



ITU/MIC International Satellite Symposium 2015

Satellite Regulation, Market, Technology Trends and Industry Opportunities

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# Current Status and Regulatory Framework of Satellite Communication in Cambodia

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# Agenda

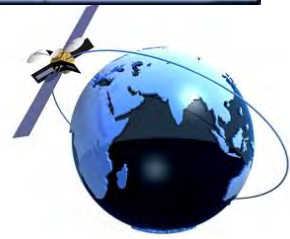
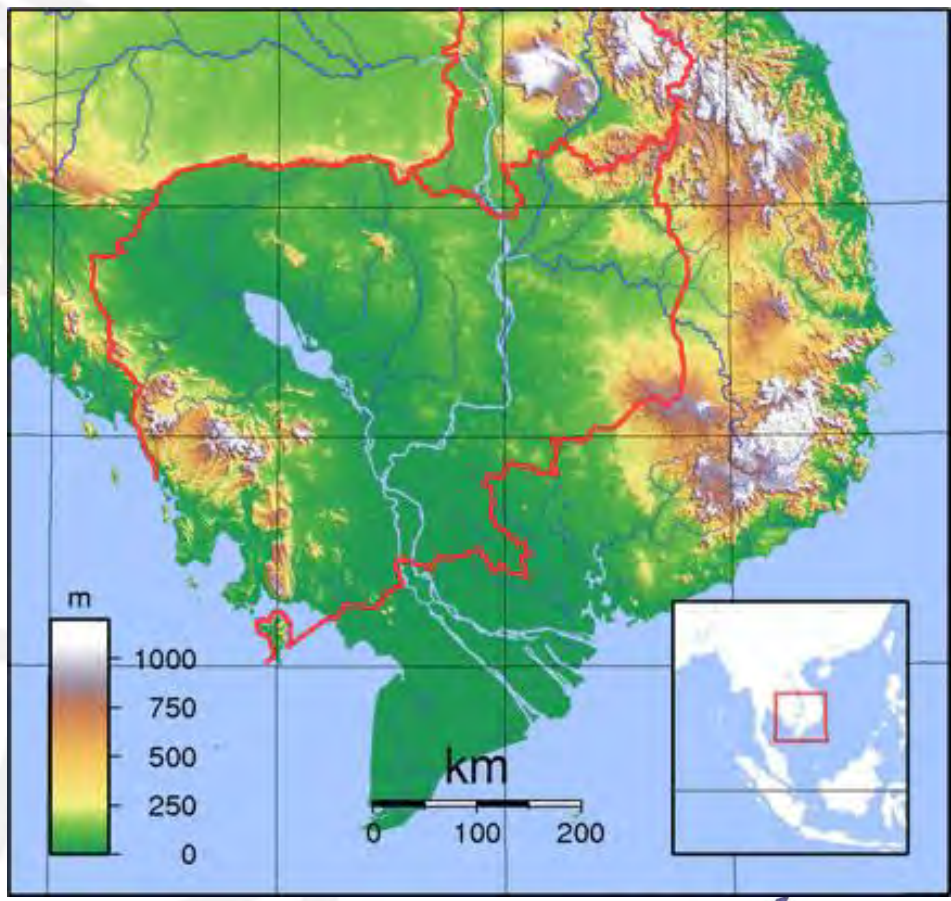
- Cambodia in Brief
- Legal Framework
- Space's Resources
- Market Structure
- Challenges
- Vision 2020
- Policy and Plan
- WRC-15





# Cambodia in Brief

- Population : 15.33 Millions
- Land area: 181.035 Sq. Km
  - Tropical Area
  - Dominated by low-lying central plain
- GDP : 16.71 Billions USD
  - Per Capita (Nominal/PPP): 1,080 /3,363 USD
  - Growth: 7% (2014)

