

## PREFACE

This study outlines India's experience of increasing rural telecom services, including its recent policy initiative to increase penetration through creation of a Universal Service Obligation Fund (USOF). An analysis of USOF's largest and most ambitious program for mobile provisioning in rural areas showed that despite the innovative design, it had little impact on increasing rural teledensity. Review of literature in several instances, such as a study by Jain and Raghuram (2009) clearly indicated that lack of accountability arising from the relationship between the governments owned incumbent and the USOF administration as well as several other factors such as lack of proper evaluation of USOF, the non-ring fencing of the fund and the poor quality project management contributed to the slow progress of USOF implementation. This study clearly brings out that the lack of involvement of private operators at an early stage, inability to suitable enforce any penalties for violation of contracts and nonexistent review and feedback mechanism have not allowed USOF to leverage the benefits of an early start. Without any operational framework, the strategic elements of USOF design could not provide the expected outcome. Since USOF is a highly visible program, its limited conceptualization could lead to adverse public opinion. The consequence could be a depletion or reduction in the role as well as scope of USOF.

The present study has relied extensively on a mix of primary and secondary research. The indicators, that the present study focus on various aspects, include analysis of the Indian USOF model in terms of its scope, identification of universal access provider, mechanisms to its funding, selection processes, review mechanisms, extent of involvement of private sector as well as its outcomes. These aspects have been compared with the

experience of different countries such as United States of America, Malaysia, Pakistan etc. In order to conduct this study, indicators like access to and usage of wireline, wireless/ mobile & Internet/ broadband services in rural areas along with rural teledensity have been analyzed in detail. For this purpose, primary data has been collected by undertaking semi-structured interviews with the stakeholders while secondary data has been collected through review of policy documents, government websites/ databases and academic literature available on the subject.

The main finding of the study has been that USO Fund has not been able to fully meet the objectives of Availability, Accessibility and Affordability as on date and the digital divide continues to exist in the country. The positive aspect that emerged out in the study was that USOF implementation in India specifically takes into account the potential for widespread usage of wireless technologies, especially mobile services for a rural context. By including mobile, broadband and other new technologies, Department of Telecommunications (DoT), GoI has indeed evolved out a state-of-art mechanism for USOF roll out and disbursements, which is worth emulating for the other developing countries with similar contextual realities.

A suggested set of recommendations have been put forth in the conclusive part of the study that could help to adopt new courses of action to bridge the existing digital divide in developing countries like India. For instance, the study confirms that the new schemes being undertaken by USO Fund for creation of telecom infrastructure in rural and remote areas as well as funding of electrical energy through renewable energy resources are expected to yield positive results in the future. It has been suggested in the study that the operational aspects of such programs/schemes as well as other state initiatives need to be accounted for in USOF implementation. This is likely to result in increase in rural teledensity as well as increase in the number of Internet connections leading to increase in penetration of

broadband in rural and remote areas. A judicious combination of USOF support and market mechanisms could also accelerate telecom services in rural areas. The study clearly emphasises that the USOF must be treated as one among many instruments for increasing rural teledensity/ penetration of broadband and efforts should be made to facilitate policy outcomes on a variety of dimensions. However, further research is required in the field of USO Fund for its effective utilization to meet all of its stated objectives.

AIQ	State/UT Headquarters
BDO	Build Operate Own
BPO	Business Process Outsourcing
BSEI	Broadband Services for Nigeria Limited
BSO	Basic Service Operator
CCF	Code Switching Centre
BTX	Base Transceiver Station
CDMA	Code Division Multiple Access
CEPF	Capital Expenditure
CCC	Communication Controller of Accounts
CDMA	Code Division Multiple Access
CDOT	Centre for Development of Teleomatics
CAAI	Cellular Operators Association of India
CMSP	Cellular Mobile Service Provider
CPE	Customer Premises Equipment
CCN	Common Carrier Centre
TRR	Deputy Chairman (and Managing Committee) Handbook
DoT	Department of Telecommunications/Information Technology
DLL	Direct Exchange Line
DoI	Department of Telecommunications
DNL	Digital Subscriber Line
DSPT	Digital Software Proprietary Technical
EIRR	Economic Internal Rate of Return