large number and complexity of licensing procedures, it was only possible to identify and automate one part of the process, namely the issuing of licences.

This was a significant achievement, however, since the issuing of licences is the most complex procedure: at least 20 000 licences are issued in the territory of the Republic of Kazakhstan each year.

The second stage, covering the remaining procedures, including authorization, certification and registration, is still ongoing and will run until 2015.

Complications in the implementation and operation of the system in state agencies were partially resolved by adaptation of the system to departmental needs, in some cases through legal acts and laws, and sometimes through negotiations with the heads of state agencies.

In 2012, legislation was enacted obliging all the state agencies to issue licences in electronic format only. Since then, all state agencies have been issuing licenses through e-licence system.

The same legislation also releases the applicant from the obligation to provide certain documents in certified form. This allows applicants to apply to the state agency directly through the e-licence portal, without duplication or having to file paper documents.

V Conclusion

- Automation is akin to "inventory": At every step of the study, development, implementation and operation of the system, conflicts and shortcomings in the provision of public service come to light and are resolved. Besides, in the course of automation there is the possibility of "rewriting" public services, for the sake of reducing documentation requirements and optimizing processes.
- Automation is inseparable from parallel construction of a "legal architecture" as an instrument of enforcement and control. For example, in the case of the e-licence system, automation has facilitated the development of a regulatory framework.
- Automation is impossible without the construction and development of the basic e-government architecture. Databases of individuals and legal entities, as well as other registries, the national certification authority, the e-government gateway, an integrated transport system for state agencies and many other components are essential in this regard.

C7.3 E-learning: Training and connecting rural people (Republic of the Congo)

*African Forum for the Promotion of New Information and
Communication Technologies (AFP-NICT)
Nzengeli Papie*

I Background information

The main thrust of this project is to promote the use of ICTs in rural areas. Under the project, community access points have been established that serve primarily as learning and training centres. The main beneficiaries of the project are young people, but it also focuses on capacity building of local leaders in the field of ICT. The project is implemented in rural areas of the Republic of the Congo (Mpouya, Mongolo, Balemon, Oyo, Ouesso, Kinkala, Djambala).

The project contributes to achieving the WSIS goals by creating community access points which enable access to information as well as building capacity. The local communities in rural areas are hence empowered in ICT use and their integration in the information society is advanced. In addition, the digital divide is thereby reduced in certain areas.



II Goals and time-frame

The short-term goal of the project is to create awareness among the rural population regarding the benefits of using ICT tools, as well as training a large number of young people in the use of ICTs. The long-term goal is to reach large numbers of people in rural areas and contribute to reducing the digital divide between rural and urban areas. This will also advance sustainable development in rural areas. In the framework of the project, the rural population is also informed and taught about the concepts of environmental protection and the effects of climate change, especially the people living in areas affected by this phenomenon.



III Project's added value and importance

The main added value of the project stems from transforming rural areas by introducing ICTs in people's lives. Generally, people in the rural areas are interested in ICTs and the possibilities they open up. In addition, it is widely recognized among people in rural areas that ICTs can facilitate many beneficial activities, including communication, trade and access to information. The project could easily be replicated, especially in rural areas of Central Africa, where people have the same interest in ICTs and the role ICTs can play in changing their way of life. This emerged clearly from a study on people's perceptions of ICTs conducted in Benin in March 2012.



IV Challenges

The main difficulties in the implementation of the project related to the lack of road infrastructure to access certain rural areas, and inadequate levels of education of some people interested in ICT. Financial problems were also an obstacle, as well as opposition from some local officials.

These challenges were overcome by, firstly, using means of transport adapted to the prevailing environments in order to facilitate access and, secondly, by dividing learners into the following four categories:

- Youth (ages 7 to 11)
- Adolescents (ages 12 to 16)
- Others
- People in positions of responsibility.

Thirdly, sessions were conducted for officials in order to explain the merits of ICT for the development of rural communities and involve them in the training programme. The financial challenges were met by introducing a scheme of membership dues.



V Conclusion

The project strengthened the perception that, by connecting rural populations using ICT, they can effectively participate in an inclusive information society and make a positive contribution to improving their living conditions and to sustainable development.

C7.4 E-health: Reduce childhood mortality rate - Infants and children under five years of age (Oman)

Ministry of Health
Abdullah Hamood Khalifa Al Raqadi

I Background information

Integrated Management of Childhood Illness (IMCI) is a strategy for reducing the morbidity and mortality associated with the major causes of childhood illness. Its development by WHO and UNICEF started in 1992. Initially, it was decided to focus on improving care at the first-level health facilities where millions of children arrived sick each day, most of them with one or more of the major causes of illness and death.

Oman, being one of EMRO countries, adopted IMCI in 2000. Ever since, major adaptations have been made to the global module to suit the current local health situation in Oman, which is far ahead of many other countries.

IMCI, which is a holistic approach to child health, is delivered through a multidisciplinary group under the umbrella of primary health care (PHC), such as nursing, immunization, pharmacy, MCH, quality control, community support groups and doctors. Many of the group's activities are intermingled and interrelated to such an extent that it is virtually impossible to assign a separate role for each. These various components form the pillars underpinning the IMCI policy, and it is thanks to the commendable work carried out in their respective fields that Oman's health standards have been raised so high. Thus, they are putting Oman on the world map as a leading health facility provider. It is the role of IMCI to ensure an integrated, well-delivered health service for every child under five years of age in the Sultanate of Oman.

The IMCI community component is indispensable for the success and sustainability of the IMCI strategy and achievement of the fourth millennium development goal, and consequently for improving the quality of life and health of our children, and success requires a partnership between the health system and families, with support from their community. Therefore, investing in improving communities' and families' practices related to child health, empowering them to play an active role in caring for children and enabling them to participate in decision-making and building their confidence, deserve a lot of attention, effort and time.

To provide good care, the family needs knowledge, skill, motivation and support. The child has the right to have a supportive family that is able to protect his/her health and provide a supportive environment that is conducive to his/her physical and psychological development.

The Omani Ministry of Health (MoH) has taken a holistic approach to enhancing the quality of mother and child health. Oman has been successful in reducing both the maternal mortality rate in childbirth, from 22 per 100 000 live births in 1995 to 13.4 in 2009, and the infant mortality rate, from 20 per 1 000 live births in 1995 to 9.5 in 2009. This has been attributed to comprehensive healthcare services for mother and child, plus the fact that, with an IT-based "Mother and Child" system in place, the progress of pregnant women and the development of children under the age of five is carefully monitored to ensure full survival.

Before the introduction of the automated "Mother and Child" system, pre-natal check-ups and follow-up for mother and child healthcare were organized manually. As a result, pregnant women did not receive any standardized education on the medical check-ups and tests required during the course of a pregnancy. Similarly, there were no systematic arrangements for monitoring follow-up of newborn babies in line with international best practices.

With the implementation of the "Mother and Child " initiative, MoH can now provide holistic primary care for pregnant women (pre-natal and post-natal care) at all medical centres and towards birth at the tertiary hospital. Their records are made available throughout their pregnancy, from primary healthcare centre to the hospital, through the Mother and Child special care and needs system. Some are then transferred to the primary care system, which will be extended to the child under the IMCI scheme.



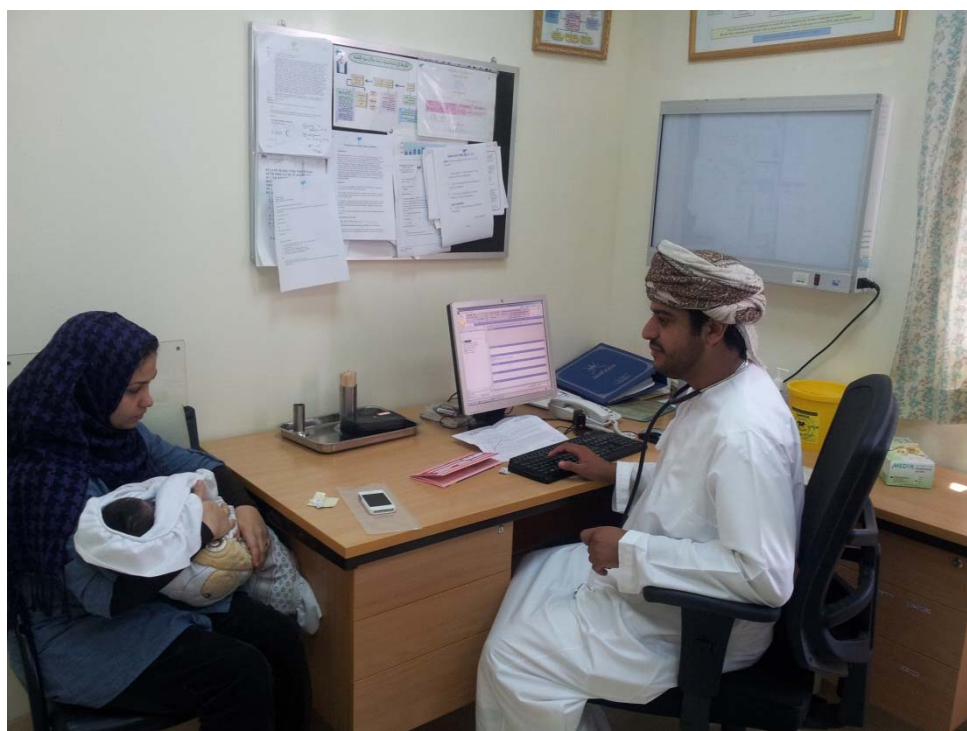
II Goals and time-frame

The IMCI strategy has three components:

- 1 Improving health workers' case-management skills through the provision of guidelines on integrated management of childhood illness
- 2 Improving the health system by:
 - Ensuring the availability of essential drugs and other supplies
 - Improving organization of work at the health facility level
 - Improving monitoring and supervision
- 3 Improving family and community practices by educating mothers, fathers, other child healthcare providers and members of the community, with a focus on health-aware behaviour, compliance, care at home and overall health promotion.

The main objectives of the project are the following:

- To establish a framework of multidisciplinary departments and coordinated functioning of the various departments so as to guarantee and contribute to improved child healthcare by implementing IMCI objectives.
- To strengthen integration of the available PHC services delivered to children under the age of five
- To reduce childhood morbidity and mortality, and contribute to the improved growth and well-being of children in Oman
- To improve practices in health facilities, the health system and the community by training the healthcare providers in IMCI
- To ensure rational use of drugs, medical supplies and other resources
- To strengthen the utilization of an evidence-based medicine and syndromic care management approach in the management of childhood illnesses
- To strengthen the role of the community as a partner in achieving health
- To improve health workers' skills and knowledge and enhance the technical quality of care through the use of better products and improved communication skills
- To incorporate IMCI in the SQU year 5 and year 7 teaching curriculum.



In 1999, the Sultanate of Oman decided to adapt the IMCI strategy to suit the country's conditions, and there was a very high degree of commitment for the strategy on the part of the MoH top authorities. The strategy was formally endorsed by MoH and included in the sixth Health Development Plan in 2001. Implementation started in one governorate and was then rapidly expanded to cover the whole Sultanate. Today, every single mother and child is benefiting from the programme in Oman.

III Project's added value and importance

The achievements of IMCI are as follows:

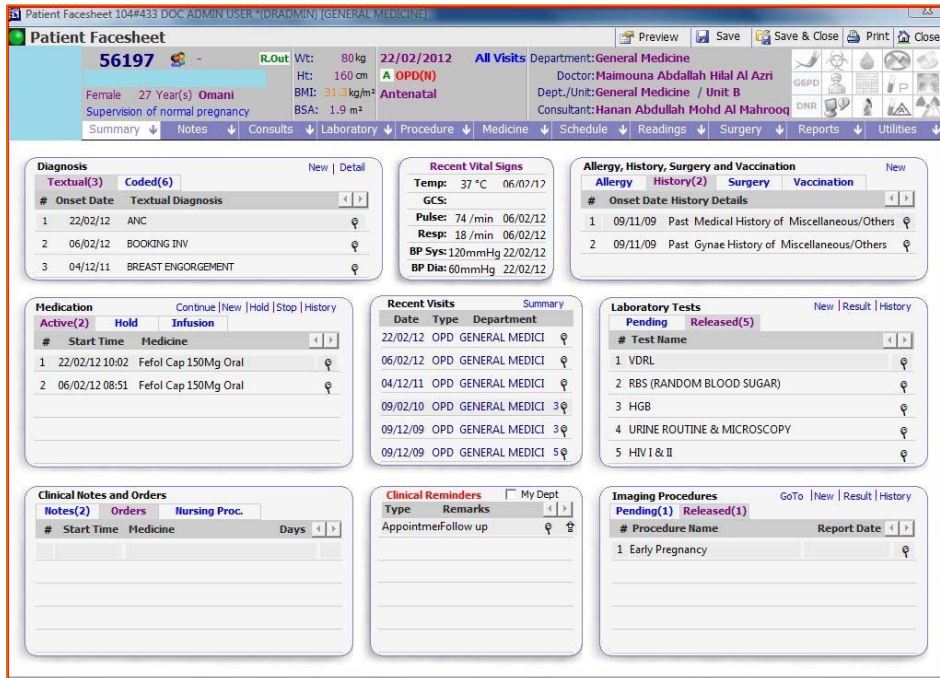
- Reduced mortality and morbidity rate in children under the age of five
- A stronger health system that is well equipped with medication thanks to evidence-based practices in the area of childhood illnesses care
- Medical staff who are up to date with childhood illnesses management practices
- Higher and sustained performance of the medical staff in this field
- Reduced human care error in the automated system
- Elimination of the possibility of manual patient files going missing, and retention of information throughout the patient's lifespan
- The automated system allows for systematic examination of the patient, through the application of enforcements and restrictions when filling in certain data fields, ensuring that mandatory data are captured and the data entered are not modified after a certain time and hence do not lose their validity
- Patients are managed better because the system creates default transactions and automatically sends SMS reminders for immunization and examination appointments
- Information is shared and linked with other health programmes such as school health and nutrition, which were previously recorded vertically
- Better monitoring of a child's health because data are plotted on a digital growth chart.

