Draft Background Paper for UN ESCAP

Strategies for building public-private partnerships for the provision of ICT access for disadvantaged communities*

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* This draft was written under a tight deadline and a revised TOR from the original. It is not comprehensive.

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1.0 INTRODUCTION

More often than not, developing countries are found to be in difficulty with balancing budgets. Deficits are widening and debt is mounting creating serious macroeconomic imbalances, driving up inflation and exacerbating balance of payments problems. Many a time, Governments end up having to cut 'development activities' or infrastructure investments to bridge these gaps. The result is poor public sector infrastructure services, be it in electricity, water, transport or to a lesser extent, information and communication technology. In certain instances, public infrastructure services are totally absent for disadvantaged communities; or for those poorer citizens living in rural areas. While this remains true it is also true that in many parts of the developing world public sector productivity has been found to be below average. Thus, even when funds are found by Governments for public services to be provided by the public sector, the quality of such services leaves much to be desired. However, the private sector has proved, in many of those same countries, to work 'better' and 'cheaper' and have also proved to better at managing and allocating risks.

In this context progressive countries are now finding that public-private-partnerships (PPP) can be created between the public sector and the private sector for win-win solutions to deliver cost-effective and better quality services to all by taking advantage of private sector innovation, experience and flexibility and combining with the political and administrative control of the public sector. They are also learning that cost savings achieved from such partnerships can then be used to fund other needed public services.

All the above learning can be structured in a way to arrive at a basic list of motivating factors for PPPs by any Government. In general, they are to secure Government budget allocations; improve quality of public infrastructure and provided services; mobilize private sector expertise in construction and management of infrastructure facilities; limit operational costs of service delivery; and most importantly, to share financial risks of the investments. Therefore, PPPs, if implemented properly, can better utilize limited public funds to guarantee desirable levels of public services and meet social objectives of all citizens of a country.

In this background, the objective of this brief background paper is to discuss selected strategies for building such partnerships for the provision of information and communication technology (ICT) access for disadvantaged communities defined here as those that are economically backwards and geographically isolated. The paper, in Section 3, groups the generic PPPs in to three broad categories and highlights some mechanisms and strategies that could help ensure

successful implementation to meet the objective. Section 4 discusses how to strengthen such strategies for successful PPPs with the help of organization like the UN ESCAP. However, before that, the paper, in the next section undertakes a review of the current status of ICT access, the prevalent gaps in access, the reasons for such gaps and also some lessons on how best donor intervention to bridge access gaps can be utilized.

2.0 CURRENT STATUS AND LESSONS LEARNT ON ICT ACCESS

This section considers the theoretically perceived and actual access gaps in ICT across a number of emerging Asian countries. Thereafter some general lessons learnt in terms of PPPs are discussed in the context of the need for a regulatory regime conducive for the success of interventions and the emerging importance of mobile phones as a transaction platform for the disadvantaged communities as opposed to the steadfast view by some on the importance of telecentres for the purpose. But first, let us understand what PPPs are.

2.1.1 Public-Private Partnerships

Essentially, a PPP is a contractual agreement between a public and a private sector entity whereby the private entity commits to provide an identified service that has traditionally been supplied by the public sector or not provided at all. When properly implemented, PPPs produce reduced costs, better risk allocation, faster implementation, improved service quality and additional revenue streams to Government. Ideally, PPPs create synergistic results by combining the expertise and resources of the private partner with the administrative and political power of the public partner.

2.2 Information and Communication Technology and ICT Access

ICT consists of many forms; traditional ones being radios, televisions etc., while the newer ones are telephones and the Internet. In this paper only the new ICTs are considered. In terms of access, only connectivity; both in terms of both backbone and last mile is considered. Content and capacity building is not considered separately as the focus of the paper is not on ICT per se, but on how to build PPPs for ICT access for the disadvantaged communities.

2.3 Access gaps in ICT and the role of PPPs

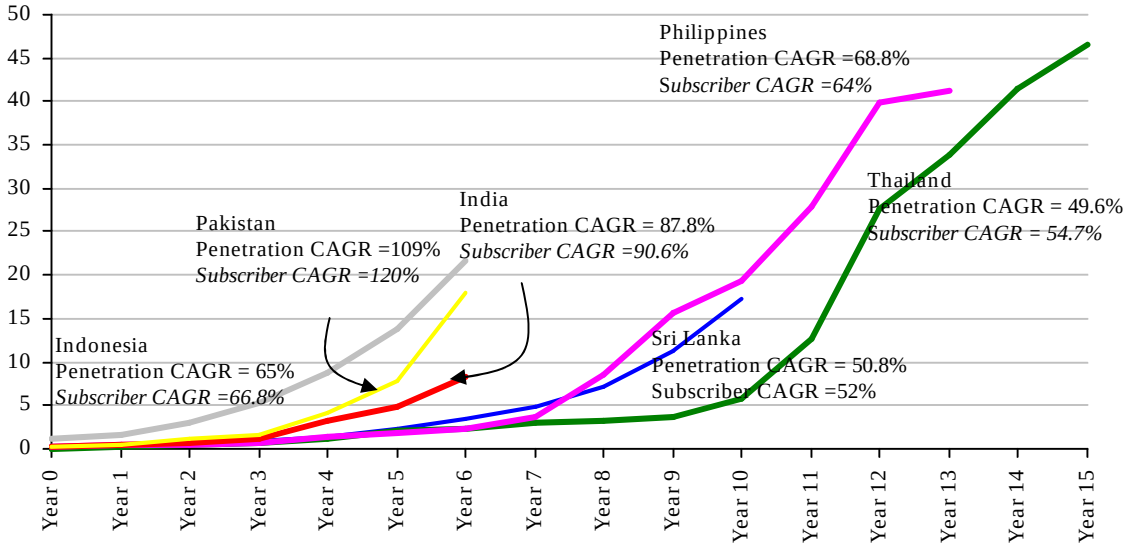
In the past, the supply of telephony had traditionally been skewed towards the urban affluent as opposed to the rural poor. The literature dichotomizes this urban/rich rural/poor gap using a

"market efficiency gap" and an "access gap" concept.[1] The market efficiency gap is the difference between what markets actually achieve under existing conditions and what they can achieve if market barriers are removed. This gap can be bridged through effective competition, private provision of services, and market oriented policies and regulations that create a level playing field, particularly for new entrants. The access gap on the other hand refers to people and places that remain beyond the limits of the market due to inadequate income levels or its skewed distribution. Bridging this gap needs intervention to encourage services providers to enter these areas.

2.4 Theoretical arguments for access gaps in ICT

ICT has been one of the most successful reform stories across the world. With large scale private investments flowing in after liberalization and creating an environment for effective competition, the growth in the penetration of ICT has been extraordinary. Figure 2.1 depicts the cumulative average growth rates (CAGR) of mobile telephony for six emerging Asian countries since the start of reforms; year zero. The various inflection points correspond to policy and regulatory action that helped move the sector from "theoretical" competition to effective competition be it via price wars, surge in market entry or the advent of a disruptive competitor in the background of falling per unit costs of equipment and service due to rapid advancements in technology.[2]

Figure 2.1: CAGR of penetration and subscribers of mobile telephones



[1] Navas-Sabater. J., Dymond , A. & Juntunen, N. Telecommunications & Information Services for the Poor: Towards a Strategy for Universal Access.

