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ICT service delivery through Rural Entrepreneurship

WHITE PAPER

Almost half the world population living in rural and remote areas has limited or no communication network. A small subscriber base and the high network infrastructure cost have been among the key barriers which have prevented operators from extending service to rural and remote areas.

This white paper discusses the enablers for providing ICT services in rural and remote areas and the role of Rural Services Providers (RSP) in it. It also defines sustainable business model options for service delivery in such areas.

INTRODUCTION

The humongous growth of mobile telephony and broadband in the last decade has been largely concentrated in dense urban or semi-urban areas, leaving the rural population across the world exactly where they were, a decade ago. This has left more than 3 billion people i.e. almost half of the world's population, still unconnected (ref 1).

Low ARPU due to a small subscriber base & high capital plus operational costs, have been major deterrents towards offering mobile telephony services in rural areas. Off late, saturated urban markets & universal obligations have forced service providers to take note of the unconnected population across the world and extend services to them.

In countries across the globe, especially developing ones, a lot of urgency is being shown by governments and regulators to connect the people in rural areas. This is driven by the said correlation between the penetration of telecommunications' network within a country and its' economic development.

However, this move cannot just be politically motivated. A commercially viable business model needs to emerge for service providers so that voice and data penetration can happen across the world. This white paper discusses opportunities & sustainable business models for Rural Service Providers (RSP) to connect the unconnected and overcome the digital divide.

OPPORTUNITY FOR RURAL ENTREPRENEURSHIP

Focus on ICT is increasing in each developing country. Governments are revisiting regulatory frameworks to create terms and conditions, subsidy criteria and any other tools ensuring minimum entry barriers for providing communication services in rural areas. The approach so far had been to push existing network operators, both private and state-owned, to extend service in such areas as only these players had access to the infrastructure required to set up a network deployment. This approach is no longer yielding results and a new business model with more stakeholders in addition to network operators is required. Innovations in small cell technology make this possible.

The key stakeholders for rural telephony in the new model will include Mobile Network Operators or PSTN/VoIP Operators, Rural Service Providers and Subscribers. Government and regulatory bodies along with state owned financial institutions or banks will complete the value- chain by being the enablers to roll out ICT services in rural areas.

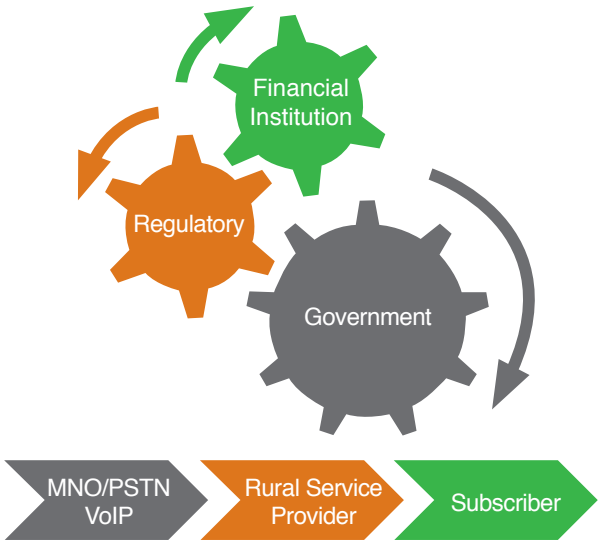

***Figure 1**: Value Chain and Enablers*

RSPs will be at the heart of this new value chain. They can setup their own micro mobile network infrastructure to offer voice, SMS, data & other value add services in non-urban areas where there is little or no network footprint.

RSPs can sustainably exist in the following two formats:

- Franchisee to existing operator for extending service delivery in rural areas
- Standalone Service Provider connected to VoIP operator

FRANCHISEE MODEL

With interest being shown by private operators in exploring the low-income rural market for service delivery, the franchisee model has emerged. The Franchisor (MNO) shall allow the franchisee (RSP) to extend its network in rural areas against a fee. The franchisor shall provide frequency and other necessary parameters to configure the mobile network. In return, RSP will manage the equipment, sale of subscription to local subscribers and will share the revenue on agreed commercial terms with the MNO.

Subsequently, RSPs can cater to subscribers by offering value add services in addition to basic services. This provides a lucrative business opportunity for both the rural entrepreneur and the operator in low income areas. Some value-add services which are significant to rural areas & can be offered by RSPs include:

- Mobile communication – Voice, SMS, Data Services
- Broadband in schools
- Broadband in government offices
- E-governance
- E- Health
- Micro banking
- Public Address System

This provides a lucrative business opportunity for both the rural entrepreneur and the operator in low income areas.

Following are the key responsibilities areas of the stakeholders in this model:

FRANCHISOR (MOBILE NETWORK OPERATOR)	FRANCHISEE (RURAL SERVICE PROVIDER)
Spectrum	Network Management
Interconnect	Point of Sales
Subscriber Management	Customer Acquisition
Billing	