Impacts on accountability for maternal and child health:

The Mother and Child system has had a number of impacts:

- It has implemented a holistic healthcare approach based on a pervasive health system that is well equipped with medication owing to evidence-based pre-natal and post-natal care and childhood illnesses care practices. It has ensured that all medical staff are up to date with childhood illnesses management and mother-care management practices. It has promoted higher and sustained performance of the medical staff in this field, and reduced human error as a result of automation.
- It has eliminated the possibility of manual patient files going missing and ensured that information is retained throughout the patient's lifespan. The automated system allows for systematic examination of the patient, through the application of enforcements and restrictions when filling in certain data fields, ensuring that mandatory data are captured and the data entered are not modified after a certain time and hence do not lose their validity. Patients are managed better because the system creates default transactions and automatically sends SMS reminders for immunization and examination appointments.
- It has ensured that information is shared and linked with other health programmes such as school health and nutrition, which were previously recorded vertically. This makes for better monitoring of a child's health because data are plotted on a digital growth chart. Mothers can now be assured of quality medical care throughout, from pre-natal to post-natal treatment, thus reducing maternal mortality rates.
- It has benefited the families' communities, doctors, nurses and other healthcare providers, as well as programme managers and decision-makers. The automated system has saved time and

lives. It has also made it easier to allocate resources and services nationally on the basis of statistics extracted from the system.

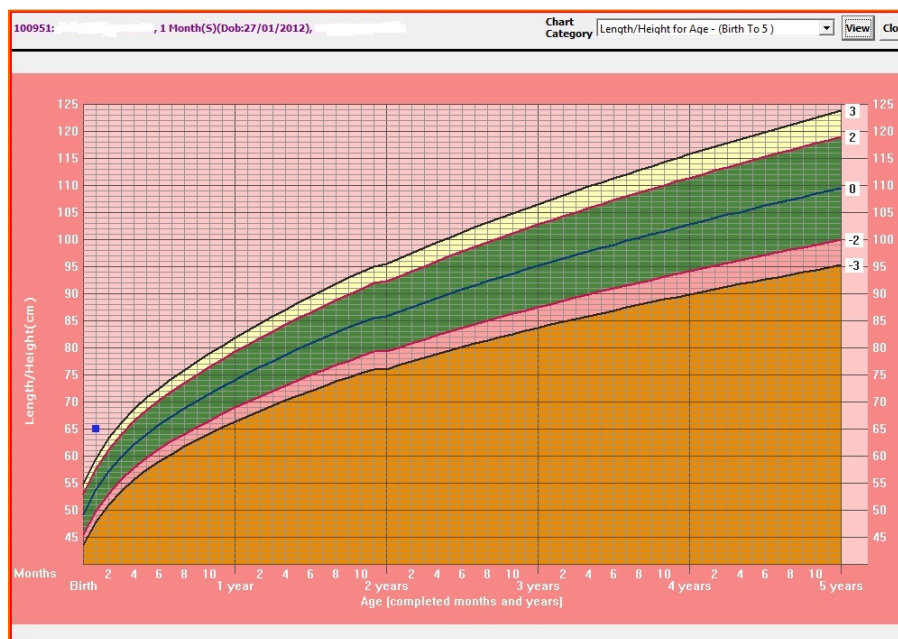


The screenshot displays a 'Patient Facesheet' for patient ID 56197. The interface includes a header with patient details (Age: 27, Sex: Female, Nationality: Omani) and vital signs (Wt: 80 kg, Ht: 160 cm, BMI: 31.3 kg/m², BSA: 1.9 m²). Below the header are several data sections:

- Diagnosis:** A table with columns for Onset Date and Textual Diagnosis. Entries include ANC (22/02/12), BOOKING INV (06/02/12), and BREAST ENGORGEMENT (04/12/11).
- Recent Vital Signs:** A table showing temperature (37 °C), pulse (74 /min), respiratory rate (18 /min), blood pressure (120mmHg), and diastolic blood pressure (60mmHg).
- Allergy, History, Surgery and Vaccination:** A table listing past medical history and gynaecological history.
- Medication:** A table showing active medications, including Fefol Cap 150Mg Oral.
- Recent Visits:** A table listing visits to the General Medicine department from 2009 to 2012.
- Laboratory Tests:** A table listing tests such as VDRL, RBS (RANDOM BLOOD SUGAR), HGB, URINE ROUTINE & MICROSCOPY, and HIV I & II.
- Clinical Notes and Orders:** A section for notes, orders, and nursing procedures.
- Clinical Reminders:** A table for appointment follow-ups.
- Imaging Procedures:** A table listing imaging procedures like Early Pregnancy.

IV Challenges

- High turnover of medical personnel due to doctors' transfers, resignations, nurse rotation.
- Difficulty of conducting training for medical staff, with the result that shorter training had to be organized regularly to ensure that all medical staff are able to use the system.
- Implementing the standard protocols for the Mother and Child system is a challenge, as doctors are overburdened with too many systems. However, with a user-friendly interface and a system that is easy to use, doctors gradually move on to use the system. Furthermore, doctors' feedback on the system was also taken on board to make it totally doctor-friendly.
- Change management had to be carried out tactfully and diplomatically, as users were reluctant to embrace the IT-based system. Nevertheless, with support from top management and MoH officials, the system was fully implemented and users began to realize the benefits of the automated process when they received praise from patients for their quality services. In addition, changes to the system were also made on a continuous basis, as it was difficult to cover all the changes in a short period of time. Any changes required had to be propagated to other regions, in addition to the 180 institutions in the Muscat region. Coordination is difficult because of the lack of specialized technical support in most regions and the scattered geographical locations. Nevertheless, through a planned change-management approach, all changes were rolled out in good time to all medical institutions throughout the country.
- Standardized protocol: Getting the user to accept to follow the standardized system was quite a challenge. Hence, involving the users in the development phase was essential so that they could buy into the changes. Task forces with multidisciplinary expertise to re-engineer the process and the system were also formed to gather views, make the necessary changes and get feedback throughout the pilot project until the final implementation.



V Conclusion

By using such an innovative ICT system and linking it up with all governorate, city and village health institutions in Oman, the Ministry of Health has achieved its goals of reducing child mortality among infants and children less than five years of age. This objective was attained as a result of several programmes developed for child care, such as the Immunization Programme (coverage has exceeded 99.9 per cent), Integrated Management of Childhood Illness (launched in 2001) and the Baby-Friendly Hospital initiative, as well as, in addition, a special programme designed for pregnant mother care (follow-up, immunization) and training of specialized staff such as doctors, nurses, technicians, etc. Oman has met the fourth MDG target, having managed to reduce the childhood mortality rate for children under five years of age from 181 per 1 000 live births in 1970 to 12 in 2009. The infant mortality rate fell to 9.6 per 1 000 live births in 2009, as compared with 118 in 1970. This project was recognized by UNICEF in the mid-1990s for the continual reduction of child mortality.

Acronyms

IMCI	Integrated Management of Childhood Illness
WHO	World Health Organization
UNICEF	United Nations Children’s Fund
EMRO	WHO Regional Office for the Eastern Mediterranean
PHC	primary health care
MCH	maternal and child health
MoH	Minsisty of Health
SQU	Sultan Qaboos University

C7.5 E-employment: E-employment system (Kuwait)

Civil Service Commission

This project is a government-to-consumer (G2C) project aimed at providing jobseekers, mainly fresh graduates, with an electronic facility for applying for a job in the governmental sector and to track their application electronically.

I Background information

The project was implemented on Civil Service Commission (CSC) servers and is available through the CSC website, the official portal of the State of Kuwait (e.gov.kw) and the portal's mobile application on iOS and Android smart devices.

The project achieves a number of WSIS goals, including: strengthening the role of governments and all stakeholders in the promotion of ICTs for development, strengthening the role of information and communication infrastructure as an essential foundation for the information society, and strengthening the role of ICT applications and their benefits in all aspects of life. The project reflects these goals by encouraging the application of best practices in the field of e-employment, based on the principles of fairness and gender equality, and complying with all relevant international standards.



II Goals and time-frame

Before 1999, the employment of Kuwaiti manpower was decentralized. Recruitment depended on a paper letter request sent to CSC from a ministry requesting to employ a specific Kuwaiti graduate. In 1999, CSC re-engineered its processes to make the employment process managed and controlled centrally through CSC. It designed and implemented the Central Employment System in 45 government nodes, integrating it with six external government systems.

The system aims to save time and effort for CSC, new graduates (the customer) and the ministries. In addition, it enforces regulation, transparency and equal job opportunities between jobseekers.

Finally, it helps reduce bureaucracy and contributes to the overall process of automating the workflow of employment in the government sector.

Under the system’s workflow, the customer calls the CSC IVR system, visits the CSC website (www.csc.gov.kw) or the Official Portal of the State (www.e.gov.kw), or uses the portal’s mobile application to enter his/her civil identification number in order to become a registered jobseeker. Thanks to integration with the Public Authority of Civil Information, the Ministry of Education, Kuwait University, the Public Applied Training Authority, the Ministry of the Interior and the Public Social Security Authority, all the customer’s information gets identified. If it encounters a request from an unidentified customer, the system schedules an appointment for the customer with CSC.

The system arranges the names of jobseekers for nomination depending on a number of criteria (including: the period of registration, graduation specialty, grade point average (GPA), date of graduation, marital status, and age) used to determine the jobseeker’s place in the order of priority for a job. The system allows each governmental organization to register its manpower needs by specifying the number of graduates and educational speciality it needs. It then nominates the jobseekers for posts in the governmental organizations according to the organizations’ registered needs and the nomination criteria. The candidate is notified to visit one of the governmental organizations for a job. All of this is accomplished without having to ask the citizen to come to CSC, and equitably among all jobseekers. CSC has built a strong infrastructure to support the system, with the SMS service IVR and smartphone apps.

III Project’s added value and importance

The project boasts several strong points, in particular its integration with the systems of related governmental organizations, which supports technical and organizational Interoperability. In addition, the system helps to speed up and facilitate the government employment process. The project could be easily replicated in other countries to achieve similar benefits for jobseekers and governmental organizations alike.



IV Conclusion

The CSC Central Employment System is a G2C application benefiting a major group of citizens. It is an example of the use of ICT applications to support sustainable development in the fields of public administration and employment within the framework of national e-strategies.

C7.6 E-Environment: Zero Balance (Argentina)

University of La Punta

Pablo Federico Da Rold García and Luis María Rastrilla

I Background information

The government of the Province of San Luis has developed a growth strategy based on balanced management of resources and long-term strategic vision.

In this context, a broadband network has been developed that interconnects all places with inhabitants in the province of San Luis. This provincial telecommunication network is known as the Information Highway (AU-I³¹ in Spanish). In the first stage, the project focused on public offices (schools, local governments, police stations, hospitals), and in the second stage Internet access was launched for use by the population through the establishment of a denser network of WiFi antennas³². Public access is free and was secured by a constitutional amendment. These efforts seek to include the society of San Luis in the knowledge society, thereby reducing the digital divide.

The University of La Punta³³, San Luis, Argentina (ULP) is a technology centre for learning and research applied to specific projects. Among its other functions, it manages the AU-I.

Various projects are launched within the broadband network, among which the Zero Balance project stands out.



³¹ www.aui.edu.ar

³² <http://www.monitoreowifi.aui.edu.ar/Monitoreo/MapaWiFi2.aspx> - Antenna distribution map with WiFi.

³³ <http://www.ulp.edu.ar/ulp/paginas/pagina.asp?PaginaULPId=2> (English version)

Zero Balance³⁴ is a ULP initiative aiming to involve children in the environment. Specifically, the project suggests that young people learn about energy efficiency, afforestation and reducing global warming. It is a collaborative, digital and environmental proposal, targeting students in first through sixth grade of primary schools in the province of San Luis.

