Ministry of Information Technology
& Telecommunication

DIGITAL PAKISTAN

Smart Village and Resilient Communication Pakistan

Agenda

- Smart Village – A success Story for Pakistan
- Secure and Resilient Information and Communication Technology Environment for Pakistan

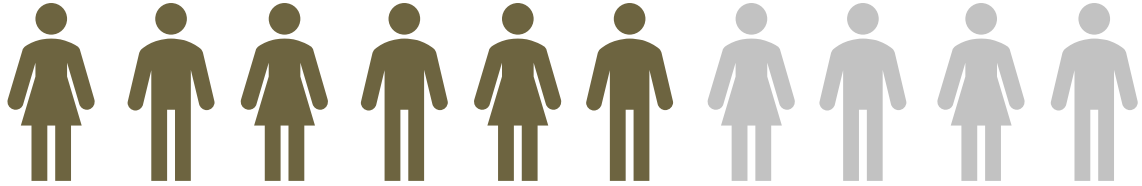
Smart Village Pakistan

Smart Villages

Smart Villages programs are designed to address the socio-economic challenges faced by communities through a digital transformation at the community level with emphasis on vulnerable populations (women, youth, and persons with disabilities)

CONTEXT

63% of the population is rural



YET, IN RURAL REGIONS:

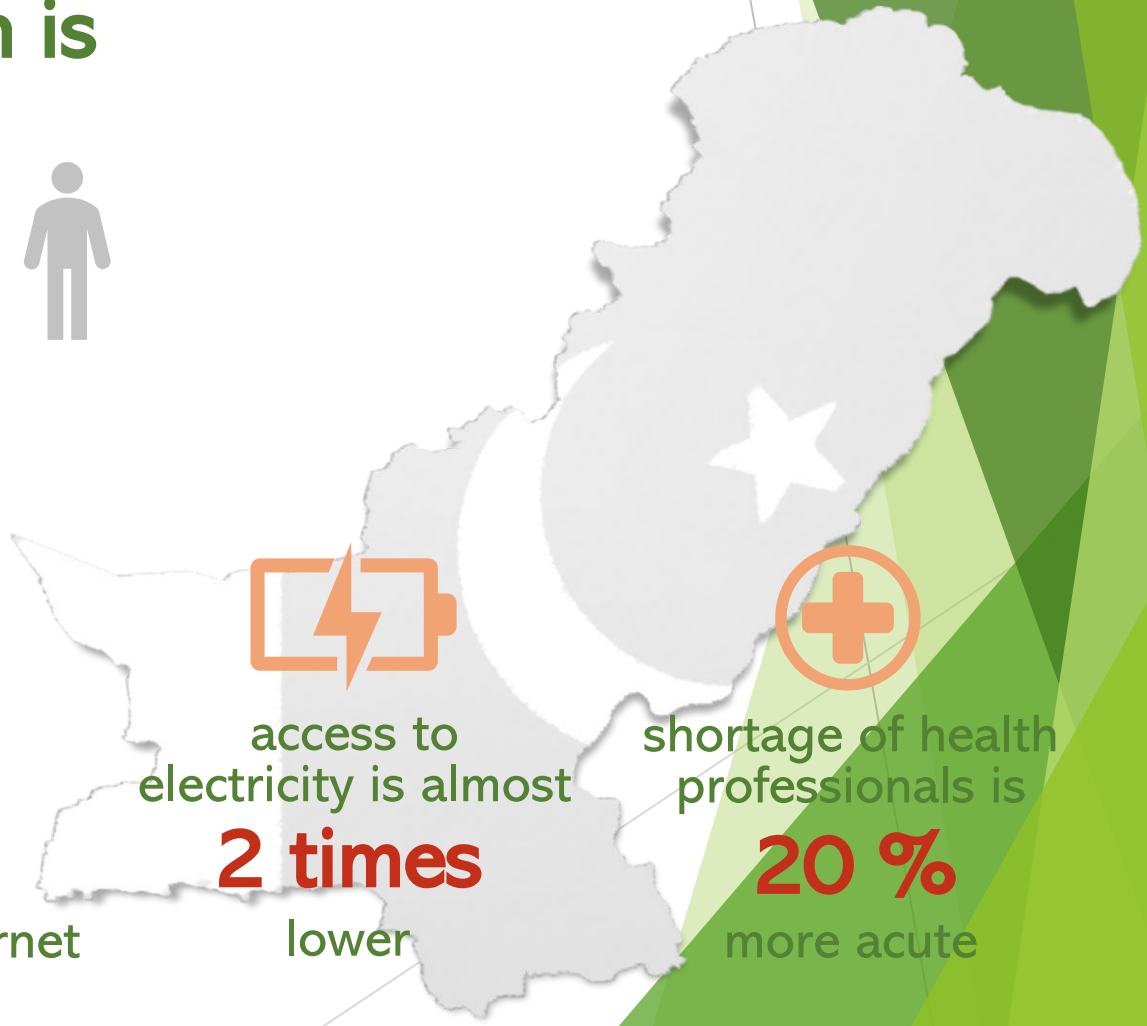
poverty rate is **2 times** higher

3G network coverage is **40 %** lower

only around **8 %** use the Internet

access to electricity is almost **2 times** lower

shortage of health professionals is **20 %** more acute



PROJECT COMPONENTS

Project Steering Committee (MoITT,, ITU, Huawei)

Project M&E based on framework developed by PSC

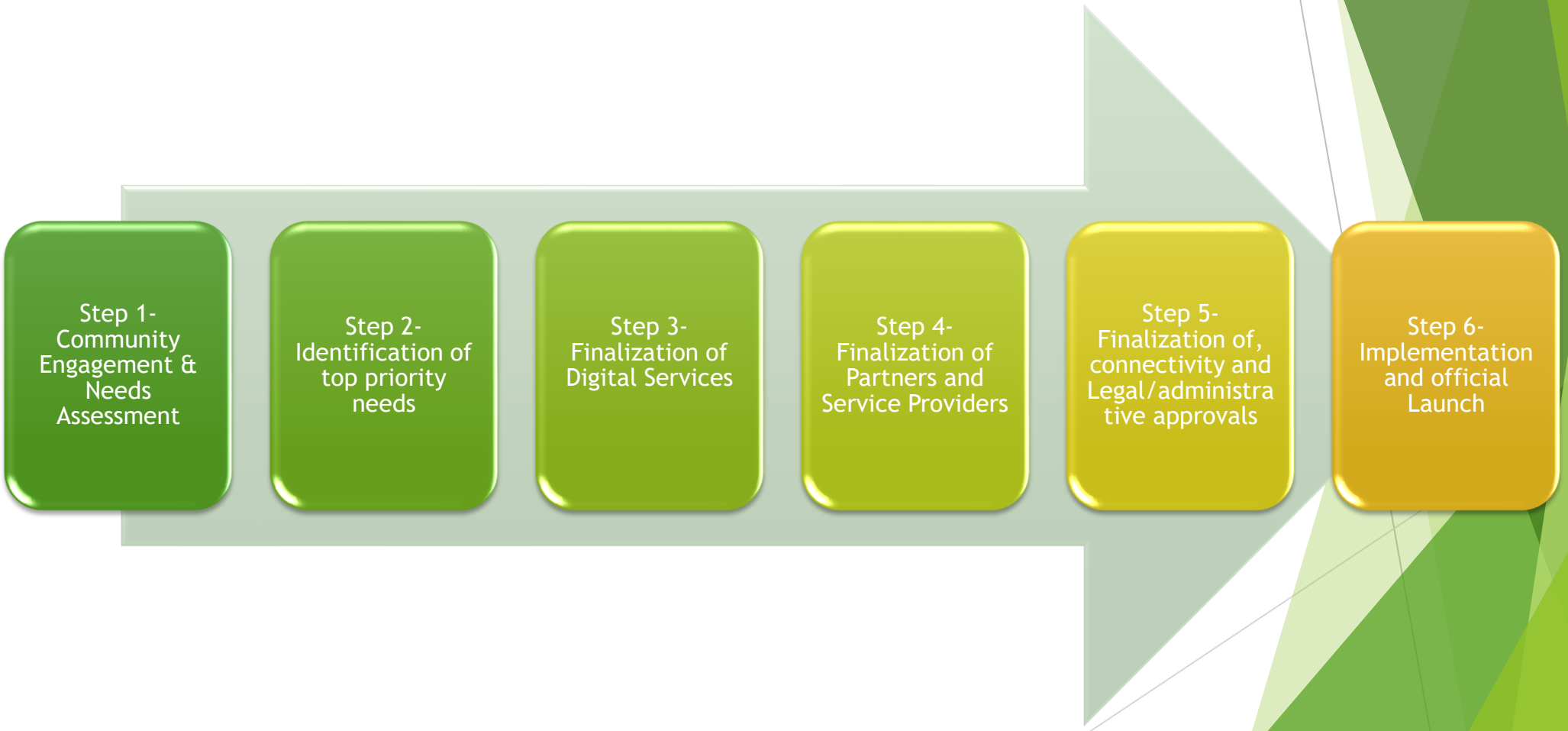
Broadband connectivity, wi-fi hotspots, devices etc.

