

**Innovations for inclusive knowledge-based economies in emerging
Asia: Research, dissemination and advocacy by LIRNEasia**

Revised proposal submitted to IDRC by LIRNEasia

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A. Project overview

Title of the project : **Innovations for inclusive knowledge-based economies in emerging Asia: Research, dissemination and advocacy by LIRNEasia**

Project proponent : LIRNEasia, Colombo, Sri Lanka

Abstract : LIRNEasia's overall mission of actionable research seeks to identify the institutional constraints to effective use of information and communication technologies to improve the lives of the people of Asia, not in abstract terms but in the context of specific historical and institutional conditions, and to catalyze the changes conducive to greater participation by users and suppliers. This requires that the agents promoting evidence-based policy making and regulation be in situ, either in terms of the specific country or the region.

Having achieved a fair degree of success in its work in the first five years, as documented at <http://lirneasia.net/about/annual-reports/five-years-in-review/> and through a partial external evaluation commissioned by its primary funder LIRNEasia now wishes to address more deeply the question of the contributions ICTs can make to innovations conducive to economic growth and poverty alleviation. These questions have been explored in the past, especially in the teleuse @ bottom of the pyramid (Teleuse@BOP) survey and in several agri-information modules and projects including work done for, and under, the Knowledge Networking for Rural Development in the Asia Pacific Region (ENRAP), but the intention here is to deeply interrogate them in the context of export-oriented agricultural value chains. The structure of a three-module research program, where the base modules on demand-side and supply-side analysis provide continuity with the previous research cycles and also feed into the main research module will be maintained (see Annex 1). For example, the Teleuse@BOP4 survey will compress the questions on teleuse that have been asked in previous rounds so that we get valuable longitudinal data, but will add new questions on innovative uses of ICT for productive purposes, especially in agriculture. To gain deeper understanding of agricultural value chains it will be necessary to undertake booster samples as was done with the migrant study module in Teleuse@BOP3.

The focus on inclusive knowledge-based economies, with agricultural value chains as the case study, takes the LIRNEasia team somewhat out of its comfort zone and poses new challenges for communicating research findings for policy change. The comfort zone is telecom/ICT policy and regulation. Here, the literature is familiar, the researchers are fully networked and the audiences for the research findings are known, small, and reachable. In the case of agriculture value chains, we hypothesize that the effective use of ICTs to improve the efficiency and inclusiveness of the value chain requires complementary factors such as land ownership, transportation, etc. Therefore, the proposal has been developed over many meetings and debates, primarily among the researchers and but also including partner organizations in Africa and Latin America, stretching over a year. Because members of the LIRNEasia team have considerable expertise in agricultural markets, information and strategies, having conducted related research in Sri Lanka since 2007 and in India since 2009, we believe that the challenge is well within our capabilities. In addition, we have selected agricultural value chains because agriculture tends to among the least productive (therefore, with great potential for efficiency gains), because it affects a large number of people at the bottom of the pyramid (BOP) and because there is a large potential for inclusion of small producers through ICT related innovations. Arguably, the first improvements in a low-productivity sector are easier to achieve than improvements in an already highly productive sector. Funding for qualitative value chain studies and policy events in four countries are sought under this proposal (the rationale is provided in the main text); supplementary funding as well as a reallocation from the Demand side module of this proposal will be sought to conduct a survey of small and micro-enterprises in selected countries based on the qualitative learnings as indicated in Section 4.0 (See also Annexes 2, 11 and 12).

The research design includes a pilot phase in Sri Lanka covering two agricultural value chains that will be followed by a workshop that will examine the lessons and map out how the research will be conducted in India, Bangladesh, and Thailand. In the past we have used these research planning mechanisms to good effect. The Teleuse@BOP4 and desk research results will feed into the research design of the value-chain work in other countries, the planned SME [small and micro-sized enterprise] survey that will be designed and analyzed by LIRNEasia with the field work component being outsourced through a competitive procedure (to be conducted using supplementary funds) as well as the Teleuse@BOP4 qualitative module (see Annex 2).

The objective is to develop actionable proposals for policy changes by government, strategy changes by firms and for innovations by stakeholders to increase the efficiency of the value chains and their inclusiveness. We will specifically focus on recommendations on the private provision of “infrastructural” facilities to agricultural producers. We see, especially from the stream of work drawing on the World Bank’s Knowledge Assessment Methodology (KAM), that there has been an almost exclusive emphasis placed on government actions. While public provision of public goods is the theoretically optimal solution, we have come to understand that it will simply not happen in the countries that we work in. We are already involved in projects where firms supply, say, agricultural price information as CSR-like activities, hoping they will convert to true profit centers or at least help them gain and hold customers. The emphasis on pragmatic policy recommendations that do not require the reform of dysfunctional government agencies (while engaging with them and hoping to contribute to their reform) is one way in which our research program on knowledge based economies (KBEs) differs from what has been done in the past.

The work will also develop new indicators and improve the existing indicators that LIRNEasia has been working on for many years. This will be done at the interface with the demand-side and supply indicators modules. This component will not be limited to agriculture value chains (which are but case studies), but will look at indicators relevant to measuring the knowledge-based economy. For example, the World Bank’s methodology rests on the development of indices drawing from readily available data sets with broad coverage. For example, cost of connectivity is still measured in terms of three-minute call from a fixed phone. Our work will advance these measures and seek to incorporate them in KAM and other indices, though we do not promise to be in a position to fully displace the World Bank’s KAM or its input indicators at the end of the research cycle.

Workshops will be held to disseminate the findings and policy recommendations of the value chain studies in each of the countries where they are conducted.

The demand-side module will contribute to the KBE module through its thematic component. In addition, it will continue the questions from previous surveys in compressed form so that useful data may be generated of trends. The minimum coverage will be India, Thailand and Sri Lanka, with additional countries included, depending on private-sector partnerships.

The supply-side module will also have elements of continuity and change. The benchmarking that was commenced in the previous cycles will continue, but without mobile prices (where the ITU has come over to our position that baskets were what had to be benchmarked, not minutes). The broadband quality work will continue, but on a 12 month cycle, not the previous six-month cycle. Greater emphasis will be placed on mobile broadband than on fixed, and so on. New elements such as benchmarking how much revenue governments extract from the telecom industry will replace the earlier research on regulatory websites. The Telecom Policy and Regulatory Environment (TRE) methodology that we developed has now been adopted elsewhere. We will no longer do stand-alone TREs, but will do them as elements within Sector Performance Reviews (SPRs).

As with previous cycles, funds will be sought for dissemination and advocacy. This will include a rapid-response component and conference participation by researchers.

The principal capacity building activity will be Communication Policy Research south (CPRsouth), inclusive of internships. Elements of this design are now being replicated in Africa and Latin America and for which funding is sought separately.

Objectives: The overall objective of the 2010-12 research, dissemination and advocacy program of LIRNEasia is the advancement of evidence-based policymaking and regulation in the emerging Asia-Pacific to ensure greater participation in ICTs in the context of a more integrated world economy.

Specific objectives of the three research modules and supporting activities are:

- Achieve a better understanding of how the poor in the study countries use ICTs, through quantitative qualitative research and quasi-longitudinal analysis that builds on prior research;
- Achieve a greater understanding of innovation by users, especially small and micro enterprises within the sample, that serve to improve their ability to make or save money through the use of ICTs. This will include an understanding of complementary factors;
- Based on the above, contribute to the research conducted as part of the Inclusive Knowledge-based Economies module.
- Build upon the past five year's analysis of telecom policy and regulation and how they affect sector performance and make the analysis more systematic through the use of the Sector Performance Review template;
- Test and further enhance indicators such as those on broadband quality;
- Contribute to the improvement of indicators relevant to the assessment of progress toward knowledge-based economies;
- Contribute to the development of recommendations on how ICTs can be better utilized to make agricultural value chains more efficient and inclusive as part of the Inclusive Knowledge Based Economies module;
- Provide a ready knowledge base for rapid response actions under the dissemination and advocacy section;
- Achieve an in-depth understanding of how innovations related to ICTs are used (and may be used) to improve the efficiency and inclusiveness of studied agricultural value chains, based on work done under the inclusive knowledge-based economies module as well as the demand- and supply-side modules;
- Develop recommendations for improving the efficiency and inclusiveness of agricultural value chains including through the application of ICTs, but not limited to them;
- Based on the in-depth understandings achieved above, contribute to improving indicators related to measuring progress toward inclusive knowledge-based economies
- Effectively communicate the findings of the three research modules to the relevant audiences capable of changing policies of government and strategies of private firms, and contribute to changing their symbolic environments by disseminating the results through the media;
- Engage in rapid-response actions using the results of the research conducted under this proposal and prior to this project;
- Communicate the results of LIRNEasia research and related activities to those likely to provide sustainable funding in the future.
- Achieve greater synergies among the activities of the constituent units of LIRNE.NET

A list of activities that will be undertaken in order to achieve these objectives with the current funding is provided in Annex 12.

Estimated budget: USD xxx

Estimated duration: 24 months

B. Administrative information

Project leader : Rohan Samarajiva, Chief Executive Officer

Address : LIRNEasia
12 Balcombe Place
Colombo 00080
Sri Lanka

E-mail : rohan@lirneasia.net

Telephone : +94 11 267 1160 / +94 77 735 2361 (mobile)

Fax : +94 11 267 5212

Web site : <http://www.lirneasia.net>

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Acronyms

ASEAN	Association of Southeast Asian Nations
BTNM	Budget Telecom Network Model
CPRsouth	Communication Policy Research south
CPR	Communication policy research
CSR	Corporate social responsibility
BOP	Bottom of the pyramid
FCC	Federal Communications Commission
GPRS	General packet radio service
GSMA	GSM Association
ICT	Information and communication technology
ITU	International Telecommunication Union
KBE	Knowledge based economies
KAM	Knowledge Assessment Methodology
MOU	Minutes of use
NRA	National regulatory agency
NSO	National statistical organization
OECD	Organization for economic cooperation and development
PC	Personal computer
QoSE	Quality of service experience
SATRC	South Asian Telecom Regulators' Council
SEC	Socioeconomic classification
SME	Small and micro-size enterprise
SMS	Short message service
SPR	Sector performance reviews
Teleuse@BOP	Teleuse at the bottom of the pyramid
TRE	Telecom Policy and Regulatory Environment
UFE	Utilization Focused Evaluation
UN	United Nations

1.0 Introduction

For the past five years LIRNEasia has been working for the most part on improving the provision of basic ICT infrastructure services in 11 emerging Asian countries. Over this period considerable progress has been made in giving those at the BOP in these countries access to electronic connectivity in rudimentary forms through mobile networks, made possible by the application, in most of these countries, of the Budget Telecom Network business model (BTNM).¹ The progress that has been made in a relatively short period in terms of connectivity and price is shown in Figure 1 and Figure 2.

