

**ITU ASP COE Training Workshop On
"Infrastructure Sharing",
Bangkok, 31 August - 3 September 2010**

**INFRASTRUCTURE SHARING (IS)
CASE STUDY – PAKISTAN**

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INTRODUCTION

MOBILE
SUBSCRIBERS

2.2 M

DEREGULATION

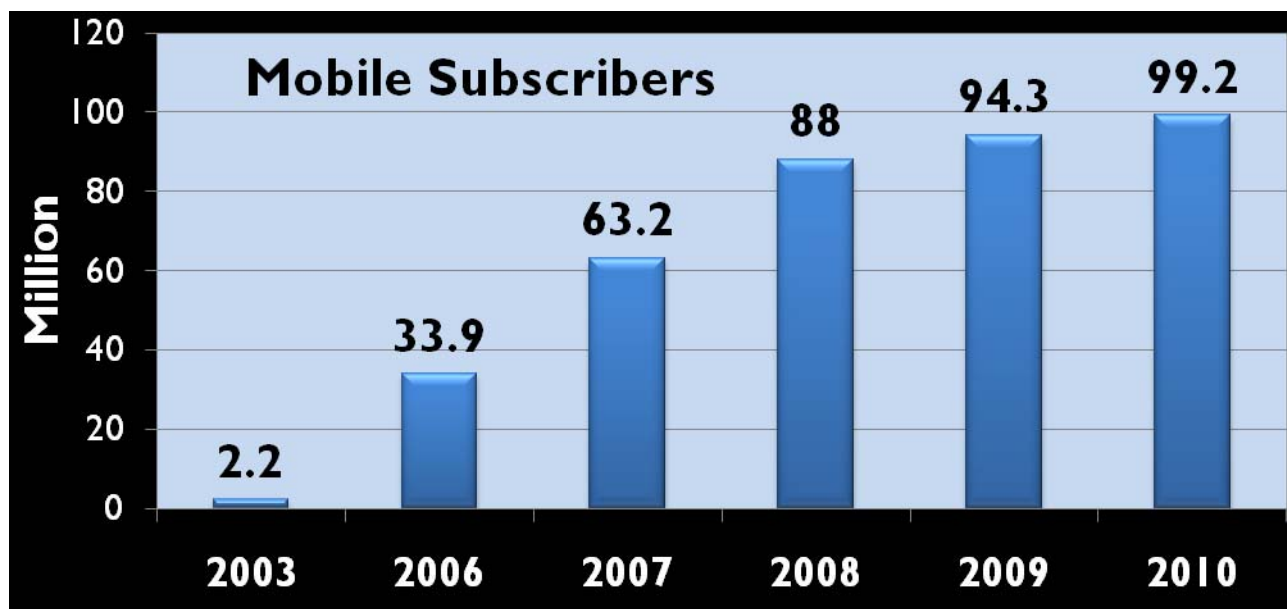
DEC
02

POPULATION

150 M

PRESENT
SUBSCRIBER
BASE

99.2 M



Sequence

▶ **Licensing Regimes In Pakistan**

▶ **Overview Of IS In Pakistan**

▶ **BTS Site & Tower Sharing**

- **NWs Roll-Out**
- **Current Sharing Status**
- **Consultation**
- **SoP - BTS Site & Tower Sharing**

▶ **Future Plans**



Licensing Regimes In Pakistan

Deregulation Policy (Jul 03)

FLL

WLL

LDI

CVAS

Mobile Policy (Jan 04)

2 More
Licenses

Encourage IS
(Passive
Sharing)

Infrastructure License

2006

So Far 6 Tower
Licenses
Granted

Overview Of IS In Pakistan

• Mobile Roaming

→ Encouraged

• MVNO

→ Framework on WEB

MVNO Framework

- Multiple MVNO/MNO Agreements Permitted.
- Agreements To Be Approved By PTA
- MVNO Class License
- NW Elements Not Permitted
- PTA Will Issue Number Blocks To MVNOs Against NDC Of Parent MNO
- Number Portability Joint Responsibility Of MVNO & MNO
- MVNO Responsible For QoS & Customer Facilitation
- Roaming Agreements Permitted
- License Fee USD 5M
- MVNO Services Cannot Be Terminated Without PTA Approval
- License Duration 10 Years (Extendable)



Overview Of IS In Pakistan

• **Mobile Roaming**

➔ **Encouraged**

• **MVNO**

➔ **Framework on WEB**

• **Capacity Leasing By
LDIs**

➔ **5 Years or More Lease
Accepted in Lieu of
Ownership**

• **Incumbent's Copper**

➔ **Shared for Internet & BB**

Overview Of IS In Pakistan

- **National Backbone**

➔ **Balance 30% of Traffic With 2 others. Min 10% With One**

- **International Connectivity**

➔ **Submarine Operators To Share On Reciprocal Basis Up To STM-4 Or At Least 33% Of Traffic**

