



**DIRSI Stakeholders' Meeting**  
The University of the West Indies  
March 4, 2008

**Meeting Report**

**Welcome and Introduction**

**Dr. Kim Mallalieu, Lead Trinidad and Tobago DIRSI researcher**

Dr. Mallalieu introduced the Diálogo Regional sobre Sociedad de la Información (DIRSI). She explained that there are ten plenary members in Latin America and the Caribbean (LAC), two of whom are in the Caribbean.

The focus of DIRSI's research is the support of pro-poor initiatives. In 2007 DIRSI produced:

- A book, *Digital Poverty: Latin American and Caribbean Perspectives*.
- Background Papers on *Mobile Opportunities: Poverty and Telephony Access in Latin America and the Caribbean*
- An Empirical Study on *Poverty and Mobile Telephony in Latin America and the Caribbean – Country Case Studies and a Regional*

This is expected to provide actionable knowledge for pro-poor ICT policy and regulation in LAC. DIRSI will continue this work.

Dr. Mallalieu explained that the meeting [March 4] sought stakeholders' views on how access to ICT, and mobile in particular, could benefit the poor and how related policy and regulation research will impact the life of the poor.

This meeting was expected to:

- Disseminate information on related ICT policy and regulatory research
- Identify related needs and gaps in ICT policy and regulatory research
- Identify research priorities
- Recommend strategies to meet priority research needs.

Dr. Mallalieu then reviewed the agenda.

**DIRSI: Regional Telecommunications Policy and Regulatory Research Collaborative<sup>1</sup>**

**Dr. Kim Mallalieu, Lead Trinidad and Tobago DIRSI researcher**

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<sup>1</sup> Presentation available: Mallalieu, K.I. *Poverty and access to telephony in Trinidad and Tobago*.

Dr. Mallalieu's presentation reviewed the DIRSI survey research *Poverty and Mobile Telephony in Latin America and the Caribbean*, which was conducted in collaboration with Dr. Innette Cambridge of The University of the West Indies (UWI) and with the assistance of the Caribbean Development Syndicate (CDS).

The research, which had been funded by IDRC, investigated telephony perceptions access use and barriers for the poor in seven Latin American and Caribbean (LAC) countries.

Fixed line and mobile telephones and Internet were considered. Mobile telephony was considered to be particularly important because it has been estimated to impact at least twice as much in developing countries as in developed countries, and has extremely high penetration rates in developing countries, but other modalities were also probed.

Key background facts to the survey were:

- The population of Trinidad and Tobago is about 1.3 million.
- 17% are estimated as poor. That is, households with adult equivalent per capita expenditure values less than TT\$653.99 per month (Kairi Consultants 2007).<sup>2</sup>
- Internet penetration is 6.2 % (TATT 2007).<sup>3</sup>
- Total phone subscriptions are equivalent to 151 / 100 inhabitants (TATT 2007).
- Mobile subscriptions are equivalent to 126 / 100 inhabitants (TATT 2007).
- Mobile subscription rates overtook fixed during 2002 to 2003.
- Acquisition peaked in March 2006 with the launch of a new entrant.

In terms of perceptions, it was found that:

- Telecom services are generally physically accessible.
- Service quality and availability are viewed generally favourably for mobile and fixed, somewhat less for pay phone service.
- Mobile coverage is adequate for the vast majority of homes.
- Those with no service live on average less than 15 minutes away from a pay phone.
- Mobile usage rather inelastic
  - 44% would maintain current usage if cost were halved
  - 36% would maintain current usage if cost doubled
  - 66% would maintain current usage if income doubled

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<sup>2</sup> Kairi Consultants. 2007. Analysis of the 2005 Survey of Living Conditions in Trinidad and Tobago. Report prepared for the Ministry of Social Development, Government of Trinidad and Tobago. Trinidad and Tobago: Kairi Consultants Ltd

<sup>3</sup> TATT. 2007. Annual Market Report: Telecommunications and Broadcasting Sectors 2006. Trinidad and Tobago: Telecommunications Authority of Trinidad and Tobago (TATT). [http://www.tatt.org.tt/ddocs/Market\\_Report\\_2006.pdf](http://www.tatt.org.tt/ddocs/Market_Report_2006.pdf). (Accessed October 17, 2007)

- 40% would maintain current usage if income were halved.