ULP implements the proposal with a view to contributing to the development of collaborative teamwork skills and the ability to adapt to various roles and responsibilities. At the same time, the project helps to enhance the use of information technologies and key communication tools for environmental training in the education process, as well as for development and improving quality of life in San Luis. Finally, it seeks to take advantage of all the benefits that accrue from educating responsibly.

This initiative is framed within the "All Children Online" plan, which was launched at ULP in 2007, whereby the provincial government delivers a personal computer to children attending primary school in 30 urban areas.

Under this plan, children are instructed to achieve zero balance in terms of the carbon dioxide released from the consumption of electricity in their residential area, while ULP, on the other hand, performs calculations on commercial, industrial and public lighting. The implementation of Zero Balance began in December 2008, and initially the project included 30 urban areas encompassing 14 per cent of primary-school children in the province of San Luis. Children are encouraged to interact with the computer, and mobilize members of their families in environmental and digital knowledge. Simultaneously, they are digitally connected, through the provision of WiFi connectivity, a personal computer and web applications such as Zero Balance.

Young people are divided into groups and supported with their computers and the "Efficient House" application, which is a specially developed software that can be found at www.chicos.edu.ar. The children go around their localities to record the electricity consumed annually in each house, and determine the number of tons of equivalent carbon dioxide released into the atmosphere as a result of the level of electric power consumption detected. Efficient Home is a virtual prototype of the houses built by the government of San Luis. It is divided into seven rooms: kitchen, master bedroom, living room, bedroom, bathroom, laundry and garage. In each environment, electrical appliances have been placed as per the usage of electrical appliances of the average household inhabitants of San Luis. The youth groups use this digital tool when visiting houses and asking about the amount and use of electrical appliances in each household. They can then calculate the annual electricity consumption of the family and the CO₂ emissions that are released into the atmosphere.

Once all the information is ascertained and the number of tons of CO₂ determined, with the help of the zero balance calculator children can calculate how many trees are needed to offset the CO₂ emitted through carbon capture by forests.

Once the required number of trees to achieve zero balance is determined, the trees are planted locally. To ensure the success of the plantation, an agreement is signed with the mayors of each municipality in which they commit to identifying and providing the ground for planting as well as human resources to dig wells. In addition, an agreement was signed with the Ministry of the Campo de San Luis on seedlings of tree species best suited to the province and on hydrogel for more effective irrigation. Children check the status of the trees during their growth in order to ensure that the locality will maintain zero balance in regard to the electricity consumed.

³⁴ <http://www.balancecero.ulp.edu.ar/>

This proposal can be applied from the periphery to the centre, i.e. investing effort in the most remote places which have less access to resources.



II Goals and time-frame

A total of 30 cities have been involved in the project³⁵ and 149 306 trees have been planted. The project has targeted 7 717 children between the age of 6 and 12 years, and 22 500 tons of CO₂ have been captured.

The short-term goal is to reach 39 villages and involve 10 000 children of primary school age (6-12 years).

The long-term goal is to get local communities and businesses to finance part of the project in order to achieve a sustained commitment on the part of all stakeholders.



³⁵ http://www.ulp.edu.ar/comunicacion/libros_ulp/balance/index.html - Page 22.

At least five private companies are expected to contribute 5 per cent of the funds needed for the project for the year 2014.

The efforts of each project are presented in different competitions and conferences. As an additional unexpected achievement, in 2009 the project was nominated for and awarded the “Sadosky” Technology Industry Argentina prize, in the Educational Quality – Primary Level category. This recognition has given us the opportunity to redouble our efforts³⁶.

III Project’s added value and importance

This initiative, at present, aims to balance carbon dioxide emissions generated by the use of electric energy. However, the quest for balance between emissions and capture of greenhouse-effect gases will be extended. ULP will include new types of consumption and new concepts within Zero Balance. The Efficient House application will include the calculation of CO₂ emissions from natural gas and liquefied petroleum gas (LPG) consumed through the use of different devices such as ovens, heaters and water heaters in houses in San Luis. First, children will have to investigate whether their town has natural gas or LPG. Depending on their findings, a different chart will be displayed. After that, they will have to investigate how many devices of each type are used in a particular house and for how many hours a day. With this information, they will be able to obtain the annual consumption and the amount of CO₂ emissions released into the atmosphere.

Calculations of emissions resulting from the use of fuel in private transportation (petrol, diesel and natural gas) will also be made. In this case, children will have to select the fuel used by a particular vehicle and then investigate the vehicle’s consumption in litres per day. With this information, they will be able to obtain the amount of CO₂ emissions corresponding to that level of consumption. Furthermore, calculations of methane emissions (a greenhouse gas twenty-one times more polluting than carbon dioxide) generated by anaerobic digestion of organic waste for every family during one year will be included.

Children will have to investigate the amount (number of kilograms) of urban solid waste that are thrown away every day in each house of the town so as to obtain the amount of methane emissions and finally convert this value into CO₂ emissions.

A new version of Efficient House that will incorporate all these consumptions has been designed, allowing children to play and learn new concepts. This new application was released online at the end of May 2010.

San Luis children will be set new challenges: to carry out a different type of survey in each house in their town, to calculate how many trees they need to plant as a result of these new consumption data, and to go out and plant them.

- The feasibility of this project depends on securing a strategic decision to include the community digitally. This is perhaps the hardest part. Then, a team of leaders to take the project forward and implement it with the kids is crucial. This team also has to coordinate with the local government and school.
- The project can be easily replicated in other countries. The idea and core concept are clear and quickly understood by all participants. Furthermore, it is not only awareness of environmental

³⁶ <http://www.cessi.org.ar/sadosky/ganadores-2009>

issues that is important, but also practical action to improve the environment and reduce energy consumption.



IV Challenges

The biggest challenge was logistics.

V Conclusion

In conclusion, it may be noted that the implementation of this initiative brings a range of benefits (e.g. environmental awareness, rational energy use and reduced carbon dioxide).

The team gains the experience and coordination and implementation skills needed to lead the project successfully.

The children, their families and communities involved acquire environmental values.

At the educational level, the children start to use basic concepts of mathematics, science and chemistry in the framework of the project.

C7.7 E-agriculture: Web 2.0 and social media learning opportunities (Netherlands)

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Giacomo Rambaldi*

I Background information

In 2006, the Technical Centre for Agricultural and Rural Cooperation ACP-EU³⁷ (CTA³⁸), in collaboration with a number of development agencies, led the organization of an international conference on Web 2.0 for Development (Web2forDev). The idea behind the event was to increase awareness and promote the adoption and further dissemination of appropriate, low-cost, simple and easy-to-use Web 2.0 applications in order to enable development actors to network, collaborate and exchange knowledge more effectively in the sectors of agricultural and rural development (ARD) and natural resource management (NRM). The conference took place in September 2007 at FAO in Rome, Italy, and was attended by some 350 people. One of the main outcomes of the event, further supported by the results of online surveys, was the high demand for capacity building in Web 2.0.

The initiative went far beyond the organization of this one event. It led to the establishment of two thriving communities of practice (CoP)³⁹ revolving around a series of spaces for remote collaboration and information exchange. This resulted in the creation of a new community of interest within the ICT for Development (ICT4D) arena.

In 2008, in collaboration with the ACP Secretariat and the European Forum on International Collaboration (Euforic), CTA implemented a “*Web 2.0 Policy-Makers Awareness Raising and Capacity Building Initiative*” targeting ACP embassies in Brussels. The objective of the project was to encourage the adoption of Web 2.0 applications within the policy-making bodies. Starting with raising awareness among ambassadors, the project offered embassy staff the opportunity for hands-on experience. By the time the project was completed, staff from 41 embassies had been exposed to the Web 2.0 environment. Capacity-building sessions focused on remote collaboration, VoIP communication, information retrieval and web publishing.

³⁷ The African, Caribbean and Pacific Group of States (ACP) is a group of countries in Africa, the Caribbean and the Pacific that was created by the Georgetown Agreement in 1975. The group's main objectives are sustainable development and poverty reduction within its member states, as well as their greater integration into the world's economy. All of the member states, except Cuba, are signatories of the Cotonou Agreement with the European Union (African, Caribbean and Pacific Group of States, 2013).

³⁸ www.cta.int

³⁹ Web 2.0 for Development (Web2forDev) at <http://dgroups.org/groups/web2fordev> (English-speaking community) and Web 2.0 pour le développement (Web2pourDev) <http://dgroups.org/groups/web2pourdev> (French-speaking community)

In March 2009, CTA launched the Web 2.0 for Development Gateway (www.web2fordev.net), a website constituting a reference for people interested in Web 2.0 applications for development cooperation work.

In Africa, Web 2.0 capacity-building activities started in 2008 and initially targeted a regional network of rural women (*Union des Femmes Rurales Ouest Africaines et du Tchad - UFROAT*) with national chapters based in Benin, Burkina Faso, Chad, Côte d'Ivoire, Mali and Niger. The initiative proved to be extremely successful, and was documented and shared on the Internet in multimedia format.⁴⁰ Another course was organized in collaboration with the Commonwealth of Learning and RUFORUM, addressing needs expressed by research and academic institutions. Short Web 2.0 introductory events were organized alongside major conferences in Namibia and Morocco (2008) and Kenya (2009). The latter was organized in partnership with the World Agroforestry Centre in the framework of the second World Congress on Agroforestry (August 2009). A total of 24 participants, including researchers and representatives from non-governmental organizations from Ethiopia, Fiji, Kenya, Cameroon, Togo, Sudan and Burundi, attended the events. Some 30 per cent of the attendees were supported by CTA. All others were supported by their parent organizations, or self-funded. Additional courses focusing on *Web 2.0 Tools for Research Support and Networking in Africa* were run in 2009 in collaboration with RUFORUM in Ghana and Senegal.

The experience gained in implementing a range of capacity-building activities in the domain of Web 2.0 together with feedback gathered on a regular basis from the beneficiaries laid the foundations upon which the *Web 2.0 Learning Opportunities* - later renamed **Web 2.0 and Social Media Learning Opportunities** – took shape and started being systematically implemented in ACP countries as from 2010.



⁴⁰ The video documentary “Web 2.0 Tamed: Experiences of rural women in Africa” is available in both English and French.

A new business model

Demand was high. CTA was inundated with requests for replicating the courses across the ACP region and host organizations and participants seemed eager to share the costs. This led to the development of a business model which proved to be extremely effective. CTA would provide the curriculum, some seed funding to cover part of the direct costs (e.g. catering, WiFi access, etc.), handouts and materials for follow-up self-education, a visual identity related to the brand, marketing support, online registration and end-of-event evaluation platforms, active and vibrant online communities for trainees, and trainers. Host organizations would provide the venue and the necessary infrastructure and equipment, and in some cases support trainers. Participants would be responsible for their travel, accommodation and subsistence costs and for bringing their WiFi-enabled laptop to the training. While capacity-building events in 2008 and 2009 required participants to travel internationally and convene in one country, the 2010 business model offered a series of in-country training to residents in the specific country. Open calls were made and interested people could apply. As a result of the new approach the cost per person trained was cut by around 80 per cent. Added advantages included reduced carbon footprint since international air travel was no longer required, and carefully considered nomination of participants by employers owing to the cost-sharing approach.

Project rationale

The project rationale evolved over time in line with CTA's strategic plans. Nonetheless, the core of the initiative still rests on the following thrusts in the domain of agricultural and rural development (ARD):

- Build individual capacities in interacting and collaborating with others in order to generate, access, utilize and share information and knowledge
- Enhance institutional capacities in the use of social media and Web 2.0 applications to better engage in agricultural value chain development and in advocacy.

Target audiences and their evolution

In 2008 and 2009, the main target audiences were policy-makers at ACP embassies in Brussels and ARD researchers based in Africa. In 2010, access to the events was no longer by invitation but via open calls, hence the audiences became more diversified. At present, the target audiences include actors active in the ARD domain, including policy analysts, value-chain actors, information professionals, trainers, development practitioners, researchers, representatives from advisory service providers (e.g. regional organizations, networks, extension services, regional farmers associations, etc.), learning and research institutions and regional and international NGOs.

Starting in 2010, a new focus was introduced on ensuring the participation of young people (18-35 years of age) and women.



Learning from experience

In 2011, CTA commissioned a study to assess the outcome of its Web 2.0 capacity-building initiatives carried out over the period 2008-2010. The study analysed a sample of 266 trainees. It focused on the impacts of the training on personal development, working environment, host institutions and ultimate beneficiaries. The results provided guidance on how to improve service delivery, offer tailored services and maximize replication and institutional adoption. High levels of cohesion and engagement among members of the Web2forDev and Web2pourDev communities were evident with the response rate registered at the closure of the 2011 survey topping 54.3 per cent (Euforic Services, 2012). The results of the survey formed the basis for the subsequent analysis.

