

**SPECIAL INITIATIVES UNDERTAKEN BY THE UNIVERSAL SERVICE OBLIGATION FUND OF INDIA
TOWARDS EFFECTIVE RURAL TELECOMMUNICATION SERVICES**

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The Universal Service Obligation Fund (USOF) of India was set up with retrospective effect from 1.4.02 with the passing of the Indian Telegraph (Amendment) Act 2003. Initially as per the Indian Telegraph (Amendment) Rules 2004, the activities that could be carried out under USOF were limited to two streams involving provision of public access and individual access to 'basic' telecommunications services. Thus in the period up to 2006, USOF focused on provision of Village Public Telephones (VPTs), Rural Community Phones(RCPs) and household telephones (RDELs). In December 2006, with the amendment of the Act and Rules, USOF interventions in the areas of mobile infrastructure and services, broadband connectivity, general infrastructure (such as Optical Fibre Cable (OFC) connectivity) and Pilot Projects became possible. In the post amendment period between 2007 and 2010, USOF has initiated a wide range of new schemes. These include the Shared Mobile Infrastructure Scheme, Wire Line Broadband Scheme, Intra-District OFC Connectivity Scheme and also a number of innovative new Pilot Projects Schemes¹. The pilot projects undertaken by USOF fall in the category of special initiatives as their focus extends beyond mere rural connectivity. Rather, these projects facilitate its more effective use either per se (through provision of power or repair facilities) or for a variety of purposes such as financial inclusion, value added services(VAS) and the empowerment of rural women through ICT. Such initiatives often require expertise which lies outside the core competence of USOF and thus they are carried out in conjunction with other ministries/agencies that possess the required domain knowledge.

Renewable Energy Initiatives-Powering Rural Telecommunications:

Sanchar Kiran

The first step towards looking at supplementary aspects of connectivity was born out of the realization that a large number of telephones provided under USOF schemes are Fixed Wireless Terminal (FWT) based connections. Owing to the poor power supply in villages, these phones stop functioning once their batteries run out. This usually happens within 2-3 hours of power cuts. A DOT field unit, the Office of Controller of Communication Accounts, Haryana, which was headed by the author at that time, initiated a pilot called Sanchar Kiran² wherein customized solar chargers were designed with the help of the state's renewable energy department (HAREDA) for rural FWT phones of various service providers and also successfully tested in field conditions to provide lasting back-up in rural areas. A report on this project was sent to USOF. Subsequently, taking this initiative forward, USOF undertook its first renewable energy pilot in conjunction with the Ministry of New and Renewable Energy (MNRE) under which USOF, MNRE and BSNL agreed to jointly fund a project wherein 1,00,000

¹ Details of schemes may be seen at www.usof.gov.in

² Please refer to Archana.G.Gulati, ' Sanchar Kiran-An Initiative Towards use of Solar Energy for Rural Telephone Connectivity,' *Kurukshetra*, Vol. 55, No.12, October 2007

VPTs would be provided with such solar charging devices. In newer VPT agreements, USOF has made the provision of solar charger for public access phones mandatory. This comes from the realization that without power, rural telephone connectivity becomes meaningless.

Pilot Projects for Renewable Energy (RE) Installations in Shared Rural Mobile Sites

This interaction with MNRE led to further thinking on the use of RE for shared mobile infrastructure sites and an in principle approval for a pilot project for this purpose. The author in her capacity as Joint Administrator (Finance) USOF had the privilege of being a member of the DOT Committee to work which submitted a report on the feasibility, technical specifications and cost effectiveness of the use of RE for rural telecommunications. Once the report was approved, the next step was to collaborate with MNRE to carry out a pilot for the use of both solar and solar-wind hybrid solutions in USOF's own shared mobile infrastructure sites. As these sites are in rural and remote areas, many of them receive very limited power supply and many sites are off grid. Thus they use DG sets for several hours a day. It was calculated that provision of a 10 KWp solar panel or solar-wind hybrid solution with an addition wind power component of 4-5 KW, could bring down DG running to 1-9 hours a day depending upon the site's load. Apart from the beneficial environmental effects this would lead to a long run reduction in OPEX. (Apart from its inherent and rising cost, diesel is expensive to transport to rural areas). There are also issues of refilling and pilferages at rural sites making the solar/solar-wind backup a far better solution for reliable rural telecommunications. To study the techno-financial aspects of the concept in actual field conditions and to encourage telecom operators to adopt such solutions, USOF and MNRE have jointly undertaken to share subsidy support for 28 pilot renewable energy installations in USOF's shared mobile infrastructure sites, spread across 27 states. The solar-wind hybrids are being set up in states of Tamil Nadu, Karnataka, Gujarat, Maharashtra, Orissa, Andhra Pradesh and Madhya Pradesh where threshold average wind speed of more than 5 m/s is available³. The results of this pilot would constitute inputs for future USOF initiatives towards RE solutions in rural telecommunications.

