

BOOK OF ABSTRACTS

Internet Governance Capacity Development Programme
Policy Research Project

Diplo IG Papers

2010/2011

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Foreword

In the following pages you will find a collection of abstracts from research projects conducted during the 2010/2011 Internet Governance Capacity Building Programme (IGCBP). Policy research is part of a gradual process of gaining knowledge, skills and policy experience in Internet governance (for a visual summary of the IGCBP methodology, see page 74). Between March and May 2010, during the foundation phase, participants learnt the basic concepts and issues in Internet governance. In June and July 2010, by following the advanced courses, participants focused on specific Internet governance issues, including cybersecurity, human rights, data and privacy protection.

After learning about Internet governance, in the policy research phase (September – December 2010), they applied their knowledge to concrete Internet governance issues of relevance for their countries, organisations, and local communities.

By immersing our policy research in the local dynamics of developing countries, we have recognised the risk inherent in this lack of synchronisation between academic research and

local policy dynamics. Policy research needs to take into consideration local political, economic, cultural, and professional contexts. The same Internet services trigger different policy issues in different countries. For example, the societal impact of Facebook and related policy issues are different in Europe, where the main concern is about data protection; in North Africa, on the other hand, Facebook is being used as a platform to coordinate political action.

Although participants have started addressing local concerns, their research is anchored in broader regional and global contexts. Under the supervision of Diplo's experts and through peer-to-peer exchange, participants have identified common patterns between their own countries and other countries in addressing Internet policy issues.

In 2010, a total of eight research course groups were formed for the policy research phase, made up of the most successful participants of the online course phase. Some 60 participants who went through the research course continued working on their research proposals, covering a wide variety of topics with regional and national focus, such as critical

infrastructure, development, e-commerce, security, e-participation, human rights, e-government, Internet governance and ICT policy, ICT development; one Francophone team was formed to focus on the specific challenges of French-speaking regions worldwide.

The abstracts you see here showcase the first step on the long road to effective and informed policy research and decision-making. Along the way, participants will continue to reap the benefits of the seeds they have sown during the IGCBP as they continue their focus on specialised areas of interest. Shared interests, personal contacts, and

common projects contribute to creating sustainable communities of practice for dealing with new and complex policy issues, such as Internet governance.

We are proud of their accomplishments to date and look forward to seeing our IGCBP participants continue to flourish in their future policy work.

A handwritten signature in black ink, appearing to read 'Jovan Kurbalija', with a stylized flourish at the end.

*Dr Jovan Kurbalija
Director, DiploFoundation*

Introduction

With the fast development of Internet services and accompanying global sociocultural changes, the work of decision-makers and policy shapers on national and regional ICT strategic planning has become increasingly complex. Developing countries face double pressure: while using their limited resources to cope with regulating telecom markets and developing the basic infrastructure, they also need to look ahead to the future and envisage the policy challenges that will appear once the connection is there, i.e. the Internet governance (IG) issues. Developed countries, on the other hand, which have to a large extent settled their telecom and broadband markets, can focus on these emerging challenges without distraction.

It comes as no surprise, then, that developing countries import major IG policy papers and ideas. Implementation of these recommendations without adjustment to the specific cultural, political, or economic needs of a country often results in awkward strategic plans that lack sustainability, public ownership, and potential for implementation. But it does not have to be that way.

Developing countries have amazing potential in human capacity that remains relatively untapped.

At DiploFoundation, through the seven years of our Internet Governance Capacity Building Programme (IGCBP), we have had the pleasure of welcoming, teaching, and exchanging knowledge with more than 1000 professionals from developing countries. We are witness to their potential. This publication, which comes as result of the 2010/2011 educational and research programme, presents the research work of some of the best participants, thereby introducing several emerging leaders in the global South.

The authors of the featured research papers are practitioners representing various stakeholders. Their professional and cultural backgrounds have a broad reach. Their work thus reflects their policy work experience combined with accumulated knowledge, introducing a fresh breeze of thought into the already well-mapped thematic field of IG. More importantly, the anchors to regional and national perspectives they introduce enable the localisation of IG challenges and a better

understanding of national or regional specificities that should be taken into account in future ICT planning. Bearing in mind the value of addressing local needs, it is easy to understand why some of the papers were written in French – as the author’s native language – rather than in English.

This publication should encourage other professionals from developing countries to reflect their knowledge and experience within localised policy research papers. At the same time, various global, regional, and sub-regional institutions should be encouraged to further invest in capacity development programmes

that will empower these practitioners to induce customised and attuned knowledge transfer through such informed policy research work.

The participation and the work of the authors from ACP countries (marked with * in the text) has been financed by the EU @CP-ICT Programme, 9th European Development Fund (EDF), in partnership with the Secretariat of the ACP Group of States.

The integral texts of the majority of the published abstracts are available at: www.diplomacy.edu/ig/Resources/



Benson Ncube, Botswana*

I am a Zimbabwean based in Botswana with over 18 years of experience in ICT sector operations. This experience includes the banking sector, both fixed and mobile telecommunications operations, Internet development and service provision, and delivering ICT services to the corporate world. I am an Engineer with an MBA qualification. Currently I am the Services Delivery Manager for a Cisco Premier Partner - Cabling for Africa. I am keen on innovation and like coming up with solutions that meet user requirements and present a significant impact on society. It is against this backdrop that I eagerly participated in the e-process for development to ensure that ICT is effectively used to address many challenges in developing countries. I am very excited to continue this research on the adoption and adaptation of appropriate technologies for telehealth, to improve the quality of lives for people in developing nations. My understanding of international marketing enables me to appreciate that telemedicine solutions should be customised for the target market, based on the principle there is no 'one size fits all' solution. The satisfaction that I derive from the impact the results of my research has on people's lives motivates me to embark on further research. ■

Adoption and adaptation of e-health systems for developing nations: The case of Botswana

ABSTRACT

Due to limited resources in developing nations, limited access to quality health delivery systems is a challenge. Botswana has a high cost of access to medical facilities in certain areas. The sparsely populated nation lacks medical facilities; patients travel 400 km on average to receive medical facilities from referral hospitals. Although hospital facilities exist in major cities, they are not fully equipped. There is a shortage of certain skilled personnel, a condition that forces local patients to seek treatment in other countries, hence raising the cost of access to medical facilities.

It is against this background that appropriate solutions are sought to improve the access and capability of the health delivery systems. The research revealed that many countries are now using information-based services to assist in the administration and delivery of medical services via telecommunication infrastructures. Technological developments have ushered the development and implementation of telemedicine as a complementary health delivery system. Several developed nations now have advanced telemedicine initiatives that have resulted in improved access to medical facilities. However, only a few developing nations have explored the value of telemedicine initiatives.

Interviews and a literature review were used to determine the development of telemedicine in Botswana. The results indicate the infancy of telemedicine and the potential benefits due to widespread telecommunications services. However, the local language poses a great barrier to the implementation of telemedicine. Adoption and adaptation of telemedicine technologies would improve the delivery of health services.

Keywords: Botswana; medical treatment; telemedicine; ICT



Dr Alexandre Hannud Abdo, Brazil

I am a researcher at the Institute for Science and Technology Information and Communication at the Oswaldo Cruz Foundation in Brazil. As a fellow in DiploFoundation's 2010 Internet Governance Capacity Building Programme, my main interest was to understand whether and how principles of participatory democracy were being applied in the practice of Internet governance. I became particularly interested in the issue of remote participation in related regional and global forums, as it seems necessary to confront the challenge of inclusive participation and transparency there. My academic work focuses on network population sampling methods and models for the diffusion of information in artificial societies. ■

How effective is direct remote interaction in EuroDIG?

ABSTRACT

EuroDIG is the annual Internet governance regional meeting for all of Europe. It was established in 2008, with support from the Council of Europe and other stakeholders, following the commissioning of the Internet Governance Forum (IGF) by the Secretary General of the United Nations in 2006. Its debates and messages are fed into the global forum.

Like similar Internet governance meetings, EuroDIG has a commitment to raise awareness and be inclusive of all stakeholders at the heart of its mission. Following the example of the IGF, remote participation mechanisms were introduced in 2009. First seen as a tool to increase awareness of the issues and debates, their potential to improve inclusiveness was soon realized, and a greater effort to promote remote interaction has been supported since.

This report describes the evolution of remote participation in EuroDIG and provides an assessment of the current situation, focusing on the issue of inclusiveness by direct remote interaction. It also provides steps to improve and put in greater perspective the effectiveness and reach of remote participation hubs, as well as outlining further directions research can take regarding the networks of people and organisations mobilised in the process.

Keywords: EuroDIG; IGF; remote participation



Alimata Belemou, Burkina Faso*

Burkinabé, née le 22 août 1974 à Abidjan (Côte-d'Ivoire).

Je réside à Ouagadougou, la capitale du BURKINA FASO. Je suis juriste à l'Office national des télécommunications (ONATEL), au département réglementation et affaires juridiques de l'ONATEL.

L'intérêt de traiter du thème 'code du travail burkinabé face au travail à distance' est d'abord parce que je suis juriste dans le secteur des technologies de l'information et l'Internet est mon premier outil de travail. Ensuite, c'est de conscientiser les acteurs sur les droits des travailleurs salariés, les femmes en particulier à travailler à distance ou à domicile pour concilier leur vie professionnelle et familiale du fait des responsabilités familiales qui pèsent particulièrement sur elles. La révision du code du travail devient une nécessité pour légaliser le travail à distance.

L'année 2010-2011 a été pour moi spéciale grâce à la palpitante formation et expérience acquise au contact d'une équipe de DiploFoundation très expérimentée, dynamique et avec laquelle je souhaiterai garder le contact indéfiniment pour de nouvelles expériences et défis à relever. Sont inscrits dans le cadre de mes projets futurs, les études universitaires dans les droits des TIC et de la propriété intellectuelle qui demeurent des sujets sensibles dans un secteur des télécoms très dynamique et en perpétuel changement. ■

Comment adapter le code du travail burkinabé pour qu'il réponde aux exigences du travail à distance?

RÉSUMÉ

Les TICs et l'Internet particulièrement ont étouffé le fondement de la nécessaire présence physique du travailleur dans l'entreprise. Au Burkina Faso, ce contexte a créé de nouvelles opportunités dont le travail à distance, depuis l'accession du pays au cyberspace en 1996.

La convention de l'OIT sur le travail à domicile et les politiques nationales sur le travail à distance dans de nombreux pays donnent une portée internationale à ce mode de travail.

Alors, comment adapter le code du travail burkinabé afin qu'il intègre les exigences et les spécificités du télétravail ? La réponse à cette question se révèle être un énoncé concis dans l'espoir que d'autres recherches pourraient développer ce que ce document tente de présenter. Ce dernier est un plaidoyer pour ne réforme de la réglementation burkinabé du travail en faveur du télétravail en tant que solution pour concilier vie professionnelle et familiale et de nouvelles possibilités d'emploi.

Le code du travail burkinabé permet à certains travailleurs et dans certaines situations une autre forme de travail pouvant s'apparenter au télétravail à l'opposé des formes classiques. Toutefois, ce code demeure obsolète face à la mutation des TIC et les conditions rigoureuses imposées aux travailleurs étrangers sont des obstacles majeurs au développement du télétravail au Burkina.

Les recommandations formulées en conclusion devraient guider les autorités législatives et judiciaires, les travailleurs et les organisations d'employeurs sur la nécessaire réforme du Code du Travail du Burkina par un changement des mentalités afin de permettre le télétravail et être à jour avec l'évolution des TIC.

Mots clés: Bukina Faso; code du travail; télétravail; l'évolution des TIC



Jean-Claude Kamwenubusa, Burundi*

Formateur et Directeur du Centre Régional pour l'Afrique du programme de développement d'entreprise, d'Université Communautaire et Conseil d'Afrique Union des Jeunes Entrepreneurs, Jean-Claude KAMWENUBUSA a des certificats sur la Gouvernance de l'Internet, politique des TIC et recherche par Diplofoundation. Il est aussi étudiant à une université privée du Burundi.

Depuis 2009 il était membre du réseau «International Professor Project» (IPP) reconnu au Burundi au nom: Burundi University Development program qui a créé l'UNIVERSITE TERIMBERE DU BURUNDI (UTEBU) en Octobre 2010 pour l'ASASS-BURUNDI, l'association dans laquelle KAMWENUBUSA est Représentant Légal-président Fondateur.

Il est de nationalité Burundaise, pays où la croissance d'investissements en TIC et développement d'infrastructures est encore faible. Les frais d'accès aux services Internet sont encore élevés. Il y a insuffisance de ressources, d'universités pour octroyer les grades LMD, Doctorat, PH.D et recherches, par conséquent, le taux d'abandons d'études au niveau des collèges et universités est très élevé.

En tant qu'initiateur de campagne «SAVE LIVES ! WATCH OUT WORLD: RADIO CLUB TELEVISION NETWORK», il est intéressé par les arts et la musique, par le développement de logiciel-applications et par l'entrepreneuriat ainsi que par le déploiement d'e-plateforme commerciale, VoIP et SMS, afin d'améliorer l'accès à l'Internet et aux TIC en général. Il plaide aussi pour le développement d'infrastructures, pour réduire la fracture numérique et la pauvreté. ■

Accès à l'internet & usage des tic en Afrique - Cas du Burundi

RÉSUMÉ

Durant les années 1990-2005, les pays d'Afrique ont connu l'évolution de la société Internet, du secteur de télécommunications et TIC. Certains gouvernements y compris le Burundi ont adopté des plans Nationaux sur les politiques des TIC et Régulation visant développement d'infrastructures, bonne gouvernance, l'accès universel et la réalisation des Objectifs du Millénaire pour le développement (OMD) d'ici 2015.