[2] de Silva, H. Competition and growth in the telecommunications industries in India, Pakistan, Sri Lanka, Thailand, Indonesia and the Philippines [Working Draft]

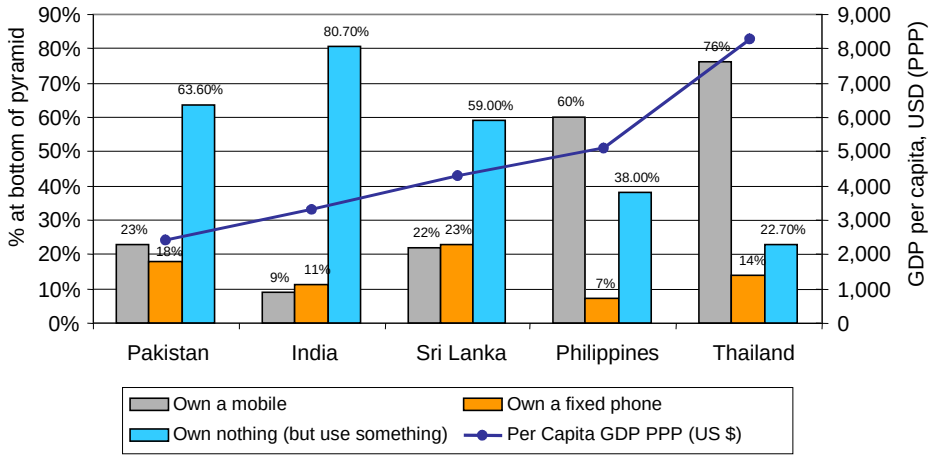
While the aggregate numbers look promising, access is not uniform across income deciles and across geographic locations. The argument is that private investors are reluctant to move into rural areas of the country to establish connectivity; both in terms of backbone and last mile because the large distances and thinly spread population make for high infrastructure costs and lower average revenue per user (ARPU) due to low income of the inhabitants

2.5 Practical realities of access gaps in ICT

Business models of successful private enterprises are as dynamic as evolution. Given the pressure to run profitable telecom companies in a highly competitive environment of lower ARPU with each marginal user on the network generally less well off than the previous and more rural than the previous, they have had to innovate. Serving customers at the bottom of the pyramid (BOP: socioeconomic classification D and E) in rural areas has now become a necessity for the very sustainability of these enterprises and many have started to consider the BOP in the way CK Prahald had suggested "… *if we stop thinking of the poor as a burden and start recognizing them as value conscious consumers, a whole new world of opportunity will open up"* [3] The evidence of rapid expansion of private provision of ICT across the BOP is evident from two angles; one from the growing profitability of private telecom companies and the other from user surveys at the BOP. A recent BOP survey by LIRNE*asia* that interviewed close to 9,000 respondents in emerging Asia found that 94 percent in India, 98 percent in Pakistan, 92 percent in Sri Lanka, 93 percent in the Philippines and 95 percent in Thailand had used a phone in the three months preceding the interview.[4] This clearly demonstrates that universal access for telephony in terms of the existing definitions has been surpassed by far and the oft quoted statement by former UN Secretary General Kofi Annan at ITU Telecom in October 1999 that "Half the world's people have never made or received a telephone call" is no longer valid. However, there is a great dichotomy between the usage and ownership of telephones as depicted in Figure 2.2.

[3] Prahald, C.K., The Fortune at the Bottom of the Pyramid: Eradication Poverty Through Profit
[4] de Silva, H. & Zainudeen, A. Teleuse on a shoestring: Poverty reduction through telecom access at the bottom of the pyramid. Does inequality matter? Exploring the links between poverty and inequality,

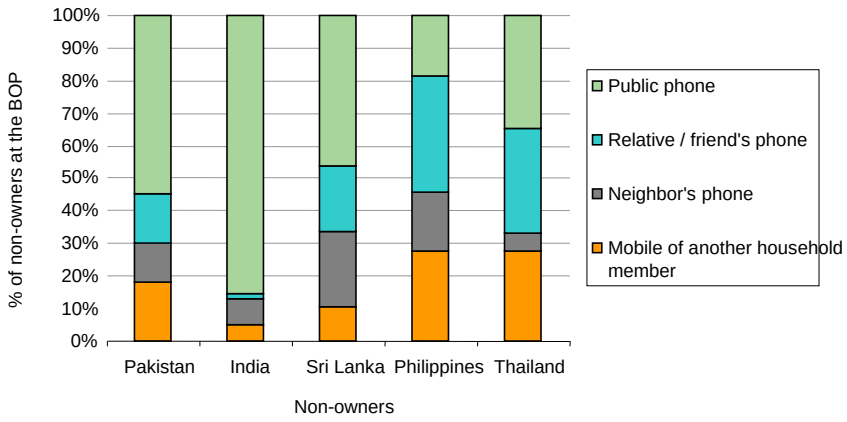
Figure 2.2: Ownership patterns of telephones at the BOP



Note: The urban: rural break of non-ownership at the BOP for the countries are 52:76, 78:84, 50:61, 37:39 and 12:22 respectively

This scenario leads to the next pertinent question as to how the estimated 300 million people at the BOP between the ages of 18 and 60 in these countries who do not own a phone access one. As seen from the results of the LIRNE*asia* research, the use of public phones, in which ever manifestation; public call offices, telecentres, pay phones, agency post offices etc. is the most availed of option, particularly in India, while relatives and neighbor's phones are also important alternatives in most other countries.

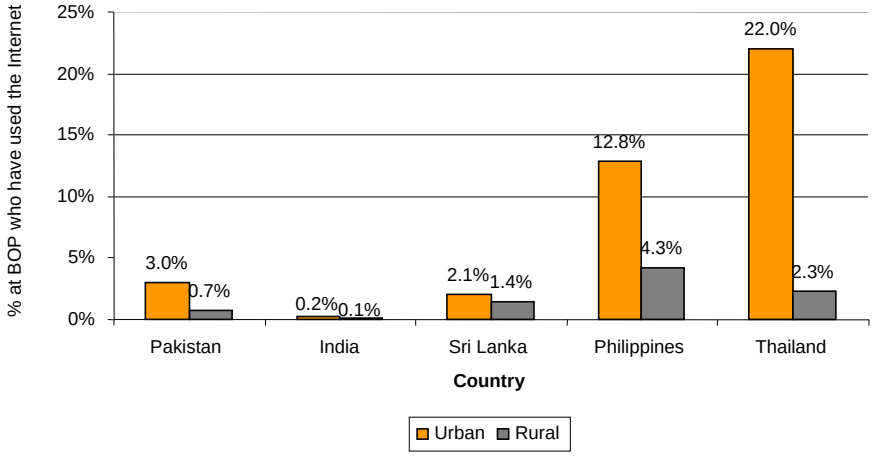
Figure 2.3: Modes of telephone access of non-owners at the BOP



While the access issues at the BOP are as above for one component of the ICTs; telephones, the numbers for the other component; the Internet, is dramatically different. The research shows the

abysmal access to the Internet, except for urban Thailand. While private sector owned and operated mobile Internet; via telephony, has not yet become feasible at the BOP, the much hyped telecentre initiatives of numerous donors including that of the UN system have for the most part failed to live up to their expectations.