Product development, fine-tuning and integration

Face-to-face Web 2.0 and social media learning opportunities

Web2 and social media learning opportunity: First version of the 5-day curriculum

- Introduction to the participatory World Wide Web (Web 2.0) and to social media
- Search magic: How to conduct advanced multilingual online searches
- Information self-service: How to get selected information served to you via alerts and RSS feeds
- Remote collaboration: How to develop content remotely using wikis and Google Docs
- Online mapping
- How to communicate voice over the Internet at no cost
- Online publishing (micro-blogging and blogging)
- Professional/corporate social networking (LinkedIn and Facebook)
- Web 2.0 self-instruction (introduction to IMARK).

In 2010, in order to serve a larger audience and upscale service delivery, a standard five-day curriculum was developed in both English and French.

Procedures were tested and put in place to enter into contractual agreements with host organizations, select and recruit trainers, launch calls for application, shortlist applicants based on set criteria, run the courses, ensure follow-up and monitor immediate, medium- and long-term impacts.

The process had to be extremely efficient and cost-effective in view of the limited resources available at CTA and the fact that attendance at the training events is free of charge to the participants.



Distance learning

In addition to organizing face-to-face events, in 2010 CTA entered into partnership with UNITAR and FAO and started offering e-learning⁴¹ opportunities to selected, hand-picked professionals, mostly staff of CTA key partner organizations. Providing e-learning opportunities meant reaching out to people located in countries which were not covered by the Learning Opportunities courses and being able to diversify service delivery.

Supporting self-learning

CTA has been a partner in the FAO-led IMARK⁴² initiative for a number of years. Training in the use of the IMARK module *Web 2.0 and Social Media for Development* is an integral part of the Web 2.0 and Social Media Learning Opportunities courses. The introduction to the module and the provision of a copy to trainees offer them the opportunity to continue learning after the five-day course.

⁴¹ UNITAR/FAO/CTA Innovative Collaboration for Development: E-learning Course on Web 2.0 and Social Media for Development

⁴² The Information Management Resource Kit (IMARK) is a partnership-based e-learning initiative to train individuals and support institutions and networks worldwide in the effective management of information. IMARK consists of a suite of distance-learning resources, tools and communities on information management. (FAO, 2013)

Supporting access to agricultural information

CTA is well known for its vast resources and information-delivery services in the domain of ARD. Its publications SPORE <http://spore.cta.int> and ICT Update <http://ictupdate.cta.int> and its vast range of printed and increasingly electronic publications offered via its portal <http://publications.cta.int> have been shared with all trainees and their parent institutions, thus generating a virtuous circle of information access and dissemination. In addition, as part of the curriculum, all trainees developed blogs and social media spaces on their mainly agriculture-related activities, thus creating new communication channels where both they themselves and their parent institutions can share information and communicate with their constituencies and peers. Special effort has been made to include journalists reporting on ARD in the training courses and follow-up activities.



Laying the foundations for replication

Trainees in the Web 2.0 and Social Media Learning Opportunities courses are provided with a set of handouts, one CD of the IMARK module on *Web 2.0 and Social Media for Development* and a copy of the entire course curriculum, including reading and audiovisual materials.

Scope of the project

While they may have started as ad-hoc events in 2008, two years later the *Web 2.0 and Social Media Learning Opportunities* courses became an ACP-wide initiative. As at 30 April 2013, a total of 84 events have taken place in 23 countries and close to 2 200 people have been trained, as detailed in Table 1 and Table 2.

Table 1 – Geographic distribution of training events and level of contribution by CTA

Country	# of CTA-co-funded events	# of partially CTA-funded events	# of self-sponsored replications
Benin	3		
Burkina Faso	1	1	
Cameroon	2		
Ethiopia	3		1
Fiji	4		
Ghana	3		1
Kenya	3	2	2
Madagascar	5		
Mauritius	3		
Nigeria	4		
Rwanda	3	3	
Saint Lucia	1		
Senegal	5		2
South Africa		4	
St. Lucia	2		
Tanzania	3		
The Gambia	3		
Trinidad and Tobago	2		
Uganda	3		4
Zambia	3	2	
Morocco		1	
Namibia		1	
Belgium	5		

Table 2 – Type of training events by year and percentage of women and youth

Year	# of face-to-face events	# of countries	E-learning events	Trainees	Women %	Youth %
2013 (30 April)	14	9	1	350	N/A	N/A
2012	29	13	2	695	39%	58%
2011	19	9	2	556	32%	47%
2010	13	4	1	349	28%	46%
2009	5	5		114		
2008	4	4		117		
Totals	84		6	2 181		

The percentage of women and young people (18-35 years of age) among trainees has increased since 2010 in line with the desired targets as shown in the figures below:

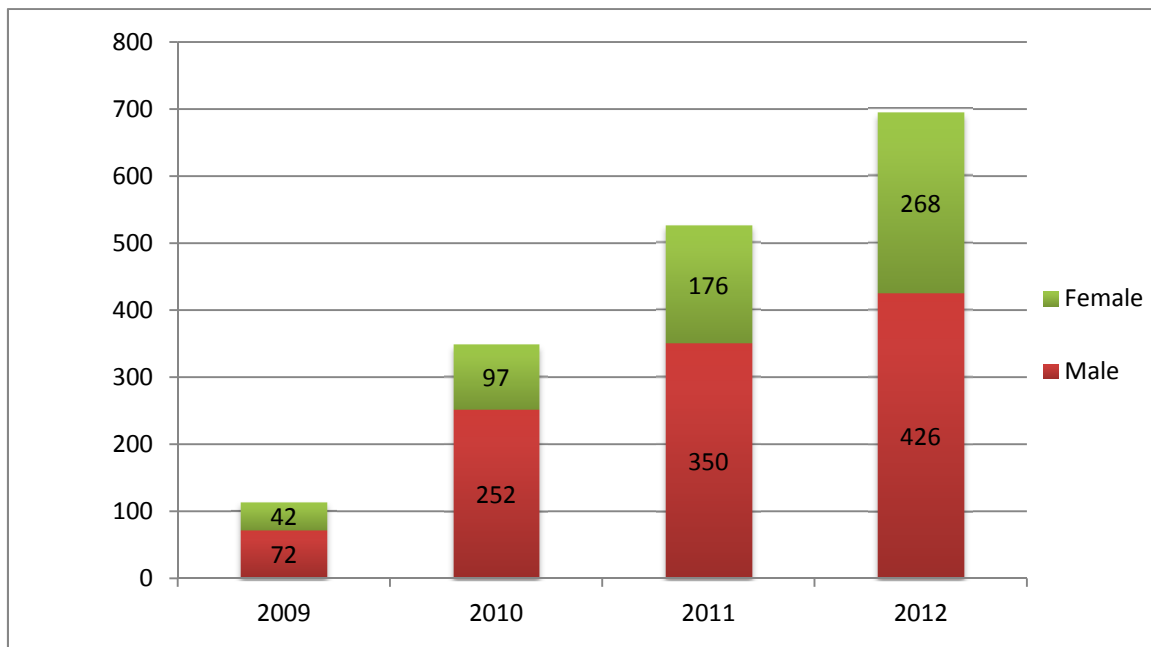


Figure 1: Number of men and women participating in the training events over a period of four years

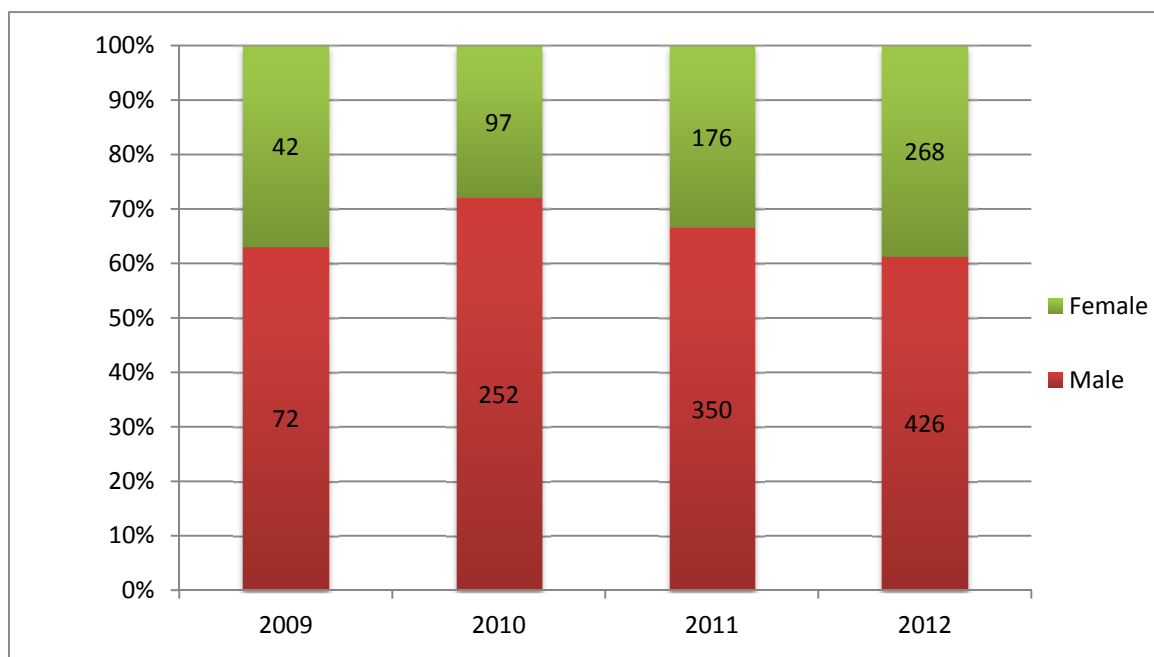


Figure 2: Percentage and number of men and women participating in the training events over a period of four years

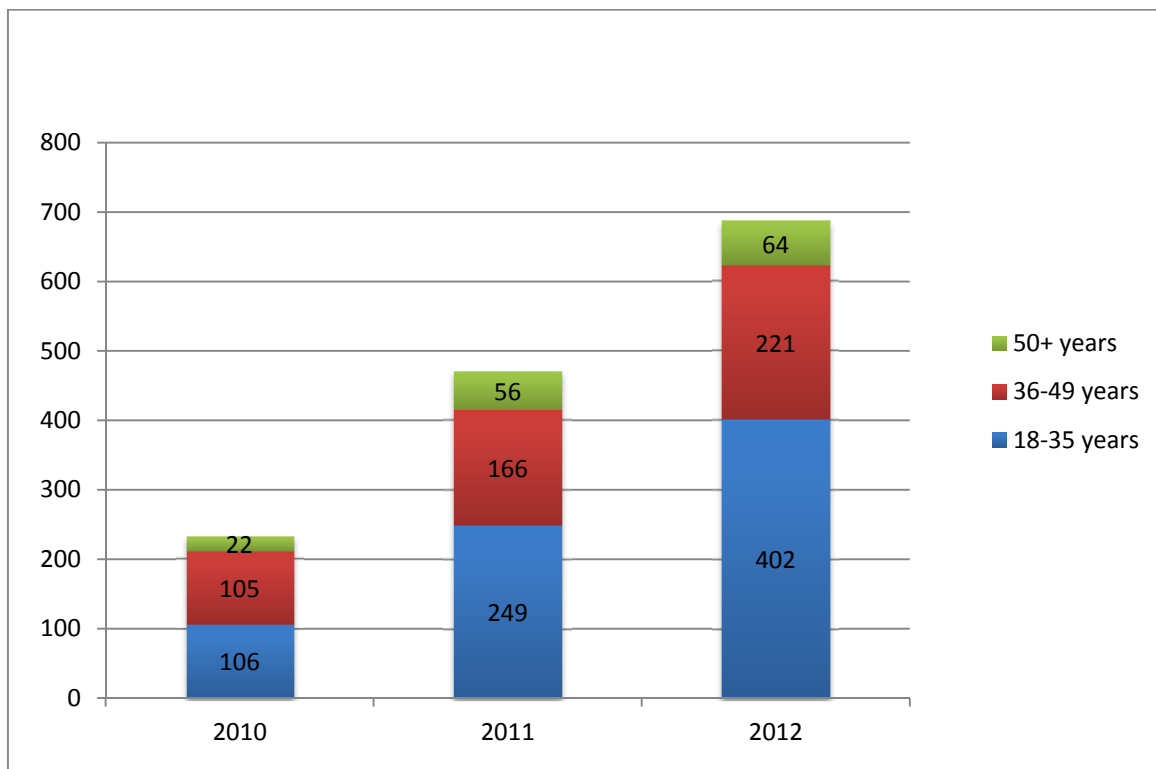


Figure 3: Age cohorts (absolute figures) of trainees over a period of three years