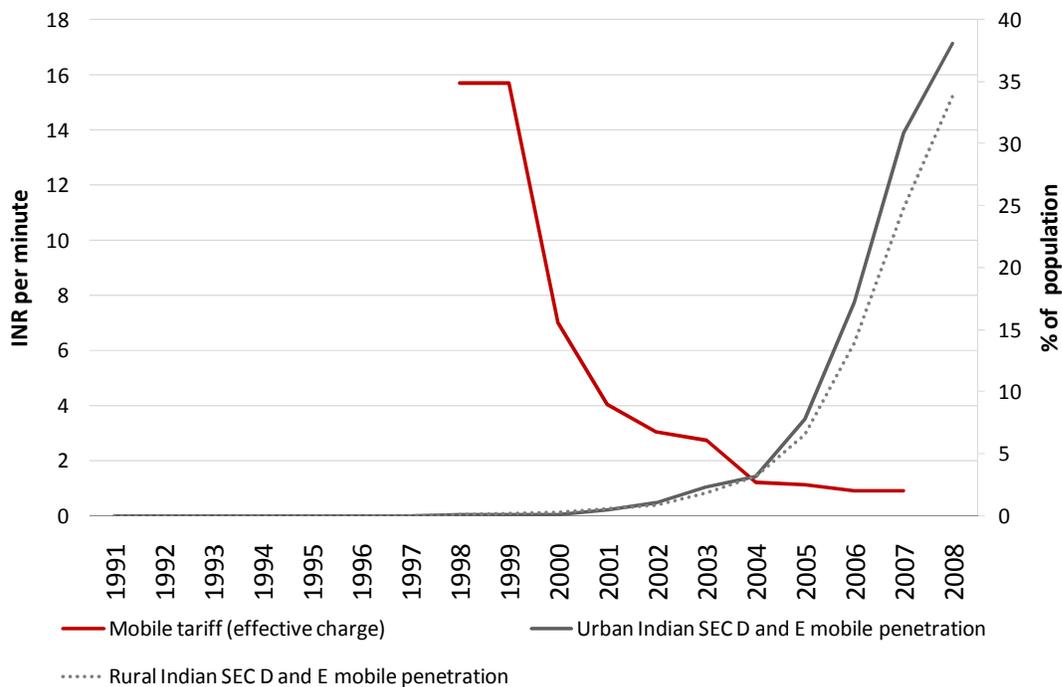


Figure 1: Mobile tariffs and the growth of Indian mobile in SEC D and E

Source: Adapted from TRAI (2005). *Recommendations on Growth of Telecom Services in Rural areas: The way forward*, retrieved August 4, 2009 from <http://ccaharyana.gov.in/recom3oct05.pdf>; Teleuse@BOP3. Survey findings

¹ Samarajiva, R. (2009). How the developing world may participate in the global Internet economy: Innovation driven by competition, in *ICTs for development: Improving policy coherence*, pp. 75-118. Paris: OECD. Retrieved from <http://www.oecd.org/dataoecd/39/15/44003919.pdf>

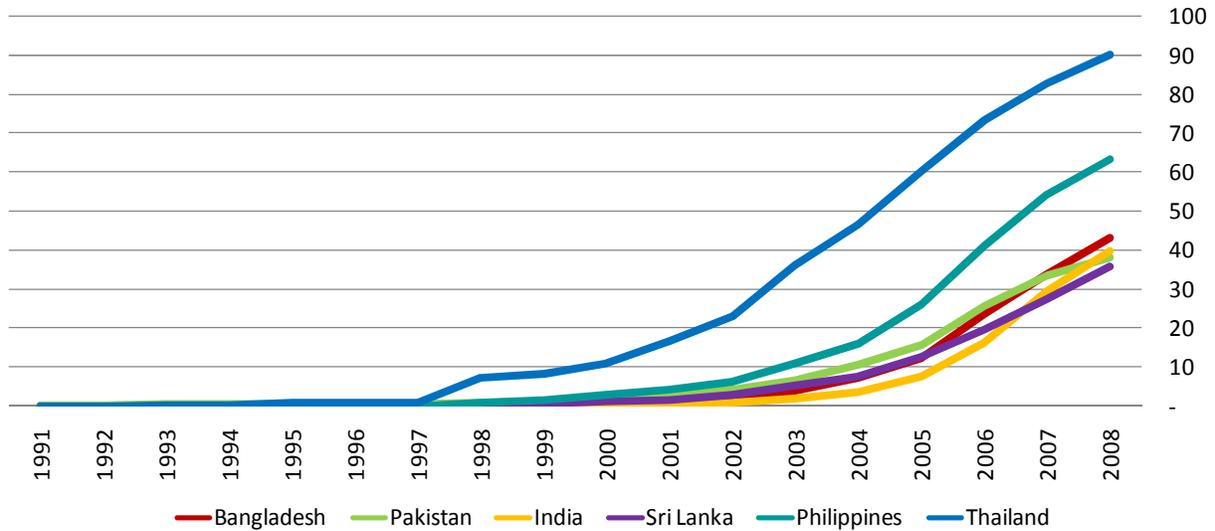


Figure 2: Growth in mobile ownership (% of BOP teleusers)

Source: Teleuse@BOP3 survey

Notes: Based on when current BOP mobile owners took up ownership

The Teleuse@BOP research gives some indications of telecom being used for productive purposes (i.e., making or saving of money), though there is a significant degree of consumptive use as shown by Figure 3.² Electronic connectivity could increase, based on the present model, but unless people’s earning (and thereby spending) powers are raised, there is no way that the potential of human existence can be realized, let alone the promise of the Internet achieved.

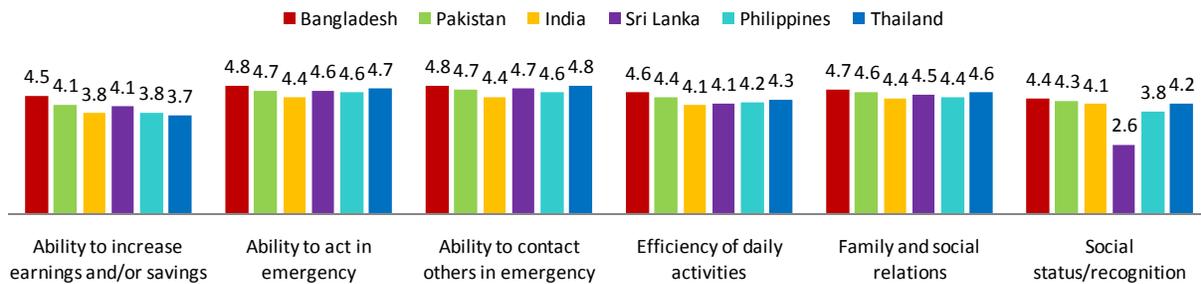


Figure 3: Perceived benefits of telecom access at the BOP

Source: Teleuse@BOP3 survey

Notes: Ratings on a five-point scale: 1=worsened 2 = slightly worsened 3=no change 4=slightly improved 5=improved

² De Silva, H. & A. Zainudeen (2007, December). Teleuse on a Shoestring: Poverty reduction through telecom access at the ‘Bottom of the Pyramid’ Paper presented at the Centre for Poverty Analysis Annual Symposium on Poverty Research in Sri Lanka, Colombo, Sri Lanka. Retrieved from http://www.lirneasia.net/wp-content/uploads/2007/04/lirneasia_teleuse_cepta_mar07_v30.pdf

Some of LIRNEasia's previous research sought to address these questions. For example, the work on information in agricultural markets attempted to discover ways by which farmer's incomes could be increased.³ The work on disaster risk reduction also addressed one of the main causes of poverty, shocks that throw people at the BOP off carefully constructed pathways out of poverty.⁴

The relationship between ICTs, growth and poverty alleviation is a complex one that has been discussed in LIRNEasia's first book, in addition to work by others.⁵ The purpose of the present research not being that of advancing knowledge in this domain, further discussion of these writings is not undertaken. The purpose of the present proposal is the advancement of evidence-based policy making and regulation in the context of an important economic value chain, moving up the ICT value chain on one hand and broadening the scope of work to include more than ICT variables on the other. The proposed research is of an applied nature. It rests on the conclusion, supported by the above literature, that the contribution of ICTs to economic growth and poverty alleviation is a positive one.

Now in its sixth year of existence, LIRNEasia has broadened its research focus to the entirety of South Asia (eight countries), the three largest nations of the original ASEAN and Mongolia in East Asia. This set contains some of the fastest growing telecom markets in the world and is among the most populous and containing the largest numbers of the unconnected. South Asia has the world's largest concentration of poor people. The other countries provide useful contrasts to the South Asian data and are of intrinsic interest as well. The identification of high-quality researchers who can conduct LIRNEasia research in their own countries is the criterion for LIRNEasia's country coverage. As an organization that lacks core funding, LIRNEasia has to be cautious about expansion, which can drive up costs of coordination beyond what it can afford. While a large number of countries including China are covered by its capacity-building activities, there are no plans to expand the countries where research, dissemination and advocacy activities are conducted.

LIRNEasia's mission is "to improve the lives of the people of the emerging Asia-Pacific by facilitating their use of ICTs and related infrastructures; by catalyzing the reform of laws, policies and regulations to enable those uses through the conduct of policy-relevant research, training and advocacy with emphasis on building in-situ expertise."

For the past five and a half years, LIRNEasia has engaged in a concerted and focused program to achieve its mission, bootstrapping itself into a credible player in the ICT policy and regulation space in the emerging Asia-Pacific region, with primary focus on South Asia.

³ De Silva, H. & D. Ratnadiwakara (2007). Using ICT to reduce transaction costs in agriculture through better communication: A case-study from Sri Lanka. Retrieved from <http://lirneasia.net/wp-content/uploads/2008/11/transactioncosts.pdf>

⁴ Samarajiva, R. & N. Waidyanatha (2009). Two complementary mobile technologies for disaster warning, *Info*, 11(2): 58-65.

⁵ Samarajiva, R. & A. Zainudeen (eds.) (2008), *ICT infrastructure in emerging Asia: Policy and regulatory roadblocks*, New Delhi & Ottawa: Sage and IDRC, Introduction; and recent writing such as Waverman, L., M. Meschi, M. & Fuss, M. (2005, September). *The impact of telecoms on economic growth in developing countries*. Paper presented at the 33rd Research Conference on Communication, Information and Internet Policy, Arlington, VA. Retrieved from <http://web.si.umich.edu/tprc/papers/2005/450/L%20Waverman-%20Telecoms%20Growth%20in%20Dev.%20Countries.pdf>

The core mission of LIRNEasia can be restated in terms of advancing evidence-based policy making and regulation in the ICT sector. Our work which includes short-term and opportunistic advocacy actions as well as long-term capacity-building actions that build on a foundation of timely and relevant research conducted across multiple countries intends to both improve sector and regulatory performance and create an exemplar of good governance for other sectors. Our research problematizes each of these terms and will in fact help advance understanding of each of them.

Among the essential infrastructure sectors, ICT infrastructure is the one where barriers to participation have been reduced the most. Partially as a result, it is also the sector where improvements in performance are most visible, in terms of wider access, lower prices, improved quality and greater choice. It may be hypothesized that its effects on economic value chains are generally positive, justifying weight being given to improving evidence-based policymaking and regulation and, thereby, further improving sector performance, as part of our continuing work. In addition, we will be examining the effects on export-oriented agricultural value chains in detail.

As a research organization, we must constantly move to the frontier of knowledge. As the basic problems of voice connectivity are being solved, we are shifting our attention to broadband, while still reserving some resources for the core issues of policy and regulation such as access to essential facilities and the effective and efficient use of subsidies.

The proposed activities comprise three inter-related research modules and an advocacy and dissemination module. Capacity building is covered by a separate proposal.⁶ Capacity building draws from research; research is assisted by the relationships established through capacity building. Advocacy and dissemination draw from research. The research modules are organically integrated: Inclusive KBE draws from both the results of Teleuse@BOP4 and from supply- and demand-side data generated by the Indicators module. Funding for qualitative value chain studies and policy events in four countries are sought under this proposal; supplementary funding as well as a reallocation from the Demand side module of this proposal will be sought to conduct a survey of small and micro-enterprises in selected countries based on the qualitative learnings as indicated in Section 4.0 (See also Annexes 2 and 12).

In light of the demand-side Teleuse@BOP 4 module and the supply-side module forming the foundation on which the inclusive KBE module will be, to a certain degree in sequence also, the modules will be presented in that order.

1.1 Organizational issues

This is not the first time LIRNEasia is requesting funds from IDRC and that IDRC continues to LIRNEasia's dominant funder. Therefore, a section on organizational matters outside the strict bounds of the proposal itself is justified. The organizational matters that are discussed include sustainability, the ability to retain staff and gender balance.

1.1.1 Sustainability

It may be argued that organizations, especially those that seek to improve policy processes in a particular sector through research, dissemination and advocacy (i.e., think tanks), should not live forever. They can (and should) go out of business when either their job is done (i.e., policy processes improve; or sector objectives are achieved), or when demand for their product declines. The latter can be because other organizations are supplying the demand better (i.e., competition among think tanks) or because the entity has lost its edge.

⁶ "Fostering policy intellectuals for improved provision of ICT infrastructure services in the Global South," Proposal submitted to IDRC by LIRNEasia, Research ICT Africa and DIRSI, April 19, 2010 (subsequently revised).

Part of the rationale for the present proposal is that the basic voice connectivity problem that LIRNEasia focused on is being solved, and that we need to move on to fresh challenges. Given the broad focus on infrastructure that we adopted when forming LIRNEasia, this is reasonable. However, working in a country where several “zombie” organizations exist, we are always mindful of not wanting to live forever, simply because we exist. In addition, there is still plenty of demand for our product. But this “demand,” unfortunately, is unlike real market demand; it is “demand” that is not coupled with willingness to pay.

We do not wish to carry the market analogy beyond its limits. We see ourselves as producing collective goods.⁷ In an ideal world, some of what we produce would be produced by the government directly or otherwise, as public goods paid for by taxes (e.g., studies that seek to improve policy and regulation such as research on universal service policies); some would be produced by collectives of private actors (e.g., studies such as Teleuse@BOP, where new knowledge is generated about how the ICT sector is serving or not serving poor people). The former could be funded also by philanthropies, as is the case in developed market economies. There is no such tradition in Sri Lanka where we are based. Given the faint beginnings of such philanthropic activities in India and the regional ambitions of this increasingly self-confident and assertive country, the Board and the International Advisory Board (IAB) considered a possible move to India at their joint meeting in December 2009, and the management team is actively exploring options for relocating at least the “front office” to a country other than Sri Lanka.