Figure 2.4: Use of Internet at the BOP



Therefore, it is in this context the discussion on strategies to develop public-private partnerships become useful in terms of providing ICT access to disadvantaged communities. The important issue is how best can such PPPs be designed, developed and implemented?

2.6 Important lessons to learn before joining the heard

International organizations such as the World Bank regularly help Governments formulate policies and support regulatory regimes to fill identified access gaps in ICTs as discussed previously in this paper. They also finance subsidy programs intended to provide connectivity to the rural poor. Many other donors, particularly those in the UN family, including ESCAP, actively encourage and co-finance telecentres that are expected to provide ICT access to the rural poor and help establish effective PPPs to encourage private investors to channel some of their investments towards less commercially attractive regions. Importantly, they also support research and consultation such as this workshop to elicit varied view points on the subject.

It is therefore imperative that lessons learnt are discussed prior to recommending what may seem to be highly beneficial projects. This is necessary not only for sustainability of the donor-initiated project, but also not to distort the existing or potential market driven delivery mechanisms of the same service.

2.6.1 A USD 12 million disaster in Nepal

Notwithstanding monopoly profits and cross subsidies, the incumbent Nepal Telecommunications Corporation (NTC) had found it difficult to justify extension of their networks to the remote areas of the country. Many of the Nepalese villages that were difficult to service terrain wise and uneconomical due to infeasible demand remained un-served. In November 2003 the Government of Nepal used the proceeds of a loan from the World Bank to provide USD 11.9 million to a US based VSAT manufacturing company which was selected via a least cost subsidy auction mechanism, widely referred to as "smart subsidy" to extend 1,068 public access telephones in 534 villages in the Eastern Development Region in Nepal. This was a classic PPP where the public and the private sector were together attempting to achieve the goal of ICT access to disadvantaged communities. Given the success in previous such PPPs in South America, particularly in Chile, the World Bank and the Government of Nepal was hopeful of a successful reproduction of the model with the roll out completed by mid 2005.

However a study completed in late 2005 by LIRNE*asia* found that the project had became a screaming disaster by then.[5] Only 541 locations; all in the valleys and hills, not in the difficult mountains, had been installed, but even out of them only 197 were in operation as the rest had been shut down by order of the Government. It was found that initially the cost of a call was some 18 times that of a similar call by the incumbent in nearby villages due to arbitrary interconnection charges by the incumbent and generally and the private operator was running at a huge operational loss. As a result most of the call offices were not functional with average usage being under 1 minute per day per location. The regional licensee was being walked all over by the incumbent ignored by the regulator.

[5] de Silva, H. & Tuladhar, R. K. Smart Subsidies-Getting the Conditions Right: The experience of expanding rural telecoms in Nepal

Figure 2.5: A justifiably closed up public call office in Nepal

The general lesson is that while it may be possible to use smart subsidies to provide rural communities with telecommunications services the real question is whether such services are optimal and whether such projects could be sustained in the medium to long term. It was found that unless the right regulatory conditions are in place; particularly with respect to cost-based asymmetric interconnection agreements and effective regulation of incumbent's anti-competitive practices, success of rural telecom service providers who are empowered by smart subsidies to provide access to the disadvantaged communities, would not be sustainable.

2.6.2 Mobile kills the telecentre star?

There exists almost an obsession with donors funding relecentre programs in developing countries. The logic is to address the access gap by intervening in the market via PPPs in the form of subsidies for the establishment and operation of telecentres or community access points. There perhaps is no country without at least some donor funded telecentres while there are some with tens of thousands of them. But at the same time, telecentres have not lived up to anywhere near the hype that is created around them. In fact the December 2007 issue of Sustainability First, a publication by Telecentre.Org asks the question "Empty telecentres! Why?" It starts by saying "Telecentres, full of computers but without customers … A common question in many parts of the world".[6] This is precisely the question that begs an answer. International organizations like ESCAP should study at length the pros and cons of typical

[6] Liyanage, H. (2007) Empty telecentres ..! Why..?. Available at http://www.sustainabilityfirst.org/2007/12/empty-telecentres-why.html

telecentre model before supporting the establishment of the next telecentre. A recent paper by LIRNE*asia* is used to shed light on the issue.[7]

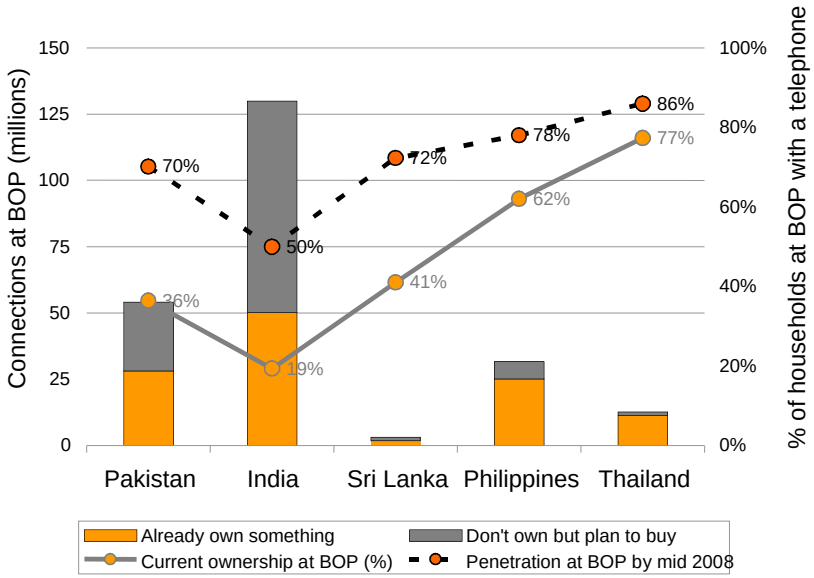
What services do telecentres provide, in whichever name it is identified? Generally, these services can be categorized in to 3 components. First are services that depend on some telecom facilities like phone, fax and Internet and information gathered by its use including e-government services; the second set of services are those that benefit from connectivity but do not depend on it like capacity building and language training which mostly uses DVDs as guides instead of on-line facilities; and a third set not related to connectivity like photocopying, using of centre for meetings etc. The sustainability of these telecentres are in difficulty because many of the services are provided free or below cost and generally only the connectivity related services are paid for in full; in this case telephone calls and faxes. The willingness to pay for the Internet remains untested due to serious content shortage issues. But, running telecentres at a loss is not seen as a critical problem because of the greater 'social objectives' being met. According to Proenza (2003) "Telecenters are a highly visible, powerful and inexpensive political tool. They generate much fanfare during early planning and inauguration stages of the programs, but interest in their programs wane shortly afterwards".[8] Sri Lanka's proposed 1,000 "Nena Sela" telecentre program funded via a larger USD 83 million World Bank facility for e-Sri Lanka is a classic example of such a program, where telecentres are being established at locations that in no way can expect to become sustainable and smacking of discrimination. For instance in a 'random' district in Sri Lanka; Anuradhapura, 22 out of a total of 33 telecentres are located inside Buddhist temples; the religion of the majority Sinhalese.[9] Note that neither people of other religions, nor women, would naturally be welcome to visit telecentres inside Buddhist temples.