Pilot Project for Solar Mobile Charging Facilities

Another unique RE pilot project undertaken by USOF is the Solar Mobile Charging Facilities (SMCF) project which is being carried out in collaboration with The Energy Research Institute's (TERI) Lighting a Billion Lives project⁴. Under this pilot, about 5000 villages will be provided with Solar Mobile Charging Facilities. The SMCF is essentially an 80 wp, 12 V solar panel with a board for charging mobiles will be set up as a SMCF. This will be manned by a Village Level Entrepreneur (VLE) who will take nominal fees of up to Rs 2/- from rural public to charge their mobiles. TERI will manage implementation including supply and maintenance of SMCFs and training of VLEs. This project addresses the issue of effective connectivity while also providing rural employment.

³ See <http://usof.gov.in/usof-cms/GagendaPdf/Renewable%20Energy%20Committee%20Report.pdf>

⁴ See http://usof.gov.in/usof-cms/usof_SMCF.html

Gender Based Initiatives-Empowering Rural Women through ICT

The RPST Scheme

The first Gender based initiative launched by USOF was the Rural Public Service Terminal (RPST) pilot project. An MOU was signed between USOF and BSNL in January 2010 to carry out this pilot in conjunction with USOF's wire line broadband scheme⁵. Under this initiative, USOF will subsidise about 2700 such terminals to be provided to women's SHGs in villages in Himachal Pradesh and Rajasthan. These broadband enabled terminals are equipped with card readers and biometric scanners and are capable of carrying out secure financial transactions as per RBI guidelines. At each rural location this terminal shall be connected to a USOF subsidized wire line broadband connection. The RPST will thus have fast and reliable connectivity for banking transactions with the SHG acting as a business correspondent. The management of the linkage of SHGs with banks and the backend coordination with various agencies for locally meaningful VAS is being facilitated by a content aggregator agency working with BSNL. This agency will also manage SHG training and maintenance functions. Through the RPST, the SHGs will be able to sell a host of VAS ranging from railway, bus and airline ticketing, utility bill payments, mobile recharges, retailing of life/micro insurance to disbursement of government payments such as NREGA/pension disbursements. The SHGs would thus be afforded an opportunity to supplement their livelihood and the rural public would benefit from the locally available banking cum VAS outlet.

The Scheme for Mobile Connectivity and ICT Related Livelihood Skills for Women's SHGs⁶

This scheme has been initiated in June 2010. The underlying idea is again to add value to rural connectivity while also empowering rural women. It is based on an understanding of the importance of self employment and financial independence for the empowerment of rural women and the indisputable fact that ICT connectivity can facilitate SHGs access to skills, knowledge, financial services employment opportunities and markets. This scheme is being carried out in conjunction with DOT's Gender Budget cell. It proposes to provide a discounted bundle of mobile services (connectivity and VAS) to rural women's SHGs. The envisioned mobile VAS would address women's health, well-being, education, banking and financial services, market information etc. The subsidized VAS packages would take into account existing language / literacy barriers and support the specific self-employment activities engaged in by the SHGs. It is also proposed to facilitate projects for SHG run rural mobile handset/modem repair centres and solar based mobile charging facilities. Demonstrated success of the pilots will hopefully lead to the scaling up of such initiatives on commercially self-sustainable basis thereby giving a much needed fillip to rural VAS while also proving the viability of SHG run ICT-enabling services.

Conclusion

⁵ See http://usof.gov.in/usof-cms/usof_rpst.html

⁶ See http://usof.gov.in/usof-cms/usof_newseventsgb.htm

USOF has to its credit a wide range of schemes that have brought connectivity to hitherto unserved or underserved rural areas. The Pilot Schemes of USOF, be they for renewable energy, gender empowerment or financial inclusion, represent very special and spirited initiatives in which USOF has reached out to various stakeholders to venture beyond its basic mandate. Through these schemes USOF is in fact actualizing its stated vision of enabling rural Indians to achieve their fullest potential and participate productively in the development of the nation by virtue of being effectively connected through a reliable and ubiquitous telecommunications network, access to which is within their reach and within their means.

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