Our efforts to obtain private sector funding for the subset of our outputs that could be produced by collectives of private actors go back almost to the beginnings of LIRNEasia. This is not an easy task for a think tank that works in a large region, but is located in a relatively insignificant country within its region which is not home to the head offices of any of the regional operators or equipment suppliers. We were elated by our success in obtaining funds from Telenor for Teleuse@BOP3 in 2008, but realize that winning the trust of these players is a long term process. The industry contacts that were initiated since 2005 are being nurtured and developed.

Our decision to forbear from proprietary research, the easy route to sustainability and one that was proposed by several members of the IAB, is based on the need to give primacy to winning the harder battle of convincing regional telecom operators, equipment suppliers and others to join in funding products such as Teleuse@BOP, Broadband Benchmarks, and even perhaps TRE [Telecom Policy and Regulatory Environment]. We are, however, actively considering the possibilities of obtaining some contributions to LIRNEasia’s production of collective goods, especially the funding of its currently underfunded fund-raising and central management functions, from companies that are spun off from LIRNEasia’s activities. An example is the provision of training and certification services for the hotel industry. These activities, if undertaken by private firms, could generate net revenues, if not serious profits. If we can, as part of our incubation-platform strategy (described below), assist a LIRNEasia staff person to launch the company or companies, it would serve, in addition to the core rationale of the incubation-platform strategy, the cause of reducing the fragility of LIRNEasia’s finances as a project-funding based entity. The answers to the legal problems of a non-profit company owning shares of for-profit companies under Sri Lankan law remain, however, yet to be worked out.

Again, in keeping with the supply-and-demand framework, we are always sensitive to signals that our product may not be in demand. An example is training. From the beginnings of LIRNE.NET in Europe, we believed that there

⁷ Olson, M. (1971). *The logic of collective action: Public goods and the theory of groups*. Cambridge MA: Harvard U Press; Olson, M. (1982). *The rise and decline of nations: Economic growth, stagflation and social rigidities*. New Haven CT: Yale U Press.

was a need for training and capacity building at regulatory agencies. We also believed that the regulatory agencies should commit resources for this purpose, even when scholarships were offered. As the evidence began to pile up that they were not willing to do so, we have begun to deemphasize training for staff of national regulatory agencies, despite continuing to believe that they needed training. One explanation for the lack of paying customers from regulatory agencies is that our courses do not meet their demands. Another is that the market has been spoiled by the ITU's fellowships for regulatory agency staff: we are asking the agencies to pay for training when the ITU is giving it to them for free. Whatever be the reason, we are now pulling out of the regulatory training business, at least in Asia, and supporting our African partner's efforts instead. This does not completely close the door to the offering of training courses and scholarships, simply that we will innovate in our offerings, for example, focusing on topics such as demand-side analysis where the ITU does not offer competing courses.

In sum, LIRNEasia's management, its Board and its International Advisory Board are seriously engaging with the question of sustainability, going beyond the easy answer of listing a number of funders other than those currently supporting its activities and saying that they will be approached for support. We will look for core funding from such sources because that, more than simple project funding, is what is urgently needed at the present time. Core funding is what will enable us to fully implement the incubation-platform strategy and to allocate enough senior management resources to seriously pursue the multiple funding and positioning paths that have been identified. This does not, of course, preclude the pursuit of project funding opportunities that build on the current strengths of the organization. Reducing the number of countries covered by Teleuse@BOP and challenging the private operators and equipment suppliers to join if they want the earlier levels of coverage, for example, shows how serious we are about mobilizing private funding. The exploration of changing the location of the LIRNEasia "front office" from Sri Lanka shows that we are serious about attracting within-region philanthropic and similar funds. Discontinuing activities where demand that includes willingness to pay is not strong indicates that we are searching for signals on whether there is real demand for our products and a willingness to exit when evidence suggests otherwise.

In addition to the planning that has already been undertaken, particularly at the joint meeting of the Board and the International Advisory Board in December 2009, the following actions will be undertaken within the timeframe of the present proposal:

- 1) Senior management team will travel to Chennai for brainstorming session on 6 July 2010 with IAB member Ashok Jhunjhunwala focusing on creating an Indian presence/advisory board;
- 2) The Board will meet on 12 July 2010 to discuss the plans re India and the implications of the denial of core funding under the Gates-Hewlett-IDRC Think Tank Initiative;
- 3) Dissemination funds will be utilized in addition to overhead (which will fully support the above two activities) to take the results of LIRNEasia's work thus far and the work in progress out to potential sources of funds, including core and project funding to support the true public goods that we produce as well as private sector funding for the various products that have been developed for such partnerships.
- 4) Depending on the outcomes of actions 1 and 2 above, appropriate actions will be taken to position LIRNEasia more favorably for long-term stable funding.

Conventional business-case analysis would have precluded the establishment of LIRNEasia as a purely project-funded regional organization headquartered in a marginal and war-torn country. Over the past five years we have proved that the impossible can be done. While the future holds many challenges, our track record suggests that we will rise up to them.

1.1.2 Ability to retain staff

Organizations such as LIRNEasia which lack core funding and/or endowments cannot, by definition, offer long-term career prospects for their staff. We lost a very good staff member for this very reason. One approach is to embrace the churn: seek to hold good people for reasonable periods of time but understand that the organization simply is not in the business of providing life-time careers. As long as all parties understand the rules of the game, the compensation packages reflect the associated uncertainty, and people do not leave after very short periods and at times that make project completion difficult, this is not a bad solution. To some extent, the original approach of LIRNEasia, which gave a central place to preparing young researchers for graduate school, was within this genre.

What we found from experience was that this has other costs. The graduate school carrot works only for junior researchers. They have to be trained by someone. As the organization grows, there is greater need for personnel and greater need for seniors who can train the increasing numbers of juniors. The embrace-the-churn strategy does not provide an answer the question of how seniors are to be motivated to join, work hard and stay.

Over the past year or so, we have collectively developed a new approach that we describe as an incubation-platform strategy. Here, we do offer those who join us career prospects; they are not simply the conventional ones of rising through the ranks, with increasing responsibilities and rewards; they are opportunities to become their own bosses, either as social entrepreneurs or as market entrepreneurs. We have one case of the former already: Nuwan Waidyanatha. He worked as project manager on the 2006-08 HazInfo project under the supervision of the LIRNEasia CEO. Then he developed his own project and got it funded, under the LIRNEasia umbrella. Now, he is his own boss and well positioned to initiate additional projects, either through LIRNEasia or on his own, either in the non-profit space or in the for-profit space.

The new strategy also meshes with the assessment criteria we have used internally for several years. For seniors, we ask what they have done in the previous year to raise their own profiles in addition to that of LIRNEasia. By giving primacy to the development of “personal brands” in addition to that of LIRNEasia, we are encouraging them to go out on their own.

There may be two questions remaining: what about the current juniors and what will happen to the organization if all the seniors leave to head their own projects or companies. Current juniors will be encouraged to develop themselves through formal (i.e., graduate school) and informal training to become seniors. One such transition is occurring in 2010 with a former Researcher being promoted to Research Manager. The question of all the seniors leaving is a harder one. The hope is that the senior management structure of the organization will be attractive enough to hold at least some of the key individuals and that the “contestability” introduced as a result of the exit option will create the incentives for the organization to attract and hold good people at senior levels for long enough.

1.1.3 Gender balance

Currently, LIRNEasia is majority female, with perhaps equal representation at the managerial level (see Annex 9). This could, unfortunately, be partly attributed to the greater readiness of female professionals to tolerate the lack of long-term career prospects. But we like to think that it could also be partly attributed to the genuinely pro-female organizational culture that includes for example a great deal of flexibility with regard to how and when work is done. Female representation within LIRNEasia is therefore not a problem; if anything, male representation is the problem, which will hopefully be addressed by the incubation-platform strategy described above.

In LIRNEasia activities, we routinely meet the internal standard of a minimum of one third female participants. This is a reasonable minimum standard for a field such as telecom that has historically been male-dominated and

also where the major intellectual discipline is economics, again one that has been historically been male-dominated. We do better than meeting the minimum with regard to capacity building activities.

LIRNEasia centrally addresses gender issues in its research, as evidenced, among others by its most recent peer-reviewed publication.⁸ In policy interventions that normally do not privilege gender, we do and have shown results.⁹

2.0 Demand side: Teleuse @ Bottom of the pyramid 4 (Teleuse@BOP4)

Emerging markets are leading global mobile growth. These markets also contain the largest numbers of poor people. As such, growth necessarily involves many at the BOP. Innovations are required, not just in technology and business models, but in policy also, in order to serve the BOP efficiently; crucial to this is deep insight into the growing demand for telecom services at the BOP.

Teleuse@BOP, pioneered by LIRNEasia in 2005, was one of the first studies in the world to assess demand for ICT services among lower socio-economic strata, or the BOP across a region, investigating cutting edge issues, while also looking at general trends.

The 2005 study was conducted in seven districts in India and four in Sri Lanka along with a meta study of Bangladesh.¹⁰ It revealed an unexpectedly high reliance on shared phones (both public and private) in the countries under study. This underlined the potential for innovative forms of shared access at the time. The Bangladesh study also highlighted the importance of the telephone in securing remittances from family members working in the city or abroad. The 2006 study, consisting of representative samples of BOP teleusers in, Pakistan, the Philippines, Sri Lanka, and Thailand in addition to qualitative research, and innovative diary methodology being applied to record usage patterns (for the first time in this kind of research). The key findings uncovered a phone-owning potential for 115 million then current non-owner users at the BOP getting connected to mobiles within two years of the study in the five countries studied alone. The heavy use of prepaid mobile implied potential for the use of non-voice SMS-based services among BOP users in these countries (such as price information, voting, health and remittance applications).

The most recent, conducted between 2008 and 2009 sought to explore these issues, through quantitative as well as qualitative research. A representative sample of 9,540 BOP users in Bangladesh, India, Pakistan, the Philippines, Sri Lanka, and Thailand was reached, and 1,550 migrant workers were also surveyed (through a booster sample) in the six countries. The quantitative fieldwork was conducted by Nielsen affiliates in the respective countries.

⁸ Zainudeen, A. T. Iqbal & R. Samarajiva (2010), Who's got the phone? Gender and the use of the telephone at the bottom of the pyramid, *New media and society*, 12: 549-66.
<http://nms.sagepub.com/cgi/content/abstract/12/4/549>

⁹ E.g., <http://lirneasia.net/2007/06/lirneasia-presents-its-research-in-pakistan/> where we showed the need to ensure that women in Pakistan who were shown by Teleuse@BOP research not to use common-access facilities were not discriminated against when universal service subsidies were given out. The actual practice of the Pakistan Universal Service Fund (as described three years later at <http://lirneasia.net/wp-content/uploads/2010/04/Parvez-Iftikar.pdf>) appears to have heeded our advice.

¹⁰ Through a survey of 3,200 teleusers in seven districts in India and four districts in Sri Lanka, as well as a meta-study of Bangladesh.

Additionally, in-depth interviews, mini ethnographies and home visits were also conducted with approximately 200 respondents in the six countries. The qualitative fieldwork was conducted by CKS Consulting (India). The findings showed a great deal of progress in mobile access and ownership across countries (Figure 4). The current awareness, affordability and usage of Mobile2.0 services was seen to be low (Figure 5); those who use the services, use them in small amounts or in conjunction with a PC (particularly in the Philippines and Thailand), however aggregated demand for such services (“long tail markets”) could be significant. Though the prerequisites are already in place, some barriers exist, including affordability and policy according to the study findings.

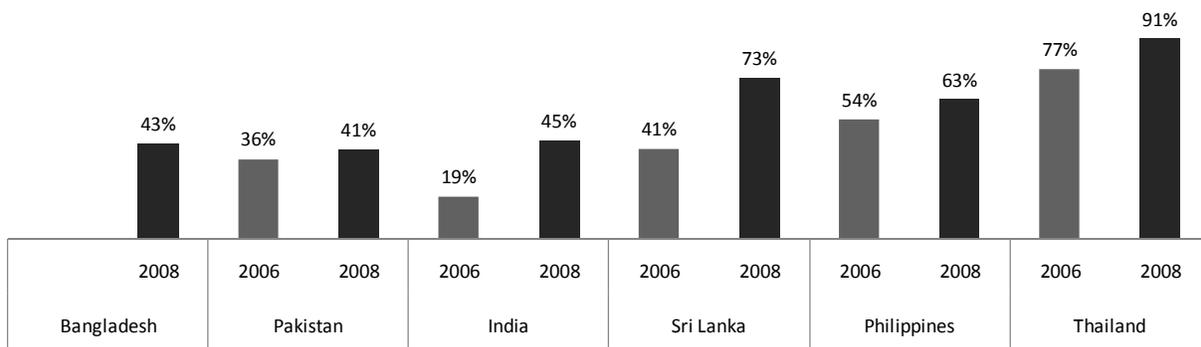


Figure 4: Growth in total phone ownership at the bottom of the pyramid between mid-2006 and mid-2008 (% of BOP teleusers)

Source: Teleuse@BOP2 and Teleuse@BOP3 surveys

Note: 2006 data not available for Bangladesh.

