

- Technological Innovation - Business solutions

DISTRIBUTED LONG – RANGE ANTENNA SYSTEM (dL - RAS) LMS SOLUTION

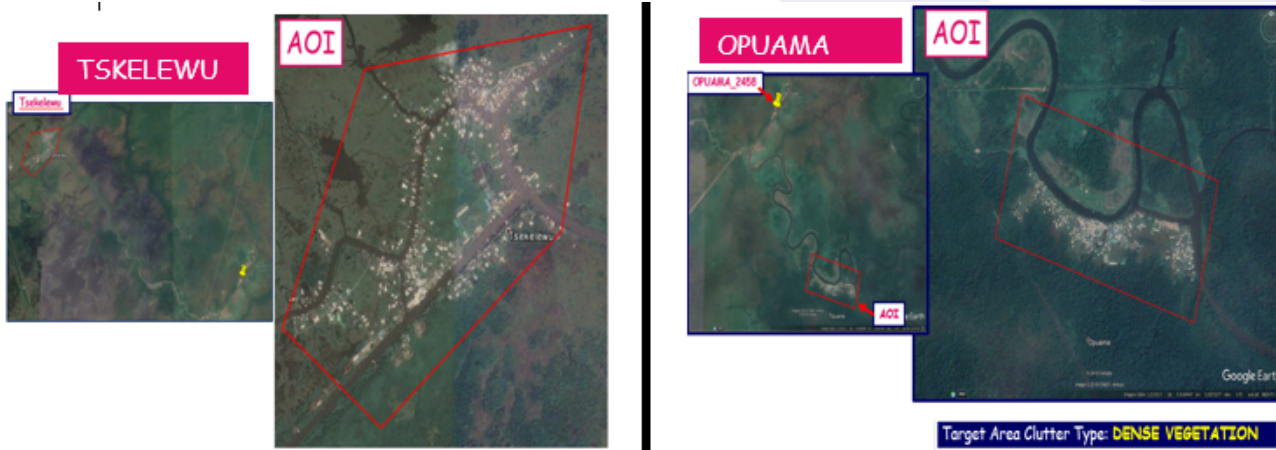


Figure 1: Google Map of Opuama and Tsekelewu showing the Areas of interest.

Opuama is a small island community located in Delta State, Nigeria, which oversees oil excavation of a Major Oil Operator. The previous telecom coverage in this area was provided by a base Station installed beneath a tall Tower used by the Oil Company for other communication needs.

The Opuama village is a substantial distance from the communications Tower and the significant vegetation clutter yielded very poor coverage to the community. An improvement deal was worked out by the Oil Company for the Telecom Operator to improve the 2G & 3G coverage in Opuama village. The Operator having a working relationship with **TYDACOMM**, approached them for a tailored solution for this project.

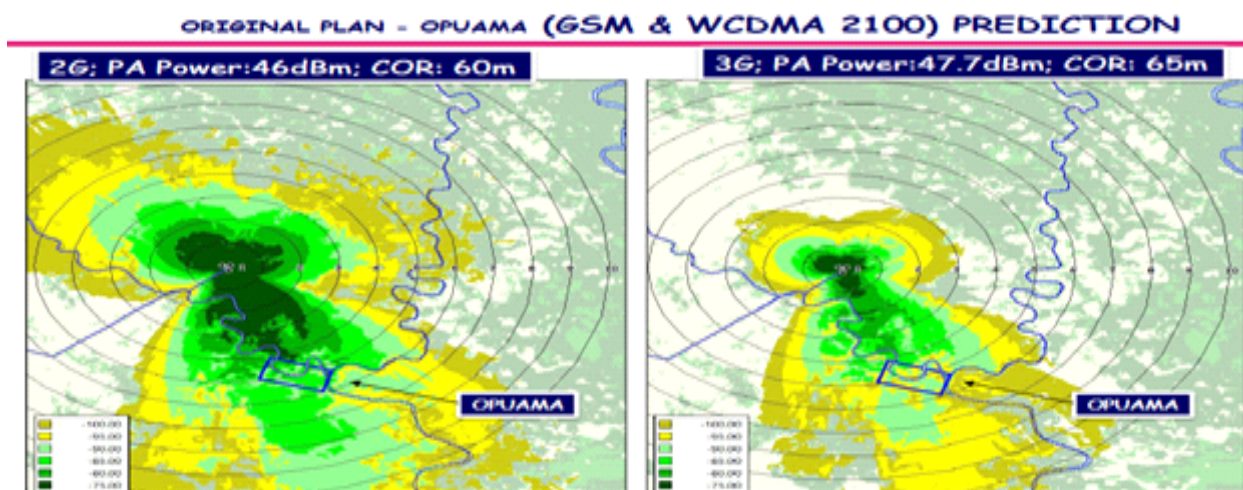


Figure 2: Predicted Original Coverage plan for Opuama (GSM & WCDMA 2100).