- **Cable TV NW**

➔ **Can Be Shared For Internet, BB & FLL Services**

BTS SITE AND TOWER SHARING



Networks Roll-out

New Licenses in 2004

- 2 Mobile
- 92 WLL

Unrestricted Roll-out

- Light Regulation

Mobile Subscriber Base

- 2003 -2.2 M
- 2010 -99.2 M

Towers Owned By Mobile Companies

- 2004 -2000
- 2010 -29000

Towers Owned by WLL Companies

- 3500

Current Sharing Status

License Clause

Encourage Sharing

Results

Unsatisfactory



Current Sharing Status

- **Tenancy Ratio**

- **Current In Pakistan**
- **Optimum In Developing Markets**
- **Optimum In Developed Markets**

- **1.04**

- **1.1 to 1.3**

- **2.2 to 3**

Change in Operators' Perspective



Costs Rising

- CAPEX USD 94,000
- OPEX USD 23,500/Year



Current ARPU

- USD 2.4 Per Month

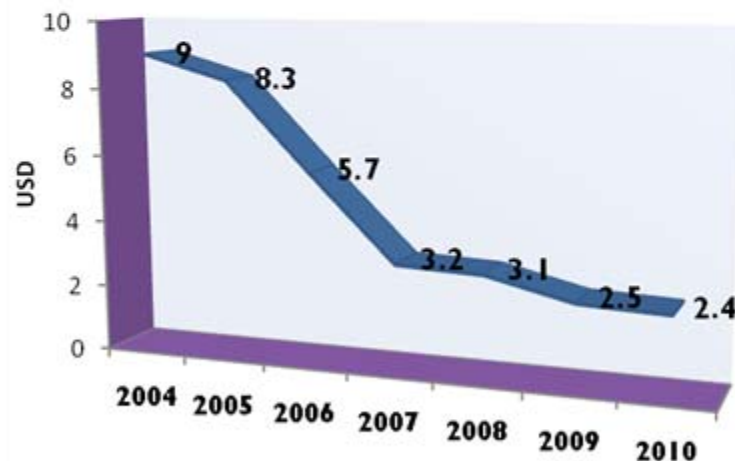


Public Concerns



All Have Achieved
Equal Coverage

Mobile ARPU



Consultation

Consultancy Report

- Jan 09
- Types of Mobile IS
- Drivers of sharing
- Economic & Regulatory Considerations
- Environmental Considerations
- The World Scenario