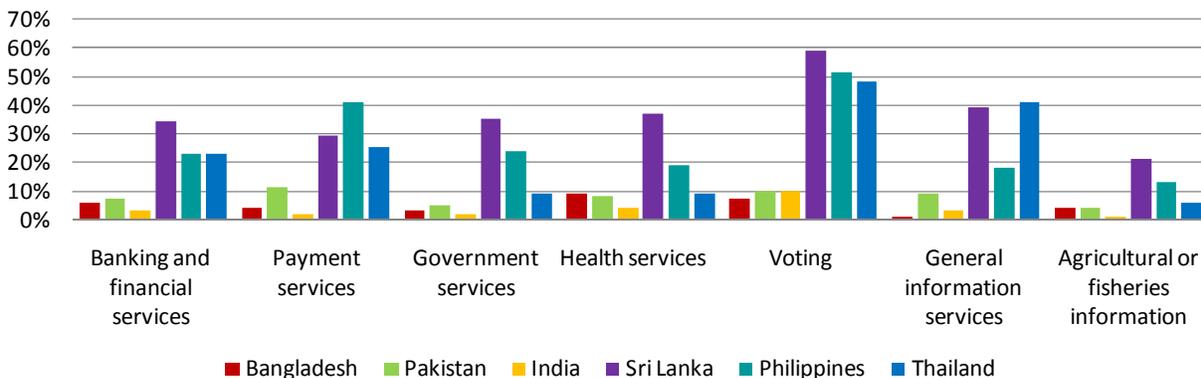


Figure 5: Awareness of services available on phones and computers (% of BOP teleusers)

Source: Teleuse@BOP3 survey

The results that these studies have generated have proved to be of value to policymakers, regulators and industry. The findings have proved useful in making governments understand the significance of telecom, especially the mobile, at the BOP, contributing to debates on universal service policies,¹¹ on taxation¹² and even on registration

¹¹ <http://iirneasia.net/2007/03/indias-universal-service-officials-seek-information-about-teleuse-at-the-bottom-of-the-pyramid/>

of phones for security purposes.¹³ They have also provided insight into the budget telecom network business model¹⁴ which has enabled South Asian telcos to provide low-cost service to the BOP. The wide media attention received in multiple countries in multiple languages is evidence of the relevance of, and need for, such research (see Annex 3 for documented media coverage to date). The findings of LIRNEasia's Teleuse@BOP studies have been disseminated widely to operators and senior policy makers, regulators and media in the region. The results of Teleuse@BOP1 (also known as Teleuse on a shoestring) were published as the first section of the IDRC co-published 2008 book, *ICT infrastructure in emerging Asia: Policy and regulatory roadblocks*,¹⁵ among others.

The next Teleuse@BOP study will similarly aim to explore issues on the rise, and provide insight into these areas of interest to better equip policy-makers to develop appropriate policies, for industry to craft appropriate products and services and for more people at the BOP to participate in the KBE. It will offer insight into the nature of demand for telecom services at the BOP in emerging Asia. It will focus on the use of mobiles for value-generation at the BOP, against the backdrop of an emerging KBE. The next study will pick up on the learnings of its predecessors, and proceed into more advanced analyses and projections.

The objectives of the Teleuse@BOP4 demand-side research conducted under this proposal are:

- Achieve a better understanding of how the poor in the study countries use ICTs, through quantitative and hopefully qualitative research and quasi-longitudinal analysis¹⁶ that builds on prior research;
- Achieve a greater understanding of innovation by users, especially small and micro enterprises within the sample, that serve to improve their ability to make or save money through the use of ICTs. This will include an understanding of complementary factors;
- Based on the above, contribute to the research conducted as part of the Inclusive Knowledge-based Economies module described below.

2.1 Teleuse@BOP4

Market researchers divide the working-age population into five groups or SEC groups, usually based on the education and occupation of the principal wage earner.¹⁷ Given difficulties experienced in ascertaining accurate income information in the 2005 study, it was decided that the use of SECs, which are strongly correlated with

¹² <http://lirne.net/2007/09/lirneasia-on-policy-influence-and-dialogue/>

¹³ <http://lirneasia.net/2008/07/big-brother-backs-off-individual-mobile-phone-%e2%80%98licenses%e2%80%99-not-for-another-eight-months/>

¹⁴ Nokia (2008). Affordable mobility through innovation and easy market access. *Expanding Horizons* (Quarter 4, 2008): 6. Retrieved from http://www.nokia.com/NOKIA_COM_1/Corporate_Responsibility/Society_/Expanding_Horizons/Expanding_Horizons_NEW/pdf/Expanding_Horizons_Q4_2008.pdf¹⁴ (p.6) and <http://lirneasia.net/2009/09/lirneasia-ceo-speaks-on-mobile-path-to-the-internet-economy-at-the-oecd/>

¹⁵ <http://www.lirneasia.net/projects/ict-infrastructure-in-emerging-asia/>

¹⁶ The surveys follow the same sampling protocols, but do not necessarily return to the same respondents as in previous studies.

¹⁷ Bijapurkar, R. (2007). *We are like that only: Understanding the logic of consumer India*. New Delhi: Penguin Books

income, was the best way of identifying the BOP. The “lowest income” earners of the five groups are SECs D and E, therefore since 2006, these have been the primary subjects of study in Teleuse@BOP, and will similarly be the focus of Teleuse@BOP4.

Teleuse@BOP4 will include quantitative as well as qualitative research modules. The qualitative module will be lagged in order to give time to design questions arising from the quantitative results.

The survey questionnaire will be designed by LIRNEasia researchers (as in previous Teleuse@BOP studies), with a workshop being conducted for researchers to collectively work on the new (KBE) module in the quantitative questionnaire. This will to the extent possible be held in conjunction with the workshop where the findings of the Sri Lanka component of the KBE module are discussed, in order to ensure as much cross-fertilization of ideas between the two research areas, and ensure that the right questions are asked through Teleuse@BOP to address issues of the KBE.

Quantitative fieldwork will be competitively outsourced, and is tentatively being planned to take place during the first quarter of 2011, with the first quantitative findings being presented at a workshop (as with previous Teleuse@BOP studies) where LIRNEasia researchers working on other research areas will participate. This will allow for the integration of the Teleuse@BOP findings into other research areas/modules that LIRNEasia is working on, as well as connecting and better understanding of some of the survey findings that result. It will also serve as a starting point for the qualitative module, wherein the key areas for qualitative investigation will be narrowed down.

While anchored in the larger research program, the study will continue many of the important questions (access, ownership, benefits, etc) from Teleuse@BOP1-3 to allow for trend analysis in repeat countries. The “themed” module of the questionnaire from Teleuse@BOP3 (“Mobile2.0”) will be maintained (though possibly shortened and tightened), since Mobile2.0 applications and uses are required in a KBE. Similarly other questions which are relevant to the current theme will be retained (e.g., benefits of teleuse, use of mobile for business purposes, etc) though compressed. A new module will be added dealing with preconditions for an inclusive KBE; for example, this could include questions which assess the propensity for innovation, by looking at the discontinuities; for instance, “when you needed information, where did you go?” In such cases, the answer would not necessarily have to include ICTs, it could be purely social networks. The standard OECD household surveys on access and usage may provide some helpful starting points (with questions such as “do you use the phone for productive reasons?”). These have not been done in developing countries yet, so it will be important to do similar work (adapted) in our countries.

In its previous work, LIRNEasia worked with a broad conception of innovation, that include much more than what is captured by standard metrics such as the counting of patents. Indeed, we went further and claimed that the key innovations that were occurring in service industries would not be captured by the conventional indicators.¹⁸ Our approach is close, but not identical, to that of von Hippel.¹⁹ For example, in our work on Mobile 2.0, we looked at innovation by operators, applications providers, policy-makers/regulators, as well as end users. In the same vein, we will be looking at innovation by multiple actors, including SME users and those who provide services to them in

¹⁸ <http://lirneasia.net/wp-content/uploads/2008/07/sujatha-gamage.pdf>, based on prior work such as Freil, M. (2006). Patterns of technological innovation in knowledge-intensive business services, *Industry and Innovation*, 13(3): 335-58, and Gallouj, F and Weinstein, O. (1997), *Research Policy*, 26(4-5): 537-56.

¹⁹ Von Hippel, E. (2005). *Democratizing innovation*. Cambridge MA: MIT Press.

the proposed i-KBE module, described in more detail below. The additional questions we plan to include in the Teleuse@BOP4 questionnaire support that activity.

In addition to the household survey, usage patterns will be captured. In the past two studies (Teleuse@BOP2 and 3) this has been done through a diary-based study. The diary-based study has been successful in capturing calling behavior and to an extent SMS behavior too. In Teleuse@BOP4, alternate methods will be explored to capture the entire use of the mobile by mobile owners – including non-voice uses (ringtone downloads, Internet use, etc). LIRNEasia is aware of such “mobile metering” methods, and will explore the possibilities and costs of using these in Teleuse@BOP4 (even among a selected sub-sample of respondents), to further explore the mobile usage question.

With IDRC support, the study will be repeated in three of the six countries covered so far; the countries have been selected to provide a range of diversity in terms of their location on the mobile adoption curve, how they use their mobiles, as well as culture:

1. India (the largest and perhaps most diverse out of the countries, but still at the early stages of mobile adoption with high levels of growth in BOP mobile adoption; South Asian)
2. Thailand (at the most advanced stages of adoption, where growth has slowed, however more advanced uses of the mobile are being seen; Southeast Asian)²⁰
3. Sri Lanka (somewhat in the “middle” stages of adoption, where innovative uses of mobiles are beginning)

In Teleuse@BOP3, the continental South Asian and Southeast Asian countries clearly separated on cultural questions such as women’s use of phones. Sri Lanka’s was with the South Asian countries on some issues and with the Southeast Asian countries on others. Given sufficient funding from industry, the survey will be conducted in the remaining countries (Bangladesh, Pakistan and the Philippines) and possibly expanded to Indonesia. These countries have been selected because of the rapid growth in telecom sector as well as their large BOP populations.

Sample design and field-work related activities of Teleuse@BOP3 were conducted by Nielsen, the selected market research company, under the oversight of Dr Harsha de Silva (see Annex 4 for methodological details). The same procedures will be followed for Teleuse@BOP4.

The questionnaire developed for Teleuse@BOP3 is given as Annex 5. The questionnaire used for Teleuse@BOP4 will be based on this.

Funding of USD xxx²¹ is requested for the Teleuse@BOP4 study covering India, Thailand and Sri Lanka; the amount includes funding covering research, travel and subsistence fees. Depending on the field-research bids that are received and external funds generated, the study will be extended to the other countries mentioned above and the qualitative component included.

²⁰ A question has been raised about political risk in Thailand. LIRNEasia began its work as the cease fire was collapsing in Sri Lanka and worked throughout the subsequent period. Development research cannot be done in safe circumstances. We conducted dissemination events in Bangkok while the red shirts were in the city. We will work around the risk as we have in the past, in Thailand and other countries. If the risk reaches levels that make the research untenable (as was the case with the Northern and Eastern Provinces of Sri Lanka for Teleuse@BOP 2 and 3), we will substitute either the Philippines, a country we have conducted Teleuse@BOP surveys in the past.

²¹ Inclusive of 13 per cent overhead.

3.0 Supply side: Indicators, continued

LIRNEasia considers that significant progress has been made with regard to ICT infrastructure in the countries it works in (see Figure 1 and Figure 2), and is therefore moving up the value chain and beginning to examine factors that are not strictly telecom, as part of the Inclusive KBE module. However, this does not mean that we can terminate the study of infrastructure, which after all is one of the necessary conditions for KBEs.

The supply-side data collection that we focused on since 2006 remains a critical input to everything that we do (and the benchmark product that we developed from it is a regionally important resource as well²²). It is an essential input for rapid response actions as well.

The continuing work of LIRNEasia requires the continuation of both supply-side and demand-side data collection (as explained in the introduction), though, of course, we need to deemphasize and even discontinue components that are now “mainstreamed” (as with mobile prices in the form of baskets now being reported by the ITU) while placing greater emphasis on frontier topics such as broadband prices and quality of service indicators.

