



ក្រសួងប្រៃសណីយ៍
និងទូរគមនាគមន៍
MINISTRY OF POSTS
AND TELECOMMUNICATIONS



Country experiences: Satellite Development in Cambodia

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Background



- **Telecom and Broadcasting Market**
 - Mobile Phone Subscriber: 20 millions +
 - Fixed Phone Subscriber: 345, 284
 - Internet User: 6 millions
- **Telecommunication and Broadcasting Operators:**
 - Mobile Operators: 5
 - Fixed Phone Operators: 2
 - ISP: 24
 - Analogue TV: 10
 - Digital TV: 1 (Subscription required)
 - Radio: 100+
- **Satellite Market:**
 - 16 Terrestrial TV : C and Ku-Band
 - 1 Satellite TV: Ku-Band
 - 7 Embassies and International Organization (C-band)

Legal Framework



- **Ministry of Posts and Telecommunications (MPTC)**
 - **Telecommunication Policymakers**
 - **Develop Law, Regulations and Sector Development Plan and Policies**
- **Telecommunications Regulatory Authority of Cambodia (TRC)**
 - **Regulator**
 - **Licensing Frequency, Business Operations, Numbering...**
 - **Regulate the market to ensure the fair competition**
 - **Manage the national frequency allocation table**
- **Ministry of Information (MoI)**
 - **Policymaker and Regulator on the Broadcasting Services**
 - **Some broadcasting operators still confuse that MoI is in charge of Frequency Spectrum Licensing.**

Satellite Licensing and Coordination Framework



- **Law on Telecommunication (Adopted in 2015)**
 - **Spectrum is under the solve Management of MPTC**
 - **Solve the overlapped authorization issue (MPTC vs Mol) concerning the Spectrum Management**
 - **Spectrum Regulation and Planning is drafting**
 - **Satellite Licensing Regime**
- **Coordination Framework**
 - **Focal Point:**
 - **TRC (Until 2015)**
 - **MPTC (Since 2015)**

Cambodia's Space Resource



- **National Allotment: planned band allocations under Appendix 30/30A/30B of the Radio Regulations:**
 - **Under Appendix 30/30A: Broadcast Satellite Services (BSS) and Feeder Link**
 - **Orbital Position: 86.00°E**
 - **Frequency Spectrum for BSS: 12 assignments in 12 GHz**
 - **Frequency Spectrum for Feeder Link: 12 assignments in 17GHz**
 - **Under Appendix 30B: Fixed Satellite Services (FSS)**
 - **Orbital Position: 96.1°E**
 - **Space to Earth: 4500-4800MHz, 10.70-10.95GHz, 11.2-11.45GHz**
 - **Earth to Space: 6725-7025MHz, 12.75 13.25GHz**

Planned Service Development



- **Concession Contract:**
 - **Concessionaire: ROYAL BLUE SKIES Co, Ltd. (“RBS”)**
 - **Date of Signature: 2011**
 - **Type of Concession: BOO for 30 years**

Planned Service Development (Con't)



- **Planned Orbital Position and Frequency**
 - 86.0 Degree east geostationary
- **Planned payload configuration:**
 - 22 Transponders and extended to 6
 - Under 3.5 Tonnes
 - Up to 4.5 Kw
 - Coverage: Cambodia, Southeast and South Asia
- **Cost**
 - Estimated cost: US\$ 201 millions

Challenges



- **Human Resource**
 - No specialized team on Satellite in MPTC
- **Legal and Administrative Challenges:**
 - Coordination required complicated process
 - Require frequency coordination with the neighboring administrations even it is a planned services.
- **Economic Challenges**
 - Low market demand
 - Unrealistic demand before the launch and after the launch
 - Number of competing satellite already at the space
 - Difficulties in expand the service beyond Cambodia

Opportunities



- **Vision of Telecom Policy (2015-2020)**
 - **Broadband in the urban 100%**
 - **Broadband Coverage in the rural 70%**
 - **Broadband Penetration Rate: 30%**
 - **IoT connectivity rate: 10%**
- **Establishing connectivity via satellite is one of the prioritized projects**

Opportunities (Con't)



- **Potential Market for Satellite Communication**
 - **E-Government**
 - **National Security Services**
 - **Disaster Management System**
 - **Digital Broadcasting**
 - **Satellite Broadband**

Cambodia's commitment to Satellite Development



- Cambodia is committed to complete the Frequency Spectrum Regulation (including satellite licensing) and the Spectrum Plan by next year (2017)
- In WRC-15 Cambodia actively support the satellite services by:
 - Support NOC in C-Band (3 400- 4 200 MHz)
 - Support 3 other proposals related to satellite services
- Cambodia is still considering on several proposals proposed by various operators concerning satellite development
- Cambodia participate actively in the international workshop and seminars
- Develop domestic ecosystem to promote the use of satellite in broadcasting and telecommunications



Thank You !!!