Conclusions of Consultancy Report

**Passive Sharing
Encouraged By
Majority
Regulators**

**Passive Sharing
Saves 30% On
Capex & Opex**

**RAN Sharing
Can Lower
Quality**

**RAN More
Suited To 3G**

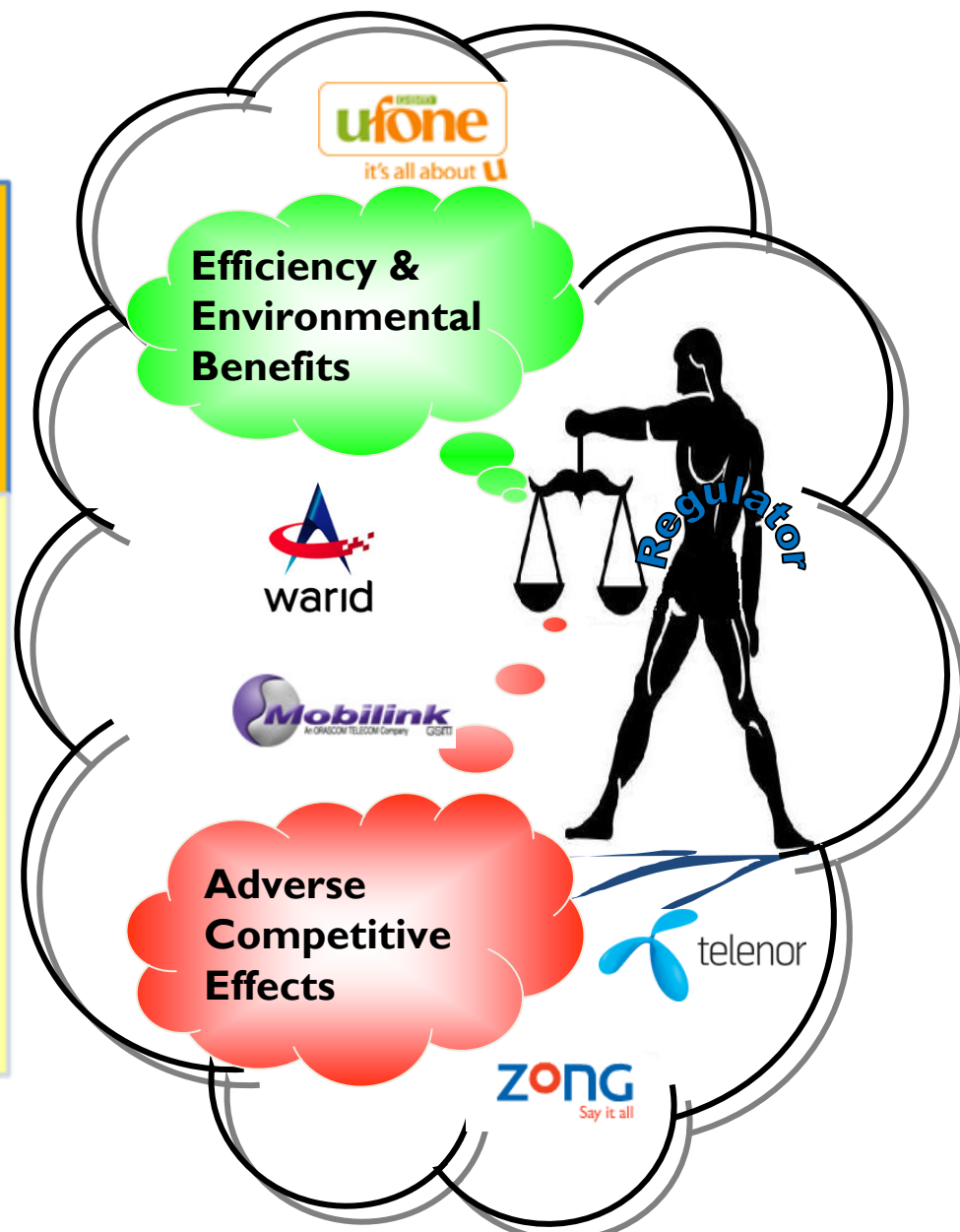
**Regulatory
Approach To
RAN Sharing Is
Cautious**

**Core NW
Elements
Sharing Not Yet
Well Defined**

Conclusions of Consultancy Report

Regulatory Interest In Sharing Is 3 Fold:

- Impact On Efficiency
- Overall Impact On Environment
- Implications To Competition



Recommendations by the Consultant

- **Mandatory Passive Sharing In 3G Licensing**
- **Fast Track Approval -Sharing Cases**
- **Existing Sites Sharing -Report Only**
- **Encourage RAN Sharing**
- **RAN Sharing To Require Approval**
- **Encourage Operators To Explore Concept Of Core Sharing**
- **Encourage National Roaming For 3G**

Stake Holder Feedback

INDUSTRY FEED BACK - APRIL 2010

**ANALYSED POSSIBILITIES OF “NEW
SITE SHARING” & “DECOMMISSIONING
OF EXISTING SITES”**

**COVERED CHALLENGES, BOTTLENECKS,
RISKS AND MITIGATION STRATEGIES**

Stake Holder Recommendations

- **Supported Partial Mandating:**

Grid Category	Inter-site Distance(m)	Mandatory Radius For Sharing (M)
Dense Urban Grid	750	50
Urban Grid	750-1000	100
Rural Grid	1000 – 3000	200
Remote/Road Grid	> 3000	300

- **Exclude Sites With Above 10 Dependent Sites, Or More Than 5 Mw Disba**

Stake Holder Recommendations

- **Exclude Hub Sites**
- **Limitations Of MW Transmission A Gating Factor**
- **Permit Different Technology Sharing**
- **Approval Secured By Owner Be Good For Guests**
- **PTA's Help & Support Requested In Simplification Of Approval Process**

SoP On BTS Site & Tower Sharing

- ▶ **Partially Mandated As Recommended By The Industry**

Grid Category	Inter-site Distance(m)	Mandatory Radius For Sharing (M)
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SoP On BTS Site & Tower Sharing

- ▶ **Partially Mandated As Recommended By The Industry**
- ▶ **All New Sites To Have Sharing Capacity**
- ▶ **Re-negotiate Agreements of Existing Sites For Sharing**
- ▶ **Tenancy Ratio Of 1.5 In Next 3 Years. Yearly Benchmarks 1.2 & 1.3**
- ▶ **Six Monthly Reporting Mechanism To Assess Progress**
- ▶ **Committees Formed To Resolve Technical & Financial Disputes**