The objectives of the Indicators, Continued, supply-side research conducted under this proposal are:

- Build upon the past five year’s analysis of telecom policy and regulation and how they affect sector performance and make the analysis more systematic through the use of the Sector Performance Review template;
- Test and further enhance indicators such as those on broadband quality;
- Contribute to the improvement of indicators relevant to the assessment of progress toward knowledge-based economies;
- Contribute to the development of recommendations on how ICTs can be better utilized to make agricultural value chains more efficient and inclusive as part of the Inclusive Knowledge Based Economies module described below;
- Provide a ready knowledge base for rapid response actions under the dissemination and advocacy sections described below.

3.1 Sector performance reviews

Country telecom sector performance reviews (SPRs) were pioneered by Bill Melody in the work he did for the Telestyrelsen Denmark since 2000.²³ Then they were implemented on a regular basis by RIA (including through its previous manifestations).²⁴ It is proposed that LIRNEasia conduct SPRs in all the countries it works in, and any new

²² For example, it was revealed by M. Aslam Hayat, a regulatory expert at Bangladesh’s Grameenphone, who spoke at CPRsouth4 in Negombo in December 2009 that they had used our benchmark data to successfully lobby for lower leased-line prices in Bangladesh. There was never any communication between LIRNEasia and Grameenphone about this and we learned about it only as a result of this passing comment.

²³ For example: Melody, W (2002) *Trends in European Telecommunication: 2002 Status Report of Denmark’s Progress in Telecom Reform and Information Infrastructure Development*, prepared for National IT and Telecom Agency IT, Denmark International Discussion Forum, Denmark, 17 –19 October 2002.

²⁴ Gillwald A. & S. Kane (2003) *South African Telecommunications Sector Performance Review*, LINK Centre Public Policy Research Paper, No.5, Witwatersrand University. Retrieved from

countries it has an opportunity to enter during the project period. The previous Telecom Policy and Regulatory Environment (TRE) work will be folded into SPRs.

The above does not constitute a completely new approach; it is more a merging of approaches, a convergence among members of LIRNE.NET, an objective that has been pursued in the past with IDRC support and will be continued in the new cycle (see 7.0 below). RIA adopted TREs in their current research cycle. LIRNEasia is retaining the TRE, which it now considers a stable method that is now ready for adoption by others, and combining it with a method that has been well developed over multiple iterations by RIA.

The SPR is a structured way to collect data that can answer the “why” questions that are not answered in the TRE methodology, narrowly defined, and provides the raw material for planned and opportunistic policy interventions. In the previous iterations of TRE, we asked the country researchers to provide explanations for the TRE results in the form of reports that covered much of the ground covered by the SPR template. We believe that adopting the SPR as such will yield superior results and allow us to lower the costs of the country research and allow for greater participation by more junior researchers, while maintaining quality. SPRs have been conducted in Africa, across multiple countries. Simply doing it in multiple countries does not, therefore, constitute novelty. We do not promote comparative use of TRE much, though it is attractive to media.²⁵ The main reason we do comparative assessments is because it provides a sharper lens for country analysis, over time and across dimensions. In addition, the opportunistic and effective “theory of change” ascribed to by an IDRC evaluator²⁶ depends on the data being available for use when the opportunity arises. One cannot foretell the country in which the opportunity will arise, therefore, it is best to have studies completed in a number of countries. The common format allows use by persons other than the just the researcher who conducted the study in the specific country.

The TRE research conducted in 2006 and 2008 was well received in the media and by stakeholders (Annex 6). The last round was conducted in nine countries with a common methodology. Discussions to place the regular conduct of TRE assessments on a sustainable footing and in a larger number of countries have stalled because of the dependence on credible in-country researchers and the resultant inability to scale up to a large number of countries. However, the possibility of a university-based program on regulatory studies within the region taking over the conduct of TREs on an annual basis is being explored.

Now that the research methodology is proven (except for micro states, where it was found problematic), serious consideration was given to terminate this line of research. However, it appears that there is considerable support for its continuation as a component of SPRs in the countries we work in, especially among the country researchers, for whom repetition is quite easy. Therefore, it is proposed that it be continued, but now as components of SPRs.

<http://link.wits.ac.za/papers/tspr2003.pdf>; <http://www.regulateonline.org/content/view/974/75/> and http://www.idrc.ca/acacia/ev-117512-201-1-DO_TOPIC.html

²⁵ Galpaya, H. & R. Samarajiva (2009). Measuring effectiveness of regulation using perception surveys. Paper at 4th regional conference of the International Telecommunications Society, Perth, Australia, 16-18 August.

²⁶ Ofir, Z. (2009). External evaluation: The policy influence of LIRNEasia, Pan Asia Networking, IDRC, pp. 9-22 and p. 55, where it is stated that “It is very important that evidence is available when needed. ‘Just-in-time’ information is especially important during rapid response opportunities or when policy windows open (or are pushed open). It is therefore important to have an ongoing body of work from which to draw. This is more possible with non-contract bound research. The consistent, integrated nature of LIRNEasia’s research portfolio as well as its knowledge of who to contact when gaps need to be filled, has stood it in good stead in all the case studies.”

SPRs will be conducted in all the countries that LIRNEasia is active in; in Afghanistan, Bhutan, the Maldives and Mongolia, the SPR may not necessarily include a TRE. Mongolia, is admittedly, not within the core geographical focus areas of LIRNEasia. However, it is a small economy that is likely to yield useful insights for our work on micro and small states.²⁷ Inclusion of this country in the proposed research cycle seeks to build on and consolidate the work done on an exploratory basis in 2009-10. Given budget constraints and difficulties in identifying good researchers, SPRs will be conducted in three out of four of the small states. It is proposed that the mobile and broadband sub-sectors be studied across seven dimensions as in 2008, dropping fixed. Because a manual exists and researchers are experienced, the workload, especially in countries where the research is being repeated will be much less.

Given the increasing importance of government revenue collection from the telecom sector to policy, regulation and sector performance, the SPR will include data on, and analysis of, the various taxes and levies imposed upon telecom operators and customers. Currently the only comparative tax studies are those done by Deloitte and published by the GSMA.²⁸ These data fall short partly because they are associated with one of perceived main beneficiaries of tax cuts and because the methodology is not fully transparent. The intention is to develop, over two rounds, including stakeholder feedback, a robust methodology for collecting comparable tax data and benchmarking them.

3.2 Benchmarks

Based on the research conducted in 2006-10, LIRNEasia developed two products with demonstrated demand: Broadband Price Benchmarks and Mobile Price Benchmarks. Both products have been published regularly at six-month intervals since 2007 for South and Southeast Asia, with countries being added periodically.²⁹ Active engagement by the relevant NRAs on methodology as well as specific data points has been seen when drafts were circulated prior to publication. It is proposed that the mobile benchmarks be discontinued, but that work will be continued on honing and further improving, the broadband price benchmarks and web-publishing them annually.

The reasons for discontinuing mobile benchmarks are several.

- When we started working on the methodology, the ITU was still wedded to reporting price of a three-minute call. Now the ITU has converted to a standard basket (OECD low-user basket). Though its reporting is still slow, it provides a credible and universal source for price benchmarks. One of our principal objectives, which was to get NRAs to adopt basket methodology has been achieved in a way, because the ITU itself has done so.³⁰
- At the outset, we believed that the different call behaviors in different regions (Indian mobile use minutes were double that of OECD countries) required baskets that were defined in terms of region-specific

²⁷ For example, the banded forbearance work was developed for small countries and then extended to a larger set: Samarajiva, R. & T. Iqbal (2009), Banded forbearance: A new approach to price regulation in partially liberalized telecom markets, *International Journal of Regulation and Governance*, 9(1): 19-40.

²⁸ [http://www.gsmworld.com/our-work/public-policy/regulatory-affairs/policy-recommendations-for-developing-countries/taxation and growth of mobile east africa 09.htm](http://www.gsmworld.com/our-work/public-policy/regulatory-affairs/policy-recommendations-for-developing-countries/taxation%20and%20growth%20of%20mobile%20east%20africa%2009.htm)

²⁹ Afghanistan, Bangladesh, Bhutan, India, Indonesia, Malaysia, Maldives, Mongolia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, and Thailand.

³⁰ http://www.itu.int/newsroom/press_releases/2009/07.html

monthly minutes of use (MOUs). Experience has shown this is not so. The availability of larger comparison sets (ITU and Nokia³¹) has made our region-specific benchmarks less attractive. We have decided to adopt the ITU/OECD basket when and if we measure mobile prices (as part of SPRs, possibly).

- When the work was commenced, there were significant differences in mobile prices across the countries we studied. Now the differences are almost negligible, perhaps something the publication of benchmarks contributed to. Further, the real differences now are in terms of various package elements such as discounts, bundled free minutes and so on. We have considered how to capture these in a benchmarking process but have failed to develop a robust solution.

In contrast, there are good reasons to continue work on broadband price benchmarks, though now on a 12 month cycle.

- There is no substitute for what we produce.
- Nokia has developed a basket for voice and data over mobile,³² but we consider that as falling short on some aspects. While we agree that baskets are the future for broadband too, we need to develop the baskets more carefully based on the current work being done by us. The Nokia baskets include both voice minutes and data. We are not convinced that baskets that include both voice and data will be the most persuasive for our audiences. In addition, the methodology used to arrive at the basket is proprietary.
- There is still considerable variation among broadband prices in the countries we work in (see Figure 6)
- We require detailed broadband price data to combine with our quality of service experience (QoSE) data to produce value-for-money reports.³³

³¹ Nokia (2008). Affordability key in bring digital inclusion. *Expanding Horizons* (January 2008): 12-13. Retrieved May 10, 2010 from http://www.nokia.com/NOKIA_COM_1/Corporate_Responsibility/Society_/Expanding_Horizons/Expanding_Horizons_NEW/pdf/Expanding_Horizons_Q1_2008.pdf

³² Nokia (2008). Affordability key in bring digital inclusion. *Expanding Horizons* (January 2008): 12-13. Retrieved May 10, 2010 from http://www.nokia.com/NOKIA_COM_1/Corporate_Responsibility/Society_/Expanding_Horizons/Expanding_Horizons_NEW/pdf/Expanding_Horizons_Q1_2008.pdf

³³ <http://lirneasia.net/2009/10/digital-divide-in-broadband-quality-lirneasia's-broadband-benchmarking-compares-south-asia-with-north-america/>

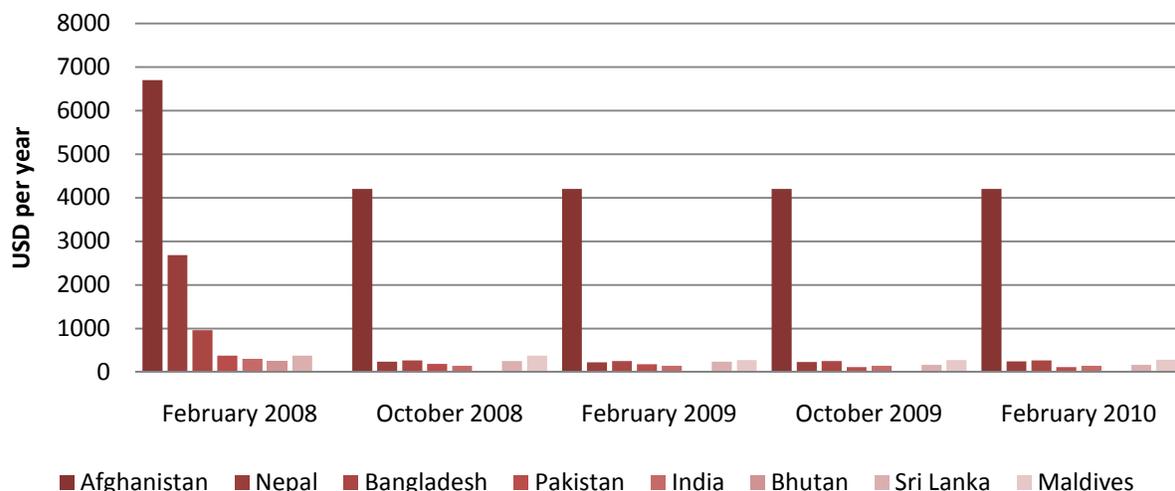


Figure 6: Consumer broadband prices (annual cost, 256kbps Broadband residential connection: unlimited download)

Source: LIRNEasia Broadband Benchmarks research (<http://lirneasia.net/projects/2008-2010/indicators-continued/benchmarks/>)

The new work done on developing broadband QoS indicators in 2008-10 has been incorporated into the Broadband Indicators. Software that can be easily downloaded by anyone is now available³⁴ and several training sessions have been conducted on how this tool can be used for policy intervention.³⁵ However, the dream of mobilizing public resource (“volunteer”) computing, where the application would run in the background of previously-designated computers/servers and dynamically report the performance data in real time to a server that would immediately aggregate the incoming data and publish it, was not fully realized. However, we can pride in the fact that the FCC, the oldest regulatory agency in the world adopted our approach two years after us.³⁶ The test required users to dedicate more time and effort than envisaged, surpassing the threshold level for volunteerism.³⁷ There was little enthusiasm for broad participation in broadband QoS testing, except when the “volunteers” were provided with adequate incentives.