When comparing mobile use fixed line use, public phones and Internet use, between urban and rural users, mobile use strongly dominated.

Mobile users were defined as persons who had used a mobile phone in the last three months. 86.4% of respondents were defined as mobile users.

- There were twice as many mobile as fixed phones in respondents' homes.
- The number of males was twice the number of females among users surveyed.

A number of mobile users were found to be below national poverty line. Many did not have piped water; a third had no high school education and three-quarters had not worked the week prior to interview. However, 83% of users were owners. The results elsewhere for example, Colombia, show a bigger difference between users and owners, indicating a different usage pattern.

When considering mobile usage the survey confirmed that:

- Mobile phones were used primarily for voice, with an average of more than three calls made per day.
- More than half of the surveyed mobile users did not use SMS. On average less than two SMS messages were made per day.
- There was some ring tone download and games, but virtually no other services were used (banking, government etc.).
- Social communications predominated.

In Trinidad and Tobago more total calls/week were made than in the other six countries surveyed. Argentina had the highest level of outgoing SMS messages, and Trinidad and Tobago's level was quite low. The reason for not using SMS was given by most respondents (57%) as not knowing how. This was a higher percentage than other countries.

With regard to choosing prepaid, 61% of users surveyed indicated that it allowed them to control spending; the choice was not necessarily made because it is cheaper. Half of those who prefer prepaid control had the perception that it was cheaper.

One barrier to use identified by mobile non-users (13.6 % of respondents) was cost. An almost equivalent amount of respondents said that it was not necessary.

There is room for growth because, of the 13.6% non-users, 18% of those were planning to get a mobile phone in the next year and 21% were undecided.

80% of those planning to get a phone said they would choose prepaid and 13.3% were not sure. Most of the non-users choosing prepaid would do so because it helps in controlling spending. Most of those choosing postpaid perceived it as cheaper.

Several recommendations arise from the findings of this research:

- The engagement of traditionally marginalized communities in planning and development.
- The development of innovative culturally-relevant technologies, services, applications and enabling environments.
- Policy, and perhaps regulatory, interventions.
- Further empirical, as well as analytical, research.

Dr. Mallalieu gave the example of Jamilla Harris, of Success Laventille School, to demonstrate that the donation of laptops increased student use and had impact on their achievement.

In summary, this research found that:

- In Trinidad and Tobago, mobile telephony empowers the poor along socio-cultural lines, by providing social inclusion, dignity, self-respect and security.
- Deep penetration levels in Trinidad and Tobago suggest the opportunity for impact.
- There is potential for leveraging mobile telephony for economic growth. In some developing countries mobile has enabled expanded business opportunities and employment, increased efficiency and productivity, lower transaction costs and wealth generation.

Intervention strategies (policy, regulatory, projects and innovations) should be guided by perceptions, access, use, barriers and of course culture and values, and should direct purpose-driven research. This research should also tie in with other initiatives such as *Connected Caribbean* and *Connect the Caribbean*

### **Panel: Telecommunications Policy and Regulatory Research Needs and Outputs**

#### **Telecommunications Authority of Trinidad and Tobago (TATT)<sup>4</sup> Ms Michelle Grell, Senior Manager, Policy, Pricing and Research.**

TATT is the Telecommunication Authority of Trinidad and Tobago. The authority's mandate, according to the preamble of the Telecommunications Act is:

To guide the sector's transformation from virtual monopoly, in which Telecommunications Services of Trinidad and Tobago is the principal provider of telecommunications services, to a competitive environment; to monitor and regulate the sector so transformed and, in particular; to prevent anti-competitive practices.

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<sup>4</sup> Presentation available: Grell, M. *Research needs and outputs: telecommunications policy and regulation.*

Ms Grell explained that the regulatory objectives are addressed through a framework, which must facilitate the achievements of the Act's objectives. These objectives are:

- To create conditions for fair competition
- To facilitate the orderly development of telecommunications
- To encourage investment and innovation in the telecommunications sector
- To promote and protect the interests of the public prices, variety and quality of service
- To promote universality.