The TYDACOMM Team studied the area and came up with a unique design to cover the Opuama Village with both 2G and 3G solutions (Ref Fig 2). A 24dB solution was used for the low band and a 24dB solution for the high band. Additionally, as word spread TYDACOMM was also contracted to perform a similar installation in the neighboring island village of Tsekelewu.

Since the Project was already in an advanced state of implementation and all planned equipment had reached the site, the Operator requested TYDACOMM to now cover both Opuama and Tsekelewu with 2G using the available equipment and Opuama with 3G.

The revised planning was done and a new coverage plan was developed. (See Fig 3). Now a 21dB solution each of the low band would be used toward Opuama and Tsekelewu for 2G and the 24dB for the High Band would be used to cover Opuama for 3G.

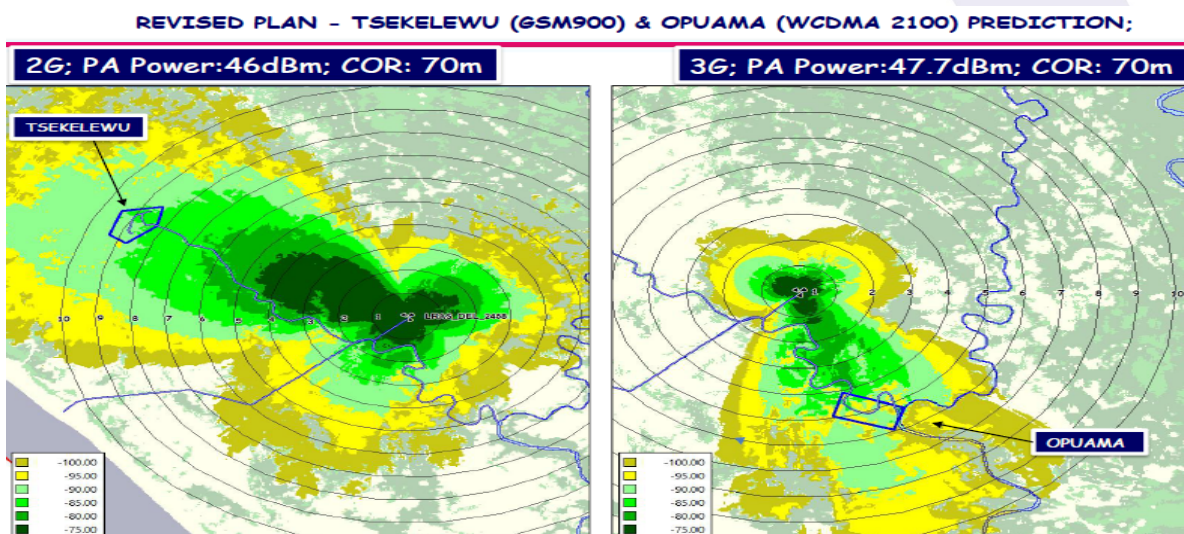


Figure 3: Predicted revised Coverage plan for Opuama 3G and Tsekelewu 2G

The system was now installed and commissioned as per this new plan. The 3G coverage in Opuama which previously was very patchy and intermittent, now improved by around 10-15dB and was now suitable for streaming video. (Fig 4)