That said, the fixed broadband QoS work has been highly productive. Interventions in regulatory proceedings based on the research in India and Bangladesh yielded good results.³⁸ By the end of the third year we had

³⁴ <http://www.broadbandasia.info/> and www.mobilebroadbandasia.info (via mobile phones)

³⁵ <http://lirneasia.net/2009/10/lirneasia-assists-mongolia-ict-researchers-better-reach-policy-makers/>

³⁶ But see, <http://lirneasia.net/2010/03/broadband-quality-in-usa-federal-communications-commission-in-lirneasia's-footsteps/>

³⁷ Ours was a more comprehensive study than the similar Oxford/Cisco study: http://www.bbc.co.uk/blogs/technology/2009/10/broadband_britain_how_far_down.html

³⁸ <http://lirneasia.net/2009/03/3872/> and <http://lirneasia.net/2009/08/lirneasia-responds-to-bangladesh-regulator%E2%80%99s-consultation-paper-on-broadband-quality/>

constructed a complete picture of broadband quality in Chennai, Colombo, Dhaka and New Delhi, benchmarked against that of selected packages in Ottawa, Buffalo and Denver. We have demonstrated that broadband users in these South Asian cities not only receive less quality than promised by the operators but get less value for money compared to their counterparts in the latter group of cities. We also presented recommendations to regulators and service providers; some were long term and costly (e.g., infrastructure development) while many others were simple and almost costless (e.g., optimal network configuration).

After almost two years of quiet consultation with operators and testing, we took a different tack and went in hard against regulatory inertia in Sri Lanka. We published prominent ads on broadband QoSE in the newspaper delivered to the hotel rooms of regulators attending the South Asian Telecom Regulators' Council (SATRC) meeting in Colombo in November 2009.³⁹ Within weeks, the regulator was making statements,⁴⁰ and the government appointed a committee to act on broadband issues within a few months.⁴¹ Because it was read and discussed by regional regulators and other stakeholder representatives, we believe the ad strategy had a wide-ranging impact that has yet to be fully manifested.

The proposed approach limits the role of regulation to ensuring that consumers have choices and that switching costs are not high. With comparative QoSE being reported on public sites, consumers will no longer be at the mercy of extravagant claims made in advertisements but will instead be able to see what the upload and download speeds etc. are for various broadband services.

Work has begun on developing tools for Internet access through mobile phones (or other mobile devices) – not just because more and more people will be accessing the internet through mobile devices (Mobile 2.0@BOP), but also because utilization of other value-added services is dependent on a reliable connection (e.g., online government services or payment through GPRS based applications will not be possible if the connection drops unexpectedly). Considerable progress was made at the expert meeting convened in 2009.

Mobile broadband testing is typically conducted through PC simulations due to the heterogeneity in mobile handset system software. We, perhaps for the first time, developed mobile versions of our test software for four mobile handset models/operating systems: Windows CE, Symbian, Apple iPhone and Android. Beta tests showed satisfactory results when stationary however we faced problems in the mobile mode (tested whilst riding public transport). The preliminary tests of mobile broadband in Colombo showed erratic results. Performance varied within a wide range. It is possible that mobile broadband is still more an alternative for fixed but in “nomadic” mode, rather than a solution for those who use their handsets on the move; however, the current findings are not conclusive.

Our approach will be different in mobile broadband quality testing. Instead of benchmarking multiple packages, presuming publicly available performance data is an incentive for better operator performance, we will be looking for conditions that lead to better performance. Given the practical difficulties we will limit the tests to a single country, Sri Lanka, which will be the “test bed”. The routine fixed broadband quality monitoring will be continued, but less frequently than before.

³⁹ <http://lirneasia.net/2009/11/how-broad-is-you-broadband/>

⁴⁰ <http://lirneasia.net/2009/12/sri-lanka-regulator-asleep-at-the-switch/>

⁴¹ <http://lirneasia.net/2010/02/special-committee-appointed-to-develop-broadband-in-sri-lanka-%E2%80%93-daily-news/>

3.3.1 Participation in regional and international indicator events

Continuation of the indicators work requires that LIRNEasia personnel keep engaged with the inter-governmental processes for standardizing sector performance indicators. Therefore, it is proposed that funds be allocated to several interventions in NSO-NRA events dealing with indicators. LIRNEasia is now being regularly invited to participate in the UN system Indicators meeting, the next being in Korea in July 2010. To advance the adoption and timely production of standardized indicators by Asia Pacific NRAs and NSOs it is necessary to have a presence at similar meetings, especially within the region.

LIRNEasia seeks funds in the amount of USD xxx⁴² for expenses related to the Indicators, Continued sub component.

4.0 Thematic focus: Inclusive knowledge-based economies

The objectives of the Inclusive Knowledge-based Economies thematic research conducted under this proposal are:

- Achieve an in-depth understanding of how innovations related to ICTs are used (and may be used) to improve the efficiency and inclusiveness of studied agricultural value chains, based on work done under the module as well as the demand- and supply-side modules;
- Develop recommendations for improving the efficiency and inclusiveness of agricultural value chains including through the application of ICTs, but not limited to them;
- Based on the in-depth understandings achieved above, contribute to improving indicators related to measuring progress toward inclusive knowledge-based economies

4.1 Background

There has been, since the seminal work of Machlup,⁴³ interest in whether or not some national economies have experienced a qualitative transformation akin to the industrial revolution. Much of this work has focused on the effects of information and knowledge on national economies as wholes, rather than in particular industries or value chains, especially in developing-country settings.⁴⁴ After all the basic assumption was of a linear development from agricultural to industrial to information/knowledge-based or service economies, and many of the developing countries, especially in the second half the twentieth century when the field was being formed, did not even qualify as having reached the industrial “stage.”

⁴² Inclusive of 13 per cent overhead.

⁴³ Machlup, F. (1962). *The production and distribution of knowledge in the United States*. Princeton: Princeton U Press.

⁴⁴ Though there have been some developed-country studies, e.g., Appleyard, M. (1996). “How does knowledge flow? Interfirm patterns in the semiconductor industry,” *Management Science*, 36(2): 137-54.

Developing economies were seen in terms of dual economies⁴⁵ where geographically defined sub-national regions connected with the developed market economies, while the remainder languished in pre-capitalist forms. However the last two decades of the twentieth century witnessed the accelerated progress of “globalization” enabled by lower-cost and more efficient transportation services and coordination made possible by enhanced telecom services, as well as the political, economic and cultural dynamics of the post-Cold-War world.⁴⁶ This opened up the possibilities for global value chains that did not stop at the borders of export processing zones or coastal, connected regions of developing economies.

In this second phase of intellectual interest in the transformative roles of information and knowledge in the economy, the key words were knowledge societies and knowledge-based economies.⁴⁷ While the OECD, which first championed the phrase “knowledge-based economy” has now moved on to “Internet economy” for more or less the same content, we have chosen to stay with “knowledge-based economy” (KBE) for two reasons. One is that the Internet is broad and a technological metamedium but yet does not completely describe the totality of knowledge and information functions that are encompassed in KBE. The term also gets us into needless semantics about what the Internet is and is not in developing-country contexts and whether what we are talking about has any relevance in the countries that we work in. We had the choice of shortening the term to “knowledge economies” but chose not to do so to avoid confusion with the segment of the economy that is comprised on industries whose primary output is knowledge, and to explicitly signal the inclusion of certain kinds of agricultural and industrial activities, in addition to service/knowledge industries. Our approach is broadly compatible with the conception of ICTs as general purpose technologies,⁴⁸ an approach foreshadowed by the early work of Freeman and Perez on the role played by ICTs in economic growth.⁴⁹

The second wave of interest also led to the development of a theoretical approach and a toolkit known as the Knowledge Assessment Methodology (KAM) that yielded many studies that were influential in policy terms.⁵⁰

⁴⁵ Lewis, A. (1955). *The theory of economic growth*. London: George Allen & Unwin; Frank, A.G. (1966). *The development of underdevelopment*. New York: Monthly Review Press.

⁴⁶ Carnoy, M., Castells, M., Cohen, S. and Cardoso, F.H. (1993). *The new global economy in the information age*. University Park PA: Pennsylvania State University Press.

⁴⁷ Mansell, R. & Wehn, U (1998). *Knowledge societies*. Oxford: Oxford U Press; World Bank (1998). *Knowledge for development*. Oxford: Oxford U Press; Foray, D. (2000). *The economics of knowledge*. Cambridge MA: MIT Press.

⁴⁸ Lipsey, R.G., K.I. Carlaw & C.T. Bekar (2005). *General purpose technologies and long-term economic growth*. Oxford: Oxford U Press.

⁴⁹ Freeman, C & Perez, C. (1988). Structural crises of adjustment, business cycles and investment behavior, in G. Dosi, et al. *Technical change and economic theory*, pp. 38-56. London: Pinter.

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<http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/KFDLP/EXTUNIKAM/0,,contentMDK:20584250~pagePK:64168427~piPK:64168435~theSitePK:1414721,00.html?> An example of a study that applies the KAM is Dahlman, C. & Anuja Utz (2005). *India and the knowledge economy: Leveraging strengths and opportunities*. Washington DC: World Bank.

However, we have been quite critical of its applications, especially applications that do not interrogate the underlying indicators.⁵¹

Foray (p. ix) defines KBE as “economies in which the proportion of knowledge-intensive jobs is high, the economic weight of information sectors is a determining factor, and the share of intangible capital is greater than that of tangible capital in the overall stock of real capital.” He goes on to describe two technologically enabled qualities that characterize KBEs have, namely, “(1) the accelerating (and unprecedented) speed at which knowledge is created and accumulated and, in all likelihood, it depreciates in terms of economic relevance and value as well as (2) a substantial decrease in the costs of codification, transmission and acquisition of knowledge” (p. x).

Our use of Foray’s terms does not suggest that we wish to focus on national economies as the unit of analysis; we cannot, in light of resource constraints. We believe there is merit in looking at global value chains that are substantially located in developing countries in terms of speed of knowledge creation and decrease of costs of codification, transmission and acquisition of knowledge, without necessarily making claims about national economies.

The focus then is on value chains and how they can be made more efficient and inclusive, using ICTs as instruments of knowledge creation and of reducing costs of codification, transmission and acquisition. Of course, limitations of time and resources means that we will not attempt to make grand theory, but will simply say meaningful and policy relevant things about the specific value chains that we study in detail.

In many discussions, efficiency is the sole factor. We give equal weight to inclusion, in the form of bringing more people into the global value chains, as opposed to recreating the old geographically defined dual economies, except this time with a non-geographical (for the most part), and virtual duality. Currently, many people participate in agriculture (see Table 2 below). Those who participate in global value chains tend to be more prosperous than those who are limited to local value chains. When we talk about inclusion as bringing more people into global value chains, we are not referring in any way to increasing the number of people engaged in agriculture (increased productivity would mean that less people engage in purely agricultural traditional livelihoods); we are talking about global value chains that include more SMEs.

The micro-level work that will be conducted as part of this research cycle may contribute to the KBE/Internet Economy literature, but that is not its principal purpose. It is applied research that seeks to develop specific concrete policy recommendations for governments, regulators, firms (in agriculture, ICT services and other) that do/can function within export-oriented agricultural value chains, and SMEs, informed by the larger theoretical debates. If anything, it will contribute to the rich grey literature on agricultural value chains that we intend to mine in the course of the country studies.

We see, especially from the stream of work drawing on the World Bank’s KAM, that there has been an almost exclusive emphasis placed on government actions. While public provision of public goods is the theoretically optimal solution, we have come to understand that in many countries that we work in that simply does not happen. This is, possibly not the ideal site for a theoretical discussion on this topic, which will take us far from the subject of the proposal. However, since the question has been raised, a short answer will be sketched out. That governments in developing countries do not supply public goods in adequate quality and quantity requires no elaborate proof. Simply walking the streets full of uncleared garbage piles or listening to the perennial (and

⁵¹

<http://iirneasia.net/wp-content/uploads/2008/07/radwan-review103.pdf>

repetitive) debates about the non-provision of public warnings after each and every natural disaster⁵² should be adequate. What then remains is the question of why these governments fail to provide public goods.

