Title of Article: Low Power Transceiver based Approach to Extending Mobile Communication to the Rural Areas of Nigeria.

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Abstract: The paper introduces a low power transceiver based approach at extending Mobile communication services to rural areas without the use of conventional base stations. A hamlet cell arrangement is proposed for the clusters or hamlets of the rural areas eliminating the need of having coverage in unpopulated areas like rivers, mountains and forest. The system utilized a low power transceiver designed to be powered by solar cells. The Transceivers provide coverage to the hamlets by the use of corner reflector antennas and these hamlets are linked to the nearest base station by directional antennas. The results show that this approach can enable communication between dwellers in the rural and the urban areas with the mobile units in the rural area transmitting at minimum power thereby extending the battery life of mobile units in the rural areas and it eliminates the conventional base station and reduces both the capital expenses and the operational expenses required to set up a mobile communication cell site in a rural area.