

**Summary Report**  
**Panel on ICTs and Small Island Developing States**  
**at the Fifth International Conference on Information and Communication**  
**Technologies and Development (ICTD2012),**  
**Atlanta, USA,**  
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**1. Introduction**

Panel Chair: Prof. Gillian Marcelle, Associate Professor: Strategy and Innovation, Wits Business School, Joburg South Africa.

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Defining SIDS: countries under pressure

The panel presentations were informed by a common definition of small island developing nations that drew from common categorizations used by the United Nations. Within this rubric, there are **52 SIDS**, of which 37 are independent and the remaining 15 are dependent territories<sup>1</sup>. Only 12 of these are among the less developed country category and it is worth considering that most of the SID countries (85 per cent) do not qualify as low-income; some, in fact, have very high income. There are many less developed countries that are not islands and these include fairly small countries, with population sizes smaller than those of the larger SIDS.

What has been used to forge commonalities among SIDS is that there are distinct challenges associated with small size, in particular high economic vulnerability. Small population and geographic size leads to thin markets; lack of diversification in production; lack of economies of scale, a high degree of economic openness and an excessive dependence on a narrow range of exports and strategic imports. In addition, the SIDS group of countries face pressures associated with rapidly growing populations. Their geographies contribute to susceptibility to natural disasters, remoteness, high transportation and communication costs and costly public administration and infrastructure.

Objectives

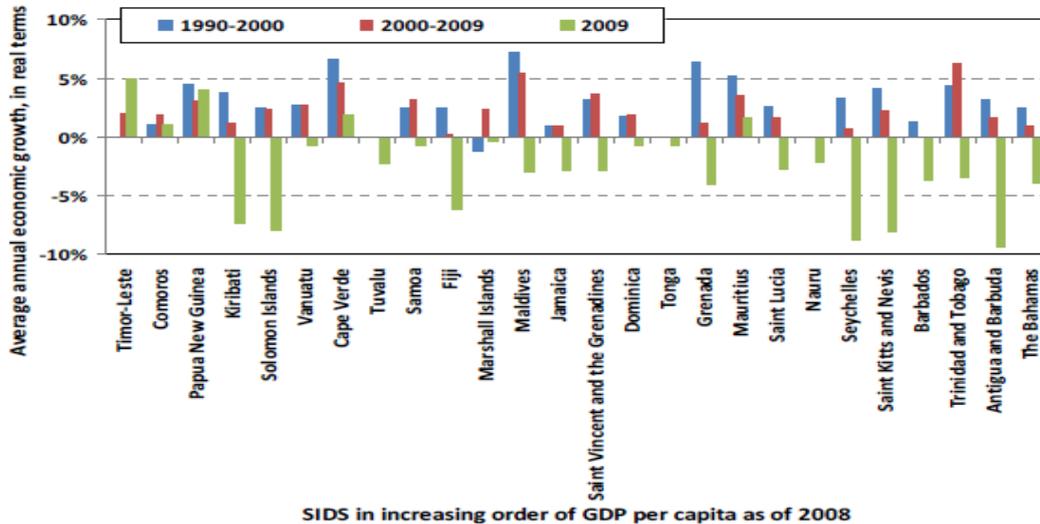
It is these features of SIDS that led the panel to consider it worthwhile to explore the conditions under which the application of ICTs in SIDS could produce developmental benefits. The work was organized to review the current level of impact and the role of different actors and stakeholders across a variety of SIDS. Each of the presenters was asked to examine typical constraints to greater use and/or impact of ICTs in SIDS; specific characteristics of any proposed solutions; implications for national, regional or international cooperation and recommendations for future action.

Our intention is to examine the various ways in which ICTs can be used to overcome the unique development challenges that are faced by SIDS. Undertaking analysis from a variety of organizational, geographical and disciplinary perspectives and aiming to identify approaches to applying ICTs for development in specific ways. The intended outcome from this panel is not a catalogue of best practices but identifying through dialogue, frameworks and approaches that have met with success and have identified specific constraints.

