Connecting villages: The role of village administration

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Objective

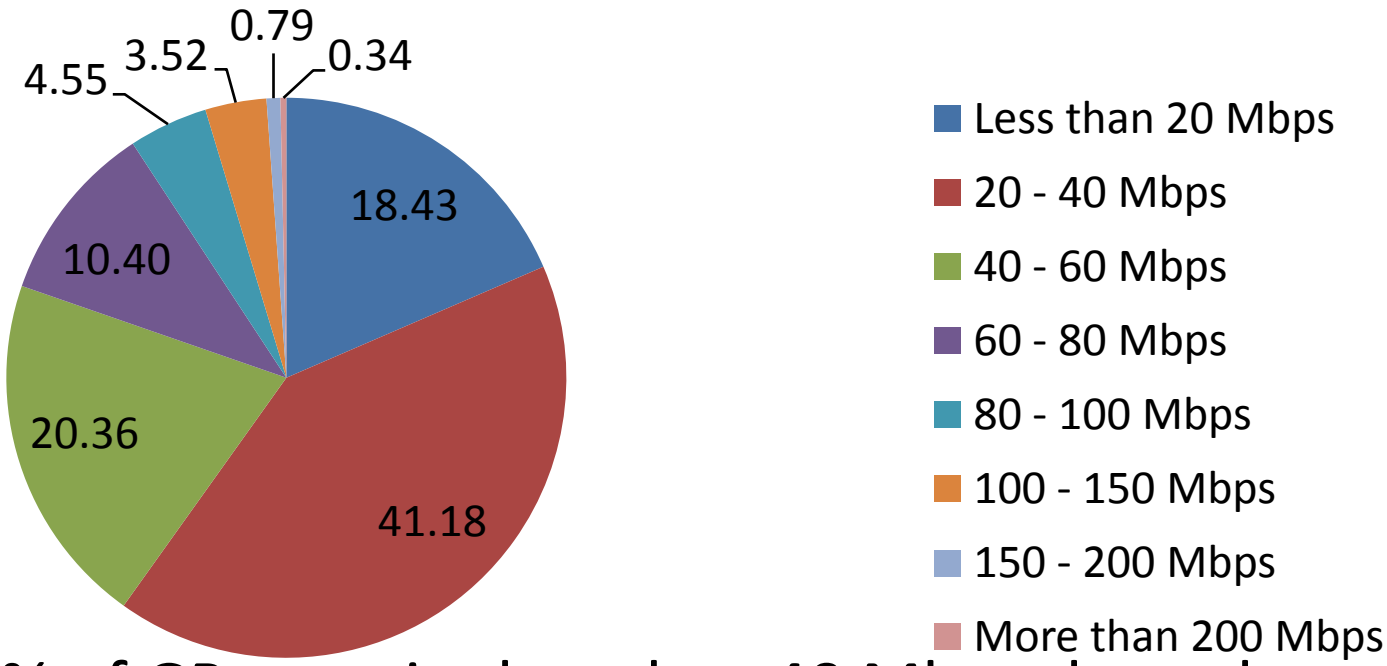
- 75% percent of rural India is still unconnected.
- Govt of India intervention Bharat Broadband Nigam Limited (BBNL) is going slow.
- The government has the agenda to connect only the Gram Panchayats but not the villages.
- Remote, un-served villages will remain so for longer duration of time.

BharatNet

- A digital plan of the Government of India.
- It aims to digitally connect 250,000 Gram Panchayats (GP) by broadband Internet connectivity.
- **125,000** GPs to be connected using fiber in Phase 1 of BharatNet.
- The remaining **125,000** GPs to be connected using an optimal mixture of technologies such as fiber, radio and satellite.

