

Designing Effective and Efficient Funding Mechanisms for Increased Connectivity for Rural Areas: Early Results from Sri Lanka

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Problems of mandated, cross-subsidy based rural rollout by monopoly or dominant telecom operators are relatively well documented. The South African case, where the Telkom monopoly gave 2.5 million lines to satisfy government imposed conditions, but disconnected around half that number, is among the best known illustrations. Economists favor the use of general taxation funds (such as in Chile) or universal service funds drawn from the telecom industry itself, over the use of cross subsidies. In both these cases, the funds have to be managed efficiently and effectively. This is a difficult policy problem in with poorly governed countries, which are among the countries that need universal service the most. The problem comes in two parts:

- Is there a mechanism that will collect, manage and disburse the funds effectively and efficiently, without being hijacked for narrow political gains or corrupt purposes?
- Can whatever mechanism that is devised be made acceptable to the telecom operators who have to contribute and retrieve funds from it?

The problem had to be addressed in Sri Lanka, in the course of establishing the Viswa Grama [World to the Village] Fund as the vehicle for funding rural connectivity in the form of both conventional circuit-switched [fixed and mobile] telephony by the existing seven major operators and multi-service platforms that will carry data as well as voice. In the context of a radical restructuring of the hitherto monopolized international telecom market, the government proposed charging a levy from incoming as well as outgoing international calls to be dedicated to rural rollout. The Viswa Grama Fund, it was announced, would have two main sub-funds, one for network extension by existing operators and the other for the new multi-service platforms. Most of the money from the international levies would flow to the network extension component of the fund that would be available only to existing facilities-based telecom operators who terminated international calls. The more experimental multi-service platform component would be funded by donor funds with some contribution from the international levies.

The domestic operators, who had opposed the creation of a Universal Service Fund in the course of deliberations on a national telecommunications policy, restated their opposition to the Viswa Grama Fund that was announced in the context of the liberalization of the international telecom services market. However, the government's response in the form of a detailed blueprint for the Fund appears to have assuaged their concerns.

The Fund is to be established under the Ministry of Finance and not as part of the Telecom Regulatory Commission, which had come to be perceived as lacking transparency and efficiency. The Fund will have an advisory board made up of public, private and civil-society representatives. The advisory board will meet periodically and adopt broad policy decisions on matters such as the quantum of payment that will be made per rural connection and the length of time funds can remain in the “escrow” sub accounts. The actual operation of the Fund, including disbursements and the auditing of the performance that is subsidized, will be in the hands of a professional manager and administrative unit from outside government who will be contracted for the purpose. The administrative unit would be compensated for its services from the overall Viswa Grama funds, probably in the form of a percentage of funds managed. The percentage would be decided on at the stage of procuring the services of the administrative unit. Given the rather large sums that would flow into and out of the Fund, it is possible that interest earnings could cover the administrative costs. This model of outsourcing the management of subsidy funds was taken from an ongoing highly successful alternative energy subsidy program in Sri Lanka, Renewable Energy for Rural Economic Development (RERED) http://www.lanka.net/esdp/whats_new.html.

The network extension sub-fund would comprise multiple “escrow” accounts designated for each domestic operator who terminated international calls within Sri Lanka and a challenge account. The External Gateway Operators would be required to remit the designated amounts (different for incoming and outgoing international calls) to the Fund, identified as being associated with a specific domestic network. For example, the levy associated with international calls terminated on Domestic Network A would be remitted to the Domestic Network A escrow account, while the levy associated with calls terminated on Domestic Network B would be sent to the Domestic Network B escrow account. Periodically, for example every quarter, Network A could submit its claim of payment for rural network extension. If the claims were less than what had accumulated in the escrow account, the payment would be made in full. If the claims exceeded the balance, the operator would be allowed to submit the claims either to its own escrow account within a defined future time period or to the challenge account. Excess funds could be kept in the escrow accounts only for a specified, limited period of time. After, say 18 months, the excess funds would be transferred to the challenge account which would be open to any domestic operator with valid claims that could not be satisfied from its own escrow account. Details such as whether the payments would be made as reimbursements only, or would include some proportion of funds being released early under some form of guarantee are under discussion.