The study finds that a critical issue with telecentres is that with the primary revenue [up to 60 percent according to the World Bank calculations in the Sri Lanka case] being generated from telephone services, but at the same time more and more people or their family members at the BOP now getting connected, the expenditure on telephony would go directly to phone companies instead of through telecentres. The dramatic fall in the profitability of the "Bangladesh phone ladies" where they are said to be losing some 50 percent of their earlier

[7] Galpaya, H., Mobile Kills the Telecenter Star?, Available At http://www.slideshare.net/arnic/mobile-kills-the-telecenter-star/
[8] Proenza, F., A public sector support strategy for telecenter development: Emerging lessons from Latin America and the Caribbean.
[9] Nanasala Official Web Site, Available at http://www.nanasala.lk/

income (Shaffer, 2007) and similar trends in the Senegal public call centres (La Soleil, 2007) point towards the impending issues with the sustainability of the current telecentre model. The potential problem for telecentres gets further complicated when one considers the high probability of the non owners at the BOP purchasing a phone, which is depicted in Figure 2.6 along with the projected cumulative ownership figures[10].

Figure 2.6: Projected ownership growth at the BOP between mid 2006 and mid 2008



3.0 POSSIBLE PPP ARRANGEMENTS, MECHANISMS AND STRATEGIES

Having discussed the theoretical issues of ICT access gaps and the current status of access in a number of emerging Asian countries and thereafter having considered the dynamics of phone use and ownership and the resulting implications for telecentres, it is relevant now to deliberate on the available mechanisms and strategies for building public private partnerships for the provision of ICT access for poor rural communities. This section segments PPP arrangements in to different groups and then, under each group, discusses how some of them have been used to establish and sustain effective ICT access.

Public private partnerships take many contractual forms primarily depending on the mode of entry, ultimate ownership, risk sharing, and duration of the partnership. According to the

[10] Samarajiva, R., de Silva, H. & Zainudeen, A. Non-Owner Telecom Users at the Bottom of the Pyramid and How to Make Them Owners.

European Commission Green Paper, PPPs are divided into institutional and contractual PPPs[11].. Institutional PPPs are characterized by the creation of an institutional entity jointly held by the public and the private operators whether newly established or derived from the transfer of an existing structure. Contractual PPPs, instead, are based on an agreement between the public sector and the private partner to provide a service in exchange for some form of compensation from final users or through regular payments by the public authority. Following are some key forms of generally employed PPPs; ranging from contractual schemes which provide for a marginal involvement of the private sector, to complex forms of institutional PPPs implying a greater allocation of risk and responsibility to the private party. The categorization is based on the ultimate ownership of the asset; whether public or private.

3.1 Category 1 PPP: Immediate private, or joint public-private ownership

This category of PPPs has a large private sector component. In most cases the entirety of the investment will be provided by the private party, resulting in the complete risk being borne by the same. This arrangement makes the private partner the more powerful stakeholder in the PPP and also the party that will have greater claim for the returns from the venture. However these types of PPPs do not dilute the public partner's ability to achieve their objectives. In fact, the public party may be easily able to meet its social objectives without having to invest resources or having to undertake any of the risk associated with the venture. The Government, ideally not via the public party in the partnership, but through an independent regulatory body will need to perform the crucial task of regulating the operations of the private party to ensure the twin objective of public interest as well as equitable treatment of all competitors in the sector. The Community is also a significant stakeholder within this type of operation. In the ideal situation, community groups will be vigilant in monitoring such PPPs and ensure that the needs of the disadvantaged communities are met across the lifetime of the venture. Following are some variations of Category 1 PPPs and strategies for implementing such partnerships.

3.1.1 Buy-Build-Operate (BBO)

A BBO is a form of an asset sale, or privatization that includes a commitment on rehabilitation or expansion of an existing facility. The government sells the asset to the private sector entity, which then makes necessary improvements or expansions to operate the facility in a cost effective manner. The entire risk rests on the private party. The actual form of privatization; either full or partial, would determine the asset's ultimate ownership structure. In terms of ICT access, BBOs can be structured for any type of profitable or unprofitable, well running or

[11] European Commission, Green Paper on public-private partnerships and Community law on public contracts and concessions,.

neglected public entities at any point in the ICT access chain. A number of such divestitures were completed or reached the final stages across the world in 2006. According to the World Bank, some of these were; 65 percent stake of Telekom Srpske in Bosnia and Herzegovina, 90 percent stake of the incumbent UTC in Georgia, 52 percent stake in Telefonica in Colombia, 35 percent stake of Tunisie Telecom in Tunisia, 90 percent stake in Malawi Telecom in Malawi and 75 percent stake in Nefirian Telecom in Nigeria among many others.[12]

Typical strategy to meet ICT access to the disadvantaged communities in such cases is to include universal service obligations, for instance in terms of expansion of network to identified geographic areas, with the BBO agreement. When the Telecom Corporation of New Zealand (TNZ) was privatized in 1990 the New Zealand Government incorporated provisions into TNZ's Articles of Association to ensure that TNZ will not withdraw services from geographic areas that it served at the time of privatization and the rental for residential users in rural areas is equal to the standard residential rental[13]. However it must be noted that such commitments are more often than not met to the satisfaction of the rural communities, particularly in the developing world, and not much can be done in terms of the already concluded asset sale.

3.1.2 Build-Own-Operate (BOO)

A BOO is a PPP wherein the private partner constructs and operates a facility while retaining the ownership of the asset. The entire cost outlay is from the private entity while the public partner has little or no involvement in the construction or operations of the asset other than to coordinate service agreements and other operational activities. Usually these BOO parties will be regulated by an independent Government entity. BOOs are very common in telecom access and examples of Greenfield projects are abound across the world.