Future Plans

**WORK OUT CATEGORY WISE RENTALS
FOR SITE AND TOWER SHARING**

**SIMPLIFICATION OF APPROVAL PROCESS
FOR SHARERS**

POLICY ON SHARING

**POLICY ON UNBUNDLING OF ACCESS &
SERVICE**

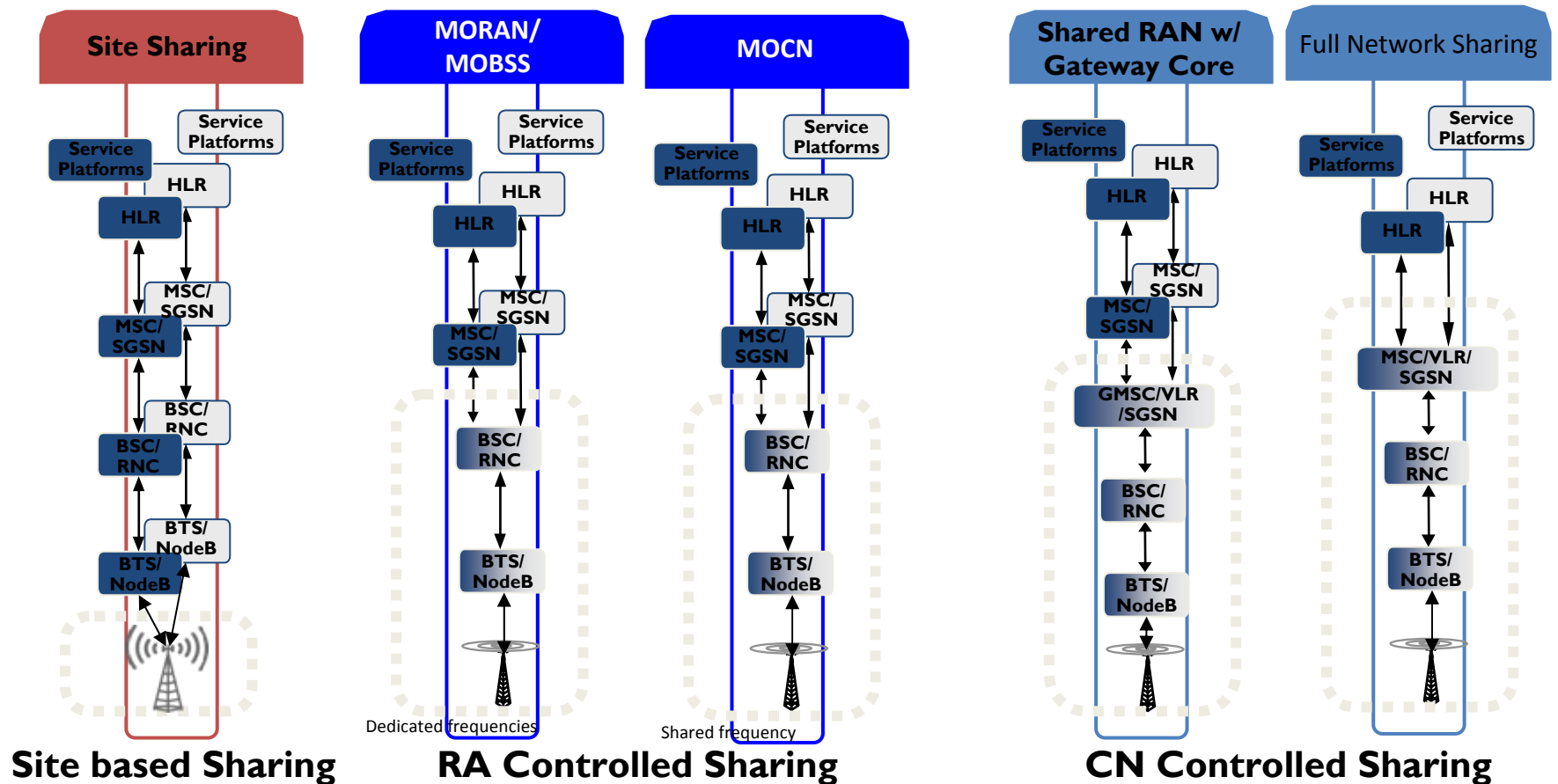
Thank You



International
Telecommunication
Union

Committed to connecting the world

Network Sharing - The technical solutions...



INTRODUCTION

• **Mobile Subscribers**

→ 2.2 M

• **Deregulation**

→ Dec 02

• **Population**

→ 150 M

• **Current Subscriber s**

→ 99.2 M

Mobile Subscribers