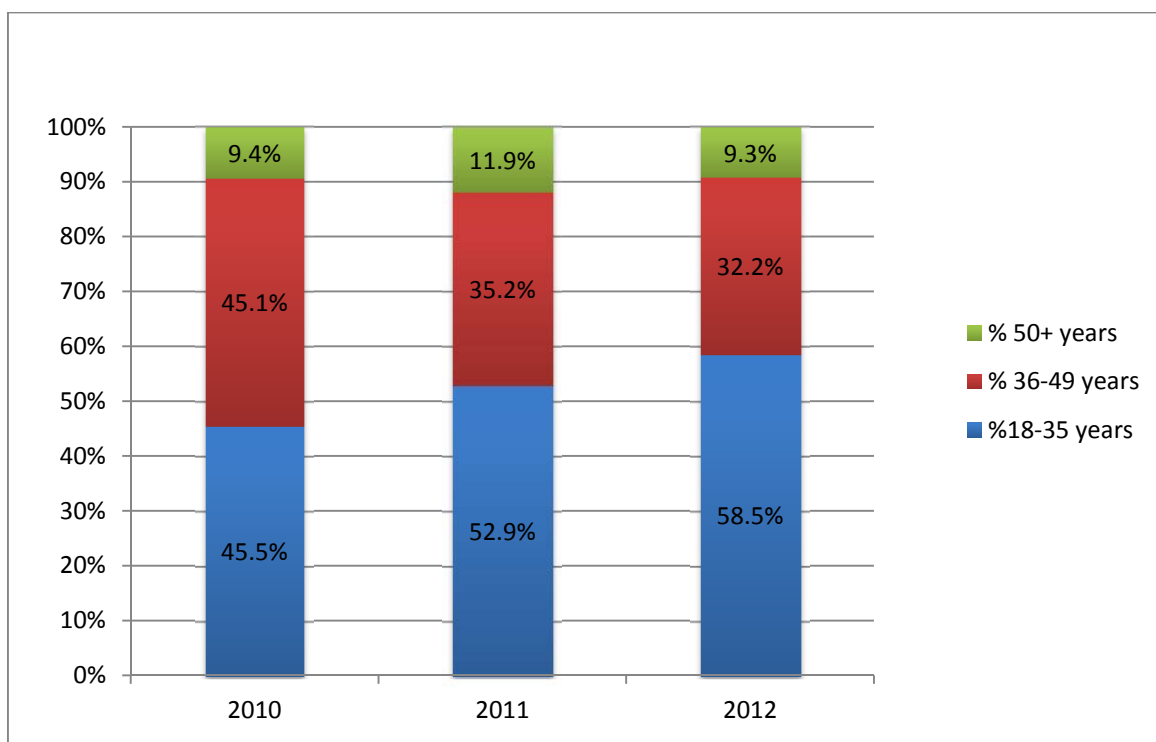


Figure 4: Age cohorts (in percentage and number) of trainees over a period of three years

Geographical distribution of activities

During the period 2009-2010, the activities focused on the African continent. In 2011, activities were launched in the Caribbean and the Pacific.

Contribution to achieving WSIS goals

The Geneva Declaration of Principles adopted by the first World Summit on the Information Society (WSIS) stated that its goal was to build an "information society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life." The Tunis Agenda for the Information Society states that the WSIS implementation mechanism at the international level should be organized taking into account the themes and action lines in the Geneva Plan of Action, and moderated or facilitated by UN agencies when appropriate. It also states that ITU, UNESCO and UNDP should play a leading facilitating role in the implementation of the Geneva Plan of Action - (ITU, 2003) and (ITU, 2013).

According to the WSIS action lines spelled out in the Geneva Plan of Action (ITU, 2003), ICT applications should support all aspects of life (C.7), including, among others, sustainable development in the field of agriculture. Hence investments in the effective use of ICTs have been recommended to ensure *"the systematic dissemination of information on agriculture, animal husbandry, fisheries, forestry and food, in order to provide ready access to comprehensive, up-to-date and detailed knowledge and information, particularly in rural areas"* (e-agriculture).

In this regard, the *Web 2.0 and Social Media Learning Opportunities* courses are geared to contributing to the action line on e-agriculture, insofar as the target audience of the project consists mainly of actors involved in agricultural and rural development at different levels, and all activities are geared to enabling beneficiaries to create, access, utilize and share ARD information.

Last but not least, the project activities also contribute to WSIS Action Line C4 on capacity building: *"Everyone should have the necessary skills to benefit fully from the information society. Therefore capacity building and ICT literacy are essential."* (ITU, 2003)

II Goals and time-frame

Overall objective

The overall objective/goal to which project has been contributing so far is "increased engagement (long-term commitment and active participation) of CTA beneficiaries to adopt ICTs to influence ARD policy processes and value chain development."

The project's purpose

It is expected that, after completion of the activities in 2015, "institutional capacity in the use of social media and Web 2.0 will be enhanced" among selected key partner organizations of CTA.

Project outcome

In order to assess the project outcomes and impact and to improve service delivery, a study was conducted to evaluate activities implemented over a three-year period (2008-2010). A similar study is under way for the period 2011-2012.

Summary of key findings of the first evaluation

Patterns of Web 2.0 adoption by gender, age and workplace

The study revealed that, in terms of age, trainees under 36 were found to be more likely to adopt Web 2.0 applications, except for online social networking, which interestingly was not affected by age. Also interesting is that females had higher adoption rates than males for almost every Web 2.0 application. While other studies have found men to be generally more familiar with ICT than women, for this subset of women, mainly professionals, the pattern is different. When looking at specific tools, the women were found to more readily use tags and bookmarks, social networks and Internet-based telephony. This appears to fit with existing research that has found women to be more organized in the workplace than men: they are also more likely to adopt content-organizing tools like tags and bookmarks (Hilbert, 2011).

In terms of organizations, those working for NGOs and national and international organizations were more likely to adopt Web 2.0 tools than those in education and research institutions; this could be explained by the tendency for NGOs to have generally younger staff. Looking at specific jobs, 92 per cent of community workers were found to use social network sites, compared to around 60 per cent of researchers. Community workers and journalists had the highest adoption rate for blogs and e-lists. Journalists were also more likely to use wikis and Google Docs than other groups, while around 60 per cent of students used tags and bookmarks. Overall, younger Anglophone women had the highest adoption rates for Web 2.0 and social media tools, whatever their professional background.

So what difference has training on Web 2.0 applications made to the trainees? Nearly 90 per cent of trainees believe they have improved their capacity to search for, access and share information using their new tools, to keep up-to-date with developments in their fields of interest. Well over half the participants say they have improved their information-management skills.

The trainees have also become more connected, participating in online groups and communities, which CTA supports through the Web2forDev online groups it moderates on [LinkedIn](#), [DGroups](#), [Twitter](#) and [Facebook](#). Some 45 per cent report having become more efficient in online collaboration and conferencing, and one-third have run their own Web 2.0 training to share the skills they have learned.



Web 2.0 in the organization

Sharing of skills among colleagues is the most common way in which trainees' organizations have benefited from the Web 2.0 training. Most often, this is done by sharing the IMARK module, a CD/online learning programme that individuals can work through independently. Bringing about systematic change in institutions, either at the operational or strategic level, is much more challenging; the extent to which this has occurred has depended on the individual initiative of trainees and their position within their organization.

Where trainees have succeeded in mainstreaming the new applications within their institutions, the number of communication channels used in the organization has increased. This has enabled some organizations to deliver up-to-date information to their beneficiaries, while others have gained visibility from being on the net. A few organizations have also started changing their information-management and communication systems, leading to a reduction in communication costs for some.

The CTA capacity-building programme has had a particularly strong impact on the institutions that hosted the training courses. Up to six staff members from each institution participated in the courses, and most have subsequently organized in-house training for other staff. Several lecturers have introduced Web 2.0 applications to their students, and have used them to improve their own communication and information sharing with students. Three host institutes have informally included Web 2.0 training in their teaching curriculum, or plan to introduce ICT frameworks within which use of Web 2.0 applications can be adopted.

Web 2.0 on the ground

According to the study, in some cases outcomes from the training have also contributed to positive change among farmers and communities. In one case, farmers were introduced to Web 2.0 and social media tools, which they started using to research information on good agricultural practices. This has, in turn, led to the adoption of improved farming activities. In another example, scientists in one research organization used Google Docs and Skype to discuss and share information from different farm sites.

Farmers have also learned to use Skype and Facebook to connect with telecentres and to transfer pictures or word files online. One group is even using LinkedIn to share information and discuss new ideas and opportunities.

These examples, though anecdotal, illustrate the power of Web 2.0 and social media not only for sharing content online, but for bringing about positive changes in people's lives and livelihoods. Gathering more evidence of this kind would help us to understand why this happens and how such processes can be fostered.

III Project's added value and importance

The business model used for the implementation of the project proved to be quite effective. An increasing number of host organizations have approached CTA requesting access to the facilities and the systems the centre put in place for the organization and implementation of the courses. In other words, host institutions seek permission to use the curriculum released under a Creative Commons licence and currently being updated, the provision of handouts and access to the online registration and evaluation platforms.

The strengths of the project lie in the fact that all the building blocks for easy replication are in place and marketing activities have helped create a distinct brand. Additional strengths include the fact that there are already mature and active communities of practice in place which can easily absorb and nurture fresh Web 2.0 trainees.

Based on the results of the 2012 impact assessment, the adoption of Web 2.0 and social media has opened up new professional horizons for individuals and improved work efficiency in many institutions. In turn, the latter have improved their interactions with ultimate beneficiaries, including farmers, fishers and pastoralists (Euforic Services, 2012).

Recent feedback from beneficiaries indicates that implementation of the Web 2.0 and Social Media Learning Opportunities training has led to the incorporation of these subjects in some university curricula and has strongly influenced the development of extension policies developed by agricultural ministries in Africa.

Sustainability measures

The business model adopted allows the delivery of capacity-building services at low cost to a highly motivated audience (via the cost-sharing approach). The selection of participants now favours the most likely adopters (Rambaldi, 2013) and categories which are the most likely to institutionalize the tools within their parent organizations. Specialized support is now delivered as a follow-up to the training. This includes support for the development of social media and Web 2.0 strategies and action plans within selected partner organizations (e.g. regional farmer organizations).

Support is also offered to institutions interested in running the Learning Opportunities courses in a “franchise mode” as described above.

In the Pacific, we are currently pilot-testing an approach which involves establishing partnerships with national government agencies (e.g. ministries of agriculture and fisheries), providing distance training to hand-picked trainers (Training of Trainers approach) and organizing Web 2.0 and Social Media Learning Opportunities courses building on the skills acquired by local trainers.

With the objective of ensuring replication and sustainability of the initiative, CTA invested time and resources in assisting host institutions in enhancing their online reputation. This has led to positive results in terms of fundraising and requests for collaboration and service delivery.



Learning from experience is considered a must for improvement. In February 2013, CTA commissioned a second impact assessment for all activities carried out over the period 2011-2012.

As long as social media and Web 2.0 applications attract interest, maintaining a cost-sharing approach is also a way to ensure long-term sustainability of the initiative.

IV Challenges

The main challenges encountered in the implementation of the project consisted in selecting host institutions with the necessary infrastructure and, more importantly, sufficient bandwidth to accommodate training events for 25 people at a time. In a few cases, power outages represented serious constraints on the smooth running of the training courses.

Considering the pace at which the Web 2.0 application and social media platforms evolve, the need to regularly update the curriculum emerged as a requirement and at the same time a challenge, especially in view of the fact that it is offered in two languages (English and French).

As participation in the courses is free of charge, trainee no-shows in some instances affected the full utilization of allocated resources. This recurrent problem has been addressed by monitoring no-show rates in different countries and adopting a corresponding overbooking approach. This countermeasure has so far been successful.

Way forward

CTA will continue implementing the project at least until the end of 2014. The results of the ongoing impact assessment will provide further guidance on how to tailor forthcoming activities to best serve CTA strategic objectives (CTA, 2011) and at the same time the needs and aspirations of its target audiences. CTA has already invested in building skills within selected ACP institutions with the objective of establishing training hubs in a position to respond to national and regional demand. Some are already operational.

In addition, CTA is in the process of supporting mainstreaming of the use of Web 2.0 and social media within selected regional partner organizations active in the ARD sector. Web 2.0 and social media training are to be complemented with the provision of support in terms of knowledge management (KM), communication and access to content.

V Conclusion and lessons learned

Adoption rates and the degree of engagement of trainees have been outstanding. Compared to other development initiatives, Web 2.0 and Social Media Learning Opportunities have proven to be an *igniting* moment in the professional life of participants. Feedback obtained through various channels and confirmed via the 2011 impact assessment indicates that the exposure to Web 2.0 and social media may represent a (positive) turning point in the professional life of individuals in developing countries.

Obviously, these types of activities need champions who dedicate time and effort to nurturing the communities of practice underpinning the development of networks of peers and likeminded individuals who can assist, motivate and support each other and initiate common actions. Capacity building is only one piece of the puzzle, although a fundamental one.

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List of Acronyms

ACP	African, Caribbean and Pacific group of States
ARD	Agriculture and rural development
CTA	Technical Centre for Agricultural and Rural Cooperation ACP-EU
FAO	Food and Agriculture Organization of the United Nations
ICT	Information and communication technology
ILRI	International Livestock Research Institute
IMARK	Information Management Resource Kit
NRM	Natural resource management
NGO	Non-governmental organization
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
UNITAR	United Nations Institute for Training and Research
VoIP	Voice-over-Internet Protocol
Web2forDev	Web 2.0 for Development

C7.8 E-science: The Abu Dhabi Science Festival (United Arab Emirates)

Abu Dhabi Technology Development Committee

I Background information

The Abu Dhabi Science Festival is part of a long-term plan to invest in the human capital of Abu Dhabi in ways that lead to a more vibrant science and technology (S&T) commercial sector and to a local community that is aware, appreciative and adaptive in regard to science and technology.