On the subject of research in telecoms technology and regulation, three stages of research were identified:

1. Assessing existing market conditions
2. Choosing the appropriate strategy and/or mechanism
3. Review and assessment of policies and regulations

For each stage, the research task was outlined; research objectives were stated and the relevant sources of data or research material to be sourced were provided, as follows:.

#### *1. Assessing existing market conditions*

The objectives of research in this area relate to developing and supporting regulation which is required for the following reasons:

- To set service standards
- To set broadcast content standards
- To set prices
- To prevent anti-competitive practices
- To facilitate universality

Relevant sources of data include:

- Market studies and reports based on data collected from service providers (subscriber take up, revenue generation, traffic usage, market shares, investments made, QOS parameters, ICT Indicators.)
- International and regional market studies and reports for comparative analysis.

#### *2. Choosing the appropriate strategy and/ or mechanism*

The objectives of research in this area relate to determining what is the best strategy or mechanism to achieve appropriate strategies and mechanisms.

Relevant sources of data include:

- Publications or internal documents from other regulatory agencies:

- regulatory approaches
- benchmarking data
- ITU recommendations
- Databases, journals, periodicals
- Technical reports and magazines.

### *3. Review and Assessment of Policies and Regulations*

The objectives of research in this area relate to determining the effectiveness of the regulatory framework in terms of facilitating penetration and usage, revenue generation and Investment and evaluating the performance of providers against standards. It may also be necessary to measure other key ICT indicators.

Relevant sources of data include:

- Market studies and reports based on data collected from service providers
- International and regional market studies and reports for comparative analysis.

The recent research initiatives of TATT were reviewed. TATT recently conducted a survey to compare and measure the ability of persons to access ICT in Trinidad and Tobago. The results of the survey served to inform the strategy for achieving the Government's Universality Policy objectives and targets.

The indicators used in the in the survey were:

- Digital access Index (DAI) (0.67)
- Digital Opportunity Index (0.63)
- DOI\_ Alternate (DOI\_ ALT) (0.56)

The primary data needed to calculate the DAI and the DOI was collected through a two-tiered national survey.

First the Service Provider survey was conducted. This involved all the major service providers (fixed, mobile and Internet). It also included the specialized public agencies: National Library and Information Services (NALIS), the Ministry of Education and the Ministry of Community Development.

Secondly, a Household Survey was conducted. For this survey, Trinidad and Tobago was divided into 585 communities (518 in Trinidad and 67 in Tobago). This was designed using information from the Central Statistical Office (CSO). For the execution of this survey, a random sample of 20 communities was drawn, representing the total population. In total, 6,000 households were surveyed.

The challenges faced in researching telecoms in Trinidad in Tobago were identified as follows:

- Available benchmarks may not be suitable to the local environment
- The limited availability of publications on regional policies and regulations for certain topics e.g. Universal Service Funding Mechanisms and Obligations, Broadcast Regulation
- The limited availability of recent regional market data
- Data from service providers are not always readily available in the required format, or submitted in a timely manner
- Some of the data required for recognized ICT indicators are not always readily available or recent
- Resource constraints.

Following these exercises, TATT has identified the following research needs and priorities:

- An assessment of the local telecommunications and broadcasting environment to measure the impact and effectiveness of liberalization and regulation to inform regulatory framework.
- The extent to which services are affordable, accessible, meet consumer needs and acceptable quality of service standards.
- An assessment of competition in liberalized markets to determine the extent to which additional providers are required (e.g. mobile market).
- Assessment of local broadcasting needs to inform the formulation of the Broadcasting Code.
- The establishment of a regional repository or database of:
  - Policies and regulations
  - ICT indicators
  - Data for benchmarking purposes
- Collaboration and information sharing among relevant national and regional agencies.

## **Ministry of Public Administration<sup>5</sup>**

### **Ms Denise White, Executive Manager, Integration and Measurement**

Ms White explained that the previous Ministry of Public Administration and Information (MPAI) has been divided into the Ministry of Information and the Ministry of Public Administration (MPA), which the Information and Communication Technology (ICT) Division is part of.

