

## fast facts

**Project:** Meshing Up Mahavilachchiya  
**Lead Organization:** Horizon Lanka Foundation  
**Country:** Sri Lanka



## situation

Sri Lanka has a high literacy rate (94%) and a public education system up to the tertiary level. However, university intake is approximately two percent and thus is highly competitive. In general, rural schools lack teachers and facilities, resulting in unsatisfactory the academic scores. While the government provides a limited amount of computers for rural schools, each school has about 500 students, and children have restricted time to understand and learn from and about these computers. This typically renders computers an ineffective medium for teaching and learning in a state school environment.

## solution

Horizon Lanka Foundation (HLF) believes that rather than keeping school computers and laptops in a central location; they should be placed in the students' homes and connected to the Internet through a low cost solution such as mesh technology. Trainings can be arranged to teach student users how to benefit from the online content available to them, as well as build technical literacy and Internet skills. The computers can be monitored through a set of competent senior students and youth, with the help of a staff member. Village youth and adults can leverage Internet skills and content to make a positive impact on their lives and communities.

The existing mesh network in Mahavilachchiya was installed in November 2006. The network worked only for few months, and technical problems were soon identified, including the need to relocate an entire network tower. Likewise, the original configuration was only able to provide network coverage for a quarter of the village.

Before beginning the project in earnest, the team conducted a survey of the existing network which indicated it may be possible to cover the entire village with a mesh network if existing HLF towers could be relocated, a step which would require the assistance of two existing mobile operators (Dialog Telekom and Hutch) in order to repurpose their privately-owned towers for project use. When approached, both operators granted this permission. This agreement allowed HLF to repurpose its own, older towers (and move one tower to a new location), to cover the entire village.

Over the course of the project, HLF was about to bring 30 access points online (26 houses and 4 public schools) to improve the quality of the connectivity provided by the local ISP, LankaCom. As a result, the wireless mesh area expanded significantly, enabling laptop users to connect to the mesh network easily.

Students from the village have access to computers directly connected to the network, while others were able to connect wirelessly to the mesh network. There are now approximately 25 laptops in the village; and the network is also able to accommodate foreign volunteers that come to HLF and other visitors who wish to use the Wi-Fi zones whenever they are in the village.

By expanding the mesh network, HLF expected to teach English and IT using online resources via the mesh network with the supervision of experienced English and IT teachers. HLF hoped to measure the improvement of those skills by administering tests before and after the project.

Since the new mesh implementation, both the community supporting the mesh network use and development have grown, with both direct users and other members of the community indirectly benefiting from it. All users are charged a connecting fee and a registration fee, which are both one-time fees. However, given that internet fees are decreasing worldwide, it is very likely that Lanka Com's monthly fee will decrease in the future, allowing the users fees to cover the entire connectivity bill in the future. Other villages in Sri Lanka have expressed their interest to replicate this project.

### broader impact

The technical implementation of the mesh network was a success and has been recommended to the Ministry of Education for its e-Village Replication Project (more information available at [www.evillage.lk](http://www.evillage.lk)). The government used Horizon Lanka in Mahavilachchiya as the model for this replication project. It is anticipated that through that initiative, the government will apply a similar approach across the 50 rural villages in the e-Village project. As most of the villages that are part of three-Village project are in very rural areas, the Internet speeds do not currently support individual wireless connections, but if the mesh project is replicated, the main Internet connection can be shared by others in the villages, as was implemented in Mahavilachchiya.

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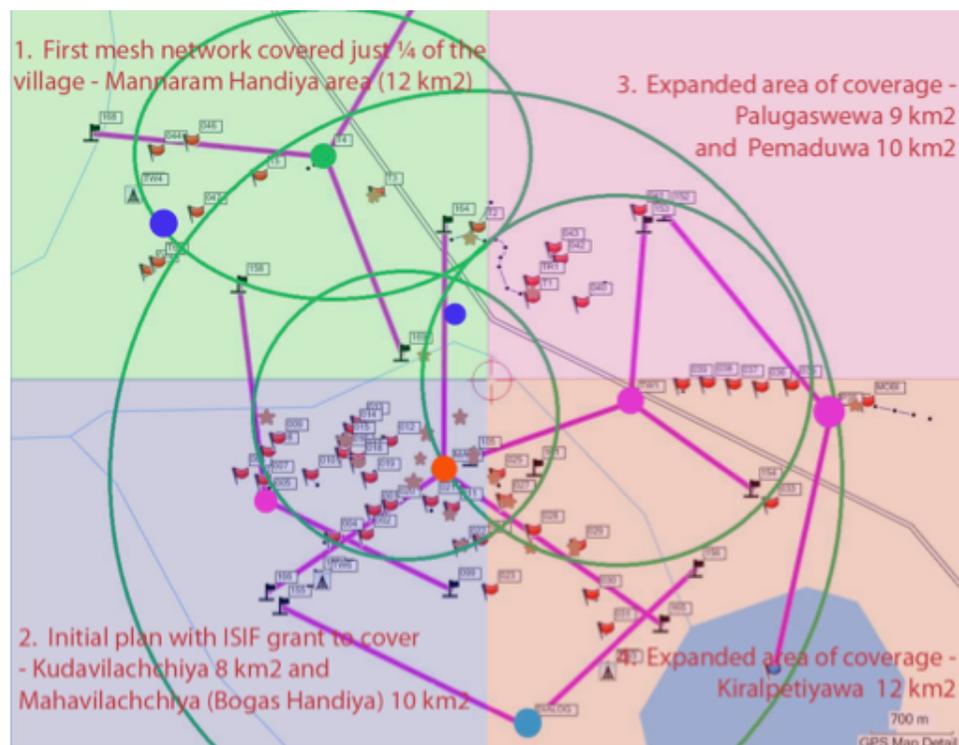
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