Rural Wi-Fi: Can it be a game-changer for Digital India?

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In 2015, the Indian government announced the launch of Digital India, a set of campaigns and projects that sought to increase digital services and connectivity in the country and use the internet to make government services available to its citizens. Around a year later, the same government imposed digital banking and transactions on millions of unaware citizens with demonetisation. Soon, almost all services, including benefits, subsidies and other welfare schemes including rations through the Public Distribution System, were linked to Aadhaar and connected digitally. The state of Jharkhand even reported deaths when people did not receive their rations because of a linking failure. When the country lacks basic connectivity infrastructure, incidents like this where people miss out on welfare are all too common. Now almost two years into the pandemic, Digital India has seen some of its toughest challenges. There are reports that the number of internet users has grown during this period and will reach around 900 million by the end of the year. India is predominantly rural, and studies show that the country's rural internet base is growing faster than its urban counterpart and will soon surpass it as well.

There have been several projects and schemes that have been announced over the years to try to make rural connectivity possible. The government's National Optic Fibre Network, launched in 2012 and later renamed BharatNet, had such plans to connect all the panchayats with broadband. Their site claims that 25,000 kilometres of fibre had been laid. While this is good news, many of the basic infrastructural problems still remain. How does the internet reach the farthest corners of the country when there is sometimes irregular or even no electricity?

In a piece I wrote for the mint in 2015, I had discussed the possibility of using the active community of Community Radios to act as rural Internet Service Providers. These radio towers have 100 ft broadcast towers, a leased

line and membership fees could have helped provide access in areas where the radios are active.

So far, a lot of this has been achieved using community networks. While community networks are not the only form of rural connectivity, it is a very important one; one that we at DEF has also shown to yield several success stories. Community networks are local telecommunications infrastructures that are built, managed and used by local communities in areas where other commercial providers do not provide services. At the core of the concept of community networks, are the ideas of decentralisation, de-monopolisation and democratisation. Deploying wired internet across a geographically vast, spread-out and diverse country comes with high costs, which for a private provider is a challenge. Crises at public-funded companies like BSNL meant many in need of connectivity were losing out. Even for community networks, there are hurdles of scale, sustainability and long-term viability. While community networks already had been recognised by the TRAI as "public Wi-Fi networks" since 2016, there were not a lot of groups working to build last-mile connectivity. We at DEF have been working with the Internet Society on a project Wireless for Communities, where community-operated networks are created utilising the unlicensed spectrum bands (2.4- 5.8 GHz). We also work with communities on the ground, providing them with training to build these networks. Air Jaldi and Gram Marg are others who have been trying to implement community Networks, and BSNL's 2020 announcement of AirFibre also tries to make use of unlicensed spectrum to provide connectivity.

The challenges we faced the most were similarly related to the associated costs and sustainability. Despite the mentioned recognition by TRAI, there was an evident lack of a framework that could easily make community networks spread out. But now, in 2020, the government has announced its project PM-WANI, (Wi-Fi Access Network Interface), which "envisages provision of Broadband through Public Wi-Fi Hotspot providers." WANI will work somewhere similar to the old school PCOs (Public Call Office), which has been a suggestion we submitted at a TRAI consultation in 2016. WANI brings into place a framework, gets rid of the licensing issues, allowing local shops to sell internet access on a community level. Even though some of the interviews our team conducted on the ground mention of a lack of clarity from the government's end on the implementation and dissemination, and some apprehensions regarding the initial investment cost for the devices like routers, WANI has the potential to be self-sustaining as it increases earnings for these local centres as well as boosting connectivity around the area.

Last-mile connectivity is important for all institutions. Like the recently announced K-FON project by the Kerala government had planned to bring internet connectivity to all the government offices, hospitals and educational institutions, there must be a policy level implementation to ensure that rural Wi-Fi can be made use of in a similar manner. The WANI has a decentralised framework, but the decisions and policies framed also would need to step beyond the MEITY or the Department of Telecommunications and into the other ministries, like health, education, or agriculture, if all sectors are to be connected. For example, a policy mandating all schools or hospitals or health centres requiring an internet connection within target date would push these institutions to make use of the infrastructure provided by WANI or other provisions for rural internet.

While we at DEF have always maintained that the internet is a necessity, a basic right and a tool for empowerment, the pandemic has highlighted and reinforced the urgency of getting connectivity to every corner. With weaker policies, the last two years saw millions of students lose out on education, and even more lose out on access to government services. When reports say that only 20 per cent of children had access to education during the pandemic, we see why these new schemes will be important for the future of Digital India.