Ms White then reviewed the initiatives of the ICT Division. This Division has responsibility for promoting the national ICT Agenda. The objectives of this agenda are:

- To provide all citizens with affordable Internet access.
- To focus on the development of children and adult skills to sustain a vibrant future.

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<sup>5</sup> Presentation available: White, D. *Telecommunications policy and regulatory research needs and outputs*.

- To promote citizen trust, access and interaction through good governance.
- To maximize the potential within all citizens and accelerate innovation to develop a knowledge-based society.

The MPA has launched the *fastforward* programme as the strategy for the national ICT agenda. It is a road map for developing a connected, informed, innovative and competitive nation. It complements and builds upon the mission of Vision 2020.

Since 2005, three of the stated goals of *fastforward* have already been met:

- Telecommunications sector opened up to full competition
- All appropriate Government information, relating to over 400 services, available online
- All libraries with computers and high-speed Internet access

The remaining goals for 2008 are:

- All schools with computers and high-speed Internet access
- Community Connection Programme in place
- All appropriate Government services available online
- Over 50% of homes with PCs and Internet access
- Over 50% of population “regular Internet users”
- Over 50% of businesses online and seeing business benefits

In the second phase transactions will be enabled online, such as the renewal of driving permits.

The implementation of *fastforward* involves a series of national programmes and projects in areas such as:

- e-Government: Communications Backbone, e-Government Portal, G2B, G2C.
- Community Connections: Community Access Centres, Relevant Content. The Community Access Centre (CAC)<sup>6</sup> project is going into a second phase. It is to be used by the ministries of sport, social development and community development to provide decentralized access closer to citizens. CAC will serve as a central repository for national and localised content in these areas.
- ICT Human Capital: SchoolNet, KID, Computers for Schools. A computer refurbishment programme is to be implemented. The large computer stock of the Ministry of Education will be serviced, and people trained to do this, followed by a loan programme to encourage PC use in homes.
- Growing the e-Marketplace: B2B, B2C.
- Telecommunications liberalization and legislative review.

The research needs and outputs identified by the ICT Division of the Ministry of Public Administration fall in three broad areas:

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<sup>6</sup> cac.gov.tt

1. Constant assessment and dissemination of progress in telecommunication usage within the region, with an awareness of limitations and problems that can hinder policy formulation. The advantages and relevance of the constant assessment and dissemination of progress in telecommunication usage within the region were summarized as follows:
  - A reliable picture of ICT use across the population is given and areas that excel and areas that need improvement are identified. The results will assist policy development by tracking progress towards goals set out by each government's digital strategy and identify areas where further policy intervention is needed.
  - Data collection exercises on telecom usage should be done annually since the telecom market in the Latin America and the Caribbean regions are not static.
  - Research on, and implementation of, new indicators in the telecom sector is required due to the rapid pace in changing technology. For example, the use of IP telephony by households will lead to policies facilitating this newer method of contact, which can allow for cheaper communications and force households to become PC literate.
2. The harmonization of telecom indicators, in order to follow and set standards at the global level. Resources are low to deal with this but we must ensure everyone looks at the same body of indicators.

Using standard indicators is imperative as this can serve as a basis for international comparisons on the information society. The UN "Partnership on Measuring ICT for development" report provided relevant core indicators agreed by the following:

- International Telecommunications Union (ITU)
- Organisation for Economic Cooperation and Development (OECD)
- United Nations Conference on Trade and Development (UNCTAD)
- United Nations Educational Scientific and Cultural Organization (UNESCO)
- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
- UN Economic Commission for Latin America and the Caribbean (UNECLAC).

Using the example of mobile telephony:

Basic core indicators are:

- Mobile cellular subscribers per 100 inhabitants (mobidensity).

- Percentage of population covered by mobile cellular telephony.
- Mobile cellular tariffs (100 minutes of use per month) in US\$.
- Proportion of households with a mobile cellular telephone.