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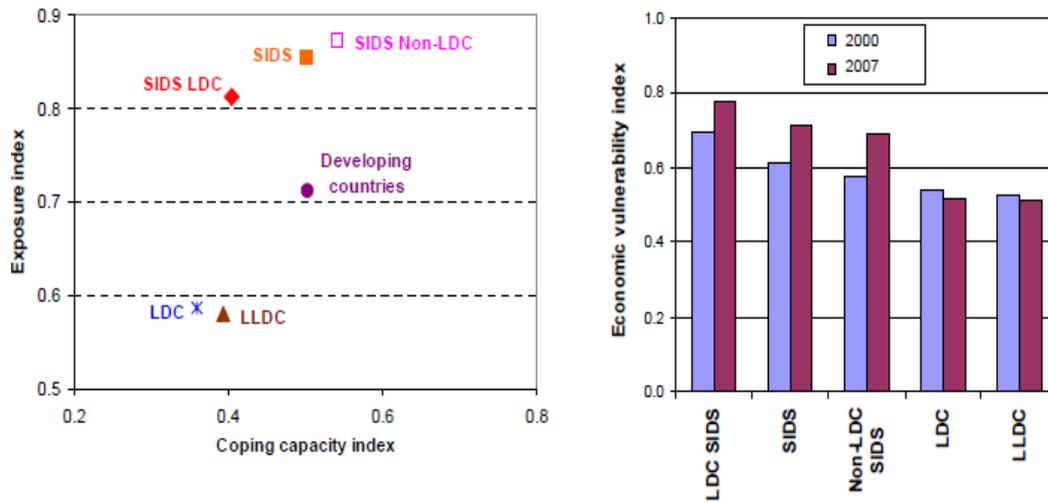
<sup>1</sup> UN commonly defines SIDS as a group of 38 countries/member states. Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Cape Verde, Comoros, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia (Federated States of), Nauru, Palau, Papua, New Guinea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Singapore, Solomon Islands, Suriname, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu, Vanuatu (see [www.un.org/special-rep/ohrlls/sid/list.htm](http://www.un.org/special-rep/ohrlls/sid/list.htm)).

**Economic growth of selected small island developing States, 1990-2000, 2000-2009 and 2009**



Source: United Nations (2010) Secretary General Report: Sustainable development: Follow-up to and implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States Five-year review, page 6

**Economic vulnerability by region and country group, 2000-2007**



Source: United Nations (2010) Secretary General Report: Sustainable development: follow-up to and implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States Five-year review, page 10. *Abbreviations:* LDC, least developed countries; LLDC, landlocked developing countries; SIDS, Small Island developing States.

## **2. Universal Service and Public Service ICT for Development: Pacific Island Experiences.**

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ICT is a foundation that supports many pillars of development including education, health care and governance. Developing ICT infrastructure can be compared to the development of transportation, water and other utility infrastructure. Concurrent to these developments there are issues of access, maintenance, policies for use and application, need for local skilled human resources, cost, funding for sustainability and harmonization with values, culture and practice and achieving desired futures of the community. The ability to communicate, access information and gain knowledge is a human right. The United Nations Development Program (UNDP) provides a comprehensive view of development and human rights and emphasizes the goals of development are "choices of freedom." ICT policy development then must come from a civil rights perspective and also ICT crosses multiple sectors and so must ICT policies.

For the Pacific Islands and similarly for other SIDS there are several ICTD challenges at different levels including:

Technical Infrastructure

- How to get accessible and affordable ICTS?
- How to address economies of scale with small populations spread across vast distances of ocean?

Human Infrastructure

- How to build human and institutional capacity so that ICT is meaningful and sustainable?

Regulatory Infrastructure

- How to strengthen ICT regulatory frameworks?

### U.S. Pacific Island Context

There are three U.S. Pacific Island Territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam. These jurisdictions are U.S. territories that benefit from almost all U.S. Federal Programs including many that support telecommunication and ICT development.

There are three Freely Associated U.S. Pacific Island States: The Federated States of Micronesia, the Republic of the Marshall Island and the Republic of Palau. These three entities are independent nations that have a Compact of Free Association with the United States. They were a part of the United Nations Trust Territories of the Pacific Islands that was created after WWII and administered by the United States. The Compact of Free Association recognizes the island governments as sovereign and self-governing nations and places defense responsibility with the U.S. In turn the Compact provides economic assistance in health, education, economic development, infrastructure development and capacity building. The U.S. Pacific Island Freely Associated States are eligible for some, but not all U.S. Federal program funding. This together with other factors equate to a rather significant "digital divide" within the U.S. Pacific Island Territories and Freely Associated States.