Introduction of digital services based on village needs assessment

Village council, awareness raising, engagement

Digital skills (Basic, Intermediate, Advanced) based on community needs

Smart Village Pakistan- Stages of Implementation



Smart Village Pakistan- Priority Areas

High-priority areas identified for Smart Village Gokina

- Access to Education (e-education) & Digital Skills
- Access to Health Services (e-health/telemedicine)
- Digital Skills & Entrepreneurship

Smart Village Gokina- Medium to Long term thematic areas

- Access to Digital Government Services
- Digital Financial Services
- E-Tourism
- Smart Electricity
- E-Commerce

Digital services in Gokina

Education

- Teletaleem

2 Smart Classes are equipped by Teletaleem with digital equipment in the Gokina girls school.

More than 100 girls from grades 8 and 9 are now enrolled and learning science subjects (3 classes per day), which would accelerate STEM education amongst girls in Gokina.

Health

- Sehat Kahani

Since the soft launch of Sehat Kahani's telemedicine clinic on 15th January 2023, more than 671 patients have availed the services so far, with 82% women representation (70 patients in the clinic+ 55 in the telemedicine camp). A dashboard is under development stage and 50% work is done

Entrepreneurship

- Virtual University
- Jazz

With the support of Jazz (leading telecom operator), more than 100 girls will be trained in Digital Skills training till May 2023

Smart Classrooms VS e-Learning *Learning Impact*

Taught by TeleTaleem Online Teachers

50% of students showed improvement in General Science
100% of students showed improvement in Chemistry

Taught by School Teacher*

None of the students showed improvement in Physics
**The teacher has now left the school and in the current year, Physics will also be taught by TeleTaleem Online Teachers*

-This is based on less than 3 months of instruction time
-Learning gain and learning losses just show a trend
-More definitive picture will emerge at the end of academic year 2023-24

