



INTERNATIONAL SATELLITE SYMPOSIUM 2016 AND WORKSHOP ON THE EFFICIENT USE OF THE ORBIT/SPECTRUM RESOURCE

SATELLITE REGULATION, MARKET, TECHNOLOGY TRENDS AND INDUSTRY OPPORTUNITIES

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The Orbital slot ,spectrum utilization and satellite program of the Federal Democratic Republic of Nepal

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Geography and Demography of Nepal

Continent	Asia
Region	Southern Asia coordinates = 28°00'N84°00'E
Area	Ranked 93rd (occupying just 0.1% of the earth's surface)
Total	147,181 square kilometers (56,827 sq mi)
Land	92.94%
Water	7.06%
Coastline	0 km (0 mi)
Borders	Total land borders: China : ,1,236 km (768 mi) India : ,1,690 km (1,050 mi) 2,926 km (1,818 mi)
Highest point	Mount Everest , 8,848 m (29,029 ft)
Population	26,494,504 growth rate of 1.35% (Based on the 2011 Nepal census)

REGULATORY FRAMEWORK

Radio Act 1957

National Broadcasting Act 1993

Telecom Act 1997

Consumer Protection Act 1998

Radio Communication (License) Regulation 1992

National Broadcasting Regulation 1995

Telecommunication Regulation 1997

Consumer Protection Regulation 1999

Long Term Policy of Information and Communication Sector, 2002

Telecommunication Policy 2004

IT Policy 2010

Spectrum Policy 2013 and Amendment-2016

Broadband Policy 2015

ICT Policy 2015

REGULATORY FRAMEWORK continue.....

ADMINISTRATION UNIT:

Ministry of information and communications

Ministry of Science and Technology

REGULATOR:

Nepal telecommunications Authority (Telecom Sector)

Ministry of information and communications (Broadcasting)

Press Council Nepal (Printing Media)

ICT Statistics at a Glance

Licenses Issued to Telecom Sector: –

S . No.	Name of the Services	No of Licensee
1	Basic Telecommunications Service	3
2	Basic Telephone Service	1
3	GSM Cellular Mobile Service	2
4	Network Service Provider	10
5	VSAT Users	26+10
6	Internet (With E-mail) Service	43+4
7	GMPCS Service	2
8	Rural Telecom Service	1
9	Limited Mobility Service	83
10	International Trunk Telephone Service	3
11	Pre-Paid Calling Card Service	1
	Total	189

ICT Statistics at a Glance continue.....

Licenses Issued to Broadcasting Sector: –

S . No.	Name of the Services	No of Licensee	
1	FM Radio	652	
2	Terrestrial TV	14	
3	Satellite TV	17	
4	DTH	7	
5	Cable Television	40	
6	Cable TV network Operators	852	
	Total	1582	
Tele Density (Subscription) :		Voice	Data
		116.06%	51.10%

Orbital slot and its spectrum utilization for Federal Democratic Republic of Nepal

- ITU has allocated the radio orbital slot for Nepal in 50 degree East in geostationary orbit for the purpose of broadcasting satellite service (BSS).
- Also, ITU has allocated the radio orbital slot for Nepal in 123.3 degree East in geostationary orbit for the purpose of fixed satellite service (FSS).
- Satellite Bandwidth utilized in Telecom Sector = 33 MHz (30 Mbps/30 Mbps) compared to 33,170 Mbps symmetric data rate
- for buying satellite bandwidth is 3000 US\$ as compared to average of RMC of 40 US\$ per Mbps of fiber bandwidth.
- Number VSATs used in telecom sector is around 400 to 500.

Scope of Satellite and use of the Orbital Slot in Nepal

- There are different satellite users both in the broadcasting and telecommunication sector.
- Significant amount of money is being sent out of country for using the international satellite bandwidth.
- There is demand of the satellite service in applications such as DTH, Cellular Backhaul traffic, Cable heads and new Applications.
- Satellite is essential to cater the need in such areas where it is very difficult to lay the fiber cable or build microwave links.

Scope of Satellite and use of cont.....

- DTH is a fast growing industry in Asia and currently paid channels/licensed services from neighboring countries are available in Nepal.
- Without a national satellite, media content and regulatory regime, the revenue goes to neighboring countries.
- Regulating downlink would immediately move bandwidth to national domestic satellite.
- In order to provide rural internet and cellular access, satellite bandwidth is quite essential and applicable.
- School/university internet connectivity can also be a market for the usage of satellite bandwidth.
- The demand of HDTV and cellular backhaul traffic, cable head are also create value for the satellite bandwidth.

Potential Market of Satellite in Nepal

- The potential market of satellite bandwidth could be the telecom infrastructure for cellular, fixed line and internet services, broadcast, DTH services, Emergency Communications, national security and defense applications.
- The potential users of the international satellite bandwidth in Nepal include the followings:
 - Broadcasting Sector
 - DTH Operators
 - NTV and Other TVs- Terrestrial, Cable
 - Radio Nepal and Other Radios
 - FMs

Potential Market of Satellite in Nepal contd.....

- **Telecommunication sector**

- Nepal Doorsanchar Company Limited and other telecom companies.
- Network Service Providers
- VSAT Users
- GMPCS operators etc.

- **National security and Defense.**

- **Civil Aviation Authority (CAN)**

- **Nepal Airline sector.**

- **The satellite bandwidth could be very important asset in the case of disaster for the emergency communications.**

Satellite Program of the Nepal

- The government finally gearing up to explore the possibility of utilizing the space.
- The budget for the fiscal year 2016-17, had announced of carrying out a feasibility study on satellites.
- NTA has already, invited interested international consultancy firms to submit their expression of interest (EoI).
- Six international firms shortlisted for the bidding process and is in process to send them RFA shortly.

Satellite Program of the Nepal contd.....

- NTA is in the process to hire a consultant for utilization of the slots.
- NTA plans to consider two options to utilize the slots.
 1. *Procure and launch its own satellite and*
 2. *Negotiate a long-term lease.*
- The consultant will be required to study:-
 - a. The national and international legal framework.
 - b. Detailed financial/business model.
 - c. Engineering and economic issues.
 - d. Define implementation/monitoring plan.
 - e. Support government in procurement process.

Thank you

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