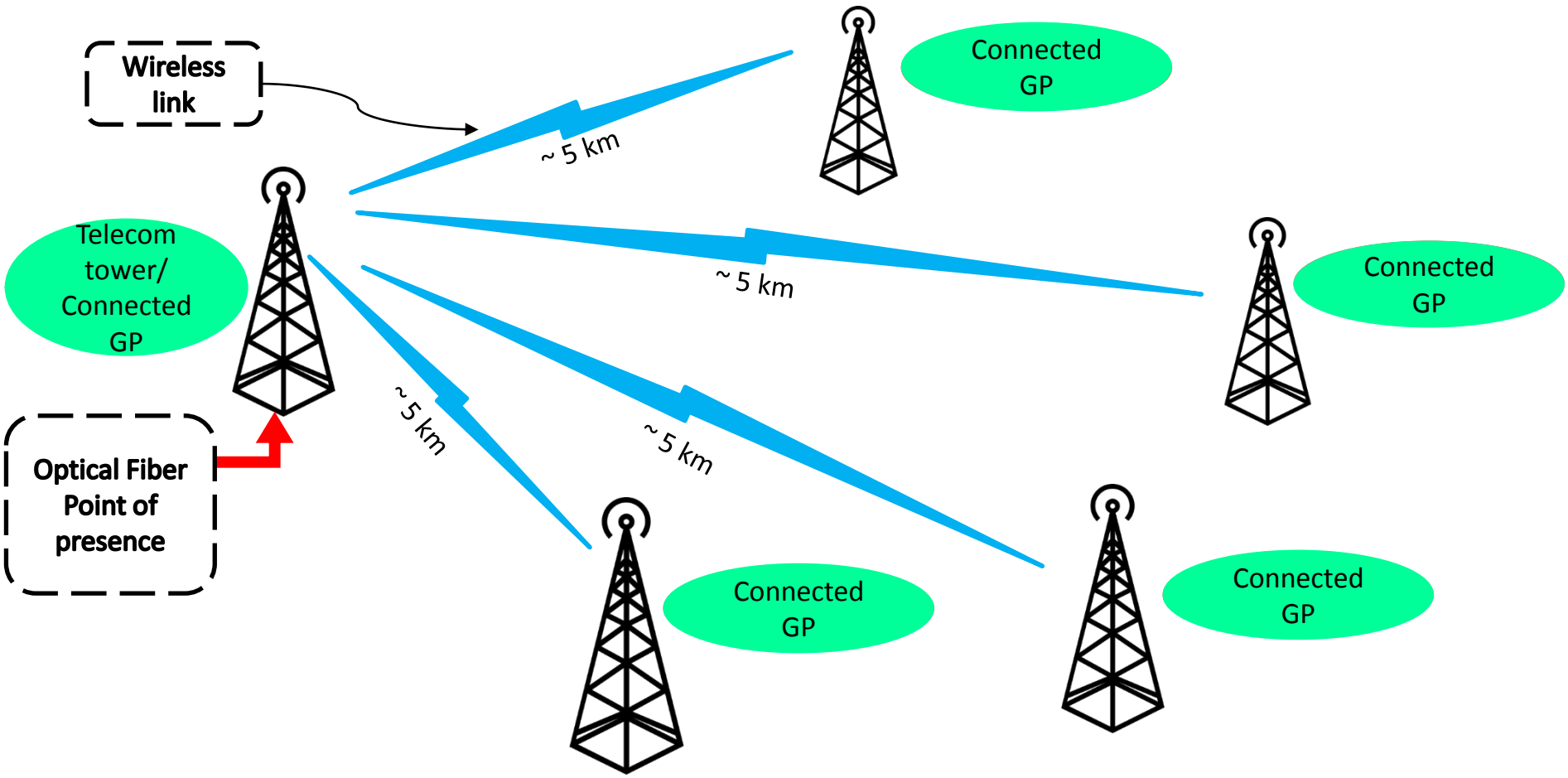
Current Connectivity Requirements in Rural India

- Only 13.25 % Gram Panchayats are connected.
- Based on population and contention ratio of 1:25, throughput requirement of the GP can be calculated



- Nearly 60% of GPs require less than 40 Mbps throughput

Network Architecture



Why remote villages need connectivity?

- These villages are completely un-served.
- All official work is taken to the cyber café in the city.
- Lots of travel expenditure borne by the village administration without reimbursement.
- Quality of work gets affected.
- Villagers cannot avail the E-Governance services.

Why village administration?

