Project Proposal: Frugal High-Speed Connectivity for Rural Villages

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Subject: Rural Development

January 29, 2026

1 The Problem: Outdoor Speed is Better than Indoor

In many rural villages, 5G internet coverage has reached the area. However, people face a major issue: the internet speed is excellent outdoors, but very slow inside the house.

This happens because the 5G signals are blocked by thick walls, tin roofs, and trees. Currently, villagers have to go outside to get a good connection. This project proposes a simple solution to bring that high outdoor speed inside the home.

2 The Solution: "Sky-Bucket" System

The idea is simple: we catch the strong 5G signal outside and send it inside using a wire.

2.1 Items Needed

1. **5G/4G Router:** A router that takes a mobile SIM card.
2. **Cables:** Ethernet cable (for internet) and power cable.
3. **Power Plug:** To connect the power cable to the socket.
4. **Bucket & Bamboo:** A plastic bucket to protect the router, and a bamboo pole to lift it high.

2.2 How to Install

The router is placed inside the protective bucket and hang at a high point (like on a bamboo pole or terrace). Height is very important because placing the router high up avoids obstacles and catches the best signal strength.

The cables run from the bucket down to the room. The power plug connects to the wall socket, and the Ethernet cable connects to the computer. This ensures the user gets the same fast speed inside as they get outside.

3 Cost Analysis

This DIY solution is very affordable.

Item	Estimated Cost
5G/4G Router	BDT 800 - BDT 900
Ethernet & Power Cables	BDT 16 - BDT 19
Power Plug	BDT 30 - BDT 45
Total Cost per Household	**BDT 846 - BDT 964**

Table 1: Cost estimation for the solution.

4 Social Benefits

- **Education:** Students can download large books and join classes using high-speed 5G from their desks.
- **Jobs:** Fast internet allows people to work for city companies from their village homes.
- **Healthcare:** Doctors can use clear video calls to treat patients remotely.

5 Conclusion

The barrier to internet in villages is not the signal itself, but the walls blocking it. By using a simple bucket and a bamboo pole to place the router high up, we can provide city-level 5G speeds to rural homes for less than BDT 1000.