One explanation sees the developing-country government as lacking capacity. Enough aid and assistance, especially with regard to capacity building, will solve the problem and these governments will become more like normal governments. The other explanation sees the developing country state as fundamentally different,⁵³ and/or the relevant actors driven by very different incentives.⁵⁴ Irrespective of the theory one espouses, the fact remains that the governments are not doing what they are supposed to be doing (and doing other things they are not supposed to be doing). The policy prescriptions differ depending on the explanations. If the problem is a capacity gap, priority must be given to enhancing capacity. If the state is fundamentally different or is driven by different incentives, one looks for ways of changing those incentives and/or the character of the state. But one does not see much value in cajoling the government to do the right thing. One looks for workarounds. Private sector supply of collective goods is a workaround.

We are already involved in projects where firms supply, say, agricultural price information as CSR-like activities, hoping they will convert to true profit centers or at least help them gain and hold customers.⁵⁵ The emphasis on pragmatic policy recommendations that do not necessarily require the reform of dysfunctional government agencies (while engaging with them and hoping to contribute to their reform) is one way in which our research program on KBEs differs from what has been done in the past.

4.2 Relation to previous work

The voice-access problem in emerging Asia is close to being solved, except in a few closed economies (Table 1). In the countries (most of the countries LIRNEasia is active in) where greatest success has been achieved in reaching the poor, through the implementation of the Budget Telecom Network Model (BTNM), the voice business is increasingly becoming commoditized and the future of the operators rests on generating increasing amounts of revenue from “more-than-voice” or Mobile 2.0 services. The only way that people at the bottom of the pyramid in most Asian countries will be able to gain access to the benefits afforded by the meta-medium known as the Internet is through the offering of increasing numbers of applications designed for their requirements.⁵⁶ Whereas

⁵² See for example <http://lirneasia.net/2010/06/sri-lanka's-reaction-to-tsunami-alert-following-nicobar-quake-were-we-right/> in 2010, and <http://lirneasia.net/2007/09/reflections-on-the-response-to-the-false-tsunami-warnings-on-september-12-2007/> in 2007. Another example, analyzing the lack of early warning in the context of the easier-to-warn-of cyclones in Myanmar, is at <http://lirneasia.net/2008/05/cyclone-nargis---time-series-before-during-and-after/>

⁵³ Khan, Mushtaq (2004) '[State Failure in Developing Countries and Institutional Reform Strategies.](#)' In: Tungodden, B. and Stern, N. and Kolstad, I., (eds.), *Toward Pro-Poor Policies. Aid, Institutions, and Globalization. Annual World Bank Conference on Development Economics, Europe (2003)*. Oxford University Press and World Bank, pp. 165-195.

⁵⁴ Fisman, R. & Miguel, E. (2008). *Economic gangsters: Corruption, violence and the poverty of nations*. Princeton: Princeton U Press.

⁵⁵ <http://lirneasia.net/projects/2008-2010/mobile20bop/vertical-aspects/agricultural-applications/>

⁵⁶ Samarajiva, R. (2009). How the developing world may participate in the global Internet economy: Innovation driven by competition, in *ICTs for development: Improving policy coherence*, pp. 75-118. Paris: OECD. Retrieved from <http://www.oecd.org/dataoecd/39/15/44003919.pdf>

ICTs still are perceived by significant segments of BOP populations to be consumption goods, a significant percentage in countries such as Bangladesh and India, use them at least once a day for instrumental or productive purposes (Figure 7).

Table 1: Lowest-mobile-penetration countries, excluding micro states (Asian countries marked in red)

	Active SIMs, 2003 ('000)	Active SIMs, 2008 ('000)	CAGR, 2003-08 (%)	Active SIMs/100
DPR Korea	-	-	-	-
Myanmar	66.5	375.8	41.4	0.76
Eritrea	-	108.6	-	2.2
Cuba	35.4	331.7	56.5	2.96
Ethiopia	51.3	3,168.3	128.1	3.93
Papua New Guinea	17.5	300	103.5	4.67
Burundi	64	480.6	49.7	5.95
Turkmenistan	9.2	347.6	148	6.98

Source: ITU (2008). ICT statistics database. Retrieved from <http://www.itu.int/ITU-D/icteye/Indicators/Indicators.aspx>

Note: CAGR: compound annual growth rate. No data reported for DPR Korea. Its 3G License was issued in 2008

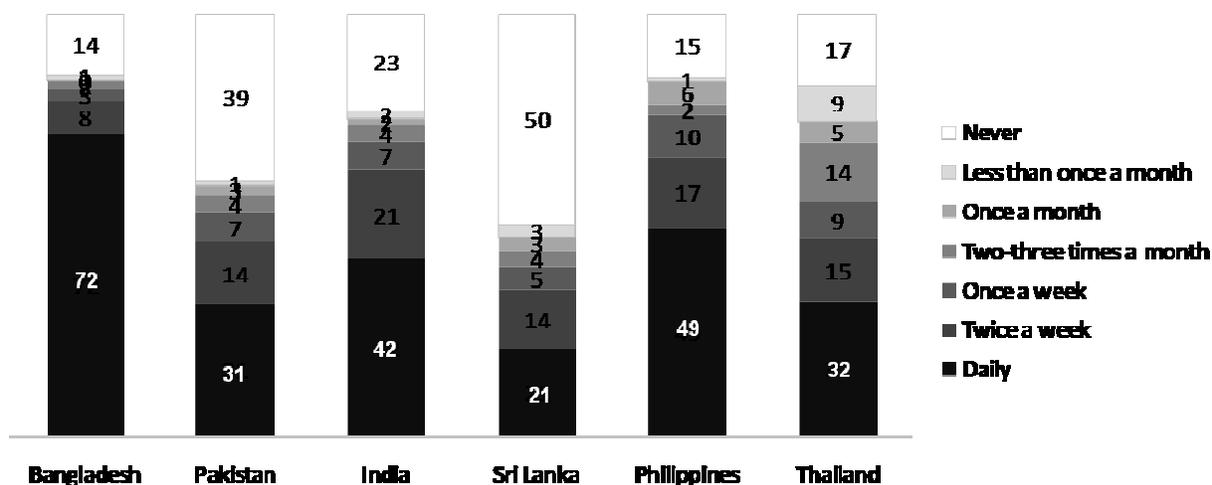


Figure 7: Use of the phone for financial, business or work-related purposes (% of BOP mobile owners)

Source: Teleuse@BOP3 survey

Therefore, a thematic focus on how ICTs can make more efficient an important value chain with potential to pull large numbers of people out of poverty, is well justified as a follow up to the completed research on Mobile 2.0.

The key policy recommendations of the previous research cycle included:

- Applications providers should offer more applications that meet real demand at the BOP;
- Telecom operators should emulate the app-store model, making it easy for applications providers to offer their services and also to encourage them by offering reasonable revenue share arrangements;

- Telecom operators should also offer different price-quality bundles, keeping with the prepaid sachet pricing model that was key to the success of the BTNM; and
- Policy makers and regulators should give the highest priority to adequate market-entry (including market-exit) procedures, spectrum refarming and management, greater emphasis on access to wholesale capacity (“fat pipes”) and associated anti-competitive practices, relaxed retail price and quality regulation with reliance on information and market mechanisms, and rational and predictable tax regimes, including the phasing out of universal service funds.

If all, or some, of these recommendations are implemented, we are likely to see greater use of Mobile 2.0, at the BOP and at the middle and top of the pyramid.

But the key to people getting out of poverty is not simply use of ICTs, but use in ways that put money in their pockets or allow them to keep more of their money in their own pockets or cushion them against massive external shocks such as disasters and illness. What the present research cycle seeks to do is to gain a deeper understanding of what will take to do this in a specific, high-impact value chain that affects large numbers at the BOP, export-oriented value chains.

At the second Harvard Forum on ICTs, human development, growth and poverty reduction last year, Michael Spence said that it was his conclusion from the work of the Growth Commission that the two major contributors to growth in developing countries in the past decades have been integration to global value chains and increasing application of knowledge to economic activities.⁵⁷ The Inclusive KBE research module drills down into individual value chains to examine the on-the-ground ramifications of Spence’s conclusions.

Of course, we understand that the factors at play are much more complex than in our previous work. Agriculture, the most traditional and least productive of the three main sectors (agriculture, industry and services), is the most challenging in terms of knowledge application and integration into global value chains. In agriculture, there are knowledge-related constraints, but rarely are the constraints solely knowledge-related. For example, farmers in Sri Lanka are prohibited from growing other crops on land used for rice farming, however low the yield and the returns are. Labor shortages exist, but mechanization is difficult because farmers are unable to consolidate holdings since they lack transferable title. In previous work where we examined traceability in an agricultural value chain, we found that the incentives were not fully aligned with the improvements in information transmission we were able to introduce in the course of the project.⁵⁸

Several value chains were considered in the course of planning the proposal. The factors that decided the choice was inclusiveness of the value chain, the potential for improvements in efficiency and inclusiveness, and competencies among the team.

Table 2: Indicators of importance and low productivity of agriculture sectors in study economies

	Bangladesh	India	Pakistan	Sri Lanka	Thailand
Share of GDP (2008)	19.0%	17.1%	20.4%	14.3%	11.6%

⁵⁷ http://www.idrc.ca/panasia/ev-140355-201-1-DO_TOPIC.html; see also, Samarajiva, R. (2009, October 12). Great recession: Danger or opportunity for Sri Lanka? *Lanka Business Online* <http://www.lankabusinessonline.com/fullstory.php?nid=1896068867>

⁵⁸ <http://iirneasia.net/projects/2006-07/icts-transaction-costs-traceability/>

Labor employed by sector (year)	48.1% (2005)	52% (2005)	43.6% (2007)	31.3% (2007)	41.7% (2007)
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Source: World Bank, <http://data.worldbank.org/>; Ministry of Finance, Government of India. (2009). "Agriculture and Food Management" in *Economic Survey 2008-2009*

The argument that ICTs can contribute to desirable outcomes only when complementary factors are in place is not a new one, and is spelled out in the 2008 book that was based on the research findings of LIRNEasia's first cycle of research.⁵⁹ The relationships between ICT use and transportation, distance to market locations, etc. are being investigated in papers that may be included in the Teleuse@BOP3 Working Paper series, though not among the first completed.⁶⁰ What the proposed research will allow is a sustained and intense focus on the inter-relationships among the various factors.

4.3 Plan of work

The work will be done in multiple phases (described more fully in Annex 2).

Preliminary research has narrowed down the value chains that will be studied in the four countries.

Table 3: Short list of value chains that will be studied

	Processed fruits & vegetables	Tea	Dairy products	Spices	Potatoes
Sri Lanka	x	x		x	
India	x		x	x	
Bangladesh	x				x
Thailand	tbd				

The selection criteria included growth in exports as measured by annual growth in value of exports, potential for value capture by small producers, and potential for increased productivity. The Thailand crops will be decided on the basis of available studies, because it is a meta-analysis. In the other countries, two value chains each will be selected based on a preliminary study of data availability.⁶¹

In the first phase, pilot research will be conducted in Sri Lanka, building on the considerable experience and relationships built up during the aginfo work since 2007, culminating in a commercial offering of mobile-based aginfo services. In January 2011, a research planning workshop will bring together our researchers from India and Thailand that will be included in the second phase and other experts. The findings of the pilot will be analyzed and the second-phase research will be designed.

⁵⁹ Samarajiva, R. & A. Zainudeen (eds.) (2008), *ICT infrastructure in emerging Asia: Policy and regulatory roadblocks*, New Delhi & Ottawa: Sage and IDRC, introduction. http://www.idrc.ca/en/ev-117916-201-1-DO_TOPIC.html

⁶⁰ <http://lirneasia.net/projects/2008-2010/bop-teleuse-3/papers/>

⁶¹ The preliminary analysis was conducted as part of proposal preparation and builds on the considerable work done by LIRNEasia for the ENRAP project: de Silva, H., & Lokanathan, S., Ratnadiwakara, D. (2008). *Scoping Study: ICT and Rural Livelihoods – South Asia Component*. IDRC. Available at: <http://www.enrap.org/research/icts-for-livelihoods-research/Scoping%20Study%20-%20ICT%20and%20Rural%20Livelihoods/Executive%20summary%20of%20the%20scoping%20study%20for%20ICTRL%20for%20South%20Asia%20focus%20countries>.