Malgré les efforts déployés par le gouvernement burundais, les résultats de l'étude «ACCES À L'INTERNET & USAGE DES TIC EN AFRIQUE -Cas du Burundi» ressort de l'analyse démontrent que l'Internet et les TIC sont peu utilisés. Pourtant, les points de vue et suggestions récoltés de consommateurs Internet et utilisateur du service ECOKASH-BURUNDI sur son apport, témoignent de l'importance de la téléphonie mobile, comme outil indispensable non seulement pour l'accès à l'Internet et aux services bancaires, mais aussi pour nouer des relations familiales et amicales. Elle peut parfois prendre la place des autres dépenses comme l'alimentation, habillement, logement, transport, électricité et éducation, etc.

L'hypothèse a donné une réponse: Pour que services de transaction financière par téléphone mobile soient efficace, il faut développer une application VoIP et SMS comme réponse aux besoins des populations et des communautés.

Mots clés: accès à l'Internet; téléphonie mobile; services de finance; Burundi



Donald Karerwa, Burundi*

Je m'appelle KARERWA Donald et j'ai 25 ans. Je suis diplômé en Droit et en Sciences Economiques et Administratives. En plus, depuis 2005, je suis engagé auprès des jeunes à travers une ASBL dénommée «Génies en Herbe» qui œuvre de manière générale en matière d'éducation et plus particulièrement pour les activités parascolaires ayant trait à la culture générale.

J'ai l'intime conviction que le système éducatif du Burundi mérite d'être amélioré sinon repensé pour atteindre une efficacité jusqu'ici absente. Une des solutions consisterait en l'intégration des TICs dans le système éducatif : ceci permettrait l'accès à une éducation de qualité pour la majorité des écoliers et élèves. Le Burundi ne s'étant pas encore doté d'outils pour cette intégration, je milite en faveur de la mise en place d'une politique sectorielle dans l'éducation visant la prise en compte des TICs à travers l'association ci-haut citée.

Nos actions consistent actuellement dans le lobbying auprès des autorités du Ministère de l'Education Nationale qui ont d'ailleurs déjà mis en place un point focal qui en est chargé. Nous projetons de nous adresser auprès des bailleurs étrangers afin qu'ils nous aident dans la mise en place de ce projet. ■

Stratégie d'intégration des TICs dans les systèmes éducatifs d'Afrique, cas du Burundi

RÉSUMÉ

La politique éducative d'un pays est un volet majeur de la vie de toute la Nation. Elle est le pilier sur lequel repose le présent et l'avenir d'un pays. Bien pensée, elle peut conduire à un développement économique sans précédent tel celui qu'ont connu les tigres asiatiques. Cette politique a d'autant plus d'importance quand il s'agit de l'appliquer dans un pays qui a connu les affres de la guerre pendant une longue période et dont la majeure partie des infrastructures ont été détruites ou sont devenues obsolètes.

Le Burundi est un pays enclavé et qui ne dispose pas d'importantes ressources pour pouvoir assurer le bien être de sa population: son potentiel réside dans l'éducation. Pour ce, il s'est assigné la noble mission d'atteindre les objectifs du millénaire pour le développement notamment en ce qui concerne l'accès de l'éducation primaire pour tous (Education for all). C'est dans cette optique et suite au constat que l'éducation, dont bénéficie la jeunesse burundaise, est de qualité inégale que nous avons pensé à la mise en place d'une solution alternative: l'intégration des TICs dans le système éducatif. En effet, la disparité de la qualité de l'enseignement est due en particulier à la concentration des enseignants compétents dans les centres urbains ou dans les écoles à vocation catholique; ceci a d'ailleurs été à l'origine d'une initiative du gouvernement pour le redéploiement desdits enseignants.

Mots clés: stratégie d'éducation; TICs dans l'éducation; Burundi



Karim Attoumani Mohamed, Comoros*

L'auteur est enseignant chercheur à l'Université des Comores depuis 2006. Il est diplômé de l'Université de Montréal avec un Master en intégration des TIC dans l'éducation (2008). Il a obtenu le diplôme d'Ingénieur en télécommunications (2003) et détient un DEA en régulation et réglementation des Télécommunications (2004) de l'Ecole Supérieure Polytechnique d'Antananarivo (Madagascar).

Son projet de mémoire de DEA qui portait sur une proposition de loi pour réglementer le secteur des TIC aux Comores fut voté par l'Assemblée Nationale en 2008 et promulguée par le Président en 2009. Après un court passage à l'UNICEF-Comores en tant qu'Assistant TIC, il a été rappelé pour constituer l'équipe initiale de l'Autorité Nationale de Régulation des TIC où il occupe le poste de Chef de département études et projets.

Il est point focal indicateurs TIC pour l'UIT et continue d'assister techniquement le Ministère des TIC de son pays. Il représente les Comores à l'ICANN au sein du Comité de Conseil Gouvernemental (GAC) depuis 2009. Son implication à la Gouvernance de l'Internet a commencé en 2010 après avoir suivi le cours 'Next Generation Leaders' de l'ISOC sur la Gouvernance de l'Internet. Il cherche un encadreur dans une Université pour effectuer une thèse sur la régulation des TIC, les TIC pour le développement et/ou la Gouvernance des TIC pour faire en sorte que le développement des sociétés africaines par les TIC soit une réalité. ■

Evaluation du statut de l'E-Gouvernement en Union des Comores

RÉSUMÉ

L'e-gouvernement consiste à l'utilisation des Technologies de l'Information et de la Communication (TIC) par un gouvernement pour transformer sa façon d'administrer, de produire et de délivrer efficacement des services publics aux citoyens. Plusieurs rapports font état du niveau de développement de l'e-gouvernement dans le monde notamment les publications du Département des Affaires Economiques et Sociales des Nations Unies (UNDESA) dont celles de 2010 qui font état, pour les Comores, d'un indice de développement de l'e-gouvernement (EGDI) de 0,2327 avec une présence en ligne du pays évaluée à 0,0286. Dans cet article, nous nous sommes intéressés à l'évaluation de la présence en ligne du pays en recensant les sites web gouvernementaux, en commentant les chiffres publiés par rapport à la disponibilité en ligne d'informations gouvernementales et à l'interaction avec les citoyens. L'organisation et les processus gouvernementaux devront être revus car l'e-gouvernance viendrait automatiser des procédures traditionnelles existantes et efficaces qui font défaut aux Comores. Malgré l'engouement du gouvernement comorien à passer de la gestion administrative publique traditionnelle à l'e-gouvernement, on a constaté en plus de l'insuffisance des sites web gouvernementaux une carence en termes d'infrastructures, de production de services électroniques, et des conditions difficiles d'accès aux TIC par les citoyens. Au final, nous avons recommandé à ce qu'une vision et une stratégie de l'e-gouvernement soit développées pour que soient entreprises des actions en vue de remédier à la situation actuelle.

Mots clés: évaluation de l'e-gouvernement; e-gouvernance; présence en ligne; EGDI



Nnenna Nwakanma, Côte d'Ivoire*

As one of the earliest actors of the knowledge society in Africa, I trained in Humanities, Languages, International Relations and Law, and have gained professional experience from the African Development Bank (AfDB), the Helen Keller Foundation (HKI), the Global Digital Solidarity Fund (DSF), the Diplomacy Institute, and the African Information Society Initiative (AISII). Co-founder of the African Civil Society on the Information Society (ACSIS) and the Free Software and Open Source Foundation for Africa (FOSSFA), I have lived in five different African countries and speak five different languages. I consider myself an African, of Nigerian origin, living on the Internet, with global citizenship. I am founder of NNENNA.ORG and Board observer of the Open Source Initiative (OSI). I am currently the Council Chair of the Free Software and Open Source Foundation for Africa, and in that position, the convener of the West Africa Internet Governance Forum (WAIGF) and a key actor in the new Africa Internet Governance Forum (AFIGF). I have been working in the domain of ICT4D for over 12 years with governments, businesses, think tanks, development partners and the civil society. You are welcome to my networks: as a connection on LinkedIn, a friend on Facebook, a viewer on YouTube, and a follower on Twitter. ■

Social media and networks: What potential is there for policy engagement by citizens in West Africa?

ABSTRACT

As social media and networks loom large in the Internet space, we no longer question their utility in many areas. The public policy space is one area in which social media and networks have made a volcanic impact in North Africa, with the revolutions in Tunisia and Egypt. The question is whether anything like this could happen in West Africa.

To answer this question, it was important to know who was using the Internet, why they were using it, and to what extent. It was also necessary to sieve through to get to the use of social media networks, such as Facebook, Twitter, LinkedIn, and YouTube. The researcher needed to look for concrete case studies in Nigeria, Ghana, and Côte d'Ivoire and looked at different levels of citizens' engagement in public policy and how social media and networks are being used. Interviews, questions, consultations, discussions, and surveys were conducted, which led to the discovery that things are happening in strange places and that the potential of social media and networks in citizen policy engagement can only be likened to a pregnancy whose term is already here.

Keywords: social media; participation; citizen engagement; public policy; West Africa



Alain Ilunga, Democratic Republic of Congo*

I studied Physics at the University of Kinshasa, from where I received my degree and where I taught as an assistant from 1999 to 2010. I am really interested in computer networks, and I help with the implementation and maintenance of Internet infrastructure and services for some Internet providers in Kinshasa, in addition to supervising technicians. I have given several Network and System Administration workshops in Kinshasa and the sub-region, in cooperation with ACOULL (Association Congolaise des Utilisateurs des Logiciels Libres), BSDCongo, AUF (Agence Universitaire de la Francophonie), AfNOG (African Network Operators Group), ISOC (Internet Society), and the University of Kinshasa. I've also worked as an IT Project Manager for commercial enterprises. My experience in education and with ICT in business, made me realise the importance of education in bridging the digital divide. I am convinced that digital learning and online social networking are necessary to solve a number of problems facing the educational sector in the Democratic Republic of Congo (DRC). My particular interest is the development of online educational tools and facilities. ■

Obstacles to the integration of ICT in higher education in Democratic Republic of Congo

ABSTRACT

Building e-skills for the information age is a real challenge in the world today. A weak system of governance in addition to a low budget allocation to the education sector by the DRC government is likely to be detrimental to the country, undermining its capacity to meet the requirements of the digital era. The rapid and somewhat anarchic development of the private sector in higher education underlines its importance and the need for an appropriate policy to stimulate the emergence of critical mass of information and communication technology (ICT) professionals. The current framework favours large, public institutions; a large-scale adoption of ICTs seems to be the appropriate action to solve most issues in the sector.

The main goal of this study is to present a preliminary analysis of the major obstacles in adopting ICTs in the area of private higher education. Interviews based on a questionnaire were conducted with teachers, alumni, and students from a traditional private higher education institution to assess ICT infrastructure, local content development capacity, availability and intensity of Internet and e-mail use for educational purposes, and the use of ICT educational tools. The results show that the acquisition and maintenance of ICT infrastructure is a real problem; Internet and e-mail access is almost nonexistent within the institution. The lack of permanent teaching staff does not allow the sustainable development of local content. Reducing the costs of Internet access and ICT infrastructure and implementing an ICT policy which integrates large-scale tools could guarantee the development of ICTs in the higher education sector in DRC.

Keywords: DRC; higher education; ICT policy; ICT infrastructure



Sam Goundar, Fiji*

I am an academic at the Bay of Plenty Polytechnic and teach on the University of Waikato's Computer Science degree programme in New Zealand. I am also researching various topics while working on my PhD thesis on e-government in Fiji. Before joining the Bay of Plenty Polytechnic in New Zealand in 2009, I was an academic and involved in similar research at the University of the South Pacific in Fiji for 12 years. My interest lies in the areas of using ICT for Development [ICT4D] and how developing countries can use ICT, particularly mobile applications to counter the digital divide. Use of the cloud computing infrastructure has the potential to bring ICT applications and services to those that were not able to afford traditional computing devices and Internet connectivity. I have presented my research at several international conferences and received full fellowships to contribute and participate at conferences in India, Thailand and Hong Kong. I reviewed papers that were presented at the IEEE DEIT 2011 Conference in Bali, Indonesia and have served as a panellist on m-Education at the CITRENZ Conference in New Zealand. I successfully completed Diplo's IG Foundation, Advanced, and Research courses. ■

Cloud computing: Opportunities and issues for developing countries

ABSTRACT

Cloud computing offers a range of new opportunities for developing countries to do what they could not do earlier with computers and the Internet. Cloud computing infrastructure and applications are able to interact with users who have mobile phones, Tablet PCs, OLPC [one-laptop-per-child], and other mobile devices. This paper looks at how cloud computing will surpass the Internet in adoption and usage as this technology's users are on the other side of the digital divide.

Mobile phones and other devices have penetrated and saturated developing countries where the Internet has failed. This paper looks at the diffusion of mobile phones and devices in developing countries and its continuous dramatic rise. \$15 Mobile Phones and \$20 Tablet PCs are now in the hands of those technology-connectivity-deprived billions. This paper looks at how cloud computing and mobile devices combine present new opportunities for developing countries.

Because the mobile phone and devices user market is too big to be ignored, cloud service providers, in collaboration, with mobile service providers have deployed hundreds of cloud-enabled applications and are continuing in their endeavour to provide an endless range of products. This paper looks at some popular mobile applications that are helping development efforts, such as m-Banking, m-Education, m-Health, m-Agriculture, and others that already exist and are popular within developing countries.