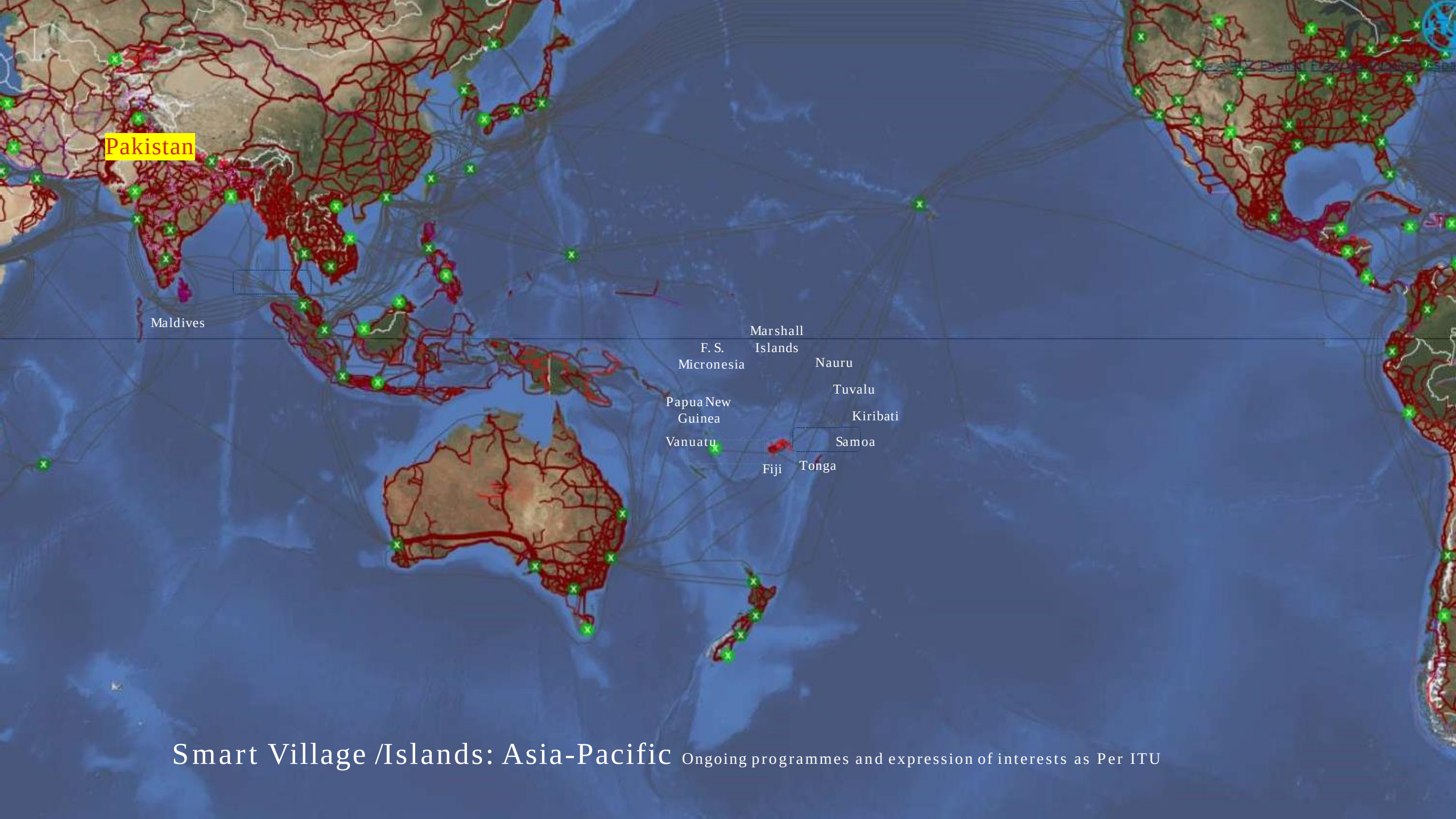
THE CONCEPT OF SMART VILLAGE

low cost
better scalability
multi-sector collaboration
partnerships

whole-of-government approach

common ICT building-blocks

- e-healthcare
- e-education
- e-agriculture
- e-governance
- disaster management
- digital finance



Smart Village /Islands: Asia-Pacific

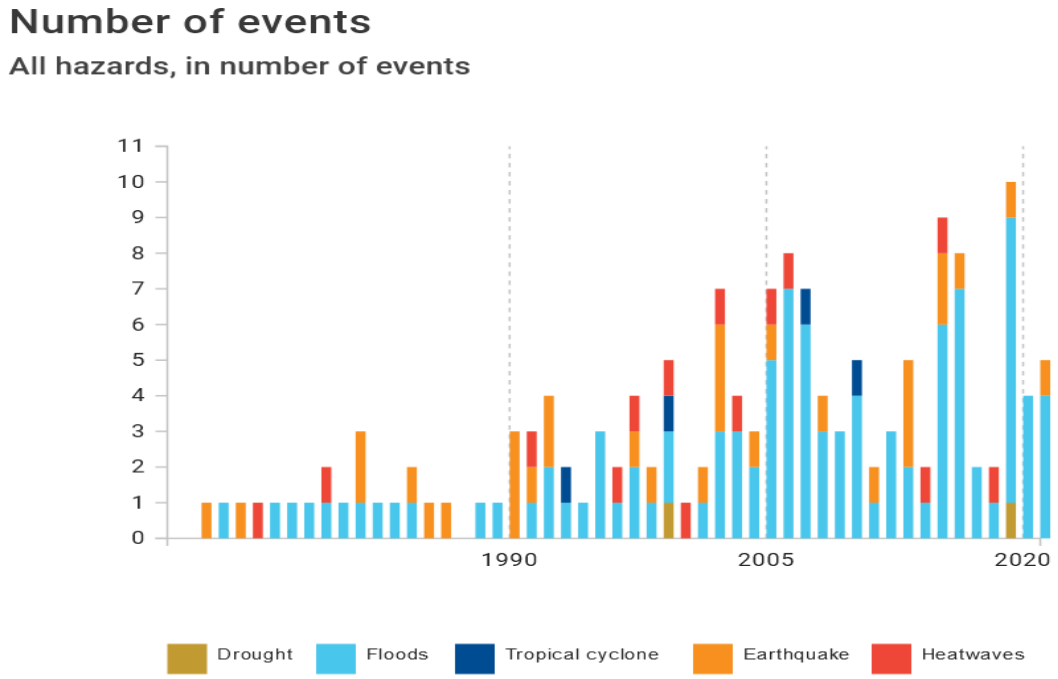
Ongoing programmes and expression of interests as Per ITU