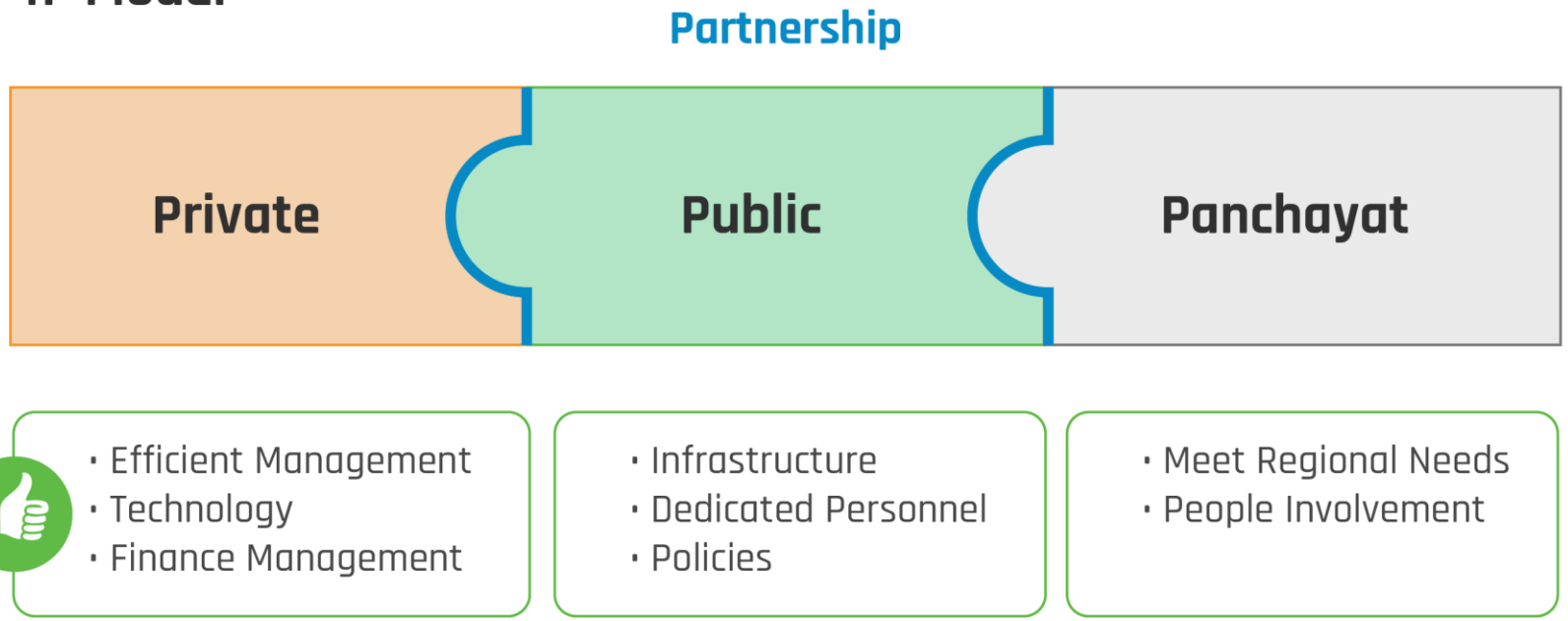
- Integral part of seeding the growth of community networks in remote villages.
- Village administration needs to own the network to make the connectivity sustainable.
- Enables community participation and involvement.
- Security and longevity of the devices.

How village administration can be involved in the connectivity process?

- Connectivity is needed both by the ***GP office as well as the villagers.***
- Need for low heighted (<15 meters) towers at the GP office.
- Use of alternate power supply, such as solar panel, should be employed.
- Fund for the tower infrastructure at the GP office.
- Pay for 2 Mbps bandwidth monthly from the local ISP.