Each technology has its good [opportunities], bad [challenges], and ugly [issues] side. There is an attempt to address the issues and challenges in deploying mobile applications via cloud computing in developing countries when compared to developed countries. For example, issues such as connectivity to remote regions and the challenges faced by service providers and governments to subsidise and provide mobile applications to those who are already struggling with sustenance.

Keywords: cloud computing; mobile computing; m-applications for developing countries; ICT4D



Shareeni Kala, Fiji*

I am an indo-Fijian, Fijian Citizen and lecture at Fiji National University. I have been working in the field of teaching for the 10 years and have taught Computing, Information Systems and Business Statistics units at the university. I also head the department with 20 staff (lecturers, tutors and tutorial assistants). I hold a Master of Information Systems from Central Queensland University (2007), an International Diploma in Tertiary Teaching from Fiji Institute of Technology (2004), and a BSc (Computer Science and Information Systems) from University of the South Pacific (1999). I am interested in continuing my education and so need to get into either research or a PhD programme. My research area is IT in education, e-Learning, information systems management. I am also teaching year three of the Bachelor in IS for Social and Professional Issues in Computing. DiploFoundation has greatly helped my research focus through the research proposal and writing papers. Internet governance has opened up new areas of research and learning on IT strategies and education. E-learning is an opportunity for the education sector in Fiji and the idea is focused on the new and upcoming university in Fiji. I look forward to more research work, to travelling around the world, and to meeting new people and ideas in the field of IT. ■

E-learning at Fiji National University

ABSTRACT

E-education and e-learning are online learning processes, where computers are used at each possible step of the process, from enrolment, instruction design, and content delivery, to evaluation, assessment, and support. This is developing rapidly especially with the advancement of learning technology. Students and teachers do not have to sit in the classroom or be face-to-face but can now take part in e-learning from anywhere in the world and at any time, thanks to online facilities.

In this paper, Fiji National University (FNU) was used to determine the possibility of e-learning. A new programme was chosen and a programme document was written. Based on the programme, a unit syllabus was developed.

Given the infrastructure of the information and communication technology (ICT) department at FNU, this project will be deployed as a pilot project for evaluation and monitoring of e-learning research.

Keywords: e-education; e-learning; Fiji National University; ICT



Salanieta Tamanikaiwaimaro, Fiji*

My name is Salanieta Tamanikaiwaimara, aka Sala. I'm a Fiji-based lawyer and have professionally applied myself over the years to various disciplines, including working in private practice, Capital Markets Development Authority, and the Pacific Islands Forum Secretariat. Currently, I'm Telecom Fiji's Group Legal Regulatory Officer where I work within the regulatory aspects of ICT such as negotiating and drafting contracts and interconnection and service level agreements, intellectual property, migration strategies from IPv4 to IPv6, designing Next Generation Network contracts, universal service strategies (national, regional penetration rates), interconnection and liaising with regulators. I also work closely with the Cyber Crimes Unit and am currently Chair of Fiji's Cyber Security Working Group, a multistakeholder group.

I have a passion for strategic research policy initiatives that are developmental and strongly support the multistakeholder process. My areas of practice are Criminal Law, Commercial, Corporate Law, Securities Law, Product Liability, Competition Law, Property Law, including IT Law, Intellectual Property Law, and Public and Private International Law. My interest in cybersecurity is one of many varied interests. This paper forms the basis of further research into the area and I am assisting Fiji in the creation of policy and national strategy to build capacity. ■

Cybersecurity in the Republic of Fiji

ABSTRACT

Cybersecurity is a critical area that affects virtually everyone from governments, countries, organisations, multinationals, supermarkets, grocers, factories, schools, and individuals whose livelihood may depend on critical infrastructure or who use the Internet. Internet use ranges from pretty basic use, such as e-mails, to commercial transactions, such as Internet banking, shopping, or trading, to broadcasting content on social utility sites such as Twitter or commercial sports channels, etc. The cyber environment is not limited to computers but covers all aspects of information and communications technology (ICT), including networks and infrastructure. The vulnerability of systems due to lack of a cybersecurity framework, poorly framed laws, and lack of appropriate policies are issues which need to be addressed. Whilst ICT is an enabler for economic growth, the illicit use of ICTs can also stunt growth. This paper discusses the challenges of cybersecurity in Fiji and offers recommendations. This is preliminary research, and it is envisaged that there will be other research papers following this general paper.

Keywords: cybersecurity; Fiji; cyber environment; ICT challenges



Bakary Njie, the Gambia*

I am an educationalist by profession. My work mainly involves teacher training, mentorship, curriculum development and academic research supervision at the School of Education, Gambia College from 2004 to date. I am also currently studying for a BSc in Management Information Systems at the school of Communication and Information Technology at the University of the Gambia. Since 2002, I have volunteered as a youth trainer and co-founder of some organisations in the country. I am also Treasurer of the the Gambia chapter of the Internet Society. ■

Establishment of cybersecurity law and policy in the Gambia

ABSTRACT

The challenges posed by cybercrime may not be effectively dealt with if coordinated efforts are limited at regional and international levels. The Gambia, being a small developing economy, has undoubtedly been experiencing the menace of cyber-related crime. This research intends to find some evidence of cybercrime, its associated risks, and the need to establish cybersecurity law and policy in the country. It is obvious that cyber law and policy have fundamental roles in the minimisation of cybercrime.

There are several contributing factors to the widespread cybercrime in the Gambia. Among the most important ones are low awareness; there is currently little or no effort being made to establish cybersecurity law and policy.

The objectives of this research are to assess existing cybercrime vulnerabilities; investigate the need for the establishment of cybersecurity law and policy; and investigate cybersecurity lessons, best practices and challenges faced by other developing economies.

The first phase of this study targeted end-users using questionnaires, to determine their knowledge of cybercrime. The second phase involved interviews with key officials from both public and private sectors of the country.

Keywords: cybersecurity; the Gambia; cyber law; cyber-related crime



Sandra Bart, Guyana*

In 1992, I graduated from the Hugh Wooding Law School as the Best Graduating Guyanese Student. I worked at the Attorney General's Chambers from 1992 to 2005 as State Counsel, Senior Legal Adviser and State Solicitor where I prepared legal opinions, drafted and vetted contracts, appeared in the High Court and the Court of Appeal and drafted pleadings, affidavits, and orders of the court. I also prepared cases for the Magistrate's court, the Land Court, the High Court and the Court of Appeal and executed all documents relating to litigious proceedings involving the State. During this time, I lectured in the Law Faculty of the University of Guyana and was President and still am a member of the Guyana Association of Women Lawyers, an NGO which focuses on educating women in particular and the populace in general on their legal rights. I am currently a Legal Officer at the Caribbean Community (CARICOM) Secretariat and a member of CARICOM's ICT Steering Committee and head of the Group on Legal and Regulatory Issues. I thus became acutely aware of ICT influencing development. My participation in Diplo's ICT course spawned greater interest as it opened a whole new world to me and I became more passionate about the topic and related issues. I hope to use the knowledge and exposure gained from these experiences to continue to influence knowledge and change in my areas of expertise at the CARICOM Secretariat and in the Guyana Association of Women Lawyers. ■

Electronic government equals sustainable development for Guyana

ABSTRACT

Electronic government (e-government) equals sustainable development for Guyana. This is the thesis illustrated by this paper along with the possible constraints involved in implementing e-government. These constraints range from the mindsets of the public servant, the private sector employee, and the citizen to the economics of changing from the present situation where a hotchpotch of business is carried out in a time-consuming manner with lots of paper and perhaps a few computers thrown in for good measure but with no real connection or relation to what the work of the office/department actually requires. While the cost of procuring hardware, training staff, educating the citizenry in e-government is no small feat, it is achievable through effective planning.

Using a literature review, the experiences of other country strategies for implementing e-government are analysed both in terms of their successes as well as the constraints they experienced.

Through interviews with those representing the youth and the elderly, a public servant (a clerk employed in a Ministry), various professionals including an Attorney-at-Law and IT specialists, and a non-governmental organisation (the Guyana Association of Women Lawyers), it became apparent what is important to them in terms of e-government. We learn what areas in their knowledge and competence have improved due to the implementation of e-government to date, and what further strategies may be employed for using e-government for the sustainable development of Guyana.

This paper concludes that effective planning involving all stakeholders and the gradual assimilation of information and communication technology (ICT) and e-government into the mainstream development goals of Guyana appears to be the most effective and sustainable way to implement e-government for the sustainable development of Guyana. The lessons learned by other countries may be used to avoid similar pitfalls for Guyana, hence, the country may benefit in no small measure by being late off the starting block when it comes to the implementation of e-government for sustainable development.

Keywords: Guyana; ICT; sustainable development; e-government; electronic government



S. Paramanandan, India

My conservation organisation, the Foundation for Research and Sustainable Development (FRSD), is engaged in protecting nature and natural resources in southern Tamilnadu, India. This is our home and one of the ancient places on Earth well known for its civilisation and cultural heritage. Our efforts are to ensure that the natural heritage and indigenous knowledge of our people are protected and conserved for the present and for the generations to come. FRSD's conservation work is mainly driven by the core values of respect for our glorious past and ancient wisdom. I am concerned with various issues relating to access and benefit sharing of genetic resources and biodiversity-related traditional knowledge of our communities. There are gaps such as a proper database of traditional knowledge (TK), patent rights procedures, etc. Intellectual property rights (IPR) is questioned when an individual's patent is infringed but I feel the TK of our communities is the property of our country. Efforts are being made to care about and protect natural habitats and biological diversity through actions based on conservation education, research, networks and ICT. My research *Protecting IPR and TKs of Rural and Indigenous Communities through digital database to prevent Biopiracy and for Biodiversity Management* is aimed at a Global Intellectual Property Rights System. ■

Protecting intellectual property rights and traditional knowledge of rural and indigenous communities through a digital database to prevent biopiracy and to manage biodiversity

ABSTRACT

Present research on protecting intellectual property rights (IPRs) and traditional knowledge (TK) is unlikely, in and of itself, to prevent international companies from patenting since the government has been compromising rural communities in exchange for the industrial benefits they get through 'free markets' associated with the World Trade Organization (WTO). However, awareness of the dangers of biopiracy can be heightened and measures can be taken to prevent it. For instance, creating digital databases, archiving, and establishing digital libraries in every state are just some of the immediate steps to be taken after documenting traditional knowledge and practices.

Biopiracy of traditional knowledge and, in particular, traditional medical knowledge in the preparation of healthcare products, could be stopped if IPR regulations in India were stronger. The latest technology, such as creating a digital database of traditional knowledge, could help. Active participation and leadership of indigenous and local communities are crucial. For such a participatory approach, consultations, deliberations and engagement of key audiences have been carried out. The researcher has created a network of non-governmental organisations (NGOs), academics, and experts in IPR/TK in the region to initiate steps to realise the objectives. The following areas have been concentrated on:

- IPR regulations in India
- Biopiracy of IPR and TK and International Treaties
- Digital Database of IPRs and TK and digital libraries
- Methodologies to protect IPR and TK from biopiracy
- Involving civil society members in the activity

Keywords: biopiracy; traditional knowledge; India; intellectual property rights; digital libraries; digital databases



Fahd A. Batayneh, Jordan

I am Names and Numbers Specialist at Jordan's National IT Center (NITC) where I head Jordan's ccTLD and IDN ccTLD under .jo and .alurdun - respectively. I have been affiliated with NITC since July 2006. Outside my day-to-day job, I am an active volunteer in various Internet organisations where I devote part of my free time to the cause of the Internet. I represent Jordan in ICANN's Country Code Name Supporting Organization (ccNSO) where I am active in various working groups, a board member of the Asia-Pacific Top Level Domain Association (APTLD), an active contributor to the Arab IGF process, a member of the Arabic Script IDN Working Group (ASIWG), and a member of the Arab Domain Names and Internet Governance Team (ADNIGT). I am also active within the Internet governance arena. A key member in Jordan's IDN ccTLD (.alordn / ندرال) string approval and delegation with ICANN and IANA – respectively, I have a great passion for IDNs since they truly represent all languages of the world. My special interests include IDN e-mail globalisation, IDN security, IDN linguistic issues, and the internationalisation of current gTLDs. ■

International Domain Names from a multilingualism and security perspective

ABSTRACT

From an Internet governance perspective, multilingualism and security have been two of the cornerstone themes since its inception. The security theme addresses topics regarding the Domain Names System (DNS), Public Key Infrastructure (PKI), Internet attacks, security awareness, and policies and legal measures to ensure a safe and secure Internet experience. Security is a very diverse area where multiple topics should be tackled, and ignoring one or more topics while securing other areas would still jeopardise the safety of Internet users.

The DNS goes back to 1973. It was invented as part of the ARPANET project. It is considered to be a critical asset of the Internet. In accessing websites and e-mail addresses, the DNS makes life easier for Internet users since remembering names is much easier than remembering IP addresses. The uniqueness of the DNS comes from the fact that it uses ASCII characters only.

International Domain Names (IDNs) – on the other hand – use Unicode characters, i.e. code points that represent all languages of the world and are not part of the ASCII table. In other words, IDNs are domain names written in native languages rather than in English.

The DNS has its own set of security threats imposed from the underlying layers of the technology itself, and since IDNs are DNS entries, these threats are applied accordingly. While IDNs fulfil the multilingualism and diversity pillars of the Internet governance process, they impose an additional set of security threats – mainly from linguistic characteristics of various languages.