An interesting strategy of a new breed of BOOs to provide ICT access to rural communities is with infrastructure sharing in India. Until very recently, telecom companies were not willing to share mobile towers with competitors. The 'penalty' for such exclusivity has been estimated as high as 50 percent of operational expenditure of service providers. With telecom growth in India continuing at an amazing rate of some 8 million per month with new subscribers entering the market coming from the BOP from more and more rural areas, it is expected that at least another 100,000 towers would be required in the next 3 to 4 years particularly in rural India. A number of new companies have now entered in to BOO partnerships to construct sharing towers

[12] Private participation in infrastructure database. Available at http://ppi.worldbank.org/features/Nov2007/2006TelcomDataLaunch.pdf

[13] OFTA, Universal Service Arrangements-Phase I Report: Review of Overseas Experience

for multiple service providers including state owned entities, under the regulatory supervision of the Government. By reducing the cost of the service through such a PPP provision, ICT access to the rural poor will certainly become more viable.

Sri Lanka is currently planning to undertake a PPP with the state railway monopoly to lay backbone across the country at a high cost, but a better strategy would be formulate PPPs like the one explained above to share exclusive access to an already existing nation-wide backbone of the incumbent.

3.2 Category 2 PPP: Immediate, or subsequent public ownership

This category of public-private partnerships is very different from Category 1 PPPs in terms of ultimate ownership of the asset. These PPPs give an option for the government to outsource building and operating projects to the private sector but retain the ultimate ownership of the asset after a specified contract period. This is a mechanism to procure, mainly ICT infrastructure, by using private initiative and funding. Such projects could include a wide array of backbone or last mile access infrastructure that are cost-effective and particularly suited for rural areas, including emerging technologies such as WiMax etc., with the primary objective of providing ICT access to disadvantaged communities. Typically, the Government subcontracts the entire development process under such PPPs, and hence, the private party becomes responsible for all the aspects of the project and bears most of the risks of the project including financing risk.

Usually these PPP agreements run from the initial design stage through the final transfer, and includes the allocation of risks. The length of the concession period is determined in the concession agreement between the private party, i.e., the concessionaire and principal, i.e., the public party. Within the concession period, the concessionaire must be able to recover investments for all funding parties.

The main advantage of these PPPs for the Government is the subcontracting of the majority of the risks to the private sector, with the latter willing to finance and assume risks in the development of a public facility. At the end of the concession period, the government will inherit a well-operated project without investing public funds and with little risks; a most prudent technique to ensure access to rural communities when investing its own money is impossible given limited budgets. Following are some variants of these partnerships and possible strategies for implementation.

3.2.1 Build-Own-Operate-Transfer (BOOT)

In a BOOT project the private entity carries out the capital investment in building of the facility, owns and operates it for a period specified in the concession contract and at the end of the specified period the asset is transferred to the Government, or whichever public entity specified. Usually, the government will need to compensate the private party with the market value of the asset at the time of transfer, but numerous financial structuring innovations could be introduced to make payment over a period either prior to, or after the date or transfer or anything in between. This proves to be advantageous to the private sector as it allows them to earn not only the short term revenue through operating the facility but also is able to replenish the investments made as often private companies have little interest in owning a large facility indefinitely. It proves to be advantageous to the public party as it can obtain a facility or an asset with little effort. Thus BOOT partnerships have proven to be a solution to mitigate risks on the part of both the private and public party.

An interesting example of a strategy using a BOOT type PPP for ICT access and content among hundreds of such projects is between the State of Karnataka and a private consortium consisting of CMS Computers and Ram Informatics selected from a national tender process for the purpose. The objective is to provide a one-stop shop via public kiosks for a number of Government- to-Citizen (G2C) services across the state. Several innovative strategies were used to deal with the re-engineering of the information delivery mechanisms, and one such mechanism, the Government personnel responsible for providing services prior to the PPP were redeployed into the new service. The revenue scheme for the private operator is based on a transaction fee. Yet another unique innovation is the partnership with UTI Bank, which is providing operational financing by paying the wages of 200 kiosk employees which is expected to be more than covered by the one-day float it gets to hold on the cash collected via the service[14]. This strategy has been replicated elsewhere.

3.2.2 Build-Operate-Transfer (BOT) and Build-Transfer-Operate (BTO)

In a BOT type PPP, the private partner builds a facility to the specifications agreed to by the public entity, operates the facility for a specified time period under a concession contract or franchise agreement, and then transfers the facility to the Government or public entity at the end of the specified period of time. Alternatively the facility may be transferred to the public entity immediately after construction and then operate under a concession contract. This has less risk

[14] Jazynka, S. PPP ICT Case Studies

to the private partner than the BOT approach as the large investment made at the initial stage for the construction of the asset can be recovered early.

In either case, the private partner will provide most of the financing for the facility. However, some of the investment necessary for construction of the asset can also be provided by the public entity that would allow a shorter contract period but a lower level of risk for the private partner. At the end of the concession period, the public partner can assume operating responsibility for the facility or re-award the contract as they see fit.

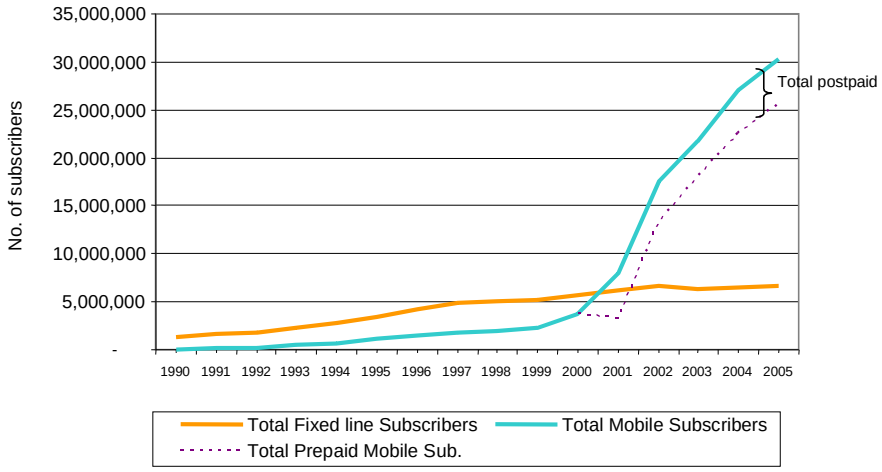
A widely quoted strategy using a BTO partnership for ICT access, including to rural areas, is in Thailand[15]. For a long period of time Thailand's two state-owned incumbent monopolies; one in domestic fixed services market and the other in external gateway market existed with not much activity. With a view to bring in private investments in to the sector, yet not lose the statutory monopoly of the state enterprises the Thais considered a number of options. Instead of going with the traditional method of issuing licenses for private operators to provide services, Thailand utilized a rather unusual scheme; a BTO. Under this PPP, the two state owned monopolies awarded concessions to private entities to build networks and transfer the assets back to the state operators but with rights to use the network exclusively to provide fixed and mobile and other communications services. These exclusive concession contracts were awarded on a competitive basis based on maximum revenue share offered and generally was for 25 to 30 years. Starting in 1990, two concessionaires were selected for the fixed sector and two were selected for the mobile sector.