There are several U.S. programs that fund infrastructure development in the U.S. Territories including the Broadband Technology Opportunities Program (BTOP)/Broadband Initiatives Program (BIP) as part of the American Recovery and Reinvestment Act that has funded nearly \$11 billion USD for broadband development in the U.S. The U.S. Universal Services Fund that is an on-going program has supported approximately \$230 Million USD since 1998 in the U.S. Pacific Island Territories to support high cost, low income areas, connectivity for schools, libraries and rural health care providers.

### U.S. Affiliated Pacific Islands

There is a divide within the U.S. Pacific Island Territories and U.S. Affiliated Pacific Island countries. The

Federated States of Micronesia, the Republic of the Marshall Islands and the Republic of Palau do not qualify for the Broadband Initiatives and ARRA funding; nor do they qualify for the U.S. Universal Service Fund. The Freely Associated States are not under the FCC jurisdiction and do not contribute to the U.S. Universal Service Fund and therefore do not get the benefits of the support.

The U.S. Universal Service fund mechanism cannot be replicated in the Freely Associated Pacific Island States simply because of the small population base; the U.S. Universal Service Fund is successful in part because millions of Americans contribute a small part into the fund and in the end the fund is quite substantial.

There is no single solution to closing the digital divide; however some strategies for the U.S. Freely Affiliated Pacific Islands may include:

ICT Leadership and Direction – Increasing ICT awareness is critical at all levels. The leaders and policy makers must understand the importance of ICT in today's world; the benefits and the enabling factors for ICT development. This means regulatory reforms and liberalization of the telecommunication markets to introduce competition. Current monopoly telecommunication carriers prevail in the U.S. Freely Associated Pacific Island States. In order to realize a sea change strong leadership and stakeholder support, commitment and investment is required. Some of the major donor organizations such as the World Bank and Asia Development Bank require very clear and precise plans for liberalization and regulatory frameworks to be implemented prior to expending ICT related funds.

ICT Capacity Development – Education and training at all levels including the highest level of leadership in the countries. Many government officials that are primarily responsible for ICT issues have no formal training of ICT. Users – educators, health care providers and students need to learn how to integrate ICT in their work and lives. There is a difference in learning how to use a computer and how to really effectively use ICT to achieve improved learning outcomes. The utilization of distance learning or eLearning programs could help to bring education and training opportunities to the local educational institutions or straight to the workplaces if not available.

Prioritize Public Service – Focus on providing ICT support and infrastructure build-out in areas of health, education and for economic development. This is not to say that universal service and access is not important but when resources are limited, prioritizing is necessary. Reaching these areas that may have immediate benefits to the society will play a major role in gaining the overall support of the community and leaders to support ICT development.

In summary, the U.S. Pacific Island Territories and Freely Associated States, like many SIDS, have varying levels of resources and are in varying levels of utilizing ICT for development; however ICT is a cross cutting issue that touches all aspects of our lives at work and home. As such ICTD challenges require multipronged solutions. A good first step is to increase awareness and understanding of ICT applications and the required infrastructure to sustain and gain most benefits from ICT.

### **3. SIDS and ICTs: Applications for Disaster Risk Reduction, Including Climate Change**

#### **Adaptation.**

Ilan Kelman, Senior Research Fellow, Center for International Climate and Environmental Research, Oslo, Norway.

<http://www.ilankelman.org/contact.html>

SIDS have many needs for disaster risk reduction (DRR), which incorporates climate change adaptation (CCA). Previously, SIDS peoples have frequently been successful when using their own knowledge and approaches, but changing social and environmental conditions provide different challenges and opportunities for DRR, including CCA. ICTs are one opportunity and challenge. This presentation explored some advantages and disadvantages of using ICTs for DRR on SIDS. Three successful examples were used, segueing into three limitations.

The first example is [PEACESAT](#), based in Honolulu, and for over 30 years having used ICTs for education and training programs across Pacific SIDS on all development topics, such as DRR (including CCA). PEACESAT shows that ICTs for supporting DRR on SIDS are not new. The consistency and long-term nature of this program are important, building up trust and establishing a positive reputation for distance learning and exchange.

The second example is [Many Strong Voices](#), set up at the request of SIDS and Arctic peoples to bring them together to deal with climate change, within wider development and sustainability contexts. The program reaches eight Arctic countries and as many of the 52 SIDS as possible, necessitating the use of ICTs, but at a deliberately simple level: mainly email, facebook, youtube, and websites. That assists adaptation through sharing information, stories, and knowledge.