Keywords: Domain Name System; DNS; international domain names; IDNs; security; multilingualism



Fitahiana Rakotomalala, Madagascar*

I hold a BBA majoring in Finance and Accounting from the Faculty of Management, University of Antananarivo. In 2006, I represented Madagascar at the ITU (International Telecommunication Union) WORLD TELECOM forum on ICT in Hong Kong. In 2008, I was selected as an alumni delegate during ITU ASIA Telecom held in Thailand. Since 2007, I've been the elected President of the Jeunesse de demain (youth of tomorrow), a French-based charitable association working in the schooling of Malagasy youth and children from poor households. In 2010, I decided to continue my studies at the National School of Administration of Madagascar and in March of that year, I first heard about courses offered by DiploFoundation. My scholarship application was successful and I am currently following courses on Internet governance. As a future tax inspector, I chose the domain of taxation of e-commerce as my research topic as it represents a big challenge for many governments worldwide. My ambition is to contribute to leveraging the potential of ICT in the government body. ■

For an effective taxation of electronic commerce in Madagascar

ABSTRACT

This research paper focuses on the taxation of electronic commerce (or e-commerce) in Madagascar. The objectives of this project are to offer insight and help the fiscal administration for future governmental programmes focusing on the taxation of e-commerce in Madagascar.

This study is drawn from an in-depth analysis of international tax researchers' papers and policies of different countries and organisations including the European Union (EU), United States of America (US), Australia, Organisation for Economic Co-operation and Development (OECD), International Telecommunication Union (ITU), and World Trade Organization (WTO).

Additionally, case study analyses of e-commerce in selected developing countries were undertaken, along with consultations and interviews conducted with different national and international key players involved in the area.

Throughout this research, it was found that there is much that needs to be done in the domain of e-commerce; a major example is the adoption of a legal framework. Second, it is strongly recommended that e-commerce activities should be taxed in the same way as any other conventional kind of trade. Moreover, no new taxes or exceptional preferences should be introduced for e-commerce as it will lead to a distortion in the market.

Key words: Information and communication Technology (ICT); e-commerce; taxation; Madagascar



Tiwonge Manda, Malawi*

I have worked with the University of Malawi since 2002 and currently lecture in Computer Science. My competencies are mainly in Interaction Design, Mobile Device-based Solutions Development and Implementation, and researching large-scale Information Systems Implementations. I have a BSc from the University of Malawi, and an MSc in Information Systems from the University of Oslo. Currently, I am pursuing a PhD at the University of Oslo. My PhD research is on mHealth solutions implementation for resource-constrained settings. I developed an interest in Internet governance, in general, and cybersecurity, especially in the context of developing economies, in particular, because of the increasingly central role that the Internet is playing in developing economies. I decided to look at the maturity of cybersecurity initiatives in Malawi having noticed that there has been more emphasis on fast and universal Internet connectivity, without corresponding cybersecurity initiatives. Evidence indicates that besides creating unique opportunities for people, Internet connectivity also sets a platform for cybercrime. ■

Maturity of cybersecurity initiatives in Malawi: A comparison with the drive for fast and ubiquitous Internet connectivity

ABSTRACT

Africa, in general, and Malawi, in particular, have seen a significant increase in Internet-enabled infrastructure. Various efforts are also underway to significantly increase Internet connectivity speeds and access. The development of cybersecurity initiatives in Africa, however, is lacking.

This study looks at the current state of cybersecurity initiatives in Malawi against a background of significant efforts to greatly enhance Internet connectivity speeds and access. Focus is therefore placed on cybersecurity-related standards, policies and legislation, and cybercrime law, as well as higher- and end-user-education programmes. The study concludes that despite registering remarkable progress in information and communication technology (ICT) infrastructure developments and related service roll-outs, Malawi is yet to make significant progress in the development of cybercrime legislation, higher-education programmes, end-user education, identity theft legislation, law enforcement for cybercrime, and standards and policies for cybersecurity.

Keywords: cybersecurity; cybercrime; legislation; education; Internet



Dr Towela Nyirenda Jere, Malawi*

I am currently the Programmes Manager with the NEPAD e-Africa Programme of the NEPAD Planning and Coordinating Agency (NPCA) where I am responsible for the conceptualisation of new programmes in ICT4D. Prior to joining NEPAD, I worked in academia as a lecturer and projects coordinator and in the private sector with a network design and installation company. I have served as a United Nations Volunteer (UNV) with the Cisco Networking Academy Programme and as a facilitator for the British Council InterAction Leadership Programme. I am a Trustee of the Malawi Women in Science and Technology Network (WISTNET), a member of the Malawi TEVETA ICT Sector Advisory Board, the Malawi Institution of Engineers, the Internet Society (ISOC) and the International Network of Women Engineers and Scientists (INWES). I hold a PhD in Electrical Engineering (Networking and Telecommunications) from the University of Kansas, an ACCA Diploma in Financial Management, and a Certificate in Project Management. I have participated in the ISOC Next Generation Leaders (NGL) programme and Diplo's Internet Governance Capacity Building Programme and have research and professional interests in ICT Policy and Strategy, Internet Governance, Community Informatics, ICT development indicators, ICT4D, and Women and ICTs. ■

Impact of national ICT structures on ICT4D in sub-Saharan Africa

ABSTRACT

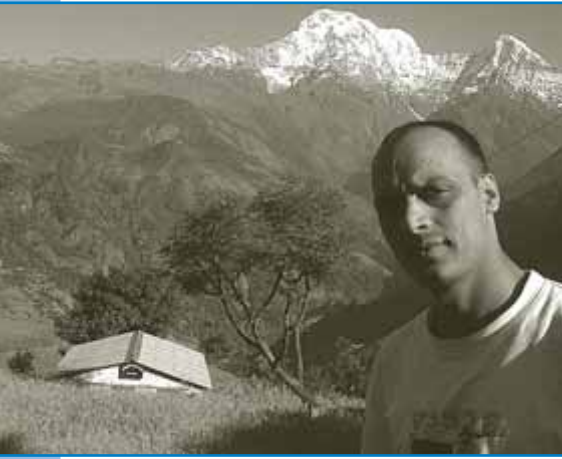
The use of information and communication technologies for development (ICT4D) is a primary focus of both developing economies and their development partners. ICT4D projects have been implemented and continue to be implemented in a variety of sectors with varying degrees of success. The proposed research would like to uncover the critical success factors relating to government or national structuring that contribute to successful implementation of ICT4D projects and to establish whether there is a correlation between the government/national structuring and the success of ICT4D projects.

The study will be conducted using case-study methodology in at least five countries in sub-Saharan Africa, with a target of three projects per country implemented in the period 2000–2007. Data will be collected through desk research, questionnaires, and structured in-country interviews with project implementers, beneficiaries, and other relevant stakeholders.

A preliminary study of national structures has been conducted which investigates the various arrangements of ministerial portfolios that are responsible for ICT. The findings illustrate some core differences in ICT Development Indices and in implementation of an ICT4E project which can be attributed in part to the structuring of the ministries.

The research is expected to contribute to the body of knowledge in ICT4D implementation and policy development. Expected outcomes are policy guidelines for governments and guidelines for development workers and project implementers on how national structures may impact on their projects and how to adjust or adapt their approach or methodology to different environments.

Keywords: ICT4D; ICTs; sub-Saharan Africa; ministerial portfolios; implementation and policy development



Rajendra Prasad Poudel, Nepal

I am from a mountain village in western Nepal. Due to the lack of qualified Math teachers in my village, I decided to be a Math teacher. When I completed my Master's in Mathematics from Tribhuwan University in 2001, I had the opportunity to develop a mathematical algorithm for a computer application which became an entry window to the digital world. I learned about IP addressing, routing and system administration. This encouraged me to achieve various qualified certifications such as Microsoft Certified System Engineer (MCSE), Cisco Network professional and Linux/Unix system administrator. In 2004, this professional knowledge was enough for me to partner with Mr Mahabir Pun to build a wireless network in the mountains for improving quality education for village schools by using Internet technology. Since then we have been working to develop technically sustainable and economically affordable rural information communication technology (ICT) projects in the villages. I am often requested by domestic and international institutions, colleges, and universities as a research consultant and technical trainer. On the basis of doing and learning, I have developed expertise in planning, monitoring and evaluating rural ICT projects especially for developing countries. ■

Access of ICT benefits for underserved rural communities in developing countries: A case study from Nepal

ABSTRACT

Policy-makers and governments in developing nations can implement more effective policies and frameworks by gaining a better understanding of the factors that support stakeholders and partners to extend the benefits of information communication technology (ICT) to rural communities. The aim of this paper is to answer the framework to follow for extending access to ICT benefits in underserved rural areas of a developing country. It is based on the experience of Nepal's wireless project, where the researcher has worked as a technical team member and social worker for the past number of years. It is conceptually grounded on previous documentation of the Nepal wireless project and local tele-centre operators including end-users and team members who have been involved in the project since its start. Three hundred surveys were carried out among villagers, twenty-five policy-makers were interviewed, three focus groups were used for discussion among end-users, and one formal discussion was held with a professional from an aid agency.

This framework will be important for designing future rural ICT projects in Nepal and other similar developing countries. To achieve maximum benefits from the ICT access, parallel incentives should be given to establish small ICT-based business enterprises in rural areas that can become potential users of the modern ICT. This study found that existing infrastructure and human skill is enough to run many small-size businesses to support ICT access in rural areas. From the research it has been identified that available local resources, including human skill, have not been wisely utilised. To see a rapid impact in the rural economy, simultaneous focus should be placed on the utilisation of local resources by sharing ICT infrastructure from national to local level. Local government itself should become the first users of ICT and provide applications for the local people. Frequent revision of national policy related to the use of ICT tools and applications will help upgrade public demand, which will ultimately show the impact in the national economy. Many small-sized businesses - such as tourism, animal husbandry, diary product, small agro farming - should utilise ICT applications and tools. Major initiative must be taken by the government and the government itself should become an ICT user. Local content and localisation is a stronger factor that helps to extend the ICT benefits in rural areas of Nepal.

Keywords: ICT access; rural communities; Nepal; Nepal wireless project



Maduka Attamah, Nigeria*

I've been a Systems Analyst and Software Engineer at the Network Operations Centre of University of Ibadan since 2008, and currently serve on the Information Technology Committee of the University. My research interests are in security issues evolving around network services, and the dynamics of locally hosted local Internet content and services in the African region. I was a participant in the premiere Internet Society (ISOC) Next Generation Leaders Programme (eLearning component), after which, I completed the ICT Policy Research and Implementation Phases of the Diplo's IGCBP. My policy research focused on how the analysis of network logs can reveal vital nuances about the needs and behaviour of network users, and how effective policies can then be derived for bandwidth optimisation. I hold a Bachelors in Electronic Engineering from the University of Nigeria, Nsukka, and an MSc in Computer Science from the University of Ibadan, Nigeria. I am currently pursuing a PhD degree in Computer Science. ■

Bandwidth management: The public policy approach in a university campus network

ABSTRACT

This research presents an example of how evidence-based policy-making can lead to bandwidth optimisation in a university network, giving rise to improved network performance, and cost savings. The research data were based on network event logs from a campus network. The logs were analysed to draw useful insights about the needs and behavioural patterns of users on the network. The results show how this approach can lead to effective policies for bandwidth management in a university network.

Keywords: log mining; network optimisation; bandwidth management; university campus network; data.edu; ICT policy; Nigeria



Solomon Ingba, Nigeria*

I was born in Benue State, Nigeria and graduated in 1985 from Northrop University, Inglewood, Los Angeles, CA, with a BSc in Electronic Engineering. I worked with Nigerian Telecommunications PLC, (NITEL) as a data communication engineer, and acquired experience in the Satellite Earth Station. I'm a member of Nigeria Society of Engineers and have registered with the Council for the Regulation of Engineering in Nigeria, (COREN). I'm currently a civil servant with the Ministry of Information and Communications, Nigeria, with the responsibility of implementing government strategies and policies in regard to ICT Universal Access. We are at present undertaking rural communications at 218 sites in Nigeria with Internet services to schools and health centres. I'm also involved in international and regional working groups as well as conferences and workshops geared towards establishing good ICT strategies and policies. I have participated actively in the WSIS, Tunis phase preparatory sessions as well as in WSIS proper. I have focused my attention on Internet governance with a view to ensuring that government policies take into consideration the 'all inclusiveness' target of world leaders. I am secretary to the Steering Committee on WSIS Implementation in Nigeria and part of Diplo's alumni. I believe that effective, last-mile government policies will enhance access to the Internet services in Africa. ■

Telecommunications local loop technology policies towards enhancing Internet/broadband services penetration in Africa: A case study of Nigeria, South Africa, and Niger

ABSTRACT

In the era of converged information and communication technologies (ICTs), open access to broadband services has remained a challenge in most African countries. It is obvious that without the successful diffusion of broadband services, the provisions of various online services such as eGovernment, eHealth, eAgriculture, and eEducation, via a broadband platform will be impossible. Despite the introduction of fixed and mobile broadband in African countries, access to the local loop network has remained a bottleneck to the availability of broadband services.

This paper considers the importance of local loop in a liberalised telecom market, where the distribution of the products takes place, and concludes that regulatory policies should be formulated to enable operators to use all available technologies to provide affordable and efficient communication services accessible to all. Policies should be fair and non-discriminatory to all market players and should promote competition.

The research examines issues such as the use of public resources; local loop sharing; and equal access to local loop by all service providers that require policy and regulation by national governments using Nigeria, South Africa, and Niger as a case study. Budget and time constraints did not make it possible for a visit to South Africa and Niger or to liaise with relevant contacts in those places.