Partnership Model

4P Model



Sustainable Model

Inclusion of Internet for Development in 5 year plan by the GP

Sr No	Category	Amount
1	Street lights	xyz
2	Water taps	Xyz
3	Roads	Xyz
4	Internet for Development	CAPEX cost + OPEX cost

Both CAPEX and OPEX cost be proposed by the GPs under their 5 year financial plan

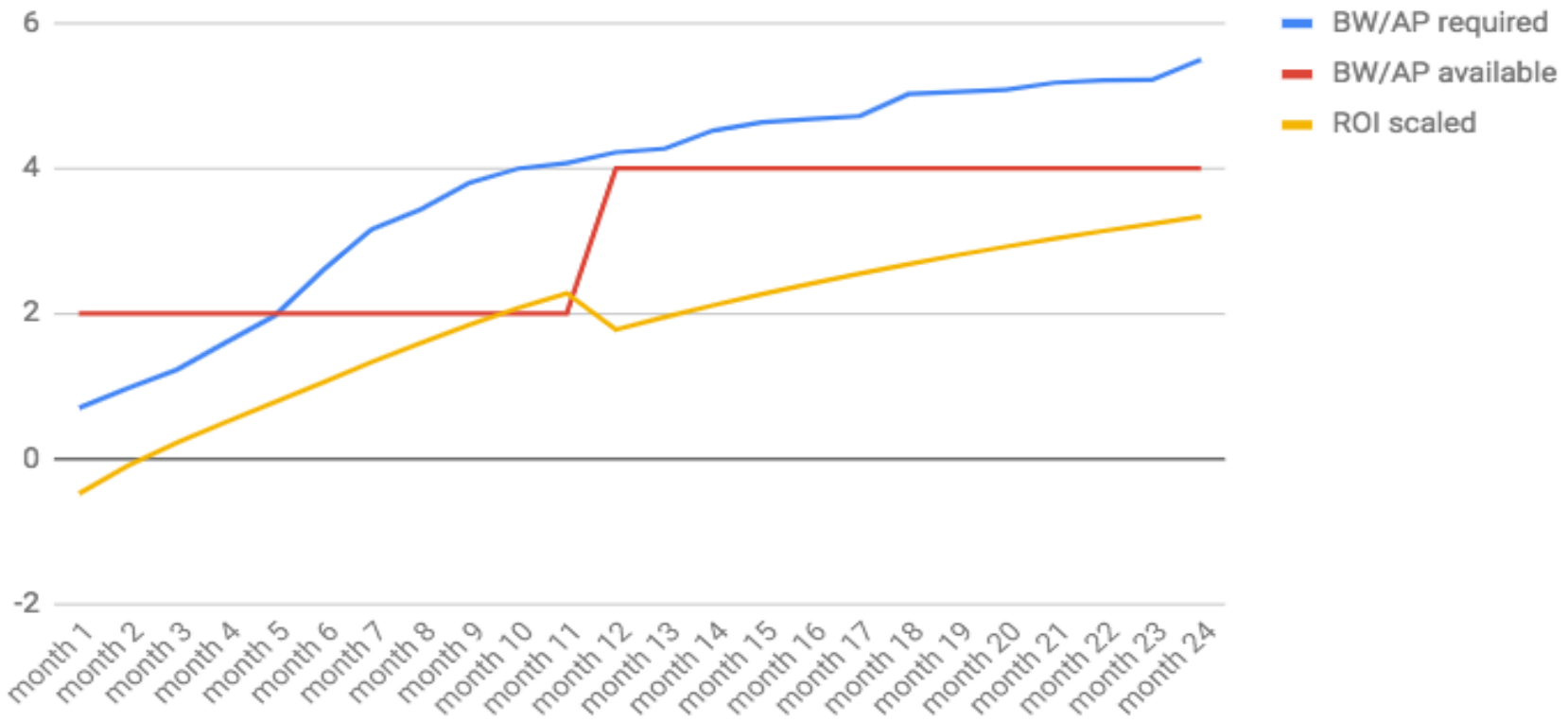
Government Expenditure

Sr No	Category	Year 1	Year 2	Year 3	Year 4	Year 5
	Government Expenditure	CAPEX + Bandwidth charges for 6 months	OPEX (per month)	OPEX (per month)	OPEX (per month)	OPEX (per month)
1.	Cost (Rs) *	340000	2000	2000	2000	2000