Vision:

Spark the curiosity of the Emirate's young people (5-15 years old) in science and technology

Mission:

Increase the popularity and knowledge of science and technology among UAE youngsters through a world-class, high-impact community activation platform

Objectives:

- 1 Engage young people in informal learning experience (science popularization)
- 2 Promote the importance of science and technology among Abu Dhabi's population



The festival presents to the community over a period of 10 to 12 days an amazing variety of the world's most exciting informal science learning experiences and discoveries, at two major activity spaces in Abu Dhabi City, plus other bespoke activities through "busking bikes" and mascot appearances that tour the Emirate (Al Ain and Al Gharbia) and engage the community (children and parents; students and teachers) at schools and malls.

The exhibits and activities cover a wide range of topics, from health and clean technology to astronomy and maths, and are delivered in many formats, including interactive exhibits, fun workshops and spectacular shows.

By reaching a broad community and focusing on youth engagement in science, technology and innovation, the initiative complements the World Summit on the Information Society's (WSIS) goals of developing a people-centric, inclusive and development-oriented information society with talented capacities that are able to drive the society and economy forward.



II Goals and time-frame

Short-term goals: Instilling a passion for and generating excitement around science, technology and innovation among the Emirate's youth.

Long-term goals: The festival is geared towards building Abu Dhabi's talent base in science, technology and innovation.

III Project's added value and importance

Project strengths: Successful strategic partnerships with the Abu Dhabi Education Council (ADEC), S&T universities, S&T industry and Abu Dhabi Emirate Municipality. Close partnership with ADEC to ensure programme alignment with school curricula, engagement of eight universities through the Science Communicator Programme, engagement of 13 industry players through the Sponsorship Programme as well as media partners, and alignment and coordination with Abu Dhabi Municipality. Extensive local media coverage.

Success factors:

- High attendance and visitor satisfaction for one of the world's biggest science festivals with over 220 000 visitors at the 2011 and 2012 festivals. Survey results demonstrate a high level of satisfaction on the part of young people, parents, teachers and even University Science Communicator participants.

- Positively changed visitors' views about S&T, and especially motivating for teachers and pupils. Survey results demonstrate increased levels of interest from students and more and more requests from teachers to participate year on year.
- High-level political support through the patronage of H.H. Sheikh Mohamed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces.

The initiative can be replicated and organized in other countries wishing to invest in building their talent base.



IV Challenges



- 1 Popularizing science and making it "fun" for kids. Addressed through:
 - Variety of formats (shows, interactive exhibits and engaging workshops)
 - Content/topics – Helping kids recognize that there is science in everyday life/activities, e.g. Crime scene investigation (CSI) workshop (made attractive by popular TV shows); Supermarket science and science of the circus shows; rollercoaster interactive exhibit.

- 2 Reaching remote areas - Public activity areas in Al Ain and Al Gharbia; we essentially “took the festival to them”.
- 3 Exceeding space capacity limits - On account of very high attendances in our inaugural year (2011), we were faced with challenges owing to crowds. For capacity reasons, the doors to the festival had to be closed and visitors turned away. Accordingly, in 2012 an online ticketing system was instituted to help manage footfall and ensure that each child was able to experience at least three activities.

V Conclusion

- The initiative revealed that there is a definite interest in the community for science and technology.
- When children are presented with hands-on applied learning experiences that are demonstrated in a fun and entertaining way, science learning becomes simpler and students understand and relate more to science and its discoveries.
- Societies that embed science and technology can increase interest in science and technology among their youth through initiatives like the festival and drive their youth education and career preferences.



C8. Cultural diversity and identity, linguistic diversity and local content: “En mi idioma” (In my language) (Colombia)

Ministry of Information Technologies and Communications and Colnodo

I Background information

With the purpose of preserving indigenous languages and promoting the dissemination of knowledge in indigenous dialect, UNESCO decided to support the development of a parallel pilot scheme with new information and communication technologies (ICTs) in Colombia, Guatemala, Mexico and Peru.

The Colombian case was headed by Colnodo, which was in charge of constructing a platform to allow the Cauca community Nasa Yuwe to produce and disseminate information in their own language. At the same time, ICT training was carried out, as well as training in management of the tools needed to publish information to support the teaching process for the community’s language.

The other partners in the project in Latin America were Enlace in Guatemala, LaNeta in Mexico and Cepes in Peru. Web Networks, a Canadian member of the Association for the Progress of Communication (APC), headed the first phase of the project, based on its experience with the Inuit community in Nanavut, Canada.

II Goals and time-frame

This project aims to prevent extinction of the many native languages all around the world. In Colombia, during the second half of 2008, Colnodo implemented a new version of the platform that took into account the experience of the pilot schemes and included new spaces which simplify uploading of the different lectures posted by the communities. During this phase, the Univesitat Politècnica de Catalunya (UPC) joined the project and contributed to developing the complete model of the project.

With the support of multiple actors like UNESCO, the members of APC and the Ministry of Information Technologies and Communications, expansion of the “In my language” platform is in progress. This will enable the platform to support more users creating content and services in their native languages.

Since 2009, “In my language” has acquired the support of the Adoption Directorate of the Ministry of Information Technologies and Communications in respect of uploading lessons for different communities like Guambiana (Misak), Nasa Yuwe, Bariara, Embera, Kichwa, Palenqueros and Wayuu, .

When this project was first developed, it had a number of specific objectives, such as:

- Extend the development of learning and teaching lessons by exploiting the Internet as a pedagogical tool in order to promote and recover native languages, having regard to the need for easy access for the members of the respective communities.
- Provide ICT access to all communities, specifically native and indigenous communities .

- Promote the empowerment and participation of indigenous communities in the knowledge society through equal access, capacity building and knowledge sharing.
- Promote plurality and diverse cultural expression through media and information networks.
- Promote the free flow of ideas, with due regard for universal access to information.

III Project's added value and importance

“In my language” is now undergoing a process of change. Taking into account that the project was successful with native and indigenous communities, and understanding that in today’s world media convergence is essential for the development of communities, future development of the project includes merging into a digital content production project that aims to preserve the cultural and multicultural expressions of indigenous, native and Afro-Colombian communities.

“In my language” is aiming to revamp its functions and to include ICTs as a tool to preserve native communities and develop a digital culture that promotes access to and production of autonomous content for each community. In addition, the needs of the communities will be shown to the world through active use of the Internet.

Puntos Vive Digital Origen aims to collect and distribute the previous experiences in order to create users in each community, allowing them not only to preserve their language, their cultural manners, their myths and their rituals but also to enter the digital world through the adoption and active use of technologies in order to establish new communication channels among themselves and between themselves and society.

IV Conclusion

The aim is to build a large social network based on the creation of content by the community. This process will be supported on specific spaces selected in advance that will have a big impact. Furthermore, the aim is to reach as many people as possible and to develop a replication process through time in different communities. In the first phase, the target is to install 12 spaces. However, the key aspect is not the spaces or the technology they use, but the ICT adoption processes. The adoption of technology will change the lives of these communities and achieve sustainable development by empowering the members of these communities. Website: <http://www.enmiidioma.org/>

Links with pictures and videos relating to “In my language”:

Short animated made by Misak community in Cauca, narrated in Nam Trik
<http://youtu.be/zhjesDVQqzs>

Interview with Liliana Pechené Muelas
<http://youtu.be/RyyHL9fzl-0>

Testimonials from some of the indigenous communities that are part of the “In my language” project.
http://youtu.be/oWS_K9Nmyzo

Interview with Luis Alberto Fernández
<http://viejo.telecentros.org.co/index.shtml?apc=k1-1--&x=4240>

The technologies in the land of the children of the water and the word

<http://viejo.telecentros.org.co/index.shtml?apc=k1-1--&x=2042>

Pictures In My Language National Network of Telecentres

<http://www.flickr.com/photos/rednacional/>

“In my language” opens public Wayuunaiki lessons, voice Wayuu ancestral

<http://www.colnodo.apc.org/destacamos.shtml?apc=l-xx-1-&x=3232>

New indigenous languages join “In my language”

<http://viejo.telecentros.org.co/sitio.shtml?s=e&apc=q--1--&x=27910>

Facebook Page for In My Language Wayuunaiki

<https://www.facebook.com/wayuunaiki.enmiidioma.org>

Acronyms

UNESCO United Nations Educational, Scientific and Cultural Organization

APC Association for the Progress of Communication

ICT Information and communication technology

UPC Univesitat Politècnica de Catalunya

C9. Media: Africa Digital Media Academy (Rwanda)

*Ministry of Youth and ICT and Workforce Development Authority (WDA)
Emmanuel Habumuremyi*

I Background information

A decade ago, Rwanda set out to establish itself as a knowledge-based economy, and specifically zeroed in on ICT as the vehicle that would drive it to that destination. Since then, the country has become a symbol of both successful governance and economic development.

Vision 2020 aims to transform the low-income economy of Rwanda to a middle-income economy by 2020. The Government has envisaged an average economic growth rate of 11.5 per cent for the period covered by the Economic Development and Poverty Reduction Strategy II (EDPRS 2). This is in contrast to the annual average economic growth rate of 8.2 per cent in the last 10 years. Such a surge in growth will bring about a GDP per capita of USD 1 240 by the year 2020, as compared with the current figure of USD 600.

Various initiatives have been carried out in the ICT sector in order to boost the overall success of programmes that are designed to drive the economy towards an effective and competitive knowledge-based status. The National ICT strategy and plan (NICI) gives clear direction on how to move from poverty to a middle-income, knowledge-based economy. It places emphasis on the promotion of and support for the creation of locally relevant content and applications that will increase Rwanda's presence in the "global village". The Africa Digital Multimedia Academy (ADMA) is one such initiative that is driving the ICT revolution in Rwanda along the desired path of an improved knowledge base for its economy.

ADMA is a remarkable opportunity for Rwanda. With its establishment, Rwanda has effectively embraced information technology and all the related infrastructure. It enables the country to embark on a phase of booming innovation through content and application development. Such a drive relies heavily on the development of a workforce with all the required capacity to complement the government's efforts to bridge the digital divide and empower Rwandans to participate in promoting and ensuring good governance.

ADMA is a vocational training programme initiated in March 2012 by the Workforce Development Authority (WDA) together with Pixel Corps Ltd.

It equips students with the necessary skills to work in all areas of the digital media industry. It prepares its students for production work needed in digital media. Through live, hands-on learning in the computer lab and production studio, along with distance learning provided by television experts in the United States, students are able to proceed at their own pace with support from the instructors.

African people are the major target audience of the project. The principal goal is to help them acquire first-hand quality knowledge in content development that is worthy of a competitive candidate in the market of the digital age. ADMA's emphasis is always on student collaboration and community as the foundation for effective learning.



The academy started with training of the first batch of 20 students in quality video and film production and basic production skills like computer graphics, editing, audio lighting, motion tracking, photoshop and 3D modelling.

It is dedicated to preparing people to work with the same degree of talent and resources as anywhere else in the world, by educating and preparing students of different ages for production work in the video, visual effects and 3D areas. The competencies acquired there are not just relevant to film and TV, but to all industries, from education to tourism, that need and use digital media.

This new vocational training programme, with its comprehensive scope, is the first of its kind in Africa that provides students with the necessary skills to work in all areas of the digital media industry. Currently, the Africa Digital Multimedia Academy is hosted in Kigali, the capital of the Republic of Rwanda.

The project contributes to the outcomes of various existing programmes at the national, regional and international levels. In relation to the commitment Rwanda has made to implementing WSIS goals, ADMA contributes effectively to the media action line. Additionally, it anchors the other action lines that encourage the development of content and technical conditions that facilitate the presence and use of all world languages on the Internet. Graduates of ADMA will promote access to information and knowledge. They will also anchor local and regional capacity building. Furthermore, they will promote comprehensive e-applications (useful for implementing e-government, e-business, e-learning, e-health, e-employment, e-environment, e-agriculture and e-science), cultural diversity and identity, linguistic diversity and local content and ethical dimensions of the information society.