Keywords: South Africa; Niger; Nigeria; local loop; ICTs; liberalised telcom market



Arzak Khan, Pakistan

I am the Regional Head of Network and Communications at National Database & Registration Authority Provincial Headquarters NADRA Balochistan. A successful entrepreneur, I have eight years of experience in starting and building Combnet Broadband Communication network, a pioneer service provider in Cable TV and broadband services. My research interest covers three main areas. The first is in exploring the future Internet or, to be more precise, exploring what the future of the Internet will be by researching the possible social, psychological, technological, and economic options for its further development and their likely socio-economic impacts on developing countries. The second looks at the development of regulatory regimes in developing countries. And the third area focuses on the diffusion of broadband and digital content consumption in remote and rural areas. It is in this latter area that I plan to pursue a PhD. ■

Factors influencing broadband adoption and digital content consumption in developing countries: A case from Pakistan

ABSTRACT

The importance of being connected and of citizens' access to the information society, along with the social and economic benefits it brings with it, has been well recognised and documented. However, studies related to household adoption and the impact of ICT, especially broadband Internet, are largely overlooked. The majority of the research associated with the topic of broadband is exploratory in nature, mainly focusing on the various aspects of technology in use and provides very little insight into consumer adoption, digital content consumption, or rejection determinants. This paper attempts to redress the issue and provide detailed analysis of the factors that influence broadband adoption, digital content consumption, and rejection determinants in a developing country like Pakistan. The research reveals that household income, education, age, and gender play a very important role in determining the level and type of Internet access. The research also suggests that the price of broadband service remains a barrier to adopting broadband service for consumers. Households with high incomes were 39% more likely to adopt broadband than lower-income households. The level of access and consumption of digital content is much higher among males than females, creating a digital divide in access and digital content consumption.

Keywords: broadband adoption; digital content consumption; digital divide; broadband rejection determinants; broadband price



Natalia Enciso Benítez, Paraguay

I studied Law at the National University of Asuncion (Paraguay) and later did an LLM in Information Technology & Telecommunication Law at Strathclyde University (UK). Since I've been very interested in IT Law for some time now, a group of friends and colleagues founded the Paraguayan Association of Information Technology Law-APADIT in 2002 and I've been involved in related working groups representing the Association locally and internationally in seminars, ICANN meetings, the first South Summer School of Internet Governance, etc. At one of the ICANN meetings I heard about DiploFoundation and applied for a scholarship. As the course progressed, I got more interested in data protection since it is not yet regulated properly in Paraguay. So for my research I focused on data protection in Paraguay and its lack of regulation. Paraguay has an inadequate data protection law. In order to harmonise with the Region, especially as a MERCOSUR country, and to favour e-commerce development and related industries, it is mandatory to have adequate legislation. It is important for the country to generate more job opportunities and to benefit from its geographical location and youth labor force. My aim with this research was to analyse the current legislation on data protection, to highlight the disadvantages generated by an outdated legislation, to learn from the experience of other countries in the region and to discover the economic potential it would generate. I hope this work will help the government and stakeholders to pay more attention to this subject. ■

Data protection on the Internet and its lack of regulation in Paraguay: Adequate regulation for call centres

ABSTRACT

This research focuses on data protection regulations in Paraguay in order to analyse whether it contains provisions regulating the computerised processing of personal data and transborder data flows. The aim of this research is to highlight how an inefficient regulation can affect the economy and citizens' rights, and to call the attention of policymakers to make an in-depth study on this subject and update the existing regulations and create new policies. This study consists of an analysis of existing regulations, consultations, and interviews with national and international experts, analysis of the economical and political situation, and citizens' consciousness about their data and its protection. The research found that the existing data protection law is sectoral and does not cover a broad range of activities. A sector that is affected by this inefficient legislation is the call centre. With the establishment of foreign call centres, mainly Spanish companies, it is necessary to update and harmonise them with the regional laws. Since the European market is the main target, they will follow Argentina's example, and recently that of Uruguay to comply with European standards in order to acquire EU adequacy status. Doing so will bring important benefits to the country's economy, increasing first-job opportunities for young people, and give adequate protection to citizens' personal data.

Keywords: data protection regulation; call centres; adequate country; first job; e-commerce; Paraguay



Radu Roxana, Romania

I work at the Center for Media and Communication Studies at the Central European University (CEU) in Budapest (Hungary) as a project coordinator and researcher. I have a BA from the University of Bucharest (Romania) and a Master's in Political Science from CEU (Hungary). My expertise includes e-governance, civil society engagement, political participation via online mechanisms, the digital divide, and social uses of new technologies. My involvement with Internet-focused research dates back to 2008. As part of the 2010 European Capacity Development Programme in Internet Governance, I conducted advanced research on e-participation in the European Union and took part in the pan-European Dialogue on Internet Governance (EuroDIG). ■

E-participation in policy-shaping: The Debate Europe Model

ABSTRACT

Civic online participation garnered much interest during the last decade relative to the transformation of the concept of democracy in a move from representative to participatory. In the European Union (EU), both the type and the number of online opportunities for citizen empowerment have diversified tremendously with the advancement of information and communication technology (ICT). The present study undertakes an in-depth research of Debate Europe, an online consultation mechanism initiated by the European Commission, using content analysis methodology. A case study was carried out in order to thoroughly examine the contributions received from posters for the two most popular discussion threads on the English-language portal, allowing for the identification of participation patterns and interaction dynamics. Findings suggest that, still in their emergent phase, the moderated debates represent a beneficial instrument for advancing high interactivity and rationality for further input in the policy processes at the EU level.

Keywords: Debate Europe; ICT; civic online participation; democracy; e-participation



Alexandra Vasile, Romania

I first became interested in the field of Internet governance (IG) while studying for my Master's degree at the University of Oxford. While there, I attended various lectures that sparked my interest and made me want to delve deeper into the notions surrounding IG. The fellowship awarded by DiploFoundation to participate in its capacity-building courses played a crucial role in my development as a researcher. It enabled me to learn more about fundamental IG concepts, to specialise in certain topics of interest, and to connect with IG stakeholders from all over the world. While I was writing blogs and real-time reporting for the EuroDIG 2010 in Madrid and the Internet Governance Forum 2010 in Vilnius, I realised that I had a true passion for the topic of child online safety. It was there that I grew more and more curious about the debates surrounding measures that can be taken to improve online safety for children. Since then, I have been trying to connect my interest in IG and online safety and my passion for education. As a result, I am currently doing research on parental-control software, as well as curricular interventions which support the introduction of online safety training across schools in Europe. ■

Introducing child safety in Romanian Schools: Does the existing primary and secondary curriculum address online safety?

ABSTRACT

This paper examines the idea of an online child safety policy for Romania, which would provide an initiative to encourage smart online behavior in young children, prepare them to surf the Internet, and educate them to avoid its dangers. As technology develops and more and more children spend time online, they are exposed to numerous threats, dangers and potential abuse. Children need to learn how to behave online, how to critically assess their activities online and act accordingly.

Against a backdrop of the 2010 report published by the Romanian Academic Society – *Escaping the Mediocrity in Schools* – this paper looks at the old plans for school curriculum (that have been in place up to 2010) and compares them with the new plans introduced after the report was published and reviewed by Ministry experts. Because any introduction of Internet safety elements would naturally fall under information technology, counseling, or civic education, these are the three areas examined in this paper. This paper focuses on an attempt to integrate online safety education in the Romanian school curriculum. It takes a critical look at the Romanian Educational System and how it correlates with the reality facing young people today.

Keywords: Romania; child safety; Internet safety; education curriculum; curriculum interventions



Anna Orlova, Russia

I am a PhD candidate at the Humboldt University of Berlin, at the Graduate School of Social Sciences. In 2010, I completed the Master Program of Studies in European Societies at the faculty of Sociology at St Petersburg State University. My research is focused on two main areas which are both connected with the topic of electronic government (1) digital exclusion and digital civic engagement within the use of e-Government and (2) EU e-government policy and issues of online privacy and digital data protection processing within it. For the last two years, I have been researching the electronic government in Germany, focusing my PhD research on whether exclusion from the use of e-government services, in particular digitalised basic public services, has an impact on civic engagement and participation. More recently I have been researching EU e-government policy, where I examined online privacy and data protection concerns within the EU e-government policy framework, to see whether they have had an impact on digital exclusion with regard to participation in e-government. ■

Privacy and data protection concerns within the EU e-government policy

ABSTRACT

This research paper investigates the impact that online privacy and data protection issues and concerns have on the implementation of European Union's (EU's) e-government policy. The subject of current research is the interoperability of two policy areas. First, the processing of personal data and the protection of privacy in the electronic communications sector, and secondly – which is closely related – the EU electronic government policy. The interaction of these two spheres has political, cultural, and economic implications. The research question is to find out how online privacy and data protection concepts impact the development and implementation of the EU e-government policy. As current research shows, the areas of intersection of these two institutional spheres are multidimensional (political, cultural, socio-economic) and multilevel (local, national, supranational) in nature. This paper covers the national and supranational levels of the policy application, taking as an example the Federal State of Germany at a national level and the European Union at a supranational level. In doing so, it aims to study the shared goals and possible differences between individual member states, compared to the high-level requirements of the EU institutions, which apply equally to all the EU member states collectively.

Keywords: e-government; European Union; privacy; personal data protection; Germany



Deolindo Costa de Boa Esperanca, Sao Tome and Principe*

I graduated in July 1987 in Radio Communication and Broadcasting and received a Master's in Technical Sciences from the Electrical and Telecommunication Institute Bonch Brwevich, Leningrad USSR (Russia). I served as Advisor in the field of telecommunication and as Minister of Telecommunication and Natural Resources in Sao Tome and Principe, dealing since 1999 with the question of liberalisation of telecommunication sector. The main target has been the provision of affordable Internet access in the African developing countries particularly in small islands. Since March 2010, I have been participating in DiploFoundation's 'African Caribbean and Pacific 2010 Information and Communication Technology Policy and Internet Governance Capacity Development Programme' and am currently researching the field of Internet infrastructure in developing countries. ■

The last mile Internet infrastructure

ABSTRACT

Telecommunications and the Internet play a fundamental role in the development of each country in particular, and of the world in general, fostering relationships between people living in different parts of the planet.

Voice, data, and video converged on the same platform make the Internet a powerful tool for catalysing the world's economic growth. African countries have to invest in information and communication technology (ICT) in order to overcome the poverty that affects most people living in this region; they have to invest, despite the high costs of telecommunication and Internet infrastructures. For small, insular countries, with low population densities and low average incomes, this cost seems quite prohibitive.

The purpose of the proposed research is to analyse the state of infrastructure used to access the Internet. Particular emphasis is placed on the Last Mile Infrastructure in developing countries, especially small, vulnerable, insular countries.

Existing technologies such as WIMAX, 3G, and Long-Term Evolution are analysed, from the perspective of using them in the last mile infrastructure as a way to reduce the cost of Internet accessibility. The proposed research is oriented to give answers to the questions connected to the use of a new-generation network to reduce costs of Internet infrastructure implementation, while maintain a standard quality of service in low-income, small, insular states.

Keywords: last mile infrastructure; Africa; ICT; prohibitive costs



Maša Kojić, Serbia

My name is Maša Kojić and I work as an Apprentice at Law in a Law office in Novi Sad, Serbia. I am interested in International Law. When I started to participate in the Internet Governance and Capacity Building Programme in March 2010, I had been working at the Institute of International Law and International Relations in Graz, Austria, where I was involved in the project ‘Charter of Human Rights and Principles on the Internet’. This topic was completely new for me, but very soon I realised that it is going to be very important issue in the near future. On the other hand, social networks have become very popular in the past few years. There is no Internet user who does not use some kind of social networks. When I was thinking about which topic I would choose for my research work, I wanted to connect these two issues: human rights and social networks. Furthermore, I wanted do some research which would be applicable to our everyday lives. This is why I chose the issue of privacy and security in social networks and the risks connected with social networks. I believe my research will help users of different social networks to pay attention to how they are using those networks. ■

How safe are we? Security risks of the social networks

ABSTRACT

Nowadays, we are witnessing an extreme proliferation of social networks. The proliferation of social networks can be seen in two ways: as an expansion of social network websites, but also as an increase in the number of people who are starting to use them. This phenomenon is accompanied by a number of risks that users are exposed to every time they create an account on some social network website or leave some information on it. The problem becomes more serious bearing in mind that most users are not aware of these risks. This situation favors those who are willing to abuse the information of other people.

Security risks of social networks can be different, but are mostly connected with the user's privacy. The term 'privacy' in this paper is used in its broadest sense, including not only the user's personal data, but also every other piece of data concerning the user's movement, activities, likes, plans...

The other question, which is very important concerning security risks of social networks, centres on responsibility for those risks. It could be concluded that both users and social network providers are responsible for the user's security on the networks. However, in order to hold somebody liable for users' security, this liability should be proscribed and presented to the users before they start to use social network websites. Today, we have privacy policy rules or some other rules, but not all security risks are covered by these. This paper seeks to answer whether the rules proscribed so that social network providers can distance themselves from possible abuses are really designed to help the users be safe?

