

# Addressing the barriers for development of Digital Infrastructure

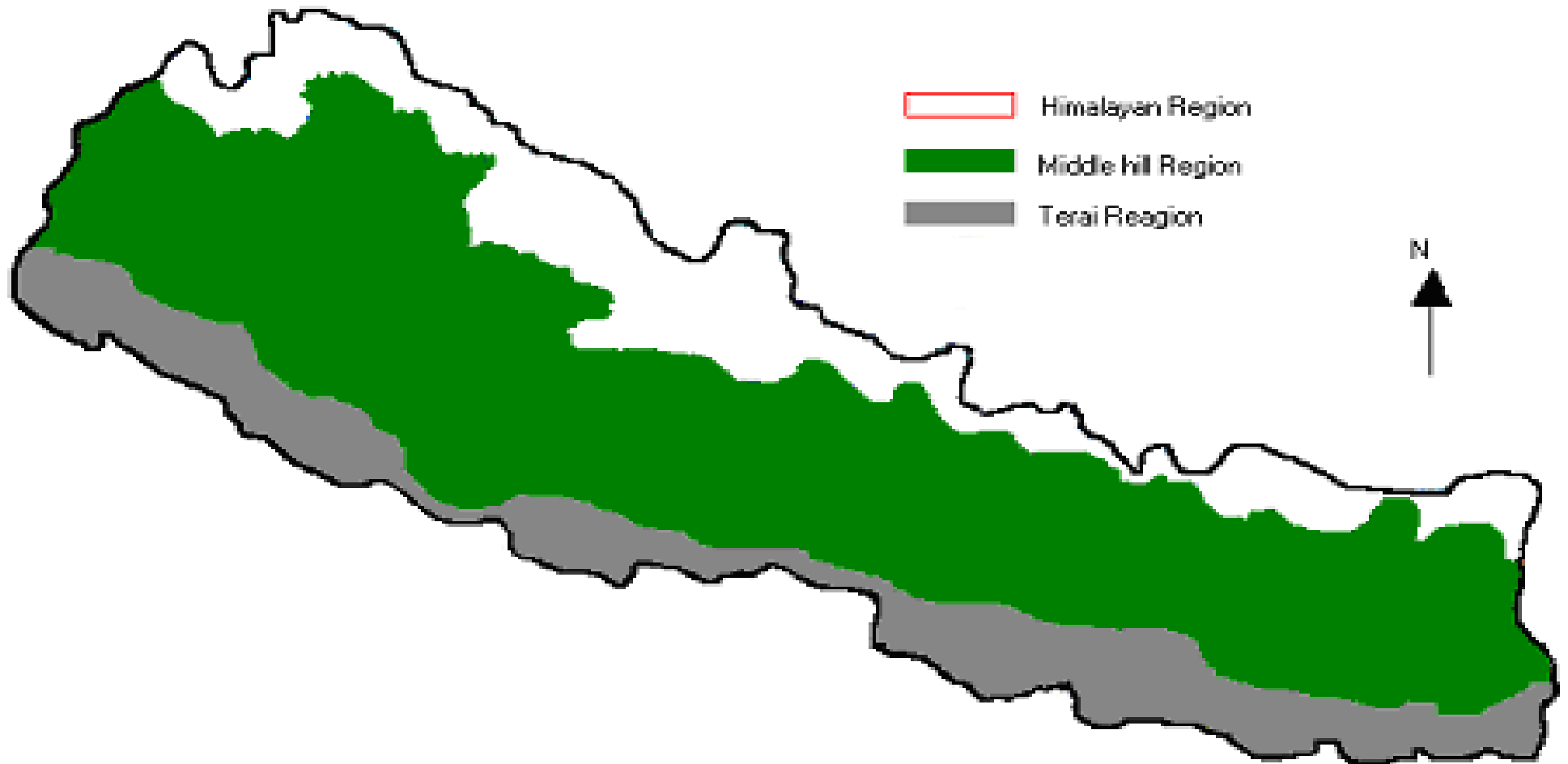
ITU-TRAI Asia-Pacific Regulators' Roundtable: Addressing Regulatory Challenges in Digital Societies