Secure and Resilient Information and Communication Technology Environment

Natural Disasters are Inevitable

We all are prone to Natural Disasters, such as:

- Earthquakes
- Floods
- Landslides
- Blizzards
- Hurricanes
- Pandemics, etc



Some recent examples in Asia:

- 2004 Indian Ocean Tsunami (Multiple Countries)
- 2005 Kashmir Earthquake (Pakistan)
- 2008 Sichuan Earthquake, (China)
- 2010 Pakistan Floods (Pakistan)
- 2011 Japanese Earthquake & Tsunami (Japan)
- 2015 Nepal Earthquake (Nepal)
- 2018 Sulawesi Earthquake & Tsunami (Indonesia)
- 2022 Pakistan Floods (Pakistan)

Such hazards disrupt the essential Communication Channels for:

- Emergency services
- Rescue operations, and
- Relief efforts

Developing nations suffer even worse due to lack of preparedness and resources.

The Tragic Earthquake in Pakistan (Oct. 2005)

- 7.6 on the Richter scale hit Northern Pakistan on 8 Oct 2005.
- Over 1000 aftershocks were recorded
- More than 76,000 persons Died including 18,000+ children
- More than 90,000 persons injured
- 3.3 million heads left homeless in Pakistan alone
- 30,000 km^2 area affected, included damage to:
  - Houses: 500,000 (56%)
  - Medical facilities: 365 (65%)
  - **Telecommunications: Exchanges 86 (34%)**
  - Power lines : 33,225 (13%)
  - Schools/Colleges: 6083 (50%)
  - Over 1000 hospitals

The Tragic Earthquake in Pakistan (Oct. 2005)

- Due to the earthquake, there was a significant loss to Pakistan's infrastructure
  - Collapsed and blocked roads
  - Loss of household and livestock
  - Total loss of clean water supply
  - Heavy loss of Telecommunications Infrastructure
    - Demolished Fixed & Wireless networks
    - Partial loss of UN VHF system
    - Police communication lines were severely affected
- As a first response
  - Government set up satellite telephones at 200 locations [VSATs]
  - First Wireless BTS became functional in 03 days
  - Relief operations were started through satellite VSATs

- It was learnt that fixed or cell phones alone are not adequate for emergency telecommunications, or to cope with large surges in usage during emergencies.

List of high magnitude Earth Quakes in Pakistan

Date	Region	Magnitude
02/07/2017	Pasni	6.3
09/28/2013	Awaran	6.8
09/24/2013	Awaran, Kech	7.7
01/18/2011	Garhi Khairo, Quetta, Balochistan	7.2
10/29/2008	Ziarat	6.4
10/28/2008	Quetta	6.4
10/08/2005	Muzaffarabad, Uri, Anantnag, Baramula	7.6
11/20/2002	Dashkin, Doian, Mushkin	6.3
02/27/1997	Harnai-Sibi, Quetta	7.1
05/20/1992	Peshawar, Kohat, Shakkar Khel	6
06/17/1990	Baluchistan	6.3
03/04/1990	Kalat, Quetta, Mastung	6.1
02/16/1984	Hindu Kush (Chitral-Landi)	6.1
12/28/1974	Balakot, Patan	6.2
09/03/1972	Tangir, Gupis, Rawalpindi, Peshawar	6.2