The extended core indicator is:

- Proportion of individuals with the use of a mobile telephone.
2. The ongoing monitoring and information gathering on services provided by the telecommunication firms in order to outline critical areas and identify the impending digital challenges. We are not sure who uses what and for what. In the past access was the emphasis – now it is usage and the impact on people’s lives when they use technology. This will lead to the design of programmes to support usage needs and will:
- Promote competition and reduce regulation in order to secure lower prices and higher quality services and to encourage the rapid deployment of new telecommunications technologies.
  - Endorse policy so that the telecom provider is mandated to supply data to the relevant agencies and thereby will assist in telecom policy and regulation.
  - Obtain innovative indicators, so that policy makers can be aware of any latest technology being used by some telecom providers. This can also allow for increased competition. Innovative indicators are required, for example, for :
    - Determining the extent to which Next Generation Networks are being implemented.
    - Evaluating international mobile roaming, its availability and cost.

Our research should lead to the promotion of competition and reduction of regulation, with as much co-regulation and self-regulation as possible. We may need policies that mandate provision of information in this regard. We must decide who we are benchmarking against, developing countries or regional, and we must use up to date indicators.

**Tobago House of Assembly<sup>7</sup>**  
**Mr Samuel Henry, Director, Management Services Unit**

Mr Henry told what he referred to as a ‘Tobago story’. He emphasised that policies and regulations are not made in a vacuum, they must derive from goals and objectives.

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<sup>7</sup> Presentation available: Henry, S. *The Tobago Story*

The national objective is to have developed nation status by 2020 and any policy should assist with that objective.

Economic development is influenced by natural capital, physical capital, human capital and social capital, that is, how we live and interact together. A critical variable is absent: information capital. All information is not equal; some information is more equal than others. For information to be meaningful must 'care'. It must be:

- C Current and communicable
- A Accurate and accessible
- R Relevant and reliable
- E Economical and enough.

Information must have substance and current value, and be accurate and reliable to inform decisions. The cost of acquiring information should not outweigh its benefits, and it should be sufficient to support the issue that is under consideration.

The computer and Internet make a powerful combination that facilitates the building of information capital and impact on development Trinidad and Tobago. Information flow in operational terms is the percentage of a country's population that has access to the computer and the Internet, which also determines whether the country will continue achieving information flow.

Using UNDP and World Bank indicators, it is evident that the five countries of the six with highest computer access rates (between 70.0 and 76.3 % of the population) fall in the UNDP high human development category (Sweden, Singapore, USA, Israel and Canada).

The five countries with the lowest computer access rates (between .01 and .03 % of the population) fall in the UNDP low human development category (Mali, Central African Republic, Ethiopia, Burkina Faso and Niger)

The five countries with the greatest Internet access rates (between 63.0 and 78.8 % of population) are in the UNDP High Human Development Category (New Zealand, Sweden, Denmark, Australia and USA).

The five countries with the lowest Internet access (between .01 and .02) are also in the UNDP Low Human Development category (Ethiopia, Central African Republic, Bangladesh, Afghanistan and Democratic Republic of Congo).

This demonstrates a distinct correlation between information flow and a country's development. If we have a vision of development then we must do something about information flow at all levels. For example, our universities should be reaching out to people using online technology.

Looking now at Tobago, 150 persons were surveyed by telephone. Urban Tobago was compared with rural Tobago. The urban area was defined as the southwest, circumscribed by Crown Point, Plymouth, Mason Hall and Mt St George. The area northeast of Mason Hall to Mt St George was defined as rural.

When asked whether they had access to a computer, at home, work, school, by a neighbour or by any other means, 78% of respondents in urban Tobago said that they did. In rural areas 47.3% said that they did. With respect to Internet access, 58.9% urban respondents and 39.8 rural respondents had access.

Key observations arising from this survey were:

- Urban Tobago has greater computer access than all five countries in the UNDP High Human Development category
- Rural Tobago lags behind urban Tobago in computer access as well as Internet access.
- As an island, computer access stands at 68.8%, which is less than the five countries in UNDP High Human Development category
- As an island, Internet access stands at 49%, which is less than the five countries in UNDP High Human Development category.