The third example is about disaster response: crowdsourcing following the 2010 Haiti earthquake. An open-source crisis-mapping software was applied to collect masses of real-time information coming through ICTs and social media regarding immediate needs. An international group of self-organized volunteers updated the information and made it publicly available online. Some relief organizations were soon relying on it, which might have meant that Haitians without links to mobile phones or the internet did not have their needs identified or met.

Haiti also illustrates the first of three limitations regarding applying ICTs for dealing with disasters, including climate change, on SIDS: quality control. ICTs give informational power to the people. How trustworthy is the people's information? It is wonderful to have so many volunteers helping to sort through information. Who triangulates, corroborates, or filters it? In a crisis, with so much information being rapidly disseminated, quality control can be dubious. Especially for Haiti, it was unclear how much was actually new or different from information that humanitarian organizations usually obtain. Is it better to harness volunteer energies for DRR, not response?

Quality control has its own dangers, leading to the second limitation of ICTs: power relationships. Power relationships are not limitations of ICTs in themselves; they are the standard limitations of all development work. As soon as someone decides that using ICTs requires quality control, then someone has the authority or power to censor. Who makes those decisions, when, and how?

One major power issue that is particular to ICTs to some degree is the third limitation: access to the technology. By definition, for ICTs, some level of technological infrastructure is essential, namely electricity and the internet. Even with small-scale renewable energy and wind-up rechargeable batteries, many SIDS communities have neither internet nor mobile phone coverage. For addressing access concerns, ICTs must also serve people with disabilities and across languages and dialects while being robust enough to be viable despite future changes to society and technology.

Overall, ICTs bring similar conclusions as other technologies regarding DRR, including CCA, on SIDS: such technologies should never be avoided, but should never be allowed to dominate. Technologies represent options which should be available for various parties to collaborate to choose an appropriate combination. For community-based DRR on SIDS, including CCA, ICTs should complement and enhance, not replace, other approaches—and they definitely can and should complement and enhance those other processes.

#### **4. National ICT Policies in the SIDS Context**

Dhanaraj Thakur, Lecturer, Department of Government, The University of the West Indies, Mona, Jamaica<sup>2</sup>.

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This section discusses a preliminary review of ICT policies among SIDS. Indeed there have been similar global exercises that have looked at a much larger set of countries. By focusing on the SIDS, however, one objective here is to engage in policy comparisons among this group of countries. A second objective is to understand how and to what extent countries in the SIDS group are incorporating ICTs in their national development agendas.

For purposes of this report, a simple description of ICT policies, plans, or strategies is a government's guide for applying ICTs to its perceived development challenges. In practice this is often different from a telecommunications policy in that ICT policies are generally broader in scope and multi-sectoral.

Starting with a total number of 37 SIDS (which excludes non-independent states), the review found that 28 of these have existing ICT policies. Of those, 22 were examined based on the availability of documents. While SIDS are spread across Africa, Caribbean and Pacific (ACP) regions and Asia, in this case all 22 policies were from the ACP region. Specifically, 4 were from Africa, 15 from the Caribbean and 3 from the Pacific. It should be noted that while fewer Pacific countries actually have ICT policies, those that do are typically the most recent. Those from Africa were on average the most dated.

##### Overview of ICT policies

Integration with national development agendas is often offered as best practice in the formulation of ICT policies. However, only 6 of the 22 policies specifically identified how the ICT policy objectives were linked to their national development plans. This points to the challenge of thinking through how ICTs can address unique and specific development goals. In addition, the lack of integration could also be a symptom of the politics of ICT policy-making. In this regard, government ministries with responsibility for ICTs often have less power when compared to, for example, ministries of finance. The latter are more likely to dominate development discourse within a country.

When looking more specifically at policy goals, the most frequently cited areas for action included e-government, telecommunications infrastructure, education, human resources and the legal/regulatory environment. This pattern was typical across all regions. In addition, there was similarity in what action meant. For example, while e-government was a priority in almost all states, it was often defined in terms of the delivery of public services through ICTs and not improved political participation and decision-making.

In contrast, in terms of the least common policy objectives, countries were often unique in their focus. Barbados (in a 2009 policy), for example, included an objective of leveraging ICTs in developing its local sports industry. Cape Verde (2000) recognized the importance of diaspora networks and how ICTs can be

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2 Support to attend this panel presentation was provided by the Faculty of Social Sciences, University of the West Indies, Mona.

used to connect those networks to the local economy. Finally, Antigua and Barbuda (2005) included Internet gaming as an area for development.