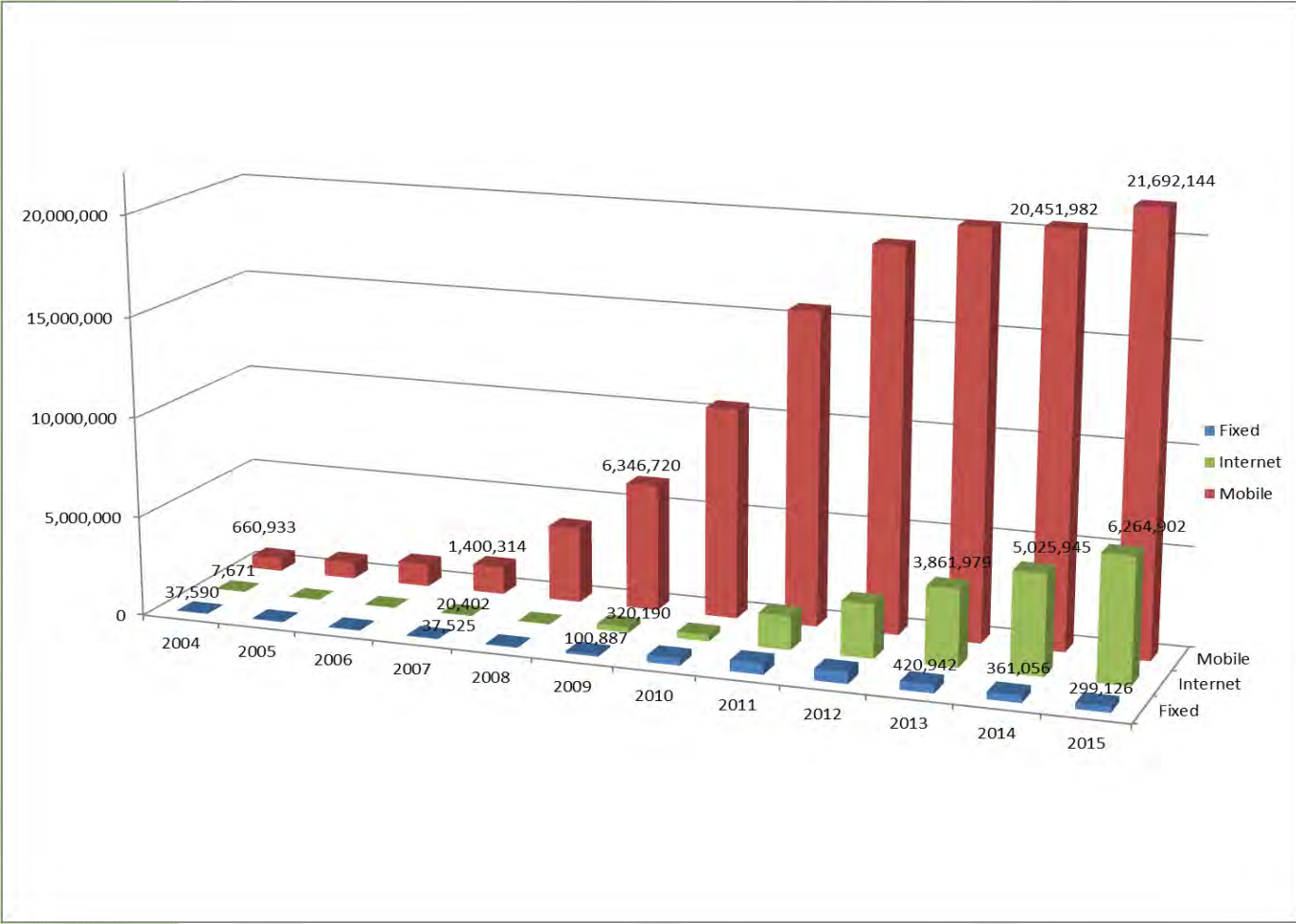






# Cambodia in Brief (Con't)

- Telecommunication Data



- **Mobile Operators: 6**
- **4G** (1 in operation, 3 in plan)
- **Fixed Operators: 9**
- **ISP : 37**
  - 9 are mobile, which served 98% of the market
  - 28 are fixed competed for 2% of the market





# Legal Framework

- MPTC: Policymakers
  - Supervising the industry
  - Setting policy, law and regulation
- TRC: Regulators
  - Regulating the industry
  - Licensing





# 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
- Concession agreement was signed in 2011 with joint-venture company in implementing the national allotment plan.





# Market Structure

- Broadcasting Operators

N <sub>0</sub>	Name of Station	Name of Company	Satellite Band Beam
1	CTN	AsiaSat	C-Band
2	MYTV		
3	CNC		
4	One TV	AsiaSat	C-Band
5	Bayon TV	Thaicom 4/5	Ku-Band C-Band
6	Hang Meas HDTV	Thaicom 4	Ku-Band
7	SEA TV	Apstar 6	C-Band Ku-Band
8	TV3	Apstar 6 Thaicom 4	C-Band
9	TV9	Apstar 6 Thaicom 4	C-Band Ku-Band
10	PNN	Apstar 6	C-Band
12	TV3	Apstar 6	C-Band
13	TVK	Thaicom 4/5	Ku-Band C-Band
14	Cambodia DTV Network	Thaicom 4	Ku-Band
15	TV 5	Thaicom 4	Ku-Band
16	Apsara TV	Thaicom 4	Ku-Band







# Market Structure (Con't)

- International Organization and Embassies

No	Institutions	Frequency (MHz)	Satellite
1	ECCC Extraordinary	6310 / 4085	Intelsat 703
2	WHO	6186.1225 / 3981.98	Intelsat IS 902
3	Embassy Republic of Korea	5981.315 / 3956.125	ABS-1/K1
4	European Commission	6158.41 / 3933.41	Intelsat 902
5	Embassy republic of Germany	6378.1/4153.1	Telstar 10
6	UNICEF	6.0160906 / 3.7968828	Telstar 18
7	ICRC	6.280 / 4.055	Intelsat 906







# Challenges

- Lack of human and financial resource
- Less attractive for investment:
  - Small Local Market
  - Competition from terrestrial services
  - Competition from terrestrial network such as Optical Fibers and Wireless Network for local market
  - Competition from the incumbent in the international market





# Vision 2020

- Vision Draft 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





# Policy and Plan

- Promoting satellite development and investment
  - Improve satellite management capability of MPTC and TRC
  - Enforce clauses in the concession contract
  - Forecast the demand of satellite service consumption until 2020
  - Promote the use of satellite service in the national program:
    - The Disaster and Emergency Relief System
    - Civil aviation, Maritime Communication,
    - Security: Military, Police and Diplomatic Mission
  - Encourage the private sector to invest in providing services via satellite to the highland area :
    - Satellite Internet Broadband
    - Satellite HDTV





# WRC-15

- Joint-Proposal with Administration of Lao, Thailand and Vietnam to keep the frequency bands 3 400-4 200 MHz for C-Band Satellite under WRC-15 Agenda Item 1.1
- Study the other agenda items







# Question for Discussion

- If it is hard for a single LDC nation to develop a satellite, why not join together to have one that can serve common purpose?
- *ASEAN Satellite?*

*Thank you*