II Goals and time-frame

In line with the short-term and long-term goals of the project, ADMA will:

- **Provide expert training:** One of the problems for schools anywhere in the world, and especially in the emerging world, is the lack of industry experts available and willing to spend large amounts of time training new production artists. This programme is designed to make it easy for industry experts to come in and provide intense training over short periods of time that then lead to longer periods of scholarship among the students.
- **Provide an environment for varying student learning speeds:** One of the problems with traditional education is that, by grouping many individuals with many different backgrounds, the education exercise either leaves more than a few behind or slows down the entire class to the lowest common denominator – which can be a different individual at different times. The ADMA structure is designed to allow individuals capable of learning faster to stay saturated with educational nutrients, while still providing room for slower individuals to catch up.
- **Provide real production experience:** It is important to regularly expose the students to genuine production environments. It is easy to come up with solutions that make sense in a lab setting but which simply do not work in a real-world production environment. In the ADMA learning/training environment, students must learn how to use their skills efficiently and work productively with others.
- **Provide a connection to the global community:** While many of the early students from this programme will most likely be in high demand within Rwanda and East Africa, it is important that they become comfortable interacting with the global production community. This programme is designed to make them a part of that community from day one.
- **Provide a state-of-the-art education:** This programme is not designed to provide rudimentary skills that will employ students to only do baseline video production locally or even regionally. The goal is to build a state-of-the-art graphics production training facility that will attract Rwandans, East Africans, Africans and students from around the world.

- **Produce immediately employable graduates:** The focus of this programme will always be on the employability of the students. It is important that the moment students leave this programme they are prepared to enter the production pipeline.

According to Mr Gasana Jerome, the Director-General of the Workforce Development Authority (WDA): *“The school will provide up to five levels of professionalism which, if covered continuously, can last for a period of three years”*. Current intakes are mainly Level 1 trainees, who are individuals that have been in the multimedia business for some time. A total of 100 students are expected to be enrolled in a given academic year.



III Project's added value and importance

With information technology at our doorsteps, this is a unique era. Media production is rapidly becoming decentralized, e-learning technologies and opportunities are expanding, and video over the Internet is creating a host of new employment opportunities, all of which makes the barrier to entry into the industry low.

Taking advantage of this opportunity will take a bold vision, for it requires not only the development of a talented workforce, but also the creation of all the other elements to establish and maintain a thriving industry. Such an industry would not only bring recognition to the African continent, but also significantly enhance its cultural identity. It would, moreover, provide a rapidly growing set of employment opportunities, while serving as an example to many nations of what can be done with the right plan for the future.

The Director-General of the Workforce Development Authority (WDA), Gasana Jerome, further avers that *“For the past years, the Government of Rwanda has invested in well-targeted development of ICT. Such a thrust of growth is evidenced by fibre-optic cables interlinking all Rwandan districts. With*

such a poise of the ICT infrastructure and ADMA’s experts, this school guarantees high quality multimedia skills.”

There is no tool in Rwanda’s arsenal of surprises that is more powerful than media development. This programme is about developing, building and using this very tool to energize Rwanda’s entire economy. With this programme, Rwanda intends to be both a centre and leader in media development across e-learning, TV, web video and film. Rwanda will hold its brief as a technology leader and help move the global image of the country away from its troubled past. ADMA will be complemented by other initiatives built upon local and global interest in the Rwanda Media Academy, and working up to the eventual debut of a production complex, or “Digital Playground”.

The project is recommended to other countries.

IV Challenges

High demand and limited space:

“Given a planning period of about two years, the Government of Rwanda, in partnership with multimedia experts from USA, has managed to gather high-quality equipment that is needed to provide products of Hollywood standard.” This statement was made by Christopher Marler, Senior Vice President PixelCorps, at the humble though convincing beginnings of ADMA, whose present intake stands at 20 students for every admission.

To overcome this, WDA will gradually increase space. At the moment, the tender process is under way for a fully equipped lab and production studio. Once built, the number of students will increase from 40 to 80 per daily session.



Nevertheless, there are some hurdles to be overcome, two of which are:

1 Multimedia experts are expensive:

In most cases, these experts are gainfully employed within their industry, and are not inclined to train the competition, or simply have other priorities. Flexible modular training schedules and e-based learning that enables experts to guide students during breaks in their normal professional work have helped ease the likely shortage of trainers and attract foreign experts.

2 Trainees tend to at times be preoccupied by other daily duties. Modularized training helps students match their availability with training periods.

V Conclusion

The ADMA project is a very positive initiative for Africa in general and Rwanda in particular at a time when countries are engaged in the migration from analogue to digital. Its contribution in terms of content for newly created or upcoming channels is capital.

As regards lessons learned, this project has showed that:

- The participation of the private sector is required for developing capacity and raising awareness of the population, who generally are still not conscious of the benefits and/or potential benefits offered by multimedia technologies.
- To increase the technical know-how required to maintain and manage multimedia technologies, trainees need to work closely with training providers in order to develop hands-on technical training programmes.
- For project sustainability, it is important to have a clear business model whereby students' products can generate income even before they have completed their courses.
- Interaction with the local population will contribute to generating good content and should be nurtured.

Some testimonies:

1 Student video of the ADMA Launch:

http://www.youtube.com/watch?feature=player_embedded&v=vFHjgtFp6M0#!

2 Student's practice: <http://www.youtube.com/watch?v=RzQOORVdUZc>

3 Instructor at work: <http://www.youtube.com/watch?v=mFaDf9tXefY>

C10. Ethical dimensions of the information society: Mujermigrante.mx - Promoting human rights for migrant women (Mexico)

Ministry of Communications and Transportation
Mónica Aspe Bernal

I Background information

In the context of international migration, Mexico is defined as a country of origin, transit, destination and return of major migratory flows. The fact that Mexico's northern border is shared with the United States obliges Central American and other countries' migrants to cross Mexican soil.

Men, women, young people and children are part of the international migration flow of Mexicans to the United States. This is, in the words of Massey *et al* (1993, p. 31), "a unique case in the international migration history". Besserer (2003) points out that the busiest border in the world is the US–Mexico border. Furthermore, Mexico is also the scene of internal migration between the places of less development and the higher economic growth.

Migration has aspects that affect women differently from men. However, the majority of provisions and migration policies still lack a gender approach. Traditionally, migration was considered as a male phenomenon and it has only recently been recognized that women represent a significant portion of the migrant population, either as companions of men, or as individual migrants.

According to the UN, in 2010 more than 100 million women were international migrants. However, the need for greater visibility of women in migration should go beyond mere statistics. It is necessary to find answers to questions such as: What circumstances increase migration of women? What are the challenges that women face more frequently when migrating? Why is the proportion of women greater in certain labour migration flows than others? What type of public policies must governments formulate in order to deal with the complexity of the migration phenomenon?

Today, the use of technology affects almost all activities of human beings, and migration is no exception. We are immersed in a globalized society that has found in ICTs a great support tool for staying informed and generating knowledge, without restrictions of time and space.

Digital inclusion of vulnerable groups, through access to the Internet in areas of high migration density, accompanied by relevant digital content, services and training actions for building their capacities, contributes effectively to advancing the international agenda in the field of the information society.

According to data from *Sin Fronteras IAP* ("Without Borders"), migrant women of Mexican origin account for 45 per cent of the total migrant population that tries to cross the border with the United States. Each year, approximately 350 000 Mexican women migrate to the United States. In 2010, there were 5.3 million Mexican migrant women in the United States. Just over 30 per cent of these women are heads of households, who have problems of segregation, conciliation, domestic violence, family reunification and integration of their sons and daughters.

In the light of this situation, the Mexican Government, through the Office of Information and Knowledge Society (CSIC) of the Ministry of Communications and Transportation (SCT), with the

support of more than 50 public agencies, academic institutions and civil-society organizations, has since 2008 been coordinating the project *Mujeres migrantes en pro de sus derechos humanos* “*Migrant women in pursuit of their human rights*”). The project seeks to generate actions and strategies supported by technology, in order to reduce the risks migrant women face, during arrival and return.



II Goals and time-frame

Goals:

To develop a digital platform for managing the provision of information and communication services to women and families affected by the phenomenon of migration, in order to help prevent their social alienation for geographical, educational, economic and cultural reasons.

- To provide live guidance and information to migrants through mobile applications.
- To develop digital content and services focusing on gender and human rights.
- To train government employees and the population in general in aspects related to migration using online and offline tools.
- In a future stage, to develop infrastructure in order to facilitate access to Internet in areas of high migration density.

Target population:

- Non-Mexican migrant women on Mexican territory
- Mexican migrant women in a foreign country
- Women and families of migrants located in areas of high migration density within Mexico.



III Project's added value and importance

This is a comprehensive project, composed of a multidisciplinary group focused on attending to people whose educational, economic, cultural and gender vulnerability can be mitigated through different strategies and technological tools:

- An Internet website (www.mujiemigrante.mx), which permanently facilitates information and communication among migrant women and their families. It currently receives a monthly average of 2 500 visits, mainly from Mexico, the United States, Ecuador, Colombia and Spain.
- More than 700 digital contents and services with a focus on gender and human rights, including infographs, videos, courses, applications and emergency numbers.
- Online and real-time care services and telephone support through a toll-free number.
- Delivery of 41 classroom training workshops nationwide, benefiting 800 government employees and civil organizations, particularly in states with greater migration.
- Online course "Women who migrate", of 40 hours- duration, where topics on human rights, gender equality, digital inclusion and the main problems associated with migration process are addressed.
- Radio spots to broadcast the contents and services provided by the website, via *Radio Universitaria e Indígena* (Indigenous University Radio Station).
- Mobile applications for iPhone and Android platforms, to offer live guidance and information to migrants.

The implementation of this project can be replicated in other countries, since it is based on the formation of collaborative networks between public, academic and civil-society agencies. Through this multidisciplinary group, digital content has been donated, developed, updated and broadcast, which has a positive impacting on the project's cost-benefit.



IV Challenges

Studying the technology habits of the migrant population in Mexico, the United States and Central America will enable the development of innovative and relevant content that takes into consideration the linguistic and cultural diversity of migrants.

The incorporation of indigenous groups who are sometimes illiterate or only speak their mother tongue represents another of the challenges to overcome.

There is a need to develop infrastructure in order to facilitate Internet access in areas of high migration density.

V Conclusion

One of the main lessons learned throughout the development of this project is the great potential ICTs offer for mitigating the risks faced by women when migrating. ICTs can serve to facilitate the dissemination of information and thus prevent, *inter alia*, violations of migrants' human rights. Technology, in its most profound social sense, informs and communicates about women who have decided to leave their places of origin for the sake of achieving a better standard of living for their families and themselves, and who should not be subjected to violence for taking this decision.

For ICTs to be able to fulfil the promise of helping to close the educational, digital, social and economic divides, it is necessary to provide minimum conditions for their access and use, as well as capabilities and content, and above all to advance on all these fronts simultaneously.

It is said that ICTs are not an end in themselves, but means to serve the needs of different social sectors, in areas such as education, health or work. In this project, ICTs fulfil their function as a tool for achieving national development objectives, clearly focused on improving the standard of living of people and the development of countries.



C11. International and regional cooperation: Child helplines and telecoms: A toolkit to assist your child helpline to advocate for a free-of-charge telephone number (Netherlands)

Child Helpline International



I Background information

Child Helpline International (CHI) is the global network of child helplines in 142 countries (as of October 2012), which together receive over 14 million contacts a year from children and young people in need of care and protection.

CHI supports the creation and strengthening of national toll-free child helplines worldwide, and uses child helpline data and knowledge to highlight gaps in child-protection systems and advocate for the rights of children.

To assist child helplines' efforts to be assigned toll-free telephone numbers, since 2005 CHI has been advocating at the international and regional levels with the aim of achieving supportive legislations, regulations and recommendations in this regard. The assignment of telephone numbers ultimately takes place at the national level and is organized by governments and their national telecommunication regulatory authorities. Initially, CHI's efforts were directed at the possible reservation of a globally harmonized, three-digit emergency number for child helplines. However, global harmonization even of short (e.g. three-digit) numbers like the national emergency numbers 999, 110 and 112 has not yet been achieved owing to the complexity of the global telecommunication regulatory landscape. Accordingly, CHI changed its strategy and agreed to pursue regional harmonization of toll-free numbers. Hence increased emphasis was placed on the regional telecommunication regulatory stakeholders.

Organizations aiming to achieve the assignment of free-of-charge telephone numbers to their child helpline services have to advocate with their national governments, ministries and telecom providers. In order to inspire and inform child helplines going through this process, CHI produced an [online toolkit](#) which shares information, pointers and assistance that can help with advocacy efforts.

The toolkit provides:

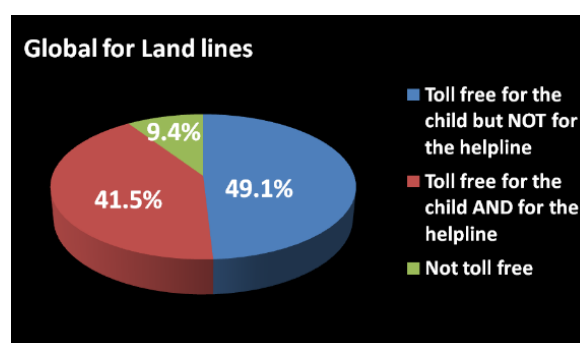
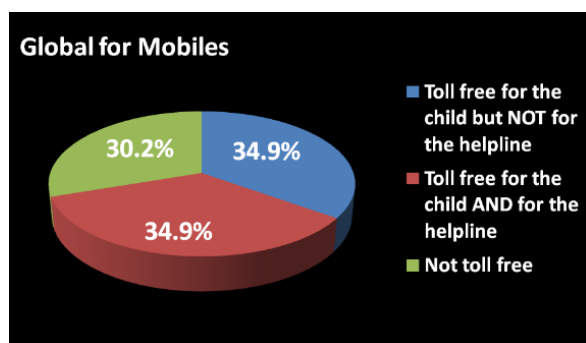
- Information on the CHI Secretariat's advocacy efforts at the international level
- Valuable supporting documents of international, regional or national relevance

A short telephone number of three or four digits is key to making a child helpline accessible to all children. Children need easily remembered numbers because it is easy to forget important phone numbers when in distress. Also, those children that do not know how to read or write need to be able to memorize a telephone number on the dialling pad.