Keywords: user safety; social network sites; social network providers; privacy; privacy policies



Caroline Ncube, South Africa*

I am a senior lecturer at the University of Cape Town and was a researcher in the African Copyright and Access to Knowledge project. I obtained my LLB from the University of Zimbabwe and my LLM from the University of Cambridge where I majored in Intellectual Property Law and Company Law. I continue to pursue my research interest in these subjects and am currently undertaking PhD research in Intellectual Property Law. ■

Open access to information and neglected diseases: A case study of Malaria research in South Africa

ABSTRACT

This research summarises the key findings of publications on the impact that intellectual property (IP) legislation has on open access to scientific information and research on neglected diseases in sub-Saharan Africa. The paper's focal point is malaria research in South Africa and how this will be affected by the recently enacted Intellectual Property Rights from Publicly Financed Research and Development Act (Act 51 of 2008). The Act promotes IP protection of research output by publicly funded research institutions. The key concern is that such IP protection of research output may be detrimental to the neglected diseases drug development for two main reasons. First, such protection may hinder these institutions from participating in Product Development Partnerships (PDPs). Secondly, it may prevent them from successfully obtaining funding from non-government sources. These effects will negatively impact neglected diseases research and drug development because PDPs have been proven to be very successful and non-government funding has so far been a major driver of such efforts.

Keywords: intellectual property; product development partnerships (PDPs); neglected diseases; South Africa



Keisha Candice Taylor, Trinidad and Tobago*

My interests lie in the use of technology for development and ICT access for all. I am currently Communications Manager for the GuideStar International programme in London working with country partners to provide information on civil society organisations in various countries. As a Policy Fellow for Access, I conduct research on issues related to net neutrality, digital inclusion and the larger notion of open data. I'm also a member of IKM Emergent's working group, which aims to analyse the creation, handling, and use of all forms of knowledge within the international development sector. I successfully participated in Diplo's 2010 IGCB programme for professionals from ACP countries. Privacy and security was one of the ICT policy areas which held my focus during the programme. I also participated in the 2010 IGF in Vilnius, Lithuania as a DiploFoundation Fellow. Other projects I have worked on include the Scarman Trust's Can Do Exchange project, which aimed to use the web to encourage community groups to think of resources as more than money by using an asset-based community development approach for their work, various British Council development projects, as well as on development-related programmes for Trinidad and Tobago and the wider Caribbean. I have an MA in International Relations from the Universiteit van Amsterdam in the Netherlands and a BSc in Sociology from the University of the West Indies in Trinidad and Tobago. ■

Inter-governmental organisations sharing and linking open and real-time data for inclusive governance: Development effectiveness and protection of privacy and security

ABSTRACT

The rapid rise of the Internet has encouraged the use of open, real-time, and linked data to help understand and improve development processes. This has gained prominence in the public, private, and civil society sectors, as each one independently and collaboratively examines ways in which the vast amounts of data and information generated online can be mapped and linked to help with research and development in all fields, including economics, sustainable development, education, health, agriculture, science, and humanitarian and disaster relief, at local, national, regional, and international levels. The availability of data online is also generating increased possibilities for interdisciplinary study and cross boundary research and analysis. Organisations are not only making data available online for reuse by others but are also using data generated actively and passively by the public to inform business and government decisions. Moreover, individuals are using data for day to day decisions about issues that are of importance to them, their families, and their communities. The advancement of data use for development without an Internet governance framework, however, raises the importance of inclusion of the most marginalised, as well as privacy and security. This paper will examine such issues, as well as the role inter-governmental organisations can play in helping to encourage the use of data while supporting the protection of privacy and security.

Keywords: open data; real-time data; linked data; inclusive development; privacy and security



Eliot Nsega, Uganda*

I am currently working with the African Union. Previously, after completing formal education, I worked briefly with the United Nations system in Uganda on contract, before joining Kyambogo University as a teaching assistant librarian. I have a Master's Degree in Information Science, and a Bachelor's Degree in Library and Information Science. I also have certificates in Internet Governance, ICT Policy, Intellectual Property Rights and Policy Research from DiploFoundation. My current job entails identifying human rights problems and documenting best practices using national, regional, and international instruments. I pride myself in disseminating information in a professional, diplomatic manner. I am familiar with electronic databases and can search and download relevant materials from the Internet and prepare reports by integrating sensitive information from a variety of sources. I am interested in pursuing this research topic further, should such an opportunity arise. ■

The use of ICT in human rights promotion: A case study of the African Commission on Human and Peoples' Rights

ABSTRACT

Although the African Commission on Human and Peoples' Rights was created by the Organization of African Unity (OAU) in 1987, the procedures of the Commission is not well known to the majority. This paper examines the effect of information and communication technology (ICT) in promoting human rights on the African continent, with particular reference to the African Commission on Human and Peoples' Rights. The aim is to determine the scope of ICT usage vis-à-vis traditional approaches, especially in the digital age, and to suggest alternatives.

The paper seeks to render a critical analysis that will lead and co-ordinate a programme of promotional work across the region, including the integration of ICT strategies in its promotional work.

Keywords: ICT strategies; OAU; Organization of African Unity; African Charter



Rumbidzayi Gadhula, Zimbabwe*

I am a Master's student in Information Systems Management and have over seven years of experience in the field of ICT. I have volunteered as a trainer in systems administration within the Africa Network Operators Group and the LinuxChix Zimbabwe. My interests in policy, which began as a deep curiosity, increased after being exposed to Internet governance through Diplo's IG courses. This is my first research paper and I hope to do further work on the Internet and ICT governance. The recent National ICT Policy was exciting for me as it showed commitment by government to support the development of ICT and the Internet. At the same time, the conflicts arising between service providers and the incessant complaints from consumers contributed to my decision to determine how government, through the regulatory authority, involves IAPs/ISPs as stakeholders in the governance process. The success of a policy is determined by the results of its implementation and ISPs/IAPs form a very important part of the implementation process, hence the study of their participation throughout the IG process, from policy formulation to implementation. ■

Internet governance and service provision in Zimbabwe

ABSTRACT

The purpose of this study is to explore the involvement of Internet access providers/Internet service providers (ISPs/IAPs) in the Internet governance process, the impact on service provision by the ISPs/IAPs, the response to legislation and/or policy by the ISPs, and the effects on infrastructure development and access. In this regard, questionnaires were sent out to various ISPs/IAPs. The survey results were analysed according to policy development inclusiveness, infrastructure development, accessibility, service/customer retention, and innovativeness. The findings revealed that the governance process has not been inclusive as it has been dominated by government. Other findings showed that more regulations on the sharing of the available infrastructure and providing a more even playing field are necessary. The current licensing fees have a negative impact in terms of costs of access to the consumer and providers' ability to further upgrade/develop infrastructure. Innovation by providers has been possible and the restrictions seem not to be prohibitive in terms of value added services, which was a measure for innovation.

Finally, infrastructure development policy is not an important factor in infrastructure development for providers.

The drafting of a national information and communication technology (ICT) strategy has been welcomed by most people in the ICT industry as a means to show government commitment to the development of ICT in Zimbabwe. The national strategy is expected to give rise to action, which will encourage the growth of ICT and Internet development. This paper aims to encourage genuine commitment towards recognising other stakeholders' role in the Internet governance process and ensuring multistakeholder participation.

Keywords: ISPs; IAPs; service provision; infrastructure development; Zimbabwe



Felix Samakande, Zimbabwe*

I was born and raised in Mt Darwin on the remote north-eastern border of Zimbabwe. After completing my high school education in 1979, I joined the Air Force of the newly independent Zimbabwe in 1981. Three years later I left as a Senior Aircraftsman to join the Foreign Ministry setting myself on a diplomatic career which started in Kenya (1990–1996), then DRC-Congo (1998-2000) and now the USA (2006-to date). While at the capital, in between these diplomatic postings, I was assigned to the e-government project which gave government ministries web presence in preparation for e-services provision. Involvement in this project gave me the impetus to accumulate a paper-trail of ICT qualifications which include Advanced Diplomas, Diplomas and Certificates. My assignment to New York stopped me short of completing my BSc in Applied ICT at the University of Zimbabwe. At the United Nations, I am at the centre of multilateral diplomacy, multistakeholder ICT conferences, and development diplomacy. My time here is also shared with educational endeavours such as Internet governance and Computer & Digital Forensics degree, both of which are ongoing. Add to all that some voluntary work as a board member of Zimele South Africa/Zimbabwe. All this is driven by a passion to unbundle bureaucracy and the development puzzle so as to spread the common good. ■

Exploring the need for speed in deploying information and communications technology for international development and bridging the digital divide

ABSTRACT

Information and communication technology (ICT) is currently dominating the global debate in human development on the multilateral forum in general. It has been identified in gender advocacy, poverty alleviation, disadvantaged groups, and other forums as the catalyst or cross-cutting enabler. Feeding into that is a concentration of networked development practitioners at the United Nations headquarters in New York, in addition to a full representation of all 192 member states. Among these is a wealth of information useful at identifying the disconnect between the implementation of ICT development programmes and the achievement of their intended goals. It is widely recognised that the overall intention of all stakeholders is to distribute the common good derived from ICTs and related innovations. The ideal outcome from ICT-for-Development (ICT4D) would be for the national happiness indices to exponentially elevate with the deployment of ICT. However, friction between development programme rollout and the body politic in developing countries has resulted in the eviction of some donors. Some inherent challenges, such as donor fatigue and aid dependency, have also surfaced. This paper attempts to tie up the two ends through exploring the re-syncing of synergies while zooming in on key success factors.

This paper comes on the eve of the millennium development goals deadline of 2015 which acknowledges ICT as the enabler for speeding towards the finish line. The quest is to explore whether we are all speeding towards a clearly defined goal given our varied capacities and affinities. The UN has an arsenal of diplomats and technocrats 'in a state of agitation' to spearhead the development agenda for all nations. Part of this research behind this paper delved into appreciating their focus and approach to the global challenge. Some buzzwords – digital divide, convergence and divergence of technologies – emerged from literature reviews and were explored further. To add to the medley, the research also came up with buzzwords for ICT development – thresholds, demystify technology – and went further into the technical details of defining examples. Some themes emerging from the research include the pivotal role of government and its political muscle; ICT think-tanks providing a link in the development chain; the quantum of multiple stakeholders being responsible for the speed of ICT development; and ICT already assuming its role in fast-tracking other forms of development including political. The latter has both positive and negative potential.

Keywords: ICT; Millennium Development Goals; digital divide; buzzwords; ICT4D; think tank; electromagnetic radiation; Cybermedia; Kindle; virtual desktop



* Example based on the Internet Governance Capacity Building Programme 2004-2010

About the ACP programme

In 2005, Diplo sublimated its 10+ years of experience with online learning into the Internet Governance Capacity Building Programme (IGCBP) – a blend of online courses, policy research projects, fellowship opportunities, and community development, designed to assist individuals and institutions from both developed and developing countries to participate in the global decision-shaping Internet governance debate and meaningfully impact local and regional policies.

After five successful years with over 500 participants, the IGCBP evolved to also include the *Capacity Building and Community Development Programme in IG and ICT Policy for ACP countries* (the ACP Programme), financed by the EU @CP-ICT Programme 9th European Development Fund (EDF), and with support of the Secretariat of the ACP Group of States and seven partner institutions from the ACP region. Even though primarily designed for regional and sub-regional institutions, it also involved number of companies (such as telecom and Internet service providers and software and hardware vendors), non-governmental organisations, media, universities, etc., in order to promote a multistakeholder approach to policy-shaping and decision-making.

The ACP programme followed Diplo's proven capacity development programme framework, enriching it with some new activities. It consisted of several components:

- Online training courses in Internet governance foundation and advanced topics (such as

Infrastructure and Critical Internet Resources, Intellectual Property Rights, Privacy and Personal Data Protection and Cybersecurity) and ICT Policy and Strategic Planning, each lasting from 8 to 12 weeks.

- Online 'train the trainers' courses and in-situ programmes for 15 trainers from ACP countries.
- A policy research online course and a research projects phase to promote intra-ACP knowledge sharing and an active learning network.
- Ten face-to-face workshops for decision-makers and ICT officials from ACP countries.
- Awareness-building and knowledge-sharing on ICT policy and IG, using a range of media including posters, comic books, and multimedia.
- Policy immersion with fellowships for best participants to participate in international ICT/IG meetings, aimed at providing practical experience in policy-shaping and policy-making.
- Community development with an online professional social network platform encouraging further discussion and collaboration among participants and institutions.

Since its start in autumn 2009 till its conclusion in summer 2011, the ACP programme trained 501 key beneficiaries from 60 ACP countries, representing institutions who are dealing with IG and ICT policy issues at national, regional, and global levels.

■ ACP Countries of direct programme outreach
■ ACP Countries out of direct programme outreach



In the wings

Certified tutors and educators of the research phase



Priyanthi Daluwatte, Sri Lanka (E-participation, Human Rights)

Priyanthi has a BSc in Biological Sciences, an MSc in Computer Science, and an MPhil in Pharmaceutical Science from the University of Colombo. Priyanthi completed DiploFoundation's Internet Governance Capacity Building Programme in 2006 and has since tutored on the course. She has work experience in higher education policy, in ICT4D projects bridging the digital divide, and as a Volunteer in Sarvodaya Fusion, Sri Lanka. Priyanthi was a speaker at the launch of telecentre.org at the World Summit on the Information Society (WSIS) Tunis (2005) and has participated in other conferences in ICT4D including GKP International Forum (2005, 2006); eAsia (2007); GK3 (2007); and the Internet Governance Forum (2008, 2009, 2010). She also coordinated activities for GKP South Asia Regional partnership in 2006/2007. Priyanthi's interests include higher education policy, Internet governance, e-learning, and research on ICT4D and telecentre community. She enjoys travelling to historic places. Priyanthi currently lives in Sri Lanka.