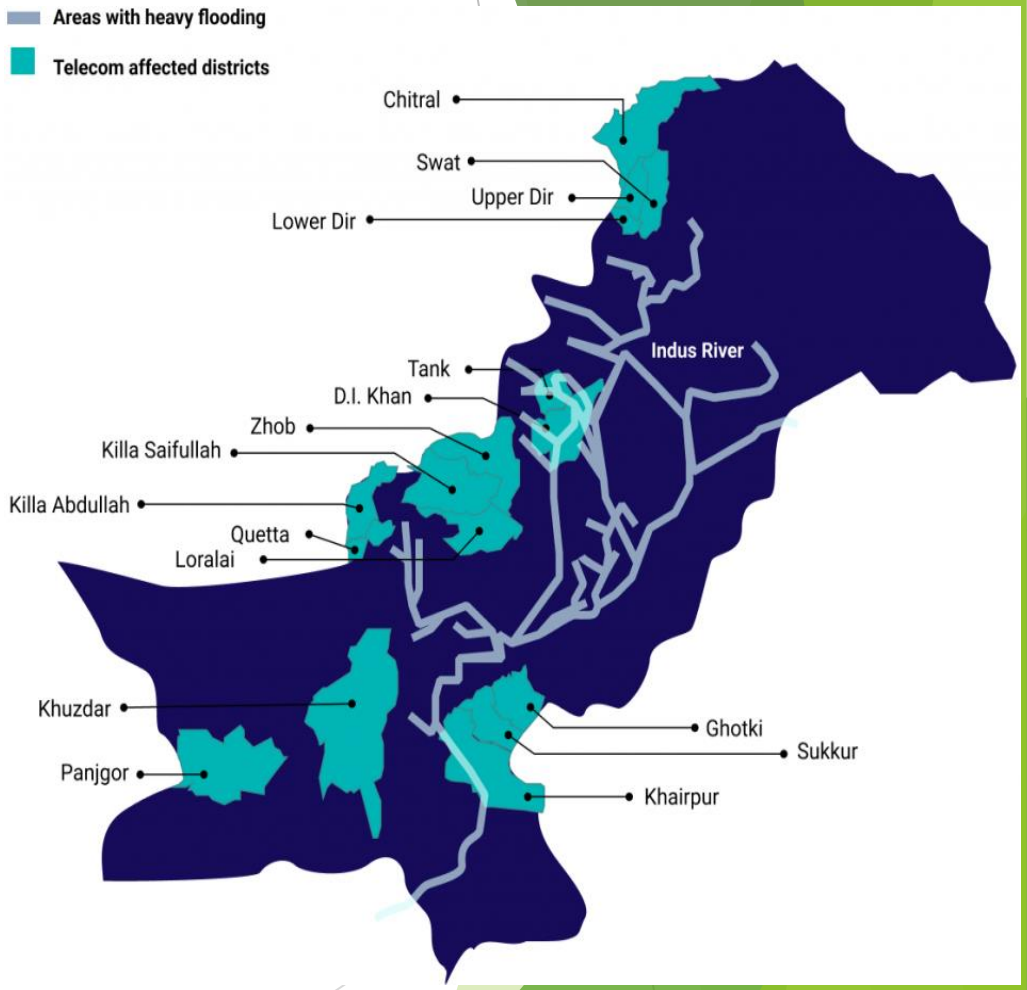
Floods and Climate Change Effects in Pakistan

History Of Floods Since Pakistan Came into being

- According to the Federal Flood Commission, Pakistan has witnessed 28 super riverine floods in its 75-year history.
- collectively affected 616,558 square kilometers of land,
- Death tool of 13,262 lives,
- losses worth over Rs39 billion to the national economy.