We must compare our status with developed countries, not regionally. Policies must be developed to bridge the information divide between Tobago and developed countries as well as to address the information divide between Urban Tobago and Rural Tobago. Any divide between Trinidad and Tobago must also be bridged. If we are moving together as a country, we must move side by side.

The information-rich, information-poor divide between urban and rural Tobago must be addressed. THA has work to do, and is now identifying areas in villages to develop telecentres, which will provide Internet access. More efforts will be needed in rural areas than urban areas. .

### **Focus Group: Regulation**

#### **Group members:**

- Opal Lawton, Consultant
- Mark Lessey, The University of the West Indies (UWI)
- Michelle Grell, Telecommunications Authority of Trinidad and Tobago (TATT)
- Regenie Fraser, Caribbean Association of National Telecommunications Organizations (CANTO)
- Richelle Adams, The University of the West Indies (UWI)
- Samuel Henry, Tobago House of Assembly (THA)

- Teresa Wankin, Caribbean Association of National Telecommunications Organizations (CANTO)

### **Regulatory Group Presentation: Opal Lawton (Consultant)**

Regulation encompasses the rules of the market that the regulator uses in implementing government policy. Telecommunications regulation relates to, among other things, interconnection, information collection and sharing, price regulation and universality and the setting up of universal service funds. Regulation is only necessary when the market requires it and may be heavy-handed or light-handed as required.

Key areas of related research identified for immediate attention were:

*Digital divide issues:* (These are required to follow up to TATT digital divide survey)  
Including:

- Periodic follow up surveys
- Cost effectiveness implement technologies
- WiFi versus fixed technology
- Application/services good for economy
- Understanding products and services that we should be using
- Bandwidth regulations: What do we need to access the services required?  
Compare current versus required.
- Understanding issues related to the age divide and the gender divide.
- Literacy and related skills extent of barrier to technology use.

*Information*

Including:

- ICT awareness: how tools impact life
- Application/content
- Improving repositories
- Information sharing

*Market Assessment*

Including:

- Assessment of competition
- Impact of liberalization
- Whether more providers required

Other priority areas of related research were identified as:

*Investment* (from the perspective on market entrants)

Including:

- Market entry signals to attract investment
- Investment drivers
- Market contestability

#### *Legal issues*

Including:

- Issues related to regulation to support ICT development for new policies, such as is required for national security, cyber crime, etc.

#### *Measurement*

Including:

- Evaluating what indicators there are and their basis
- Identifying what is restricting sharing of indicators and arriving at common indicators
- Creation of database of indicators.

### **Focus Group: Policy**

#### **Group members**

- Kim Mallalieu, DIRSI and The University of the West Indies (UWI)
- Bernadette Lewis, Caribbean Telecommunications Unit (CTU)
- Bhesham Ramlal, The University of the West Indies (UWI)
- Dale Alexander, United Nations Economic Commission for Latin America and the Caribbean (UNECLAC).
- Denise White; Ministry of Public Administration (MPA)
- Innette Cambridge, The University of the West Indies (UWI)
- Jerome Keens-Dumas, Chief Administrator, Tobago House of Assembly
- Maxine Hunte, Ministry of Social Development (MSD)
- Sandra Sookram, Sir Arthur Lewis Institute of Social and Economic Studies, The University of the West Indies (UWI)
- Shanaz Mohammed, Ministry of Public Administration (MPA)
- Sterling Chedee, Central Statistical Office, Ministry of Planning and Development (CSO)

#### **Policy Group Presentation: Kim Mallalieu (DIRSI/UWI)**

Our group identified a main focus of research needs in the realm of policy as the impact on growth and development brought about by ICT. With this in mind, the group identified the following priority research areas for Trinidad and Tobago:

*Access, usage and impact:* This is an ongoing need; we need to be aware of who is using ICTs, to what end, and with what effect. We need to explore how ICTs are used to

facilitate income generation across all socioeconomic strata. National studies should assess the impact of ICTs across a rich set of groupings including the national network of non-governmental organizations, SMEs, among others. Since this is an ongoing task, inadequately served by local capacity, foreign contracted studies should include capacity building requirements.