Adela Elena Danciu, Romania (E-participation, Openness)

Adela is a Law and Political Sciences graduate of the University of Bucharest with an MA in International and EU Law from *Nicolae Titulescu* University, also in Bucharest. She worked for nine years as a legal expert on the Committee for IT&C of the Romanian Chamber of Deputies and spent six months at the European Commission working for Information Society Directorate-General in the unit dealing with Internet governance policy. Adela came to Diplo as a student on the 2006 Internet Governance and Capacity Building Programme. Since then, she has become more involved in tutoring and co-ordinating subsequent phases, writing course texts, and participating in IGF and EuroDIG meetings. She also participated in the first European Summer School on IG in Meissen 2007 as a Diplo fellow. Her Internet governance interests focus on human rights and legal issues. Adela currently lives in Romania.



Biljana Glisovic-Milic, Serbia (ICT Development, Security)

Biljana is an electrical engineer and is currently working as an account manager with EUnet, an Internet service provider. She has been involved with DiploFoundation since 2005, when she participated in the IG course in Belgrade, followed by IGCBP 2006, and subsequent IG research projects. She tutors on the Internet Society Next Generation Leaders (ISOC NGL) eLearning programme, on Diplo's IGCBP Foundation phase, the advanced module on Infrastructure and Connection Costs and on the Research phase on Infrastructure. As a DiploFoundation fellow, Biljana participated in the WSIS PrepCom II in Geneva, WSIS in Tunis and in the IGF in Athens. Her main interests are the extension of the telecommunication infrastructure in developing countries, IPv6 and ICT national strategies. Her research includes a paper on Telecommunication Infrastructure: Recommendations for Reasonable Costs of Internet Access. Biljana's plans are to follow future activities on IG.



Marsha Guthrie, Barbados/Jamaica (Security)

Marsha is an Online Market Research Executive with PricewaterhouseCoopers and hails from the island of Jamaica. She is a graduate of the University of the West Indies, Cave Hill, Barbados and the University of Westminster, London where she obtained an MA in Applied Social and Market Research. Marsha is a graduate of the IGCBP 2005. She has been a tutor with DiploFoundation on its Internet Governance Capacity Building Programme since 2006 and has contributed to various forums on Internet governance issues over the years. Her specific areas of interest are Internet security and the use of technology for sustainable development. Marsha currently lives in London.



Mwende Njiraini, Kenya (E-government, Development)

Mwende is a Telecommunication Engineer by profession. She holds a Master of Communications Management with Merit in Business Management from Coventry University (2009) and a Master of Communications Management from University of Strathclyde, Glasgow (2006). She works at the Communications Commission of Kenya, the country's ICT regulator, responsible for research on new and emerging

communication technologies and their impact on the regulatory framework and the environment. She has managed various projects, including the establishment of the Kenya Network Information Centre, the .KE ccTLD, as acting Administrative Manager in the formative stages of the organisation. Most recently, as the Mobile Number Portability Project Manager, she coordinated industry consultation in the development of the Procedures and Guidelines for the Provision of Mobile Number Portability (MNP) Services in Kenya and the MNP Service Agreement. Mwende first came to Diplo in 2005 as a student on the Internet Governance Capacity Building Programme. She now tutors for the Africa Region. Mwende currently lives in Nairobi.



Jean Paul Nkurunziza, Burundi (French groups Research, IG Policy)

Jean Paul Nkurunziza graduated in Psychology and Education Sciences in 2000. His involvement in ICT dates back to when he co-founded the Burundi Youth Training Centre in 1998 (<http://www.bytc.bi>) and actively participated in the World Summit on the Information Society (WSIS) process which started in 2002. Jean Paul first came to Diplo in 2007 as a student on the Internet Governance Capacity Building Programme (IGCBP). He has tutored on the African Bilingual English/French IGCBP for the last four years. He attended the IGF 2008 in Hyderabad, India, and in 2010, he spent six months on a fellowship at the Internet Governance Forum (IGF) secretariat in Geneva where he was actively involved in the preparation of the 5th IGF in Vilnius, Lithuania. He also organised the remote participation hub in Bujumbura for the IGF meetings in 2009 and 2010. Jean Paul currently lives in Burundi.



Ulemu Nyasulu, Malawi/Australia (Infrastructure + E-commerce)

Ulemu holds a BSc in Computer Science and a Master of IT Networking. Her career has spanned lecturing at the University of Malawi and working as a fellow at the Internet Governance Forum (IGF) Secretariat in Geneva. Ulemu completed Diplo's Internet Governance Capacity Building Programme in 2006 and has since tutored on the course. She is interested in ICT for Development, especially in Africa, and spends her time researching issues in order to build a stronger understanding of the current challenges and successes of ICT in Africa, which she can

then use to effectively participate in national, regional, and international ICT forums, to be part of the African voice. Ulemu has been involved in several national ICT initiatives; for example, the formation of the National Research and Education Network of Malawi and the initiation of E-learning and formation of ICT Policy at Chancellor College, University of Malawi. She is married to Gerald, and has two sons, Merari and Yehoshua, and currently lives in Malawi.



Stephanie Psaila, Malta (Education, E-learning)

Dr Stephanie Borg Psaila holds a BA in Law and Communications, an LL.D in Law, and a Master in Contemporary Diplomacy from the University of Malta. Her doctorate dissertation was on the jurisdictional problems of the Internet, while her areas of interest include legal aspects, freedom of speech, and human rights on the Internet. A former journalist with more than five years' work experience with *The Sunday Times of Malta*, and a former columnist on education with *The Times of Malta*, Stephanie is now Online Communications Coordinator with DiploFoundation and has been a tutor on the Internet Governance Capacity Building Programme (IGCBP) for the past five years. Stephanie currently lives in Malta.

Regional experts and research support



Jimmy Bruce, Young Americas Business Trust, Haiti (E-participation, Openness)

Jimmy has an educational background in Business/Entrepreneurship and Information and Communication Technologies for Development (ICT4D). Since 2000, after a three-year career in Banking, he has been working in social development with NPOs and ICT-related fields. He is actively engaged in ICT4D Initiatives and advocacy in his community and beyond, taking steps towards the promotion, integration, and democratisation of ICT tools for economic and sociocultural development. He has been involved with DiploFoundation since 2006, starting with the Internet Governance Capacity Building Program (IGCBP-2006), the Electronic Voting Course (e-Voting) in 2007. Contributing as one of the Research Writing Experts the ACP IGCBP,

he was the key contact person for Haiti through the Young Americas Business Trust. He is greatly interested in the progress of ICT through its economic and sociocultural aspects to sustain development.



Tracy Hackshaw, National Information and Communication Technology Company, Trinidad and Tobago (E-commerce)

Tracy is an alumnus of DiploFoundation's IGCBP 2008 and an ICANN Fellowship Alumni at both the Sydney and Seoul Meetings in 2009 and at the Cartagena Meeting in 2010. Tracy was an Internet Society (ISOC) Ambassador to IGF 2009 in Sharm-el Sheikh and returned as an ISOC Ambassador for IGF 2010 in Vilnius. He is the Vice Chair of the ISOC Trinidad & Tobago Chapter and a member of DiploFoundation's research and teaching faculty. Tracy is a national of the Republic of Trinidad & Tobago and has been educated at the 1st degree level in Sociology & Psychology via the University of the West Indies (St Augustine) and at a graduate level in International Management via the University of London (Royal Holloway). Professionally, he is the Chief Solution Architect and Team Lead of the Solution Architect Office for the Government of Trinidad & Tobago's National ICT Company (iGovTT). He is part of a team providing ICT thought leadership to iGovTT, and by extension, the Government, in several areas falling under the rubric of Internet governance including the flagship and award-winning [ttconnect Multi-Channel Service Delivery initiative](#). He can be contacted via [LinkedIn](#).



Chipo Kanjo, Chancellor College, University of Malawi, Malawi (IG Policy, E-government)

Chipo is a Senior Lecturer in Computer Science at Chancellor College, University of Malawi. She is currently a PhD student at the University of Oslo in Norway in the department of Informatics doing research in the area of Health Information Systems. Her research interests include health informatics, e-Democracy, e-Governance, and the role of ICT in developing countries. She has done some consultancy and research in ICT and her research has been disseminated through journals, book chapters, and conference proceedings. She is a DiploFoundation alumnus of Internet governance. Before joining the PhD program, she was Chairperson for the National ICT Working Group for Malawi.



Jean Philemon Kissangou, ARPCE, the Post & Telecom Regulatory Agency of Congo, RC Congo (French groups Research)

Philemon is a telecoms/ICT regulatory and policy professional at the Department of Economics and Market at the ARPCE, the Post & Telecom regulatory agency of Congo (RC). He teaches ICT (regulatory and policy aspects) at graduate level at the University Marien NGOUABI in Brazzaville, Congo. Through his involvement with NGOs such as CACSUP (a local organisation accredited by the WSIS) and ISOC (local chapter), he organizes a number of conferences and workshops on ICT policy and regulatory issues. Philemon holds a Master's degree in Téléinformatique from Ecole Supérieure Multinationale des Télécommunications (ESMT), Dakar, Senegal. Since 2009, Philemon has organised three Internet Governance Forums for central Africa, a prelude to the International IGF Meetings, providing a framework to follow the agenda of Tunis set by the WSIS. He was a member of the AfriNIC board from 2008-2011. Since 2005, he has participated in many international meetings such as WSIS, ICANN, IETF, ITU and has also benefited from many fellowships (UN, ICANN, ISOC, ITU) to attend some major meetings and workshops. Philemon regularly initiates and participates in writing research papers in the ICT regulatory and policy matters.



Anju Mangal, Secretariat of the Pacific Community (SPC) and board member of PICISOC, Fiji (Education)

Anju coordinates the development of ICT and IKM activities in SPC and oversees and advises staff on the implementation of ICT-IKM activities. She trains in the use of ICT and e-learning platforms in the Pacific. Her role is to coordinate and develop new regional capacity building programmes in information, communication, and knowledge management, ICT for development. She has assisted with the formulation of the Youth in Agriculture strategy towards fostering ICT for development and provides advice and support to the Youth and Agriculture Coordinator for administering and delivering programmes for youth and ICT in the community. An active member of DiploFoundation's research and teaching faculty and an alumna of the IGCBP 2009, Anju was an Internet Society (ISOC) Ambassador to IGF in 2008 in Hyderabad, India, Commonwealth IG Secretariat fellow in Sharm-el Sheikh, and also part of the UN-IGF Secretariat team. She was chosen to represent her country

and work as a fellow at the UN-IGF Secretariat in Geneva, Switzerland. A former board member of the Pacific Islands Chapter of the Internet Society (PICISOC), Anju is currently Chairwoman of the PICISOC Women and ICT Working/Special Interest Group. Anju holds an MA in Governance and a BSc in Information Systems, GIS and Geography.



Sheba Mohammid, National Information and Communication Technology Company, Trinidad and Tobago (Development)

Sheba is interested in multi-disciplinary and transformative strategies for ICT4D. Her work is focused on Digital Inclusion in Small Island Developing States. She serves as a Research Expert on the Internet Governance Africa Caribbean and Pacific (ACP) Programme, a Commonwealth Fellow and ACP Fellow to the IGF where she has presented and moderated panels on Media Literacy and ICT4D. She is also a trainer in Internet Governance and ICT Policy and Strategy for DiploFoundation. Sheba is researching Human Behaviour on the Internet, Youth Use of Social Media and Futurist Deployment of ICT as a Catalyst for Development. She works in Trinidad where she is an ICT Policy Specialist. Here she has responsibility for major considerations in creating an enabling Policy and Legislative Environment. Her work has spanned issues of an emerging Knowledge Society such as ICT Strategies, ICT Governance, A2K, e-Waste, Multi-Channel Service Delivery, Data Protection and e-Transactions.



Gaongalelwe Mosweu, Botswana Innovation Hub (BIH), Botswana (ICT Development)

Gao is passionate about development issues, and in particular, has focused on how ICT can contribute to the development of people in Botswana and beyond. She has been working in the local ICT industry with a view to helping to transform Botswana into an information and knowledge society. She is one of the pioneering fellows of the ICANN Fellowship Programme in 2007 at San Juan, Puerto Rico and Los Angeles and was chosen to be a mentor for first-time fellows at the Paris 2008 and Nairobi 2010 Meetings. On the professional front, Gao is in charge of Marketing & Communications for Botswana Innovation Hub, a science and technology park geared towards attracting investment in ICT and other high-tech

services. She also volunteers for Botswana Information Technology Society (BITS) as Vice President. BITS is a non-profit, voluntary organisation, with the mission to help individuals and organisations take maximum advantage of current worldwide ICT developments and advancements.



Gisa Fuatai Purcell, ITU-EC Project Coordinator (ICB4PAC), Samoa (E-learning)

Fuatai Purcell is ICT Advisor to the Government of Samoa and Secretary of the National ICT Committee. She was responsible for developing Samoa's National ICT Strategic Plan that was approved by Cabinet in late 2004 and launched on 23 March 2005. She represented her country at the World Summit of the Information Society (WSIS) process 2001-2005. During the first phase of the WSIS, she was a member of the Group of Friends of the Chair who developed the WSIS Declaration and the Plan of Action. She was also appointed a member of the UN Task Force for Financial Mechanisms, and Advisor to the UNDP-APDIP Open Regional Dialogue on Internet Governance, where she co-authored two chapters of a booklet launched at the Tunis phase of WSIS entitled: *Internet Governance: Asia Pacific Perspectives*. Fuatai has recently been appointed a member of the Strategy Council of the UN Global Alliance for ICT and Development. She worked as a fellow in the office of the Secretariat of Internet Governance Forum in Geneva from May to July 2006. Fuatai has a master's degree in Commerce and Administration from the Victoria University of Wellington, New Zealand, with a major in Information Systems. Fuatai is a member of the Internet Society (ISOC) and an active member of the Pacific Island Chapter of ISOC.