21-22 August 2017

New Delhi, India

Intervener: Digambar Jha, Chairman, Nepal Telecommunications Authority

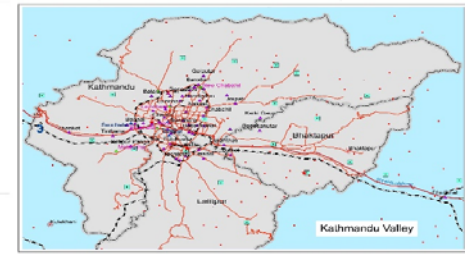
# Topology of Nepal



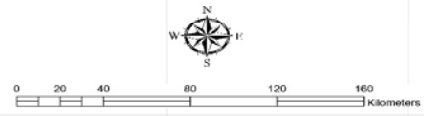
# Area and population of Nepal

S.No.	Description	No.
1	Total Area	147,000 sq km
2	Population	29 million
3	Tarai: Area / population	17% / 51%
4	Hills: Area / population	68% / 43%
5	Mountain: Area / population	15% / 06%
6	Urban population	18%
7	Literacy	64% (Male 76%)
3	Per capita GDP	730 USD

# Telecommunication Infrastructure of Nepal Proposed OFC Network of NTA



- Legend**
- NTA Service Point
  - Proposed New Town
  - Settlement
  - District Headquarters
  - Municipalities
  - Highway
  - North South Highway
  - Mid-Hills Highway
  - East-West Highway
  - NTA Propose Optical Fiber Network
  - National Boundary
- Province**
- 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - Districts



Converted System: Department of Survey, Govt  
 Geographic Coordinate System: GCS\_Burman\_1830  
 Projection: D\_WGS\_1984  
 False\_Easting: 800000.00000000  
 False\_Northing: 0.00000000  
 Scale\_Factor: 0.99990000  
 Linear\_Unit: Meter

Converted System into WGS  
 Geographic Coordinate System: GCS\_WGS\_1984  
 Datum: D\_WGS\_1984  
 Prime\_Meridian: Greenwich  
 Angular\_Unit: Degree

Prepared by:  
  
 Innovative Solution Pvt. Ltd.  
 Kankales, Kathmandu  
 G.P.O. Box No. 1974  
 Kathmandu, Nepal

## Key Targets

- ▶ Optical Fiber Network in Mid-hill Highway of 96-core 1800 KM.
- ▶ Connecting all Districts HQ, Municipalities and connecting East-West Highway in Terai through North-South Highway from the points of Mid-hill highway by 48 core OFC.
- ▶ Optical Fiber Route Length of the MHH Project is;
  - ▶ Province 1, 2 and 3 :- Approx 2179 KM
  - ▶ Province 4 and 5 :- Approx 2160 KM
  - ▶ Province 6 and 7 :- Approx 2512 KM
- ▶ All 75 district headquarters will be connected by optical fiber backbone links by 2018.
- ▶ Microwave network shall be built in 521 locations where OFC coverage of Backbone network is not possible.
- ▶ Capacity of Network is 100G in the District HQ and 10G in Municipalities.



## Action Plan

- ▶ The reach of broadband network and services will be expanded to rural and remote areas by using Rural Telecommunications Development Fund (RTDF) through the telecom operators.
- ▶ Measures will be taken to drive investments in creating optical fiber backbone infrastructure using RTDF in Mid-Hill Highway.
- ▶ Where optical fiber deployment is not possible microwave equipment shall be used to connect having 2.5G – 4G data speed.

# Administrative Restructure of Nepal

S.No.	Institution	No.
1	Province	7
2	Total District	75
3	Metropolitan City	6
4	Sub-Metropolitan City	11
5	Municipalities	246
6	Rural Municipalities	481
7	Total Municipality and wards	744+8081
8	Total Community Secondary Schools	2907
9	Total Hospitals & Public Health centers	4500

