Rural Telecommunication & Digital Technologies: Energy Options and Issues in Unelectrified Areas

INTRODUCTORY COMMENTS

Good Morning. My name is Chris Rovero, from Winrock International. On my behalf, and that of the co-organizer of the workshop, Mal Caravatti of the US Department of Energy, I would like to welcome everyone to this workshop on RURAL TELECOMMUNICATION AND DIGITAL TECHNOLOGIES: ENERGY OPTIONS AND ISSUES IN UNELECTRIFIED AREAS.

The workshop is part of this week's Village Power Conference, which is focused on rural electrification--and the delivery of associated rural development services--in areas where extension of the electric utility grid is not feasible.

There is growing interest in the use of information and communication technologies to support rural development, including through basic rural telephone service; rural distance education; Internet-linked rural telecenters; telemedicine; and information and communication systems supporting enterprises, producer groups, and other organizations (for example, by providing agricultural producers information on market prices, and linking producers, artisans, and others to buyers).

Electricity--supplied in one form or another--is an absolute prerequisite for the use of modern information and communication systems. This is a basic problem in rural areas of developing countries, where roughly two billion people lack electric service, and the expense associated with extending the electric grid is often prohibitive. Small renewable energy-based power systems such as solar photovoltaics or PV, small wind-electric turbines, or hybrid power systems combining renewable energy and fossil-fueled components, are often ideal for powering these information and communication systems. Assuming careful selection of end-use equipment, the power requirements are relatively modest, and small-scale renewable energy or hybrid systems will often be the least-cost power supply options.

For several decades, renewable energy and hybrid systems have often been used to power off-grid telecom repeaters. Due to the high cost of the repeaters and the critical role they play in the telecom networks, the companies involved devote serious attention to these off-grid power systems, which are designed and sized by experienced power system engineers from the telecom firms or their turn-key contractors. Telecom companies are now increasingly using off-grid renewable energy systems--usually solar PV systems--for the end-user or customer-side equipment in wireless rural telephone systems, including rural pay-phones.

One of the consequences of the growing use of information and communication systems in rural areas is that many of the decisions on equipment selection--including power system selection--may not be made by telecom companies and their engineers. In many cases, end-users or government or NGO implementing organizations--lacking power system expertise--may make these decisions. This raises interesting questions on how best to support broad use of remote power systems for rural information and communication systems. For example, what type of information dissemination or capacity building activities might be needed in order to facilitate more sustainable use of renewable energy systems for rural ICTs.

We are pleased that the workshop speakers and participants include many people working in the fields of rural telecom, distance education, rural telecenters, and rural applications of information technologies, on the one hand, and rural and renewable energy specialists on the other. We believe that the workshop will be a useful forum for discussion and information exchange between these two groups. Rural and renewable energy specialists will have an opportunity to learn more about the experience and trends in rural use of information and telecommunication technologies. Communications and information technologies specialists will be able to learn more about effective use of renewable energy and other remote power systems to expand the reach of their programs into unelectrified areas.

Goals:

The goals of the workshop are as follows:

- Present the experience and trends in rural applications of information and communication technologies.
- Present experience with commercial use of renewable energy systems in telecommunications networks.
- Explore issues related to design, sizing, and selection of power systems for rural information and communications systems.
- Discuss ways to more effectively integrate rural applications of information and communication technologies into the growing number of off-grid rural electrification programs and ventures supported by the World Bank, donor organizations, and private companies.
- Address the need and potential for effective public-private partnerships in order to access the investment and technical resources required. And finally (and to me most importantly)
- Establish links between people working in rural energy and people working in rural applications of information and communications technologies, and identify members of each group interested in working together at the intersection of these two fields.

I think you will find that we have assembled a very interesting and informative group of presenters, and encourage everyone to ask questions, and to actively take part in the discussion session later today. Each of the presenters will speak for approximately 20 or 25 minutes, and we have time at the end of each presentation for a few questions or comments.