NOTE: Per user/village cost is Rs. 120-150

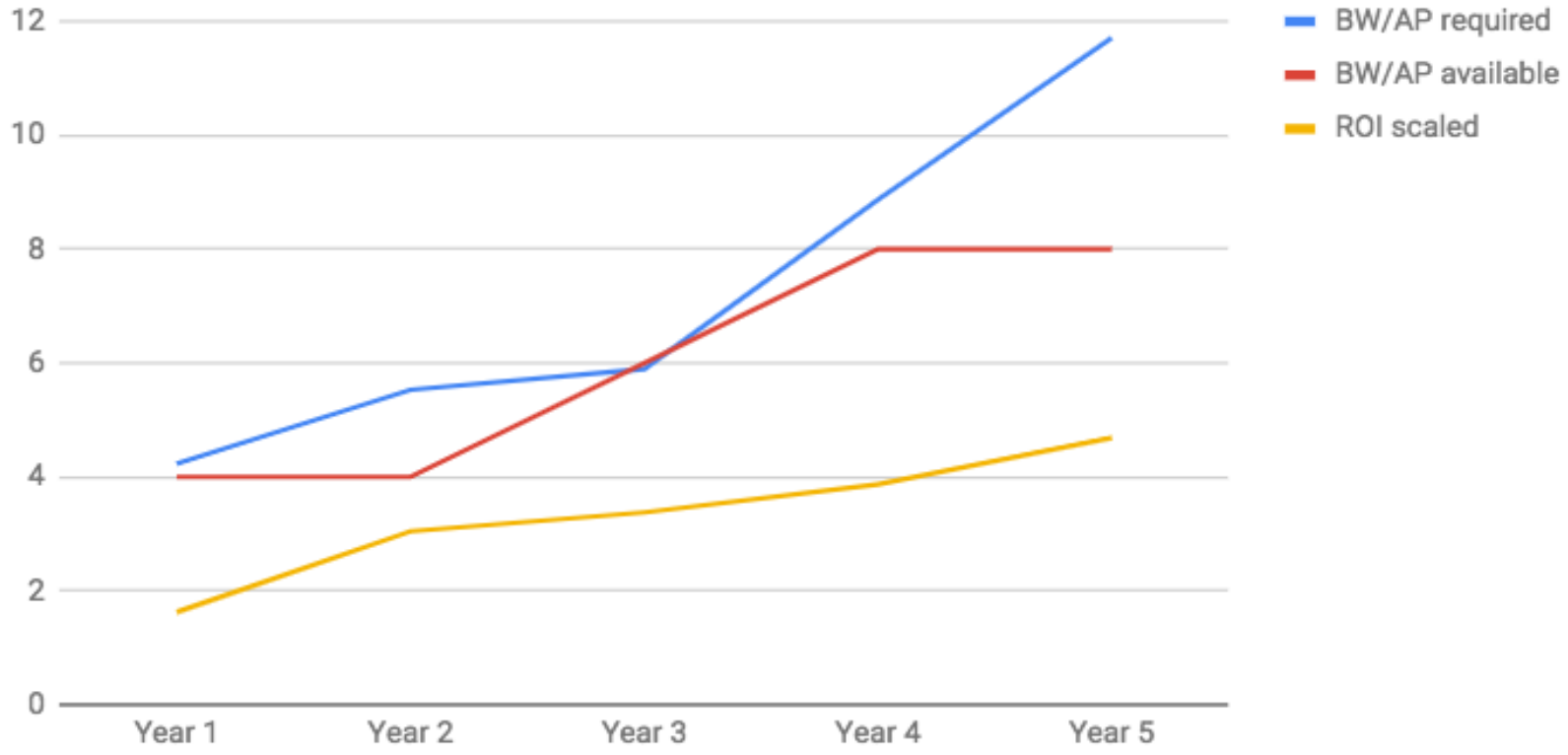
* Cost is variable according to the tower used per village.
* Use of defunct tower at GP premise will reduce the cost further