## Optical Fiber Network in Mid-Hill Highway (MHH Project)

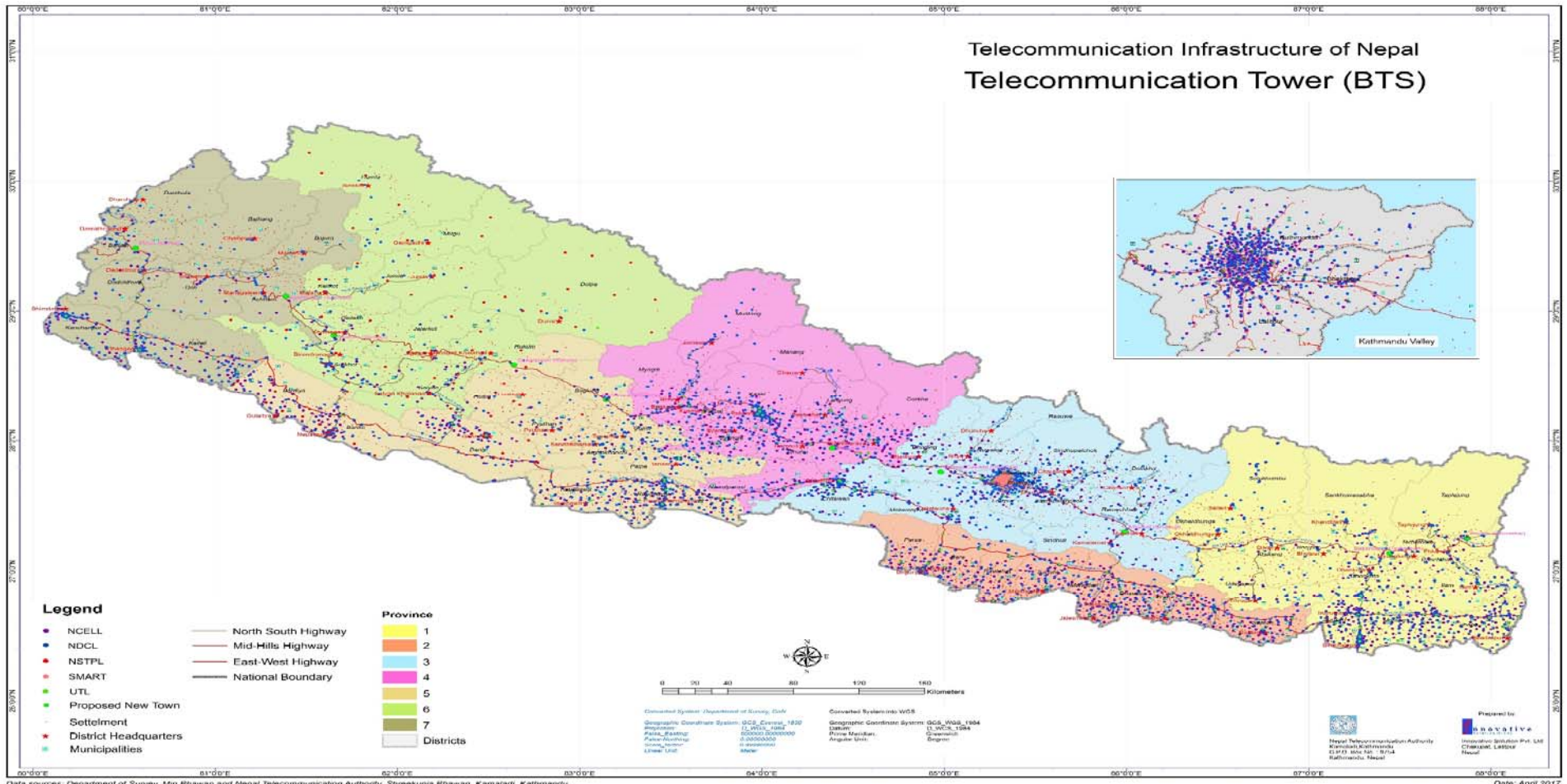
Package	Operator	Total Length	No. of Districts	Population	Household	SubsidyAmt. (USD)
1	Nepal Telecom	2179 KM	32	16 million	3,169,783	49 million
2	United Telecom Ltd.	2160 KM	21	8 million	1,496,913	20 million
3	Smart Telecom P. Ltd.	2512 KM	19	4 million	762,506	30 million



## The Broadband Internet Access for 11 Earthquake Affected & 8 Least Developed Districts

S.No.	Name of Districts	No. of Districts	Subsidy Amount (USD)	Operator
1	Gorkha, Dhading, Makawanpur	3	2.07 million	Subisu Cable Net Pvt. Ltd.
2	Dolakha, Ramechhap, Sindhuli, Okhaldhunga	4	2.42 million	Mercantile Communications Pvt. Ltd.
3	Nuwakot, Rasuwa, Sindhupalchowk, Kavrepalanchowk	4	2.11 million	Nepal Telecom
4	Humla, Mugu, Dolpa and Jumla	4	2.465 million	Worldlink Communications Pvt. Ltd.
5	Kalikot, Rukum, Jajarkot and Rolpa	4	2.46 million	Worldlink Communications Pvt. Ltd.

# Existing Telecom Infrastructure of Nepal



Data sources: Department of Survey, Mtn Bhawan and Nepal Telecommunication Authority, ShreeKunja Bhawan, Kamaladi, Kathmandu

Date: April 2017



Thank You !