Devastating floods in Pakistan (Aug. 2022) – A recent misfortune

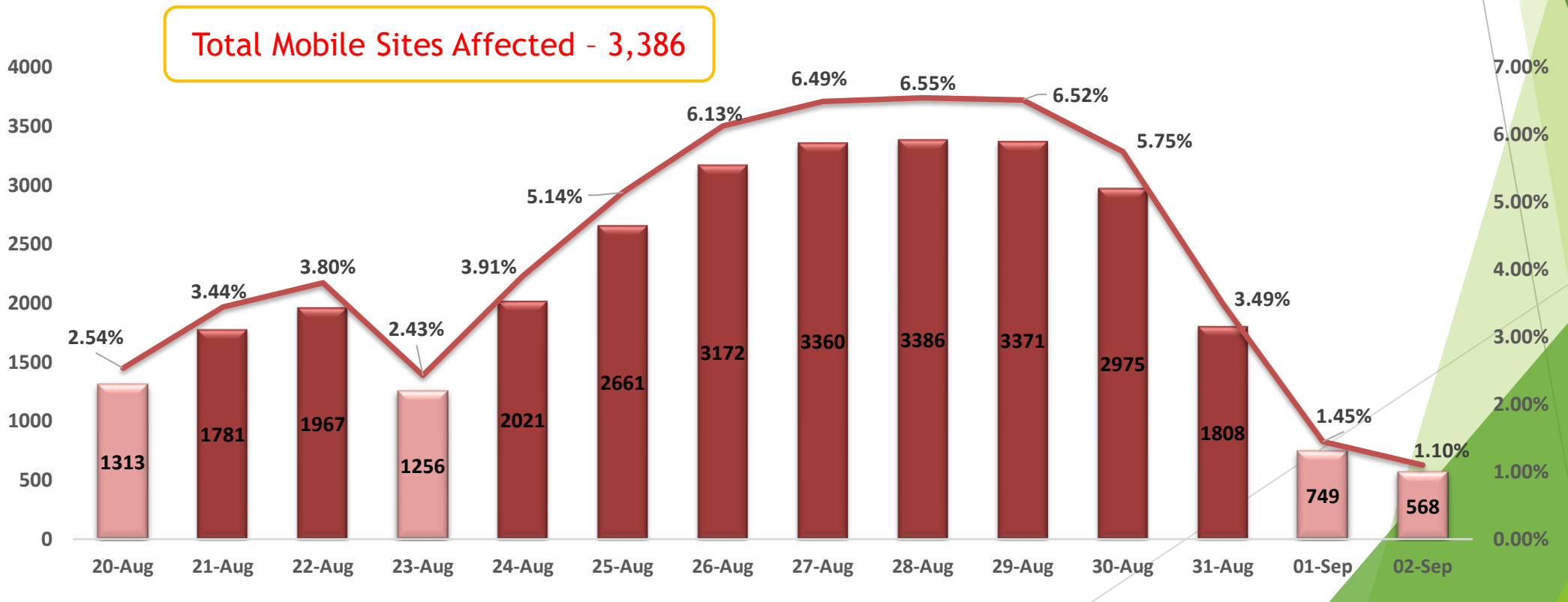
- Monsoon Flooding submerged one third of the country
- The floods and landslides, affected 33 Million people [15% of country's population] and loss of hundreds of lives
- According to World Bank, estimated losses are:
  - Housing: $ 5.6 Billion
  - Agriculture and livestock: $ 3.7 Billion
  - Transport and Communications: $ 3.3 Billion



Devastating floods in Pakistan (Aug. 2022) - A recent misfortune

- Total of **3386 cell sites** were marked **inactive** across flood-impacted provinces
- More than **120 cuts** occurred to the **nationwide optical fiber** backhaul connectivity

  - Resulting in suspensions in mobile connectivity and internet services
  - Thousands of victims suffered intermittent connectivity to reach out to dear ones and relief teams
  - Even Relief teams reported difficulties in communicating with concerned departments



Relief Measures Undertaken

- Rain & Flood warning message through Ring Back Tone [RBT].
- Allocation of 9999 Short Code for PM Flood Relief Fund 2022 contributions; awareness SMS broadcast
- Travel Advisories in collaboration with National Highway & Motorway Police
- Free On-Net voice calls in flood affected areas

Restoration of Telecom Infrastructure, however, remained the biggest challenge

Some Initiatives by the Government and the Way Forward

National Disaster Management as integral part in Telecommunications Policy - 2015

- A National Disaster Telecom Plan for provision and use of telecom services before, during and after a national disaster to be formulated, that will specify:
  - The services to be provided during each phase of a disaster
  - A catalogue of critical telecommunications elements
  - Network redundancy requirements
  - The processes to be followed in case of national disaster
  - Audit and testing processes for the Plan

- **The preparation of National Disaster Telecommunications Plan is in process with deliverables;**
  - Identification of key stakeholders
  - Formation of National Emergency Telecommunication Coordination Team (NETC)
  - Assessment report on resilience of telecom network infrastructure
  - Identifying critical telecommunication elements and key emergency services
  - Classifying Network redundancy requirements
  - Capacity development and staff training
  - Audit and testing process of the plan

As a specialized UN agency with focus on ICTs, ITU may leverage on its experience and resources to assist GoP in materializing the National Disaster Telecommunication Plan

“

Thank You

”

Additional Secretary IT – MoITT Pakistan