There were also important differences across regions. In the Pacific, governments were more likely to focus on increased access to ICTs and employing ICTs in agriculture than other regions. In the Caribbean, states were more likely to focus on e-commerce and building up domestic ICT industries. In Africa the common focus was also on the ICT industry and the health sector.

#### Relevant ICT policies objectives for SIDS

Several policies also addressed areas more relevant to the SIDS context. These included:

- Environment and Disaster management
- Heritage and Culture
- Tourism
- Diaspora
- Local content development
- Civil Society
- Small and Medium Enterprises

Interestingly, these areas were only included by a small minority of countries in the sample, although they may be relevant to a majority of the SIDS. With respect to Heritage and Culture for example, Belize (2011) outlined the importance of protecting national heritage resources through ICT enabled management and also by educating Belizeans and their guests on how to help in this preservation. A related area is Tourism where ICT interventions were typically described in terms of marketing and e-commerce. SMEs were also included by a few countries as an area of focus. For example, St. Lucia (2010) discussed how SMEs could be targeted to provide ICT related services within the tourism industry.

#### Regional ICT Policy Making

Finally, it is important to note regional efforts at ICT policy making particularly in the Caribbean and the Pacific. The 2005 Pacific Regional Digital Strategy (RDS) and the 2010 CARICOM Regional Digital Development Strategy (RDDS) are examples of these efforts. These strategies offer more than templates for policy formulation as they include steps for policy coordination and cooperation across governments and other organizations. They also include regional solutions to infrastructure development, education and training, ICT data collection and representation at global fora.

However, a major challenge in executing these regional policies is leadership. A 2009 review of the Pacific RDS suggested that one of the reasons for not realizing some of its goals was the lack of creation of a proposed regional body to coordinate implementation of the policy.

Although more recent, the Caribbean RDDS recognizes a similar challenge. Indeed in the Caribbean, there already exist many different regional organizations that are active in the ICT and telecommunications arena. International experience suggests that it is easier to cooperate regionally in technical matters than on political issues. Thus, as with other regional matters, policies such as the RDDS will require significant political will from national governments to be successful.

## **5. ICTs and Coordinating Action across SIDS: SIDSnet ([www.sidsnet.org](http://www.sidsnet.org))**

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The Small Island Developing States Network (SIDSnet), which has served as a resource and tool for information sharing for SIDS since 1997, is being revitalized as part of the larger project "Capacity Development through Education for Sustainable Development and Knowledge Management in Small Island Developing States (SIDS)." SIDSnet revitalized is SIDSnet transformed from an information website to a knowledge management platform with a focus on decentralized content management and stakeholder engagement.

This presentation hopes to raise awareness of the revitalization of SIDSnet and its goals, to demonstrate the features of the new SIDSnet, and to provide a Call to Action inviting stakeholders to be involved and to steer ongoing development according to their needs as users of the platform.

### **Background**

Soon after the SIDS special case was recognized at the United Nations Conference on Environment and Development – the original Rio Conference - in 1992, the Barbados Conference on the Sustainable Development of SIDS in 1994 called for the establishment of an information network for SIDS.

Shortly thereafter, in 1997 the original SIDSnet was established. It served as a valuable information resource for SIDS stakeholders, particularly in the lead-up to the Mauritius Meeting in 2005. However, due to the emergence of new technologies allowing for greater possibilities for online interactivity, SIDSnet was in need of an upgrade.

With funding from the Government of Spain, a project was established in late 2009 to revitalize SIDSnet. The new site has been live since the end of February 2012.

### **Revitalized SIDSnet**

While the original SIDSnet was essentially an information repository displayed using static HTML and centrally managed at UNDESA, the revitalized SIDSnet takes advantage of modern open source Content Management System technology. This allows knowledge to be shared in a dynamic fashion and facilitates decentralized content management by different stakeholders.

SIDSnet aims to facilitate knowledge sharing both vertically – connecting the International Community and intergovernmental policymaking processes with SIDS government institutions at the national level and community organizations at the local level, as well as horizontally – across different thematic areas and between partners at the same working level who are geographically distant.