Rodney Taylor, Caribbean Telecommunications Union – Trinidad and Tobago, Barbados (Infrastructure)

Rodney's objective is to support the socio-economic development of the Caribbean region through the innovative use of ICTs. Business Development and Operations Manager of the Caribbean Telecommunications Union, he has a Bachelor's degree in Business Administration from Andrews University, USA and an MSc in Management and Information Systems from the Institute for Development Policy and Management, University of Manchester, UK. His professional

experience includes management of information systems in the Ministry of Foreign Affairs, Barbados; development of ICT strategy for the Ministry, its Missions, Embassies and Consulates; establishment of information networks for the Joint ACP-EU Parliamentary assembly and international meetings hosted by the Government of Barbados. Rodney has participated in various forums and workshops on Internet governance, Caribbean Internet, e-government and Cybersecurity and is an expert advisor on Internet Governance. He has published research on e-Commerce diffusion in the *Journal of Information Systems for Developing Countries*.



John Walubengo, Multimedia University College of Kenya, Kenya (Security)

John has over 15 years of experience in IT Training and Consulting; his area of specialisation is the design and deployment of secure, Internet-based solutions for Local Area Networks and Wide Area Networks. He is currently the Ag. Director of IT Services and Dean of the Information Science and Technology department at Kenya's Multimedia University. He continues to provide consultancy services to governments and other organisations and is active on several boards, including AfriNIC (www.afrinic.net), ISACA-Kenya (www.isaca.or.ke), and KASNEB (www.kasneb.or.ke); and active within organisations such as DiploFoundation. John holds an MSc in Strategic Business IT from the University of Portsmouth, UK; and a BSc in Mathematics & Computing from Kenyatta University, Kenya. He has several industry certifications, including the CCNA (Cisco Certified Network Associate) and the CISA (Certified Information Systems Auditor) certifications. With Diplo, he submitted a paper for the IGF Athens meeting, wherein he explored ways in which developing nations could have affordable Internet access and alternative models for Internet interconnectivity. In 2007, John interned with the Secretariat of the IGF.

The programme management team

Jovan Kurbalija, Director of DiploFoundation and Programme Chair
Virginia (Ginger) Paque, Educational Courses in Internet Governance
Vladimir Radunovic, Internet Governance
Capacity Building Programmes
Eva Tanner, Project Development and Reporting

Martin Aquilina, Accounts Manager
Seiiti Arata, Community Facilitation
Adela Elena Danciu, Content Development and Research
Dejan Dincic, Technical Director and Online Architect
Sheba Mohammid, Emerging Leaders
Mina Mudric / Dragana Markovski, Publications
Mary Murphy, Project Support
Stephanie Psaila, Web and Communications
Milica Virijevic Konstantinovic, Events Coordination

Partnership: Lead institution, partners and support

The ACP Programme was financed by the European Union @CP-ICT Programme, 9th European Development Fund (EDF), with support of the Secretariat of ACP Group of States.



African, Caribbean and Pacific Group of States (ACP) is composed of signatories to the Georgetown Agreement between the ACP and the European Union, officially called the EU ACP Partnership Agreement or the Cotonou Agreement.

The ACP Group of States consists of 79 Member-States, of which 48 are from Sub-Saharan Africa, 16 from the Caribbean, and 15 from the Pacific. The Group was originally created with the aim of coordinating cooperation between its members and the EU focusing on negotiating and implementing cooperation agreements with the European Community. Over the years, the ACP Group of States has extended its range of activities beyond development cooperation with the EU and now covers other issues such as trade, economics, and culture, in diverse international forums such as the World Trade Organization (WTO).

The main objectives of the ACP Group of States:

- Promote sustainable development of its Member-States and their gradual integration into the global economy, which entails making poverty reduction a matter of priority and establishing a new, fairer, and more equitable world order.
- Coordinate the activities of ACP States in the framework of the EU ACP Partnership Agreement.
- Foster and strengthen solidarity among ACP States, and understanding between ACP peoples and governments.



European Union's European Development Fund (EDF) is the main funding instrument in the framework of the Cotonou Agreement (EU ACP Partnership Agreement) for providing the European Community's aid for development cooperation with the African, Caribbean, and Pacific Group of States (ACP) and Overseas Countries and Territories (OCT). One of the objectives of the EDF is to promote the economic, cultural, and social development of the ACP states.



DiploFoundation is a non-profit organisation which works to strengthen the meaningful participation of all stakeholders in diplomatic practice and international relations. Our activities revolve around, and feed into, our focus on education, training and capacity building:

Courses: We offer postgraduate-level academic courses and training workshops on a variety of diplomacy-related topics for diplomats, civil servants, staff of international organisations and NGOs, and students of international relations. Our courses are delivered through online and blended learning.

Capacity building: With the support of donor and partner agencies, we offer capacity-building programmes for participants from developing countries in a number of topics including Internet Governance, Human Rights, Public Diplomacy and Advocacy, and Health Diplomacy.

Research: Through our research and conferences, we investigate topics related to diplomacy, international relations, and online learning.

Publications: Our publications range from examination of contemporary developments in diplomacy to new analyses of traditional aspects of diplomacy.

Software development: We have created a set of software applications custom designed for diplomats and others who work in international relations. We also excel in the development of online learning platforms.

Diplo is based in Malta, with office in Geneva and Belgrade. Diplo emerged from a project to introduce information and communication technology (ICT) tools to the practice of diplomacy, initiated in 1993 at the Mediterranean Academy of Diplomatic Studies in Malta. In November 2002, Diplo was established as an independent non-profit foundation by the governments of Malta and Switzerland. Our focus has expanded from the application of information technology to diplomacy, to include other new and traditional aspects of the teaching and practice of diplomacy and international relations.

DiploFoundation was the lead institution in the implementation of the ACP programme, working in cooperation with seven partner institutions from the ACP countries:

Botswana Information Technology Society (BITS)



BITS is a non-profit, voluntary organisation, working to assist individuals and organisations to benefit from current ICT developments and advancements. Its focus is to undertake activities that contribute to increasing the beneficial uptake of ICT and improving the effectiveness of the ICT sector. It is against this backdrop that BITS works in capacity building for ICT professionals. BITS represents the various ICT stakeholders in government, industry, and academic sectors (public and private) in Botswana.

Its constitutional framework enables its members to come from different backgrounds, bringing together a variety of skills and experiences, spanning technical, application, and management knowledge of ICT. The members share an interest in IT application and deployment in Botswana, in maintaining high standards of practice in the IT profession, and in contributing to maximising returns on IT investment in the country.

BITS is emerging as the voice of the ICT industry, and continually seeks to provide better value for its members as well as the nation at large with regard to ICT awareness and uptake, liaising with both government and industry leaders, as well as being more involved in advocacy.

Website: www.bits.org.bw

Burundi Youth Training Centre (BYTC)



BYTC is a youth-managed ICT training institution catering to economically disadvantaged youth. Its aim is to empower young people and to encourage ICT competencies as a way to enter the job market. Since 1998, it has grown from a small youth centre to a fully equipped centre providing ICT-based services to the local community (e.g. by providing secretarial activities, business cards, invitations). Through financial support from various donors, BYTC's facilities and services have continued to expand. BYTC has collaborated with the *Agence Universitaire de la Francophonie* and Africa Computing in providing training workshops on computer maintenance and networking and web design.

In January 2006, the Computer Learning Caravan for Secondary Schools of Burundi was introduced focusing on providing ICT within the Burundian education system. Computers were installed in classrooms to train teachers, students, and other staff members on ICT basics. A computing club was set up within the school to encourage proper computer usage by all users.

Over 400 participants have been trained since 1998. In 2007, BYTC relocated to the *Ecole Indépendante de Bujumbura*. This new location has allowed it to expand its training to include participants from the University of Ntare Rugamba.

Website: www.bytc.bi

Centre Africain de Complémentarité Scolaire Universitaire et de Promotion (CACSUP), République du Congo



CACSUP is an NGO registered in Congo-Brazzaville in 1998, and approved by the World Summit on the Information Society (WSIS) during PrepCom-3 of the Tunis phase. CACSUP aims to contribute to the development of Africa through education and the promotion of ICT. To date, it exists in several African countries including Senegal, Benin, Congo-Democratic, Burkina Faso, Gabon, and Cameroon.

CACSUP was created to assist African communities affected by challenges that may require new approaches and strategies to better face and find solutions. Namely, it aims to promote inclusion as a way to achieving sustainable development, through education and ICT.

CACSUP has conducted a number of projects at local and sub-regional levels in several fields such as environment, ICT and policy, health, capacity building, and Internet governance. Through its work, CACSUP has strived to ensure that Africa can, more rapidly, join the information society.

Young Americas Business Trust Haiti (YABT Haiti)



YABT Haiti is a non-profit organisation operating in Haiti. It is a national chapter of the YABT Washington DC an organisation affiliated with the General Secretariat of the Organization of American States (OAS). It supports the work of the OAS in creating employment and opportunities for young people in the Americas.

YABT Haiti is dedicated to promoting, developing, and implementing the programmes of the YABT DC as well as those created by itself alone or in partnership with local and/or international institutions. YABT Haiti works with government, NGOs, and the private sector, as well as educational institutions in the OAS member states and beyond to support and sustain its programmes and activities.

YABT Haiti focuses on four priority areas:

- Leadership and Networking
- Training and Practical Experience
- Technology
- Strategic Alliances and Partnerships

ICT4D Jamaica Limited



ICT4D Jamaica is an open, Jamaican-based network organisation legally registered and established to define, promote, and facilitate the use of ICT in the development process. It believes that the effective sharing and use of information for learning and earning, producing more with less is critical if we are to achieve growth and competitiveness.

Its philosophy is to demonstrate new levels of democracy, open, void of prejudices, characterised by tolerance, the ability to learn, the propensity to share, the willingness to be fair and to distribute benefits in accordance with equity considerations and as a reward for contribution. Its approach is one based on partnership with existing entities, that takes full advantage of ICTs to develop the group and maintain its services. It operates along networking lines and principles, and therefore within a non-hierarchical structure and framework.

Website: www.ict4djamaica.org

Multimedia University College of Kenya (MMU)



The college was founded in 1948 as Central Training School catering for the training needs of the then East African Posts and Telecommunications Administration. In 1992, it was upgraded to a College of Higher Learning and became a fully autonomous subsidiary of the Kenya Posts and Telecommunication Corporation (KPTC). In 1999, when KPTC ceased to exist, KCCT became a fully owned subsidiary of Telkom Kenya Ltd.

Over the years, KCCT has been giving quality training programmes to individuals and organisations, locally, regionally, and internationally. In addition to other courses, the College offers high-quality programmes, courses, and seminars, in areas of Management, Information Technology, Telecommunications Engineering and Operations, Postal and Courier Services Management.

In 2008, KCCT was elevated to a constituent college of JKUAT. Consequently it was renamed to the Multimedia University College of Kenya (MMU). MMU is Kenya's premier institute of higher learning in Telecommunication Engineering, Human Resource Management, Postal and Courier Services. As the giant trainer in telecommunication in the East African region, its clients come from all over Africa and beyond. MMU has a long working relationship with international and national organisations such as PAPU, UPU, ITU, JICA, ESAMI, INTELSAT, KIM, and CCCA.

Its student numbers vary from time to time and can reach a peak of 15 000 at one given time. The College does not go to full recess due to the nature of clients and their varied needs which demands the service throughout the year.

However, the staff holiday and other breaks are taken as scheduled for each department. The College has two campuses: Mbagathi and City Centre Campus. Many of the courses offered lead to professional qualifications, which have national and international recognition.

Website: www.mmu.ac.ke

Sir Arthur Lewis Community College, St Lucia



The College is an open, comprehensive, flexible, learning institution, committed to excellence, and responsive to the needs of its students, and to the challenges that face the St Lucian society. Its mandate as a community college is to:

- be a resource to the community;
- foster the personal development of its students;
- equip its students with relevant and appropriate career entry, advancement, or retraining skills and competencies; and
- increase opportunities for tertiary education and training.

The mission of the College is to pursue its vision and fulfill its mandate in the most effective, efficient, and equitable manner possible while giving due attention to:

- Excellence in teaching, research, administration and service.
- The social, cultural, and artistic development of its students.
- The need to develop and foster self-directed and lifelong learning.
- Appropriate community participation in the functioning of the institution.
- The professional development and welfare of its staff.
- Regular and systematic monitoring and evaluation of its priorities, programmes and operations.

Website: www.salcc.edu.lc

A number of international, regional, and sub-regional organisations worked hand-in-hand with the lead institution and the partners:

- African Union (AU)
- UN Economic Commission for Africa (UNECA)
- NEPAD Planning and Coordination Agency
- Free Software and Open Source Foundation for Africa (FOSSFA)
- Secretariat of the Pacific Community (SPC)
- Pacific ISOC Chapter (PICISOC)
- Caribbean Telecommunication Union (CTU)
- International Telecommunication Union (ITU)
- Internet Corporation for Assigned Names and Numbers (ICANN)
- Association for Progressive Communications (APC)
- Internet Society (ISOC)