The second-phase research will comprise of value chain studies in India, Bangladesh and Thailand, as well as a survey of SMEs in selected countries and sectors (which will be decided based on the learnings of the qualitative research). Funding for the SME survey is not requested in this proposal, and will be requested for through a separate proposal in 2010; however, should supplementary funding be secured by end 2010, a reallocation of approximately USD xxx⁶² from the Demand-side module will be requested, in order to complete the survey.

In May-June 2011 there will be another workshop to review and synthesize the findings of phase 2 and to design the SME survey, subject to supplementary funding (see Annexes 2 and 12).

The findings of the quantitative and qualitative components of Teleuse@BOP4 will be fed into the process as and when the results become available. The final outputs will pull together both strands.

In contrast to related work done as part of the KAM research by the World Bank, where the policy recommendations were all aimed at governments, the LIRNEasia research seeks to develop recommendations that will address what private actors can do help make value chains more efficient and inclusive. Harsha de Silva,⁶³ who has been engaged in the study of agri markets since 2003 and whose work is now embedded in commercially offered services,⁶⁴ will lead the dissemination effort. The sector performance reviews will feed into this aspect of the analysis.

The immediate objective is to extract policy findings on how to improve the efficiency and inclusiveness of agricultural value chains in the three countries that are studied. This will include recommendation of private supply of public goods/services needed to improve value chains as well as the most important complementary reforms that will make ICT based interventions most beneficial. However, the larger objective is to develop understandings that cut across multiple value chains and give a fresh insights based on concrete research conducted in developing countries.

Further, the audiences for the research are not as clearly identifiable as in our previous work, requiring much more attention having to be paid to dissemination and advocacy. This effort will be headed by Harsha de Silva, who has a profile in this space. It is planned to conduct four national workshops to disseminate the results in each of the countries

⁶² Inclusive of 13 percent overhead.

⁶³ A question has been raised about the time that Dr Harsha de Silva can commit to research in light of his new commitments as a “national list” MP for the main opposition party in the Sri Lankan Parliament. Dr de Silva has never worked fulltime for LIRNEasia; he has not been part of LIRNEasia’s management structure; he has always fulfilled his obligations to LIRNEasia in addition to various other commitments. Being a national list MP in Sri Lanka is not a full-time activity, especially because it does not include constituency services. Dr de Silva is deeply committed to advancing the understanding of agricultural value chains, work that he commenced even before he joined LIRNEasia. He has assured us that he wants to play an active role in the research. Please see: <http://lirneasia.net/2010/04/harsha-de-silva-a-policy-intellectual-moves-to-the-next-level/>, including comments especially Dr de Silva’s.

⁶⁴ <http://lirneasia.net/2009/12/agricultural-price-information-through-mobiles-harshas-dream-closer-to-realization/>

A total of USD xxx⁶⁵ is requested for the inclusive knowledge based economies module; the amount includes funding covering research, travel and subsistence fees.

6.0 Dissemination and advocacy

Serious and systematic attention to the problem of moving research findings to policy and regulatory practice has been a signature of LIRNEasia's work. It has been successful in all three aspects of policy influence: expanding policy capacities, broadening policy horizons, and affecting policy regimes,⁶⁶ though understandably for a young, project-funded organization, its achievements have mostly been in that latter two aspects. The research-to-policy achievements and failures are documented and to a degree analyzed.⁶⁷ In addition, in 2009 LIRNEasia began to disseminate its experience in taking research to policy by the offering of a short training module.⁶⁸

Key to LIRNEasia's approach has been the development and implementation of project-specific communication strategies, flexibly and opportunistically. It has also sought to break out of the straitjacket of project funding, by intervening on topics whenever policy windows open, irrespective of whether the specific sub-project is ongoing or not. The availability of the flexible rapid response facility has been critically important in this regard. In light of the urgency of stabilizing LIRNEasia's finances by moving beyond project funding and dependence for the most part on a single funder, dissemination funds will be used to communicate LIRNEasia's ongoing and completed research to potential sources of funds.

The objectives of the Dissemination and Advocacy activities conducted under this proposal are:

- Effectively communicate the findings of the three research module to the relevant audiences capable of changing policies of government and strategies of private firms, and contribute to changing their symbolic environments by disseminating the results through the media;
- Engage in rapid-response actions using the results of the research conducted under this proposal and prior to this project;
- Communicate the results of LIRNEasia research and related activities to those likely to provide sustainable funding in the future.

6.1 Rapid Response program

The Rapid Response program that has been in place from the beginning of the existence of LIRNEasia will be continued. It has been well received, including by the external evaluator, who states that: "It is possible to be

⁶⁵ Inclusive of 13 percent overhead.

⁶⁶ http://www.idrc.ca/en/ev-43607-201-1-DO_TOPIC.html

⁶⁷ LIRNEasia (2009). *2004-2009: Five years in review*. Colombo: LIRNEasia, esp. chapter 2 (pp. 17-34); Kathuria, R. (2009), Comparing the impact of decline in leased line prices in India and Indonesia : Lessons for Latin America. <http://www.acorn-redecom.org/papers/ProceedingsAcornRedecom2009.pdf> and Ofir, Z. (2009) External evaluation: LIRNEasia's policy influence. Pan Asia Networking Program Evaluation. IDRC.

⁶⁸ <http://lirneasia.net/2009/10/lirneasia-assists-mongolia-ictd-researchers-better-reach-policy-makers/>

responsive - to opening policy windows, opportunities for ‘rapid response’ or agenda setting - when an organization (i) conducts ongoing research on consistent themes that provide a basis for fast action, as noted above; (ii) has its fingers on the pulse. ‘Connectedness’ – contacts, partnerships, networks and active participation in key events - help to keep a finger on the national, regional and international pulse, to act fast, expand its profile and footprint, to maintain or enhance its reputation, move into new areas and act as a catalyst.”⁶⁹

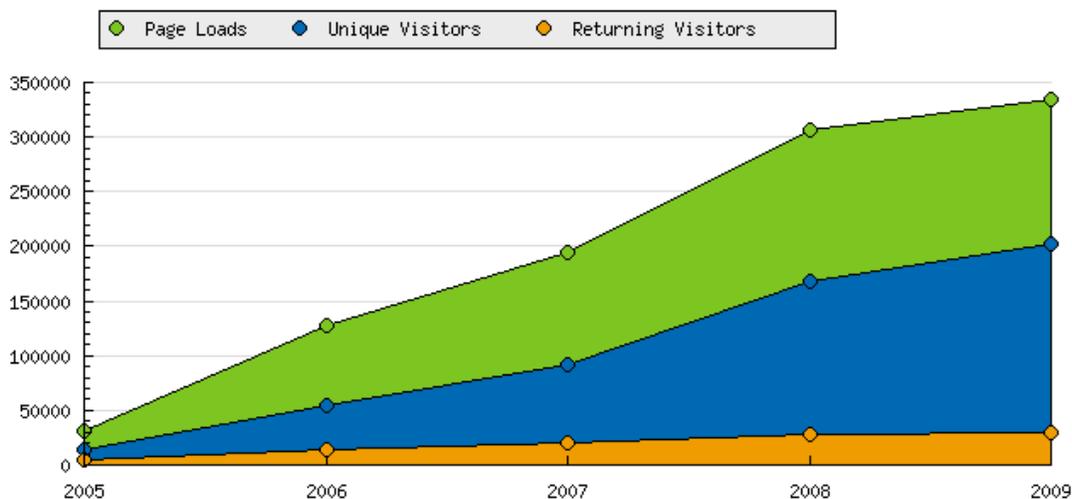
The rules of its operation, which, for interventions that include visits, include a formal invitation from an entity in the host country; participation by public-sector, private-sector and civil-society participants; and the bearing of local costs by the inviting entity, keep the costs down and the impact high. Increasingly, rapid-response interventions do not involve a visit to a country, but a strategically placed newspaper article or a submission to a public consultation.

6.2 General dissemination

From the beginning LIRNEasia has placed great weight on the effective use of media to disseminate its research results in ways that change the symbolic environments within which decision-makers function. This requires several types of actions:

- Continually training researchers to communicate in ways that will be effective with media;
- Conduct of media interactions facilitated by professional communication consultants and otherwise;
- Getting researchers to actively engage with collectively authored media such as Wikipedia and widely read blogs that deal with relevant topics; and
- Participation in international and regional conferences, workshops and dialogues that will serve to broadly disseminate LIRNEasia research.

These actions will continue. We will also build on the success of the LIRNEasia website (see Figure 8 for performance over time and Table 4 for a snapshot with more detail) in this regard.



⁶⁹ Ofir, Z. (2009). External evaluation: LIRNEasia’s policy influence. P. 57.

Figure 8: Annual page loads, unique visitors and returning visitors, LIRNEasia website, 2005-2010

Source: StatCounter

Table 4: Performance data for LIRNEasia website, March 2010

Source: Google Analytics

	Sub Continent	Visits	Pages/Visit	Avg. Time Site	Bounce Rate
1.	South Asia	7,659	3.49	00:02:12	2.05%
2.	North America	2,429	3.08	00:01:23	1.40%
3.	Northern Europe	1,238	2.84	00:01:24	0.40%
4.	Southeast Asia	977	3.14	00:01:35	1.94%
5.	Western Asia	741	2.72	00:00:51	2.02%
6.	Western Europe	651	3.08	00:01:05	0.31%
7.	Australia/ New Zealand	519	2.61	00:00:48	1.54%
8.	Southern Europe	456	2.76	00:00:57	1.54%
9.	East Asia	441	3.10	00:01:41	1.13%

The total amount requested for dissemination of research and advocacy is USDxxx;⁷⁰ the amount includes funding covering research, travel and subsistence fees.

7.0 Mutual learning among members of LIRNE.NET

The objectives of the activities under this heading are:

- Achieve greater synergies among the activities of the constituent units of LIRNE.NET

LIRNE.NET has been reconfigured and rejuvenated, with an explicitly southern focus and a decentralized form. In the previous cycle, multiple meetings were held among the leaders of the three southern units (Table 5) and actions taken to improve mutually beneficial cooperation. These included joint participation in successful proposals, exchange of personnel,⁷¹ and the preparation of a joint proposal for capacity building in the global

⁷⁰ Inclusive of 13 per cent overhead.

⁷¹ Aileen Aguero, a DIRSI staffer spent six months at LIRNEasia as an intern.

south.⁷² The meetings were not limited to those set out in the 2008-10 proposal, but included others held on the sidelines of meetings attended by the leaders of the units.

Table 5: Meetings among LIRNE.NET constituents: 2008-2010

Date	Meeting	Location
June 2008	Meeting among LIRNE.NET constituent entities	Ottawa, Canada
June 2008	LIRNE.NET double session at ITS 2008 conference	Montreal, Canada
November 2008	Teuse@BOP3 analysis workshop (with the participation of senior RIA! and DIRSI researchers)	Negombo, Sri Lanka
April 2009	Meeting among LIRNE.NET constituent entities (at 13th Executive course on telecom reform)	Johannesburg, South Africa
April 2010	Meeting among LIRNE.NET constituent entities (at launch of CPRafrica)	Cape Town, South Africa

LIRNEasia seeks funds in the amount of USD xxx⁷³ for LIRNEasia expenses related to this sub component; the amount includes funding covering research, travel and subsistence fees. It is expected that the other units will look after their own costs.

8.0 Evaluation

Considerable progress was made in developing evaluation capabilities within the organization in the previous round. Chanuka Wategama, attended International Program for Development Evaluation Training (IPDET) at Carleton University. Nilusha Kapugama was trained in Utilization Focused Evaluation (UFE) methods. A comprehensive evaluation by Kapugama of the main capacity building initiative, CPRsouth, using UFE is underway under IDRC's DECI (Developing Evaluation Capacity for ICT4D) initiative. LIRNEasia also contributed to an external evaluation commissioned by PAN and conducted internal training based on it. The outcome map for the present proposal is given as Annex 7. The amount requested is USD xxx⁷⁴ over two years; the amount includes funding covering research fees only.

In terms of balancing the different demands on scarce resources, LIRNEasia is content to undertake what is essentially, a low-profile, internally driven evaluation process. It was subject to a partial external evaluation that was paid for by funds that did not reduce what it had to spend on its main research, dissemination and advocacy activities because of its standing as a "flagship programme" of Pan Asia Networking.⁷⁵ We are confident that similar considerations will result in external funding of the totality of LIRNEasia's work in the near future.

9.0 Budget

⁷² "Fostering policy intellectuals for improved ICT provision in the global south," a joint proposal to IDRC from LIRNEasia, RIA and DIRSI.

⁷³ Inclusive of 13 per cent overhead.

⁷⁴ Inclusive of 13 per cent overhead.

⁷⁵ Ofir, Z. External evaluation, p. 1.

Please see Annex 8.

10.0 Personnel

Please see Annex 9.