### **SIDSnet Objectives**

The main objective of SIDSnet is to coordinate and facilitate sustainable development in SIDS. It does this by:

- Firstly, tracking international meetings and intergovernmental processes related to SIDS and providing events and news coverage. This is done through a partnership with the International Institute for Sustainable Development, which provides their SIDS Policy and Practice news and events feed to SIDSnet.
- Secondly, SIDSnet aims to fill gaps in information and data availability on SIDS by compiling relevant SIDS statistics as well as directing users to other websites which specialize in particular kinds of data.

- Finally, SIDSnet aims to facilitate and motivate partnerships for the implementation of sustainable development in SIDS by providing a platform for interaction and sharing partnership needs and offers, as well as highlighting the initiatives and success stories of different organizations.

#### What you can do on SIDSnet

- Learn about the special case of SIDS, the milestone conferences that have addressed sustainable development in SIDS, and the themes and priority areas fundamental to this group of countries (About SIDS section).
- Browse SIDS country profiles to access country-specific data, theme analysis, news, past and ongoing project and programme details, national strategies and more (Country Profiles section).
- Get to know existing and new partnerships and organizations working on pertinent SIDS issues. The Partnerships Marketplace, accessible to all users and stakeholders, facilitates the matching of needs and offers of partnership. It serves as a platform for sharing ideas and initiating connections, which can potentially be transformed into UN registered partnerships. (Partnerships section).
- Browse through a comprehensive library of SIDS-related documents, an experts database, and a growing list of potential funding sources (Resources section).
- Read news relevant to SIDS and keep up to date with upcoming events (News section).
- Start or join a community and engage in forum discussions, add posts, create and publish articles, disseminate event information and share files (Communities section).

#### Call to Action

SIDSnet aims to be a decentralized knowledge management platform, meaning that the people who view the content on our site are the same people who can contribute content and make the site richer. Through the collective feedback of all stakeholders and their contributions to the site, SIDSnet will take the direction that is most useful to its use base. Please browse the site at your leisure, provide feedback and create an account to participate and add content.

[www.sidsnet.org](http://www.sidsnet.org)

## Panelists and Chair



**Gillian Marcelle, Associate Professor, Wits Business School, Wits University, Joburg South Africa, Panel Chair.**  
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Professor Gillian Marcelle is an Associate Professor of Strategy and Innovation at the Wits Business School. She is an active policy and academic research scholar with more than twenty years experience gained in developed and developing country settings and has a well established reputation in innovation policy scholarship and advocacy. She leads a research group on Strategic Management of Innovation and directs an interdisciplinary masters programme in innovation studies [www.wits.ac.za/managinginnovation](http://www.wits.ac.za/managinginnovation). She has considerable experience in high-level advocacy including serving as a member and on the Board of the UN ICT Task Force, at the invitation of the then Secretary General Kofi Annan. She also served as a member of the International Advisory Panel on ICT4Development, and founded a global advocacy networks the WSIS Gender Caucus, which was active in the World Summit on Information Society. Gillian Marcelle trained as an economist at the University of the West Indies, Trinidad and the Kiel Institute of World Economics, Germany, she holds an MBA from George Washington University and a PhD in Science and Technology Policy from SPRU, Sussex University (UK).



**Christina Higa, Director, Pan-Pacific Education and Communication Experiments by Satellite (PEACESAT), Hawaii, USA - "Universal Service and Public Service ICT for Development: Pacific Island Experiences."**  
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Ms. Christina Higa is the Co-Principal Investigator of the Pan Pacific Education and Communication Experiments by Satellite (PEACESAT) and the Associate Director of the Telecommunications and Social Informatics Research Program at the University of Hawaii. Ms. Higa's research areas of interest include telehealth, health information technology, distance learning, communication for disaster risk reduction and resiliency, telecommunication policy and ICT for development in the Pacific Islands. For the past 20-years, Ms. Higa has managed and operated several satellite and telecommunication networks in Hawaii and the Pacific Islands for public service telecommunications. In 2002 was as a visiting Associate Researcher for the Japan National Institute of Multimedia Education and conducted a study on the integration of the distance learning programs and satellite networks in Japan and the Pacific Islands. In 2010-2011 Ms. Higa has served as a consultant to the Regulatory and Legislative Frameworks for Pacific Island Countries (ICB4PAC) ITU project led by Mrs. Gisa Purcell; through this project she has assistance in the development and planning for National ICT Policies in the Federated States of Micronesia and the Republic of Palau. Current international research activities include her participation in a Keio University research team led by Professor Minoru Sugaya that is studying telecommunication policies in the Pacific Islands.