*Public awareness:* How effective are our public awareness programmes? We need to look at different ways of reaching the public with the view to impacting access. We also need to explore the level to which survey findings and other studies capture public perceptions and also to explore ways of building public trust in the process of data gathering, particular through surveys.

Our group noted that public trust in the mechanisms of ICT training is lacking, as the value of ICTs is not always apparent. This is a serious issue particularly as we move towards e-governance. We need to contemplate these matters when planning our research, as well as when disseminating information, and providing other services, online. Of relevance to this are the results of the Ministry of Public Administration's poll, which are available online.

*Capacity building:* We recognize that currently resources are limited, in particular human resources. We need to build human resource capacity and skills locally. We strongly recommend that all foreign contracts, in particular, should include provision for local capacity building. Also, the recommendation has been made that methodologies used by foreign contractors be made available through a local resource bank.

*Indicators:* In our group, as there was throughout the meeting, there was a call for building a community of practice on measurement and selecting of indicators, particularly ICT indicators for development.

*Data repositories:* A proposal has been made for a data clearing house to improve access to special data available from different agencies, and to provide resources to establish standards on how data will be managed and stored. This may lead to the establishment of a National Information Council.

In this regard, UNECLAC already has an information portal with data on different countries, which is useful for comparability since it is standardized, and facilitates the national development of practice. Also it is expected that the restructuring of CSO will facilitate access to data throughout the country.

*Literacy programmes:* Literacy programmes are needed to prepare users for purposeful ICT usage. There is scope, in particular for three aspects of related research:

- Evaluation of existing training programmes particularly with respect to the degree to which they focus on the direct and practical opportunities that ICTs present to provide real benefit to their clients. In other words, the notion that ICT training

- will enable specific opportunities and outcomes should be studied, since this ethos must be embedded in all training programmes.
- Needs analyses, exploring various ways to examine needs felt versus normative needs. For example, *fastforward* is conducting such a needs analysis of their training programmes.
  - Analysis of how ICT use is linked to tangible development benefits, including personal issues, such as greater income, higher self esteem, etc. Knowledge, attitudes and perception surveys (KAPS) may be useful in this area.

*Collaboration:* Methodologies for conducting and analysing research are important for all of us. These need to be made available in a pool to ensure that research can be replicated, to maintain synergies and to develop capacity. If we share similar templates, and other instruments, recognizing individual or local peculiarities, these will become tools for synergy. The contact information for all participants is available to encourage the ongoing collaboration that we have recognized is necessary.

Finally, it is important that all of our research recommendations and outcomes feed into regional initiatives, and also initiatives at organizational, national and global levels.

### **Closing Comments: Innette Cambridge (UWI)**

Dr. Cambridge expressed her pleasure at being asked to bring closure to the event and to say a few words of thanks.

She said that we all recognize that today Trinidad and Tobago is part of a new technical world, with, for example, over 80% of our population using mobile phones and over 50% having access to computers and the Internet. However, certain issues continue to be with us. We face important issues, of equity, such as gender, age, and urban/rural usage; equality, such as income group disparities in access, and adequacy – whether, for instance, access is sufficient to enable the use of state programmes and services, such as *fastforward* and government portals.

She emphasized that many suggestions for research were made in this meeting. These included the areas of literacy, building a community of practice, access and usage patterns, and the area of public awareness. Also issues relating to the digital divide, information awareness, investment, market assessment and legal issues were highlighted.

Dr. Cambridge also suggested that stakeholders meet regularly, maybe once a year.

Thanks were given to all the participants, and in particular, Mr Samuel Henry, Ms Denise White and Ms Michelle Grell for their presentations.

Those working behind the scenes were also thanked: the technical team of Ravi Deonarine and Wayne Sarjusingh, the rapporteurs, Juliana Foster and Pam Collins,

Candice Simonta who ensured everything was in place, and, Kim Mallaieu, known as 'our dynamo', who always makes things happen.

### **Research Collaboration**

The meeting report and participant's contact list are to be circulated to facilitate future collaboration.