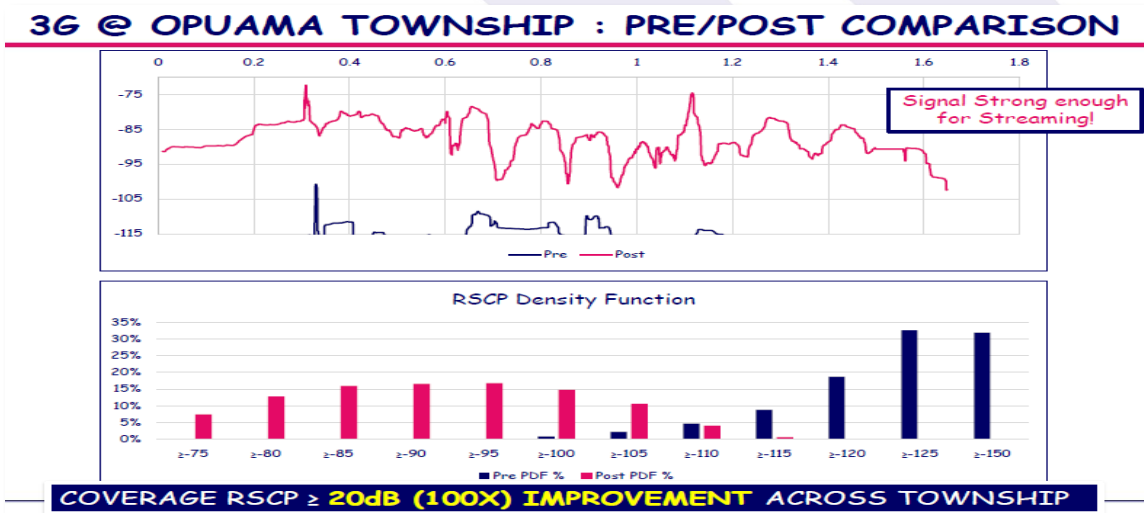


Figure 4: Pre & Post comparisons for Opuama Township at 3G.

The 2G coverage was practically absent in Opuama earlier. Now Opuama was covered between -85 dB till -100 dB. (Fig 5) Similarly, patchy 2G coverage in Tsekelewu now improved to between -85dB and -100 dB. (Fig 6)

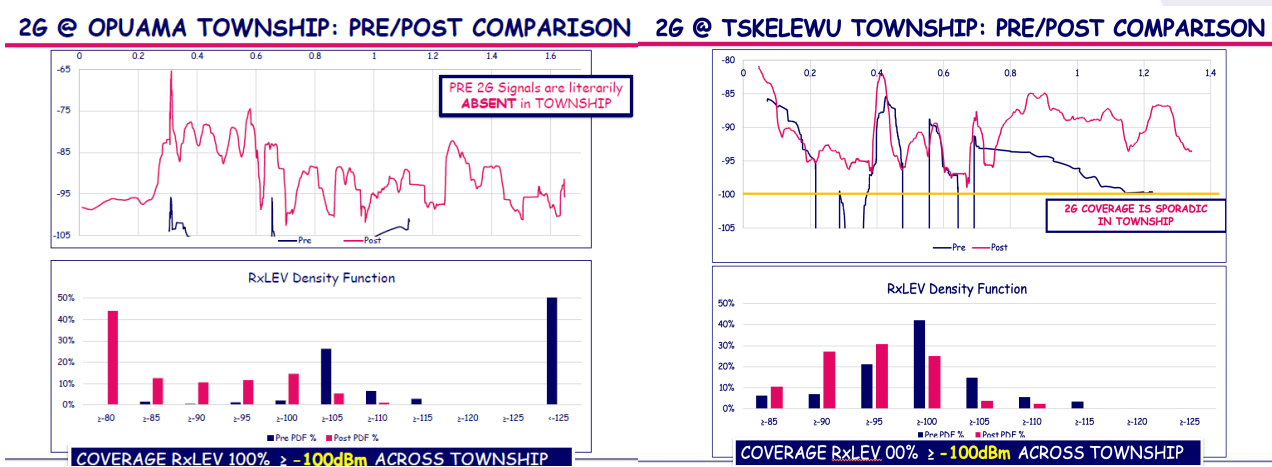


Figure 5: Pre & Post comparisons Coverage of Opuama and Tsekelewu 2G

The Villagers, who previously used to hang their mobile outside in tin cans in the hope of catching some signal, sometimes, now suddenly started getting signals all along with their village and were being able to make calls.

The Operator which had practically not seen any traffic/ revenue now started earning handsomely from the Oil Company recouping their investment in a few short months and now had much better coverage for their own communication needs.

The Operator is in the process of identifying many such locations in these Oil Islands and Oil Pipelines to implement a similar solution, improve coverage, and start earning from these BTS installations.