There are a number of lessons to be learnt in this strategy. Thailand's fixed line growth since the PPP has been fairly poor. In fact, the growth has been hovering around zero for a number of years. One does not have to construct complex theories to explain the reason for this situation; it is because the concessionaires have no more room to grow. When the concessions were awarded limits were placed on the number of lines that could be installed by either concessionaire. One was set at 2.6 million lines with approximately 20 percent revenue share and the other at 1.5 million. Even though the ceilings had been met, no new concessions had been issued (as of early 20007) and thus the fixed line growth has seriously declined. It should not be surprising that both these concessionaires have been registering losses.

[15] de Silva, H. Competition and growth in the telecommunications industries in India, Pakistan, Sri Lanka, Thailand, Indonesia and the Philippines [Working Draft]

Figure 3.1 depicts the growth of fixed and mobile sectors clearly indicating how the mobile sector, without any ceilings on the PPP agreement has grown dramatically after effective competition was introduced post-2001.

Figure 3.1 Thailand's growth of fixed and mobile connections under BTO



3.2.3 Design-Build-Operate (DBO), Design-Build-Finance-Operate (DBFO) and Design-Build (DB)

Within the broad category of partnerships where the asset ownership rests with the public entity, another variation is the public entity retaining overall control of the project throughout the life-cycle of the project. The private partner is brought in to construct and operate the facility or infrastructure but the ownership is retained by the public partner during the entire process. This type of PPP is useful in situations where political; community and trade union influence is strong. The role of the Government is rather significant in this type of PPP as it undertakes all financing and hence most of the risk of the venture. However, since the government retains full control and ownership over the entire venture political resistance will prove to low. The role of the private party is rather simple; to design, build and operate a facility or asset for a fixed fee that is pre-agreed. It involves minimal cost and risk to the private partner. The role of the community is also significant in this variant of the PPPs, especially given the community or trade union pressure.

Design-Build-Operate (DBO), Design-Build-Finance-Operate (DBO) and Design-Build (DB) are some of the most common strategies adopted under these PPPs. In DBO partnerships, a single contract is awarded for the design, construction, and operation of an asset. DBFO partnerships follow the same principles as the DBO with the added burden to the private party of having to invest in the facility's short term capital requirement. This could be an investment

needed for maintenance or expansion of the facility. A DB partnership is when the private partner provides both design and construction of a project to the public agency for a fixed fee. The public sector partner owns the asset and has the responsibility for the operation and maintenance as opposed to the previous variants. In this case, the private party is exposed to minimal risk; only in regard to the market fluctuations, and enters the partnership as a contractor to construct the asset.

The project between the Vietnamese Ministry of Post and Telecommunications and Intel to provide WiMax to the rural villages of Lao Cai is an example of this type of PPP's. The Ministry hoped to improve the level of broadband connectivity in Lao Cai and thereby foster economic development though the empowerment of the people. Within this project Intel had the advantage of being able to enter the Vietnamese broadband market and introduce VOIP services to Lao Cai for the first time. It is also a part of Intel's 'World Ahead Program' that is invested US$ 1 billion in developing countries to facilitate growth, development and sustainability through ICT. The project needed a great deal of infrastructure to be created; this included WiMAX modems, VOIP phones and the necessary network infrastructure. Still setting up the necessary infrastructure was done relatively quickly and the project was operational in one year. Financing of the project was done by the Ministry utilizing the funds that had been collected by the USO fund. The PPP was facilitated by USAID during the entire life of the project and is held to be responsible for its success

3.3 Category 3 PPP: Life-cycle public ownership

This category of public-private partnerships encompasses the agreements that are established for a relatively short periods of time and for relatively simple services, usually based on competitive tenders. In this type of PPP, the public party finances the project and bears most of the risk attributable to the project. The contract agreement specifies the services the private sector has to deliver and to what standards. Payment may be fixed or may depend on the private partner meeting these standards and will depend on the nature of the project. Theses PPPs allow public agencies to benefit from the technical expertise of the private sector, manage staffing issues, and achieve potential cost savings.

Contract services for operations, maintenance and management are common strategies used under this category of PPPs where a public partner contracts with a private partner to operate, maintain, and manage a facility or system providing a service. Under this contract option, the public partner retains ownership of the facility or system, but the private party will invest its own capital in the facility or system required for short- term maintenance needs. Any private

investment is carefully calculated in relation to its contributions to operational efficiencies and savings over the term of the contract. Generally, the longer the contract term, the greater the opportunity for increased private investment because there is more time available in which to recoup any investment and earn a reasonable return. Also the longer the term of the contract the lower the risk faced by the private party, as they would have longer to be compensated for the investments made. Contract Services for only operations and maintenance is also very common. Here a public partner contracts with a private partner to provide and maintain a specific service. Under the private operation and maintenance option, the public partner retains ownership and overall management of the public facility or system. The private partner is brought into provide the day-to-day operations of the asset for a fixed fee as specified in the contract. All investment costs (in the short and long term) are borne by the public partner. Hence, the entire risk is retained by the public partner.

Among a multitude of examples of such PPPs being used as strategies for meeting ICT access to the disadvantaged, an interesting one is the People's PC program in Thailand. The Ministry of Information, Communication and Technology in Thailand and Microsoft Corporation has entered in to a PPP to create the Microsoft Windows XP starter edition. This is being offered as part of the Ministry's 'People's PC' program. This includes a special package that incorporates Windows XP and its Office suite for a retail price of US $ 35 (this package sells for US $ 479 in the US). However, this price is only available within Thailand as it is a special contract between Microsoft and the Ministry. Microsoft has also created the Windows XP starter edition in Thailand to facilitate use by those who are not fluent in English. The project is targeted to increase the computer literacy of the poor and empower them with the tools to engage with the global information society. The financing is provided by the Ministry, and Microsoft is seen to be a contractor that is rendering their services.

4.0 STRENGTHENING STRATEGIES FOR SUCCESSFUL PPP

Variants of PPP models have become standard practice in many countries and is drawing growing acceptance around the world as indicated previously. However, there is also a suspicion about the use of PPPs due to failures of such partnerships with heavy costs to all concerned. From the many lessons learnt on the successes and failures of PPP projects around the world there appears to be three key strategies that must be in place to ensure that the

partnerships are successful and performed to its maximum potential[16]. First is the need for a clear framework for PPPs that takes in to consideration the entire life-cycle of the project. Second is a comprehensive understanding of innovative models that can help Governments allocate risks even under uncertainty. Third is the need to appreciate the opportunities for unlocking the value of otherwise underutilized public assets.