**Ilan Kelman, Senior Research Fellow, Center for International Climate and Environmental Research, Oslo, Norway** - "SIDS and ICTs: Applications for Disaster Risk Reduction, Including Climate Change Adaptation."

<http://www.ilankelman.org/contact.html>

Ilan Kelman's main research and application work relates to three main areas: (i) Island sustainability: Creating and maintaining safer and healthier communities on islands and in other isolated areas. See more at

<http://www.islandvulnerability.org>. That includes co-directing the Many Strong Voices programme <http://www.manystrongvoices.org> to work with SIDS and Arctic peoples to address climate change within the context of sustainability. (ii)

Disaster diplomacy: how and why disaster-related activities, including climate

change adaptation, do and do not reduce conflict and create peace. See more at

<http://www.disasterdiplomacy.org> (iii) Risk Reduction Education for Disasters (Risk RED) of which he is co-director. See <http://www.riskred.org>

Ilan's Masters dissertation was on managing volcanic eruptions on small islands and his PhD dissertation was on building collapse during floods in England. His work has also encompassed sustainability education, climate change adaptation at the municipal level as part of development, the sustainable livelihoods approach under climate change and other disasters, post-disaster settlement and shelter, and disaster tourism. More details are available at <http://www.ilankelman.org>



**Dhanaraj Thakur, Lecturer, Department of Government, The University of the West Indies, Jamaica**. - "National ICT policies in the SIDS context." [ghanaraj.thakur@uwimona.edu.jm](mailto:ghanaraj.thakur@uwimona.edu.jm)

Dhanaraj Thakur is a Lecturer in Political Science and Research Methods in the Department of Government, UWI, Mona. His research interests include the relationships between information and communications technologies (ICTs), democracy, and gender particularly in the developing countries of the Caribbean. His most recent publication focuses on online deliberation among civil society groups in the Caribbean. He has also worked on related issues

such as telecommunications policy reform, mobile phone use, sustainable telecenters and the politics of open-access production in countries in West Africa, Central Asia and the Caribbean. Dhanaraj was previously a Junior Research Fellow at the Institute for Gender and Development Studies (University of the West Indies, Mona) and is currently also a Research Associate with the Technology Policy and Assessment Center (Georgia Institute of Technology, USA). He has a background in Computer Studies, Development Studies, and Public Policy and was educated in Jamaica, England and the United States.



**Elena De Jesus, Associate Sustainable Development Officer, SIDS Unit, United Nations Department of Economic and Social Affairs** - "ICTs and coordinating action across SIDS: SIDS Net" [dejesuse@un.org](mailto:dejesuse@un.org)

Elena de Jesús is an Associate Sustainable Development Officer with the Small Island Developing States (SIDS) Unit of the Division for Sustainable Development in UNDESA. She holds a Masters degree in Computer and Information Science from the University of Pennsylvania and a Masters degree in Latin American Studies from the University of Texas at Austin, with a focus on sociology. Elena joined the SIDS Unit two years ago, having previously spent over six years working in information technology and web development in the U.S. private sector. In the SIDS Unit, Elena has led the effort to

revitalize Small Island Developing States Network (SIDSnet). Her other work includes a focus on the Caribbean sub-region and issues related to oceans and coastal and marine resources. She was recently the coordinator and co-author of the publication "Trends in Sustainable Development: SIDS" (UNDESA, 2010).

#### **Resource Materials**

- [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/65/115](http://www.un.org/ga/search/view_doc.asp?symbol=A/65/115)
- <http://www.un.org/en/ga/65/meetings/mauritiusrview.shtml>
- [www.wits.ac.za/managinginnovation](http://www.wits.ac.za/managinginnovation)
- [www.wits.ac.za/gcsri](http://www.wits.ac.za/gcsri)
- [http://www.youtube.com/watch?feature=player\\_embedded&v=ohGvJu03bnU](http://www.youtube.com/watch?feature=player_embedded&v=ohGvJu03bnU)
- <http://www.islandvulnerability.org>
- <http://www.manystrongvoices.org>
- <http://www.disasterdiplomacy.org>
- <http://www.riskred.org>
- <http://www.ilankelman.org>
- [www.peacesat.hawaii.edu](http://www.peacesat.hawaii.edu)
- <http://www.sidsnet.org>