

Wireless Communication Network Implementation and Upgrading Pilot Project

The Motor Vehicles Department is at the forefront of organizing vehicles for rescue and relief operations during floods and landslides that occur in Kerala most of the year. But rescue and relief operations were delayed as all communication systems were down during the calamity. It was decided to set up wireless communication and related network infrastructure for the use of the department personnel.

As part of this, the pilot project of wireless communication network was implemented at Ernakulam district in 2021. Pilot project was implemented by sharing the towers and microwaves of the Excise Department of Kerala. The Motor Vehicles Department is required to renew its wireless operating license every year by paying the spectrum charges for the allotted frequency to the Department of Telecommunication in due course.

Presently, the pilot project in Ernakulam district is also used for the day-to-day operations of the Motor Vehicle Department. However, this system, operated using the infrastructure of the Excise Department, faces several drawbacks. The Excise Department's towers are short in height and the towers are not available at the required locations, so that only limited carpet coverage is available. This creates a hurdle to coordinate the activities of the Motor Vehicles Department.

To overcome this limitation and with the intention of getting coverage in more areas, a radio frequency survey was conducted using BSNL in Ernakulam district. As per the survey report, it is clear that if the wireless project is upgraded with BSNL towers, coverage will be available at 85% areas of the district because BSNL towers are taller than Excise towers and are available at required locations. But the rent fixed by BSNL's towers is Very high.

Currently, the Department's wireless system operates using DMR Tier-2 technology. A large number of towers, repeaters and other equipment are required in each district to implement this kind of VHF-based wireless system. We are also concerned whether these systems will be practical in the

face of calamities like landslides as they are operated by mounting on mobile towers.

In this situation you are requested to suggest a technically and economically suitable solution for upgrading the pilot project in Ernakulam and to implement the wireless communication network in all other districts of Kerala in a phased manner. It is also requested to inform about the possibilities and practicalities of other innovative and cost-effective technologies in this field which is viable even during natural calamities.