School Connectivity in Pakistan

Challenges and Solutions

Waseem Ajmal Chaudhry ~ Joint Secretary, IC |
Ministry of Federal Education and Professional Training, Government of Pakistan |
www.mofept.gov.pk

Challenges

Connectivity and learning challenges in Pakistan

Connectivity challenges in Pakistan

<u>Many areas of Pakistan lack reliable internet connectivity</u>

- **The population is mostly rural: 63.1%** *(Baloch et al., 2020)*
- **Household access to internet in Pakistan is low**
  - 34% average, 51% in urban areas, 24% in rural areas *(PSLM 2019-2020)*
- **Internet access varies considerably both between and within provinces in Pakistan.** For example within Sindh: Karachi 67% internet access, Tharpakar 3% internet access *(PSLM 2019-2020)*
- **School internet connectivity varies widely, especially depending on rural or urban location.** For example urban elementary schools with internet: 57.1%, rural elementary schools with internet: 13.2% *(ASER 2019)*

Remote learning challenges in Pakistan

Pakistan faces significant education challenges:

- Around 22.4 million out of school children
- Low student learning outcomes, teacher quality and accountability
- Limited and inequitable access to higher education and skills training
- Significant learning loss from Covid-19 pandemic, especially for marginalised groups

Pakistan needs to develop a system for distance learning, to help address these challenges, that includes :

- Teachers trained in distance learning
- Distance learning content & end-user devices
- Parental support
- Supportive infrastructure, including connectivity

Solutions

Government of Pakistan's Solutions to the School Connectivity Challenge

Enhancing Connectivity and Digital Learning Plan

The Government of Pakistan's 'Enhancing Connectivity and Digital Learning Plan' aims to **increase access and quality of connectivity in underserved areas and improve digital learning.** Objectives are

- **Enhance connectivity in remote areas** to enable remote learning in Covid-19 and beyond
- Deploy **innovative offline / learning hotspot solution**s
- Providing schools with **offline Learning Management Systems (LMS)**
- Provide **community communication mechanisms** to alert communities to emergency updates
- Strengthen **teacher capacity** to deliver distance learning
- To provide constant **infrastructural, operational and maintenance support** to schools

Enhancing Connectivity and Digital Learning Solution 1: Point-to-point telecommunication

Under the '**Enhancing Connectivity and Digital Learning**' plan the MoFEPT is exploring the use of
'Point to Point Telecommunication'

What? Point-to-point (P2P) telecommunication enables two-way transmission of data from two fixed points.

Why? P2P Works smoothly in areas where broadband is poor or unavailable

P2P is simple and cost-effective to set up and run

Enhancing Connectivity and Digital Learning
Solution 2: Offline e-learning environment in schools

- **Wireless Local Area Network (WLAN)** installed on remote school locations
- Specialised **content** and **Learning Management System (LMS)** hosted in the on-site dedicated server
- On-site **devices connected via WLAN**
- Server is connected with the **Wifi Access Points (WAPs)**
- Client - Server model providing students with **pre-loaded content** to learn during and out of school hours.

Thank you!