Cost Benefit Analysis

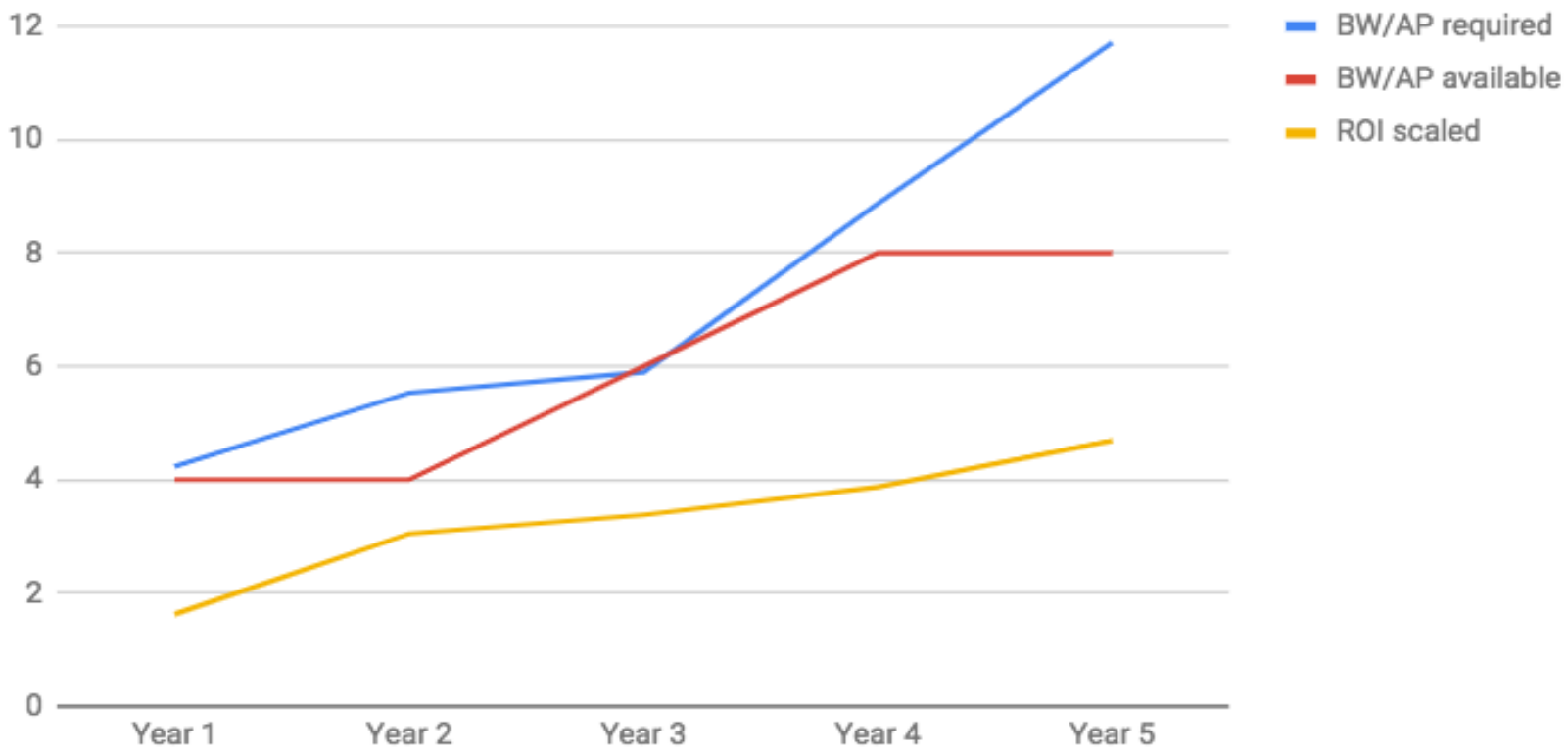


Village - Shilshet, population - 708
ROI scaled to cumulative investment
ROI is positive since 3rd month
AP increased in month 12 itself

5 years predictive model



VLE led model



- Bandwidth is scaled to 30 Mbps bulk bandwidth
- ROI is scaled by cumulative investment (initial 34,05,000 + OPEX 37,000 + additional BW)

5 years predictive model