The structure of the Network Extension component is somewhat complex, but it seeks to address several important concerns of the operators:

- Through the device of “escrow” accounts, the operators are given a form of limited property rights to the funds levied from international services. This recognizes that fact that the calls would not have occurred if the operators had not built the network and connected the caller or callee. If the funds went into a general account that was open to claims by any operator, administration would be much simpler. However, the buy-in by the operators would be

much less and the regulator would have difficulty in gaining the domestic operator's cooperation in ensuring the blocking of illegal bypass that exploits the arbitrage opportunities afforded by the differential between international and domestic termination rates.

- Permanent escrow accounts where operators could hold their funds indefinitely would not create incentives for rapid extension of rural connectivity. Therefore, the design envisages that after a specified period, the funds would be transferred to a challenge account that would be open to claims by any operator who has terminated or originated international calls. The possibility that an operator's "own" funds could be used by another operator would create incentives for rapid rollout and prompt submission of claims.
- The challenge account addresses the possibility of specialization of function by operators. One could, for example, focus on rural connectivity, while another could specialize in business services that generate large volumes of international calls but do little in terms of rural connections. If the Fund's payments are attractive enough, the latter operator may be incited to enter the rural market. But most probably, the outcome would be one in which the rural operator would end up drawing the funds generated by the business operator through the challenge account. One way or another, the money would be moved out of the Viswa Grama Fund quickly and rural dwellers would get the connections they require at a rapid pace.

The above discussion highlights the importance of the definition of rural connectivity and the quantum of payments made per unit of connectivity by the Fund. At a time where mobile telephony is rapidly overtaking fixed telephony as the preferred mode of voice communication, it is important to reward the extension of mobile as well as fixed networks. It is relatively simple to define a unit of increased rural fixed connectivity. A new telephone affixed in a residence or business premises that is located outside municipal and urban council limits could easily constitute such a unit.

The unit in mobile networks is more problematic. Mobile handsets (and mobile users) are, by definition, mobile. The user may have a rural address (if he or she is a post-paid customer), but may use the phone in the city most of the time. Persons with urban billing addresses could very well use the phones primarily in the rural areas. The address is an unsatisfactory indicator of rurality. Even if it were satisfactory, the phenomenon of pre-paid mobile, which is most popular among the poor and rural dwellers, would negate the possibility of using billing addresses as a measure of rurality.

Expansion of rural coverage (incremental expansion of geographical areas within which mobile phones can be used) and the building of new base stations within rural areas, which cause the expansion of coverage areas, are two other possible measures of increased rural connectivity by mobile network operators. The former is difficult to measure in a mutually acceptable manner. It is almost a given that regulators, users and mobile operators cannot agree on the veracity of the operators' coverage claims. The probabilistic nature of radio transmission and the qualitative differences among mobile

phones combine to yield a contestable measure that would be very difficult to use for the disbursement of money. The number of new base stations built in rural areas (i.e., outside municipal and rural council limits) is, on the other hand, an objectively measurable fact. The fact that different base stations may have different capacities should be taken into account in the design of the incentive scheme. For example, if the incentives are pegged to base stations, irrespective of size, one may inadvertently create incentives for operators to deploy small bases stations, even if they are technically sub-optimal. Therefore, transceivers on base stations located in rural areas may have advantages as the unit of rural connectivity. Consideration must be given, however, to the possibility that this measure could favor the addition of transceivers to existing base stations, as against the construction of new base stations.

Ideally, subsidy payments from the Viswa Grama Fund per unit of rural connectivity will be less than the actual cost. Where the private operator has to use its own capital, in addition to the subsidy, there is a lesser likelihood of uneconomical and unsustainable rural extensions being undertaken. It is envisaged that the government of Sri Lanka will seek consultancy assistance to calculate the optimal quanta of subsidies per units of fixed and mobile rural connectivity. These recommendations will serve as input to a consultation process that will involve the domestic operators. The advisory board of the Viswa Grama Fund will take the final decisions.