Title of Article: Rural Mobile Telephony: A VSAT (Satellite) Based Approach.

Author(s): Idachaba F.E and Edeko F.O.


Abstract: This work presents a VSAT based approach for extending mobile communication access to rural communities in developing countries using VSAT and satellite technology. The rural areas are clustered into village community cells with each cluster being served by a non regenerative bidirectional repeater system. The telecommunication technology of choice is the GSM standard. Traffic from the rural areas is collated together at the access point which serves as an interface between the village community cells and the satellite. The access points perform a frequency translation moving the signal from the GSM band to the satellite band at the transmitter and vice versa at the receiver. The system maximizes the advantage of satellite communication technology over other types in linking remote areas to urban centers that are geographically far apart. The satellite then links the village cell to the operator’s network via a dedicated BTS in the urban area. The system has the advantage of being modular, scalable and solar powered due to the low traffic from rural areas.