4.1 Clear framework for the life-cycle of PPP

Success of PPPs, in whichever shape of form, is heavily dependent on a sound policy-legal-regulatory framework across the life-cycle of the project. Such a framework would help effective allocation of risks, transparent and efficient procurement, and smooth operation of any project management or concession contract. With Governments everywhere competing to attract private investments for PPPs a poor legislative and statutory environment, particularly in countries without good governance, will be a barrier to engage necessary private partners to undertake PPPs thereby plunging the fate of the disadvantaged communities in those countries further down the abyss. Governments should become aware that such a framework is necessary across the life-cycle of the project consisting of the policy and planning stage where PPP opportunities are identified, justified and marketed; the transaction stage where private parties are selected to partner with public partners using transparent mechanisms and equitable contractual obligations that are entered in to; and finally the construction and concession phase where the asset or the facility is brought to fruition and more importantly operated and maintained in a manner that meets to ultimate objectives, in this case particularly with meeting those of the disadvantaged communities.

One of LIRNE*asia*'s key areas of research is in understanding the impact the regulatory environment has in investments in to ICT; in particular to telecommunication infrastructure, including for universal service, which corresponds in general to the rural poor or the disadvantaged communities as categorized by ESCAP. In a recent paper on the regulatory environment in the telecommunications sector of six emerging Asian countries by Samarajiva and others (2007) has for the first time assessed the same using perceptions; something that is more relevant from an investment point of view, for PPP or otherwise, than what might be written down in documents but not implemented.[17] The focus of the paper is a subset of the

[16] Available at http://www.deloitte.com/dtt/article/0%2C1002%2Ccid%25253D137280%2C00.html, ,http://www.minterellison.com/public/resources/file/ebb4a54cb69b182/SmartStrategiesPPP.pdf, http://programm.corp.at/cdrom2007/archiv/papers2007/corp2007_KANAKOUDIS.pdf

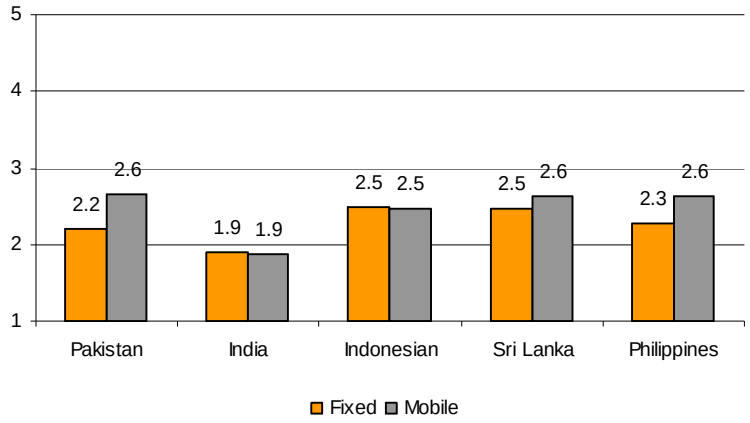
[17] Samarajiva R, Galpaya H, Goswami D, Ratnadiwakara D. "Telecom Regulatory Environment [TRE] Assessment methodology and implementation results from six emerging Economies"

overall regulatory risk environment and described as the "Telecom Regulatory Environment" (TRE) that includes only the telecom-specific aspects.

This assessment is particularly important in terms of having a clear framework for the life-cycle of PPP projects because different factors affect perceptions of the TRE at different times. Samarajiva et.al (2007) elaborates "The manner in which an investor looks at the TRE is different at the moment of making the investment and subsequently. Prior to committing the investment, the investor has considerable negotiating power vis-à-vis the government. But this power atrophies radically after the initial investment is made, especially in a capital-intensive industry such as telecom. Investment decisions after entry are driven to a great extent by the desire to protect and enhance the initial investment. Once a firm is in a market, deterioration in the TRE might depress the level of investment, but will not necessarily lead to no investment or to withdrawal, in the short term." This position is strengthened by the fact that it has been found the lack of investment in infrastructure projects in developing countries can be due to perceived regulatory risk because such projects involve a large sunk costs that would take a long period of time to recover. Estache and Pinglo (2004) has calculated that the risks associated with the possibility Government's dishonoring contracts could result in a fall in investment due to this risk and in turn, the cost of capital may increase by up to 2 to 6 percentage points depending on the country or region.

Given below are the scores (1 being the worst and 5 being the best) for one of the six dimensions of the TRE; universal service. Universal service is important in this context because it includes the various existing PPPs including universal service obligations that are imposed on private companies in terms of market entry or divestiture agreements, access deficit charges that are charged by the regulator from private parties and given to state owned entities, subsidies provided to service providers presumably for serving poor rural areas, i.e., disadvantaged communities. The others dimensions of the TRE are market entry, management of scarce resources, interconnection, tariff regulation, and anti-competitive practices.

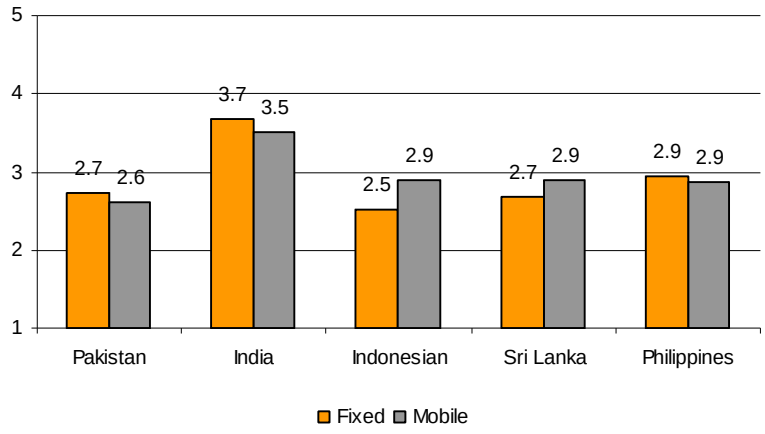
Figure 4.1 TRE – Universal service (fixed and mobile)



It is interesting to note that the study found overall results to be the lowest for universal service among all six dimensions, with India receiving the lowest scores for fixed and mobile sub-sectors, where a score above 3 would have indicated a satisfactory response. Samarajiva et al (2007) states "Ironically, India that scores the absolute lowest has the world's second largest universal service obligation fund. The dismal TRE for India may be attributed to the much discussed attempts at a rural telephone subsidy in India which resulted in the dominant incumbent BSNL receiving the lion share of the universal service funds".

The above goes to show the importance in having a clearer framework for universal service in India to be able to enter in to PPP agreements that would help that country bridge the massive urban-rural divide in ICT access; holding back the dividends of ICT flowing to those disadvantaged communities. At the same time the TRE scores on tariff regulation delivers a much different picture for India where it scores the highest among the 6 countries.

Figure 4.2: TRE – Price/Tariff Regulation (fixed and mobile)



Samarajiva, et. al. (2007) explains this finding as follows “Interestingly, since 2002, the Indian regulator (Telecommunication Regulatory Authority of India) has forborne from prescribing cellular tariffs.” It is no secret that India enjoys some of the lowest mobile tariffs in the world, yet is growing at perhaps the fastest rate in the world as well with some 8 million phones per month. This situation has come about due to the certainty provided by the regulator in terms of non-interference with pricing of services by private entities. If such a clear framework could be developed for universal services, it could certainly help the disadvantaged communities also being benefited in this way.

