



**EMERGENCY TELECOMMUNICATION WORKSHOP
RAINBOW TOWER HOTEL, HARARE 28-30 NOV.2011**

TITLE: SPECTRUM ISSUES IN EMERGENCY

PRESENTER: JOHN ANDREW MPAPALIKA

ITU AREA OFFICE FOR SOUTHERN AFRICA

DATE: 30TH NOVEMBER, 2011

OUTLINE

- 1. SPECTRUM ISSUES FOR BEGINNERS**
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- 3. DIGITAL DIVIDEND REVIEW**
- 4. COST BASED INTERCONNECTION CHARGING (AS A.O.B)**

1. SPECTRUM ISSUES FOR BEGINNERS

1.1 Terms and definitions

- ***Radio frequency spectrum*** means radio resources of electromagnetic waves of frequencies propagated in space without artificial guide from 3000 Hertz to 3000 Giga-hertz;
- ***Radio*** means general term applied to the use of radio waves;
- ***Telecommunication*** means any transmission, emission or reception of signs, signals, writings, images and sound or intelligence of any nature by wire, radio, optical and other electromagnetic systems;

1. SPECTRUM ISSUES FOR BEGINNERS CONT.....

1.2 Types of telecommunications

- **Wire line:** Telecommunications by means of wires such as coppers and optical fiber cables;
- **Wireless (radio) communications:** Telecommunications by means of radio waves:e.g. mobile, satellite, and broadcasting
- **Lessons learned from Pakistan:** satellite communication is the best technology for disaster management.

1. SPECTRUM ISSUES FOR BEGINNERS CONT.....

1.3 Common available satellite technologies

- Immarsat: 100% satellite communications;
- Thuraya: satellite and terrestrial GSM Tri-band (900/1800/1900 MHz);
- RASCOM: 100% satellite communication. Launched on 4th August, 2010 and 40 countries are already connected including Zimbabwe.

TelOne is a shareholder of the RASCOM and Zimbabwe is a Chair of the RASCOM ASSEMBLIES OF PARTIES.

- *Redundancy of networks by satellite for disaster management is necessary, and requires policy and legal framework in place.*

2. ITU FREQUENCY ALLOCATION TABLE

- VERY LOW FREQUENCY (VLF) 3 – 30KHz
- LOW FREQUENCY (LF) 30-300KHz
- MEDIUM FREQUENCY (MF) 300-3000KHz
- HIGH FREQUENCY (HF) 3-30 MHz
- VERY HIGH FREQUENCY (VHF) 30-300MHz
- UTRA HIGH FREQUENCY(UHF) 300-3000MHz
- SUPER HIGH FREQUENCY(SHF) 3- 30GHz
- EXTRA HIGH FREQUENCY (EHF) 30-300GH
- Unexplored allocation 300-3000GHz

ITU FREQUENCY ALLOCATION TABLE CONT.....

2.1 Pot of gold spectrum

UHF (300-3000 MHz): consists of prime radio services (fixed, mobile, broadcasting and satellite) and offers sweet spot combination of radio propagation:

- long distance and large coverage areas;
- Relatively low cost and can go inside building;
- Channel bandwidth is large to carry high data bandwidth.

The broadcasting services are still analogy and utilise inefficiently the spectrum. There is a need to introduce digital broadcasting for efficient utilization of the spectrum.

3. DIGITAL DIVIDEND REVIEW

- RRC06 met in Geneva and agreed the digital broadcasting migration cut over date world wide is 2015. The SADC cut over date is 2013.
- SADC identified the **DIGITAL DIVIDEND**: 790-860 MHz (70MHz bandwidth).
- The Digital Switch Over (DSO) programme is critical now.
- The cut over date is just around the corner.

3. DIGITAL DIVIDEND REVIEW CONT.....

Possible use of the Digital Dividend include amongst others the following:

- Digital Terrestrial Television (DTT),
- Mobile television,
- Wireless broadband.

Urged the SADC to debate and formulate a regional position on the Digital Dividend Review (DDR).

4. COST BASED INTERCONNECTION CHARGING

1. Interconnection of networks is an obligation to provide seamless communications between subscribers connected to different networks and charged between the operators for using services of the other operator.
2. Interconnection charges should be cost based:
 - Promote effective competition;
 - Promote economic efficiency of the country;
 - ^{15/12/2011} Drive down tariffs.

4. COST BASED INTERCONNECTION CHARGING CONT.....

ITU assistance to Zimbabwe in 2012:

Method: Full participatory and consultative approach;

Process: In collaboration with POTRAZ and other stakeholders:

- Prepare a Consultation Paper on “Analysis of the framework for the cost based interconnection charging.”
- Collect data and analyse it;
- Develop the cost based interconnection charges.

15/12/2011

5. END

THANK YOU

TATENDA

ASANTE