

Underserved populations and areas (word count prev 572/now 583)

Last updated: September 30, 2008

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It is considered a good thing if everyone is connected to electronic networks, or at least has the option of being connected. For the many decades this was an unattainable ideal. The only practical solution seemed to be extending networks using subsidies. For the most part, these interventions tended to be directed to rural areas. Concern extended to persons unable to pay market prices in urban areas too, but because of difficulties of focusing subsidies to the urban poor, there were very few implementations.

Government interventions: In the past, governments sought to extend connectivity to underserved areas through command. Where the monopoly supplier was government owned, command was preferred, though the results were meager, except in Nordic countries and Australia. Where monopoly operators were private, the cross subsidy became explicit. In both cases, the monopoly suppliers used claims of cross-subsidizing rural areas to delay market opening. As liberalization gained momentum, unquantified cross-subsidies began to be replaced, first by quantified universal-service obligations, and then by quantified subsidies. Universal-service obligations, such as x number of connections in rural areas, proved unsuccessful. They were treated as costs of doing business, with connections discontinued at the first opportunity as in South Africa, or ignored and fines paid, as in India. In a few cases as in Chile, these subsidies came from general government funds, minimizing market distortion, but in most cases, political considerations led to the funding of subsidies from paying customers. Universal service funds began to be disbursed using least-cost subsidies, where incentives were created to provide service efficiently and sustainably.

Economic incentives: While there were several successes, especially with least-cost subsidies, in actual fact a great proportion of universal-service funds remain unspent or are channeled using various pretexts to incumbent operators. In reality, the massive expansion of mobile telephony, the fastest take-up of any communication technology in history, has occurred despite, not because, of government universal-service initiatives. Most, if not all, universal service fund disbursements have been to underperforming fixed operators, while the money has come from the mobiles. For example, one of the biggest contributors to the massive take up of mobile telephony in South Asia has been the dramatic price cuts implemented in recent years. They were made possible by a new business model focused on carrying as many revenue-yielding minutes as possible on a network. This has resulted in Bangladesh, India, Pakistan and Sri Lanka having the lowest cost mobile-service in the world along with some of the fastest network rollouts. The model would be even more effective if the government were to reduce telecom-specific taxes such as universal-service levies. The best and most sustainable method for extending services to underserved areas and people is to understand and apply the South Asian business model, which includes a rollback of telecom-specific taxes.

Regulatory issues: Universal service is a policy issue, not a regulatory matter. However, interconnection and access-deficit charges are two regulatory actions that bear on service to underserved areas. In circuit-switched telephony, it is possible to implement

asymmetric interconnection (where the network in the higher-cost region gets a higher payment) to generate a revenue stream in addition to that from outgoing calls in rural areas. This proved quite effective in sustaining service to underserved areas in Chile. However, asymmetric interconnection is difficult to implement in IP networks. Access-deficit charges rest on assumptions that are quite problematic in rapidly changing technological environments. In reality, they end up transferring funds from new entrants to incumbents invested in older technology and with politically powerful unionized workforces.

Additional Information

Studies

- De Silva, H. (2008). Access deficit tax? In Samarajiva, R. & A. Zainudeen (eds.), *ICT infrastructure in emerging Asia: Policy and regulatory roadblocks*, New Delhi & Ottawa: Sage and IDRC.
- Garnham, N. (1997). Universal service. In Melody, W.H. (ed.), *Telecom Reform: Principles, policies and regulatory practices*. Lyngby: Technical U of Denmark Press.
- Gillwald, A. (2005). Good intentions, poor outcomes: Telecommunications reforms in South Africa, *Telecommunications Policy*, 29(7): 469-91.
- Malik, P. (2008). Universal service obligations—to incumbents? In Samarajiva, R. & A. Zainudeen (eds.), *ICT infrastructure in emerging Asia: Policy and regulatory roadblocks*, New Delhi & Ottawa: Sage and IDRC.
- Mueller, M.L., Jr. (1997). *Universal service*. Boston: MIT Press.

Websites

- <http://www.ictregulationtoolkit.org/en/index.html>
- <http://www.gsmworld.com/universalaccess/index.shtml>

See also... [related one-pager topics]

- Backhaul and local-access infrastructure
- Spectrum

- ...

[Please add additional information as needed; this section may extend to multiple pages.]