Radio Communications Bridging the Digital Divide

Pacific Regional ICT Regulatory Development Project

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Bridging the Digital Divide – The Radio-communications ecosystem

- This presentation provides the viewpoint of PIRRC.
- There is a brief introduction of PIRRC; who we are and what we do
- Several slides define the problem followed by a brief analysis of some proposed solutions
- PIRRC suggests an approach to analyzing the problem and finally;
- Recommendations

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Pacific ICT Regulatory Resource Center

Pacific Regional ICT Regulatory Development Project

Pacific ICT Regulatory Development Project (PIRRC)

- PiRRC was established in response to the need identified by ICT Ministers for providing specialized regulatory resources to the Pacific Island Countries.

Responsibilities

- Our responsibilities include the provision of regulatory support through centralized data collection, policy and best practice research and identifying sources of technical expertise.

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PIRRC Work Plan

PIRRC currently focuses on the following areas:

- Data collection leading to an understanding of Affordability of ICT services in the Pacific
- Spectrum Management and Regional Harmonization
- Disaster Mitigation and Development of National Emergency Telecommunications Plans
- Policy Research on Regulatory Responses to “Over the Top” services

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Other PIRRC Initiatives

- Facilitating Open Access regimes in the Pacific
- Best practices in the governance of the Internet
- Training in understanding regulatory aspects of National CERTS
- Providing advice to Member states on various regulatory matters

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Defining the Problem

The Digital Divide

- **"Digital divide" is the term used to describe economic and social inequality with regard to access to, use of, or enjoyment of the benefits of information and communication technologies (ICT).**
- **The divide can exist within countries, and refers to inequalities between individuals, households, businesses, or geographic areas.**
- **The global digital divide relates to differences between countries or regions of the world.**

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Trends

- Internet access has become more affordable and increasingly ubiquitous, yet the digital divide is widening as large segments of the world's population still do not "go online" while other segments intensify their use and increasingly incorporate ICT into their daily lives
- The UN Broadband Commission reports that more than half of the world population does not have regular access to the Internet
  - In the Pacific, the figures for Internet access may not reflect the regional "communal reality," where a single point of access may serve a community of users;
  - nonetheless, Internet usage in the Pacific lags behind that of the developed world and even some developing economies.

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Trends

- “Affordability” may be a key contributing factor for such Internet underutilization in the Pacific, but an analysis of affordability using the Connect 2020 UN benchmark, (less than 5% of the “average income”) shows that in many Pacific nations, Internet access prices can be considered affordable
- Admittedly, any analysis based on “average income” may obscure the effect of the great disparity in income in most Pacific countries.
- Nonetheless, the “affordability analysis” establishes that in many Pacific nations, the domestic economy is sufficiently large to enable virtually all of the populace to access the Internet; what is lacking is a pricing/subsidy mechanism that enables the financially disadvantaged to bridge “the divide.”

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The Pacific

- Alternatively, the issue may be in device costs, illiteracy, or a lack of content that is so compelling as to justify use of meager discretionary income
- These can be addressed by such actions as governments rescinding duties on access devices and establishing e-government initiatives that are explained through audio files accessible from feature phones.

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Pacific Realities

- Availability of spectrum is not the main issue
- There are no equipment manufacturers or fabricators
- The Pacific nations are consumers, not manufacturers, so standards and spectrum allocations are needed to manage the coming technologies and equipment.
- In the ITU, the Pacific is grouped with Asia as Asia-Pacific but a technological divide exists between the Pacific and Asia.

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Approach

Digital divide is a socio-economic issue and technological solutions should be framed within relevant policies.

Solutions should be informed by reliable empirical data and the collection of relevant data should be made a priority.

PIRRC analysis suggests that affordability is not the only issue. The issues are a complex mix of access, affordability, relevance and cultural sensitivity

- No single technology or network solution is the answer. The success of any technological solution depends upon its contextually sensitivity: solutions that require large amounts of capital, environmental stability, complex processes, ongoing donor/government funding, or significant time commitments by end-users are unlikely to succeed without a evidence of an immediate personal and societal payback

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Approach

- Examples
  - Papua New Guinea is the Pacific's largest Internet opportunity, but traditional network deployments are too expensive to deploy to sustainably reach the millions of unconnected; often, the issue is the absence of reliable electricity
  - Sensitive gear that routinely automates simple control functions, such as circuit boards in elevators and sensors in printers, prematurely fail in the Pacific's often extreme humidity
  - The cost and non-productive time associated with process engineering place the standardization of tasks (a prerequisite for automation and computerization) out of reach for most thinly funded and staffed Pacific institutions

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Approach

- Examples, continued
  - Revenue streams to and from donors and governments are frequently unstable, resulting in few governmental initiatives that require decades long funding or payback periods, such as rural electrification or overhauling elementary education with technology
  - Families living at or below the poverty line, dependent on agriculture, hunting, or resource extraction for economic survival, do not have the time to learn “basic new skills” foreign to their lifestyle, such as keyboarding and application use

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Proposals for action

- Permitting unlicensed use of white space is a technological solution aimed at providing access to more spectrum; this provides the possibility of carrying a lot of data over long distances and penetrating indoors.
- Coordination of major infrastructure works (such as requiring conduit construction with every road project) preserves capital through avoiding wasteful use of resources, enables infrastructure sharing, facilitates a national broadband infrastructure and leads to lower access costs;

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Other proposals

- Developing local content makes the Internet more relevant and will increase introductory Internet use by providing users a reason to go online.
- Focus on local content should be one of the major focus, to avoid loss of cultural identity.

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Recommendations

Standardization

- Standardization of spectrum allocation leading to interoperable equipment and cost savings resulting from economies of scale in production

Light handed regulation

- Regulation that allows innovation that leads to lowering access cost

Harmonization

- Coordination in the Pacific to allow for interoperability and cost reductions

The Radio-communications eco-system provides technological solutions that need the facilitating policy/regulatory framework to be effective

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Thank You

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