4.2 Comprehensive understanding of innovative models

Comprehensive understanding of innovative models that can help Governments allocate risks even under uncertainty will be an important prerequisite for successful PPP to meet the objective of providing ICT access to disadvantaged communities.

While variations of traditional PPP models have been able to deliver, they also contain some limitations. Most of the problems arise with uncertainties with the length of concession contracts, revenue or particularly in this context with rapid changes in technology resulting in uncertainty in actual costs. Such uncertainties add an immense pressure on both parties to negotiate a contract upfront that is acceptable in the long-term. Changing service requirements at a later stage often comes with a significant cost. For projects that are vulnerable to these uncertainties, models with increased flexibility and shorter contract periods can improve the likelihood of achieving the public sector objectives by using a number of innovative PPP arrangements. A full understanding of these different types of models and knowing how and when to use them can help Government agencies choose an appropriate approach and tailor make them to meet their particular needs.

Of the many available options, bundling PPPs is an interesting one particularly in terms provision of ICT access to small remote villages. The high cost can deter possible private partners from bidding if they feel future revenue is unlikely to outweigh service costs. A way to address this problem is by bundling together several projects. By contracting with just one partner to provide several small-scale projects, the public sector can reduce the length of the procurement process as well as transaction costs. The private partner can reduce the uncertainty linked to specific communities. Another way to bundle might be to vertically integrate services where the private entity is given the opportunity not provide services at a higher level; say to some cities as well in addition to the remote localities.

Take-or-pay type service agreements could perhaps be another, where once the private entity provides the agreed upon service, the public entity or its nominee will make full payment for the same whether its entirety is consumed or not. Such a scheme was to have been incorporated in Sri Lanka's "Vishva Gnana Kendra" telecentre project where they were to be serviced with a connection speed of at least 128 Kbps. (in 2004)[18]. A special purpose vehicle on the one hand was to purchase this connectivity at its full price from one PPP partner providing the ICT access at the wholesale level and subsidize over a phased 4 year basis to another PPP partner, the telecentre operator, who was to provide ICT access at the individual level to the disadvantaged community.

4.3.1 Appreciate the opportunities for unlocking the value

The need to appreciate the opportunities for unlocking the value of otherwise underutilized public assets is another critically important factor in ensuring successful PPPs. This has more to do with political attitudes and awareness than pure technicalities. There are numerous examples where public entities have been able to partially divest public assets to dramatically improve the use of the remaining asset to meet social obligations.

4.4 Role for ESCAP and others

The foregoing section discussed the need for a clear framework taking in to consideration the entire life-cycle of the project; a comprehensive understanding of innovative models that can help Governments allocate risks under uncertainty; and the need to appreciate the opportunities for unlocking the value of otherwise underutilized public assets as necessary strategies that should be in place for PPP success. Thus, international organizations such as ESCAP can play a significant role to facilitate and strengthen these strategic requirements with respect to meeting the objective of strengthening strategies for building public private partnerships for the provision of ICT access for disadvantaged communities; particularly the rural poor.

4.4.1 Understanding the reality

It is essential that the reality with respect to ICT access to the disadvantaged communities defined in many ways inter alia bottom of the pyramid or the rural poor etc. are clearly understood. It is crucial that the changing dynamics of ICT access in terms of mobile telephony as opposed to rural telecentres are appreciated. Thus it is important that sufficient attention is paid to issues regarding "market efficiency gaps" and not merely to "access gaps". It might just

[18] e-Sri Lanka Telecentre Development Program, Operations Manual, ICT Agency of Sri Lanka, 2004

be possible to increase access at a much more cost-effective manner if artificial market barriers are removed and enabling PPP agreements rather than by expensive Government subsidy programs.

4.4.2 Dissemination of information

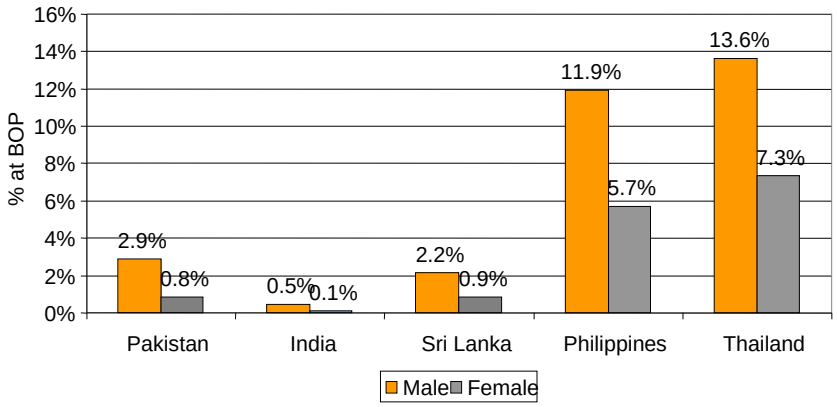
ESCAP could provide a platform for dissemination of information among all stakeholders the need for a stable and clear framework that encompasses policy, legal and regulatory environments for successful PPP outcomes. To start with, it may be possible for ESCAP to devise ways in which success and failure could be highlighted to public entities in countries where the problems are most acute. If awareness could be created with concrete examples of specific projects it might help Governments to change attitudes with respect to quality of policy and regulatory frameworks as well as in appreciating opportunities for unlocking value in underutilized public assets.

4.4.3 Provision of targeted support schemes

It may be possible to support efforts of emerging PPP arrangements by intervening to stabilize innovative PPP model in uncertain environments. Providing vouchers, perhaps, to disadvantaged communities to generate demand at public access points so that private parties can be assured of a revenue stream in the start-up phase could be one such example. As Teleuse@BOP[19] study by LIRNE*asia* indicates the use of the Internet by people at the bottom of the pyramid in the five emerging Asian countries are woefully low; particularly in South Asia. As the data indicates in India only 0.5 percent and 0.1 percent of males and females respectively at the BOP use the Internet. This may be an area ESCAP can intervene as discussed above.

Figure 4.3 : Internet usage at the BOP- The gender difference

[19] de Silva, H. & Zainudeen, A. Teleuse on a shoestring: Poverty reduction through telecom access at the bottom of the pyramid. In does inequality matter? Exploring the link between poverty and inequality



4.4.4 Recognize; name and shame

An innovative way to encourage Governments to actively engage in PPP agreements to provide ICT access to disadvantaged communities might be to recognize good performance and at the same to discourage bad performance by listing them as well. It is easily possible to measure success using relevant criteria using an independent organization for the purpose.

4.4.5 Capacity building

One of the most crucial needs in public sector in developing countries is the need for capacity building. This becomes even more important in the context of PPP negotiations where the private party for the most part will have personnel who are highly technically qualified and experienced. In such lop-sided negotiations runs the risk of biased outcomes that may ultimately result in failed PPPs.

5.0 CONCLUSION

To be written after workshop.

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