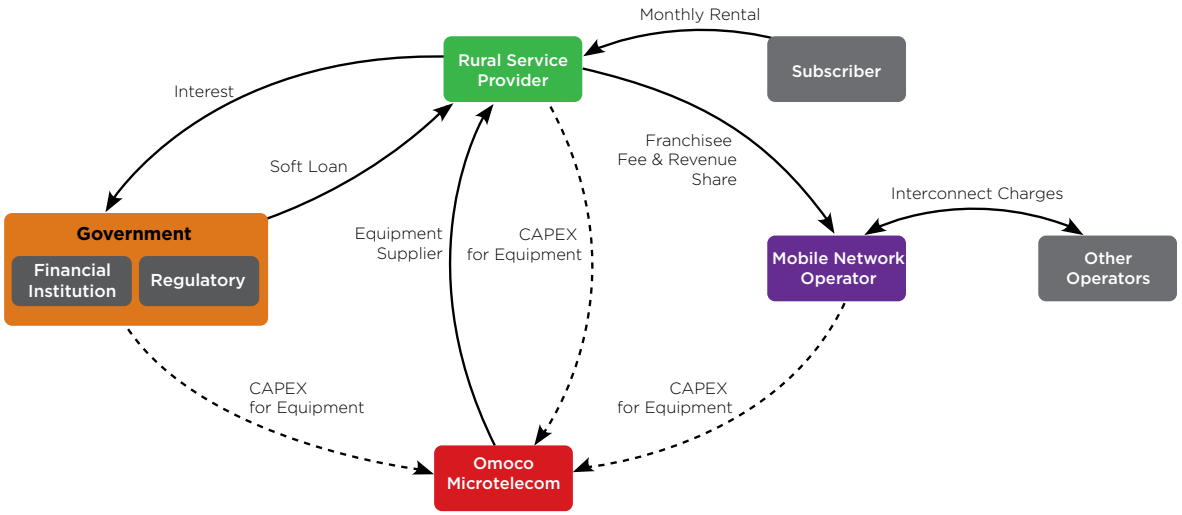

***Figure 2**: Franchisee Business Model - RSP & MNO*

STANDALONE MODEL

The standalone model provides an opportunity for a local entrepreneur to host his own communication network. This communication network can be used to provide multiple communication services to individuals as well as institutions in remote areas.

In this model all responsibility for network roll out will lie with the RSP, thus, there will be no revenue sharing with the operator. The RSP has to reach a commercial agreement with a PSTN/VoIP operator to allow incoming and outgoing calls to the external world.

The government and other statutory bodies such as regulators and micro-financing institutions, will create an environment to enable rural entrepreneurship. Government policy initiatives such as subsidies or low-interest loans to finance the capital cost required to establish the micro network infrastructure will be required, in order to minimize entry barriers and remove dependency on the operator. In this case, all subscription revenue derived from basic as well as value add services belongs to the RSP.

Following are the key responsibilities areas of the stakeholders in this model:

RURAL SERVICE PROVIDER	GOVERNMENT/ REGULATORY / FINANCIERS	PSTN / VoIP OPERATOR
Equipment O&M	Spectrum	Interconnection
Subscriber Management	Other necessary provisioning parameters	
Marketing & Branding	Subsidies or Low-interest Loans	
Point of Sales		
Billing		

Omoco's micro telecom network solution enables franchisees to offer mobile telephony and other ICT services in rural and remote areas which are without any network footprint.

The solution can be 100% solar powered with up to a week of autonomy, in off grid areas. It is a near zero opex system requiring no skilled labor for installation and maintenance. The whole solution can be setup in a matter of hours. It offers multiple backhaul and inter-connect options like E1/ T1, VSAT etc, for incoming and outgoing calls outside the community.

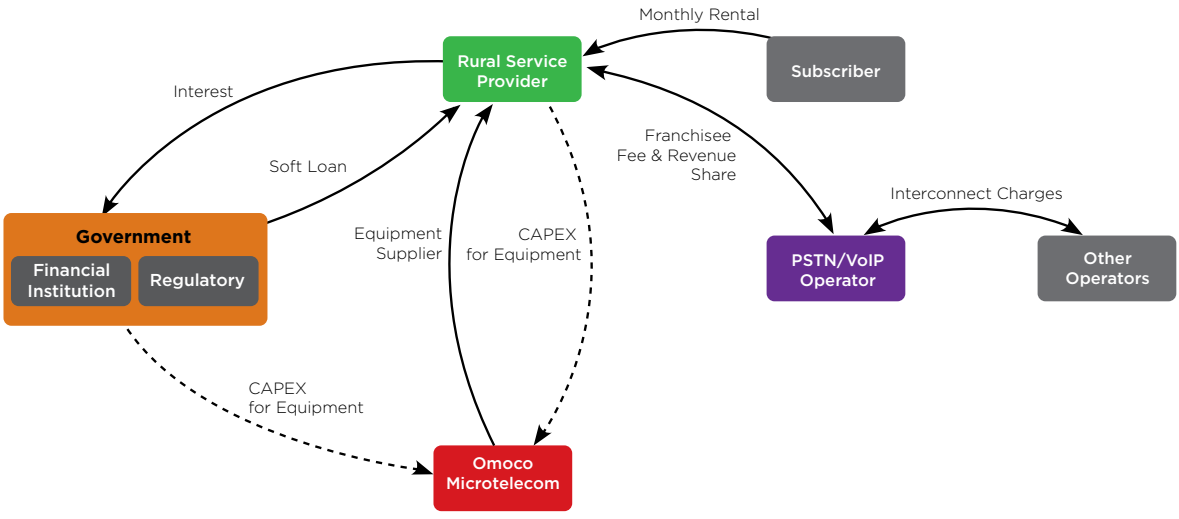

***Figure 3**: Standalone Business Model - RSP*

REFERENCES

- ***(ref 1)***: *http://www.tradingeconomics.com/world/rural-population-wb-data.html*

GLOSSARY

ICT : Information & Communication Technology
MNO : Mobile Network Operator
O&M : Operation and Maintenance
PSTN : Public Switched Telephone Network
RSP : Rural Service Provider
VoIP : Voice over Internet Protocol
VSAT : Very Small Aperture Terminal

ABOUT OMOCO

Omoco develops deploy-it-yourself micro telecom network solutions, suitable for individuals, enterprises and communities who want to build their own wireless communication network. The team, by the advantage of its lineage powered by Vihaan Networks Ltd. (VNL), has a successful track record in creating such innovative wireless solutions.

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Powered by VNL