CHI's goals 2011-2015:

- Provide adequate services to child helplines in all stages of development.
- Work with the communications sector to ensure that children can access child helplines, through their preferred means of communication, whether using traditional or contemporary technologies.
- Strengthen national child protection systems by improving data collection and use and advocating with key decision-makers.

To turn these objectives into realities, CHI employs a multistakeholder approach, working with local, regional and national stakeholders and partners to support the creation and consolidation of national cost-free child helplines around the world. In addition, CHI works to ensure ongoing opportunities for all members and partners to enhance their services through workshops, training, peer exchanges and other vital opportunities for knowledge sharing. Finally, CHI taps into the data and information available across the network to advocate to and lobby key decision- and policy-makers to help strengthen national child-protection systems and ensure children their rights.



The main idea behind CHI's publication: *A toolkit to assist your child helpline to advocate for a free-of-costs telephone number* is to provide information and practical advice to child helplines which are engaged in the process of obtaining a toll-free status telephone number. Using examples from across its global network, the toolkit also capitalizes on the lessons learnt and the good practices developed by the child helpline members who have already secured a toll-free number.

"Experience shows that child helplines which have free-of-costs numbers for children to contact them receive ten times more calls on average than child helplines that do not." - CHI

The importance of easy and cost-free access to child helplines cannot be overstated.

Children often do not have the means to cover the costs of calling or texting, even when they need help. Moreover, costs incurred for calling or texting a child helpline using a parent's or other adult's phone can be detected and thus also hinder a child's ability to contact a child helpline confidentially and safely. No child should ever be denied access to help and support because he or she cannot afford it.

CHI works with actors in the telecommunication sector to ensure that all children, irrespective of their circumstances or economic status, can contact a child helpline free of charge, and to reduce the burden of telecom costs on child helplines.

While free-of-costs status is of utmost importance for incoming calls (for children trying to access child helplines), it is also crucial for outgoing calls from the child helplines. Child helplines which have to pay for outgoing calls and texts face a tremendous financial burden and often have less resources as a result to invest in other critical aspects of their work.

The target audience for the toolkit is CHI's network of child helpline members. Data collected by child helplines and aggregated by CHI demonstrate that child helplines that offer toll-free services receive more contacts from children and young people than those that do not.

The immediate beneficiaries of the toolkit are the members of CHI's network, the child helplines themselves. However, the final beneficiaries are the children and young people who call child helplines when they need help and support.



CHI identified the need for the toolkit by listening to its members. While in some countries toll-free numbers have been allocated and secured by child helplines, in other countries they have not. When CHI began to investigate how its members had secured the toll-free access it became clear that there were some good practices and lessons learnt to be shared across the network. Additionally, the toolkit is a useful tool in the dissemination of information about WSIS. Links to the Geneva Declaration of Principles and further information about WSIS are given in the toolkit and disseminated to members of CHI and the wider public.

Case: A 13-year old girl called the child helpline raising her concern about her 12-year old friend who is no longer attending school.

She explained to the child helpline counsellor that her friend's mother gave her friend away in marriage to a man.

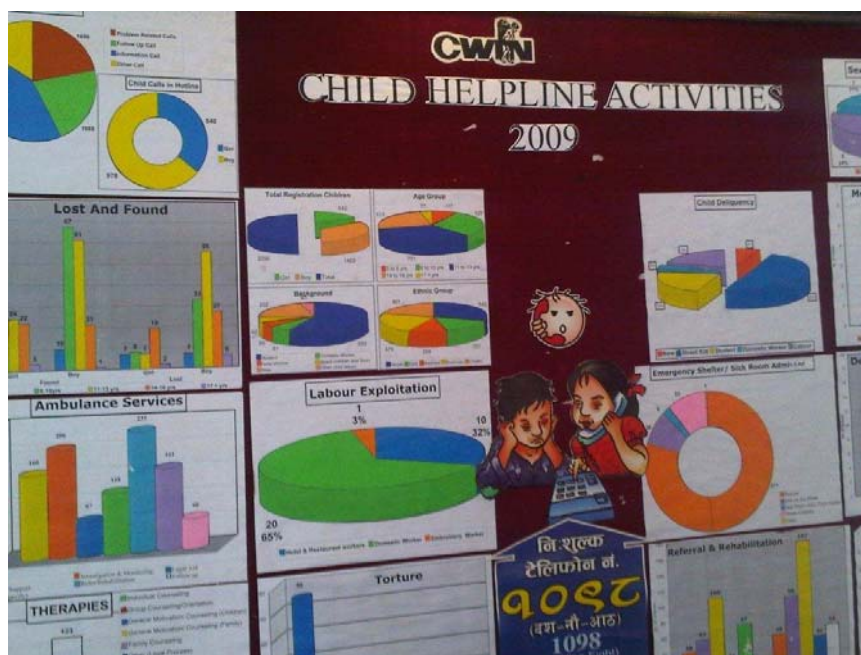
Her friend was no longer attending school and was living elsewhere with her new husband.

The child helpline counsellor contacted a social worker working in the area where the girl is now living to refer the case. The social worker followed up on the case and was eventually able to place the girl in a shelter while further investigations were undertaken. The husband was arrested.

While at the shelter the girl returned to school. The girl remains at the shelter. - *African region*

The scope of the Telecom Toolkit is potentially global, since CHI currently works in 142 countries. As more countries join the child helpline movement, they will make use of the Telecom Toolkit in the start-up phase of securing toll-free access.

The Telecom Toolkit was launched in 2012 for use in all countries. The toolkit was shared with CHI's network at its sixth International Consultation in Durban, South Africa, and is available to download on CHI's website: <http://www.childhelplineinternational.org/resources/manuals-toolkits/telecoms-toolkit/>



Working towards the WSIS goals – Article 92 of the Tunis Agenda

Since its inception, CHI has lobbied for a global, short, easy-to-remember and free-of-cost number for child helplines. In doing so, CHI interacted with various stakeholders in the public and private arena, such as major telecommunication providers and, of course, the [International Telecommunication Union](http://www.itu.int/) (ITU) as the United Nations specialized agency responsible for information and communication technologies. ITU is the main organizer of the World Summit on the Information

Society (WSIS), a United Nations summit aimed at bridging the digital divide and turning it into a digital opportunity for all.

On 18 November 2005, ITU officially acknowledged the importance of child helplines in the Tunis Agenda for the Information Society, § 92. Subsequently, ITU signed a memorandum of understanding with CHI, which committed both parties to including children, especially those who are marginalized, in the telecommunication revolution. Moreover, CHI and ITU agreed to explore the allocation of a short, harmonized toll-free number for child helplines worldwide.

CHI became a member of ITU-T Study Group 2 (SG2), which is the ITU body in charge of a number of harmonization issues. Between 2006 and 2008, CHI made proposals to SG2 in regard to a possible Recommendation for a global number for child helplines. ITU Recommendations are the result of consensus decisions; hence they have to be approved by all ITU Member States. This goal, however, is hard to achieve. Even for the general emergency numbers 110, 999 and such like, so far ITU has not been able to issue a global Recommendation.

CHI received both supportive and skeptical feedback from country representatives at ITU, and it became apparent that a global Recommendation would not happen in the short term. Simultaneously, opportunities for regional number harmonization opened up in Europe. In early 2007, CHI submitted an official application to the European Commission to [reserve the harmonized toll-free number 116 111](#) for child helplines in EU member states. On 29 October 2007, the European Commission adopted [Decision 2007/116/EC](#) recommending member states to reserve the number 116 111 for child helpline services at the national level. By adopting the decision, the European Commission recognized the importance of the work child helplines do for children in the European Union and the need to support them. EU recommendations are binding on its member states.

As of early 2012, the number has been reserved for child helplines in all 27 member states; it has been assigned in 22, and is operational in 17. However, the above-mentioned reservation of 116 111 was not applicable to the European countries beyond the European Union. In early 2008, the European Conference on Postal and Telecommunications Administrations (CEPT) charged the Electronic Communications Commission (ECC) with exploring options for extending the 116 111 reservation to the ECC members. ECC brings together the national telecommunication regulatory authorities of the 48 CEPT member countries. ECC adopted Decision ECC/DEC/(07)03, based on the above-mentioned EU decision, on 26 February 2008. Some of the 48 CEPT member countries, however, are not yet able to assign six-digit numbers. To be able to do so, they need to adjust their national numbering plans accordingly before an assignment can take place.

All CHI members in CEPT member countries interested in getting the number 116 111 assigned need to obtain this information directly from their national telecommunication regulator. Consequently, the European ITU Member States recommended that ITU look into a global reservation of 116 111 for child helplines. As a consequence, the discussion in ITU-T SG2 on the allocation of a harmonized telephone number for child helplines shifted from envisaging a three- or four-digit number to focus on 116 111. Most Member States endorsed the drafting of a Supplement, a type of text which can be adopted by ITU itself as an organization without formal approval by the membership. Supplements are a tool that ITU uses for endorsement and to invite Member States to take particular measures, although they do not have formal legislative power.

As a result, ITU adopted a Supplement inviting Member States to allocate the number 116 111 to child helplines. The Supplement invites Member States to follow the example of European countries, i.e. to allocate the number 116 111 to the child helpline in their country. It also endorses the efforts of child helplines to advocate for short, easy-to-remember telephone numbers and to harmonize these at the international level. Based on the ITU endorsement, a number of CHI member

organizations have managed to get 116 111 assigned in their countries. A number of African countries have managed to get the three digit toll-free number 116 assigned to their child helplines. There is no official recommendation or reservation of this number issued by the African regional body of telecommunication regulatory authorities. However the existing examples of 116 have induced more countries to follow.

Zimbabwe

Childline Zimbabwe was allocated the toll-free telephone number 116 in July 2009 after a six-month period of advocacy efforts. A number of steps were planned during this period which contributed towards the successful outcome:

- The provision of background information regarding the work of the child helpline
- Individual meetings with decision-makers outlining the extent of the needs of children
- Use of personal contacts from staff, board members and friends of Childline Zimbabwe
- Field visits to the site of Childline Zimbabwe

Not all these steps were needed for the successful allocation of 116. However, the child helpline then faced other challenges. After 116 was implemented, more children called the helpline, stretching ICT, telephone and financial resources and resulting in a need for staff training. To fund these items, money had to be raised from other sources.

II Goals and time-frame

The short-term goals of the project are increased awareness on the part of child helplines about basic telecommunication terms and processes, regulation issues and number implementation.

The medium-term goals are improved lobbying and negotiation of contracts with telecom providers, and fewer child helplines paying fees for incoming calls thanks to regionally harmonized free phone numbers.

The long-term goal is that more children have free-of-cost access to high-quality child helpline services.



III Project's added value and importance

The partnership between the CHI Secretariat and ITU has led to a memorandum of understanding that supports the allocation of short, cost-free telephone numbers to child helplines. Furthermore, an ITU-T Supplement on a short toll-free number has been produced.

The strength of this project is the breadth and depth of the information and experience collected from all regions and over a period of ten years. The case studies cited in the toolkit offer an insight into the challenges faced by child helplines in securing toll-free access, and help peers to feel that they are not alone. The toolkit also provides signposting to other resources and relevant information, and can be used as a training tool in peer-to-peer support programmes. Currently, the toolkit is available in English, French and Spanish.

The main purpose of this project is to transfer knowledge between countries.



IV Challenges

The challenges faced by CHI are predominantly in the post-implementation phase, where currently funding is not available to translate the toolkit into more languages. CHI's current priorities are Arabic, Portuguese and Russian. CHI will attempt to overcome these challenges by raising funds for translation.

V Conclusion

As a result of the telecom toolkit, CHI has developed much closer links with the private sector and specifically the telecommunication providers. Our members have been able to develop open dialogues with their national providers and share their experiences with the broader network. In 2013, CHI is launching a *Friends of Child Helpline International* group of telecommunication operators. We are inviting members to offer communications services to child helplines free of charge in the markets where they operate. Through this initiative and our continuing relationships within the sector, we hope to strengthen our efforts to secure toll-free numbers for child helplines around the world.

"We are pleased that ICTs can, in the twenty first century, help improve and make child helplines more accessible for all those children in the world who need them."

Francisco de Bergia, General Manager, Public Affairs, telecommunication provider Telefónica, speaking at CHI's fifth International Consultation in Madrid, Spain.

