TELECOMMUNICATIONS NETWORKS IN LESOTHO

By

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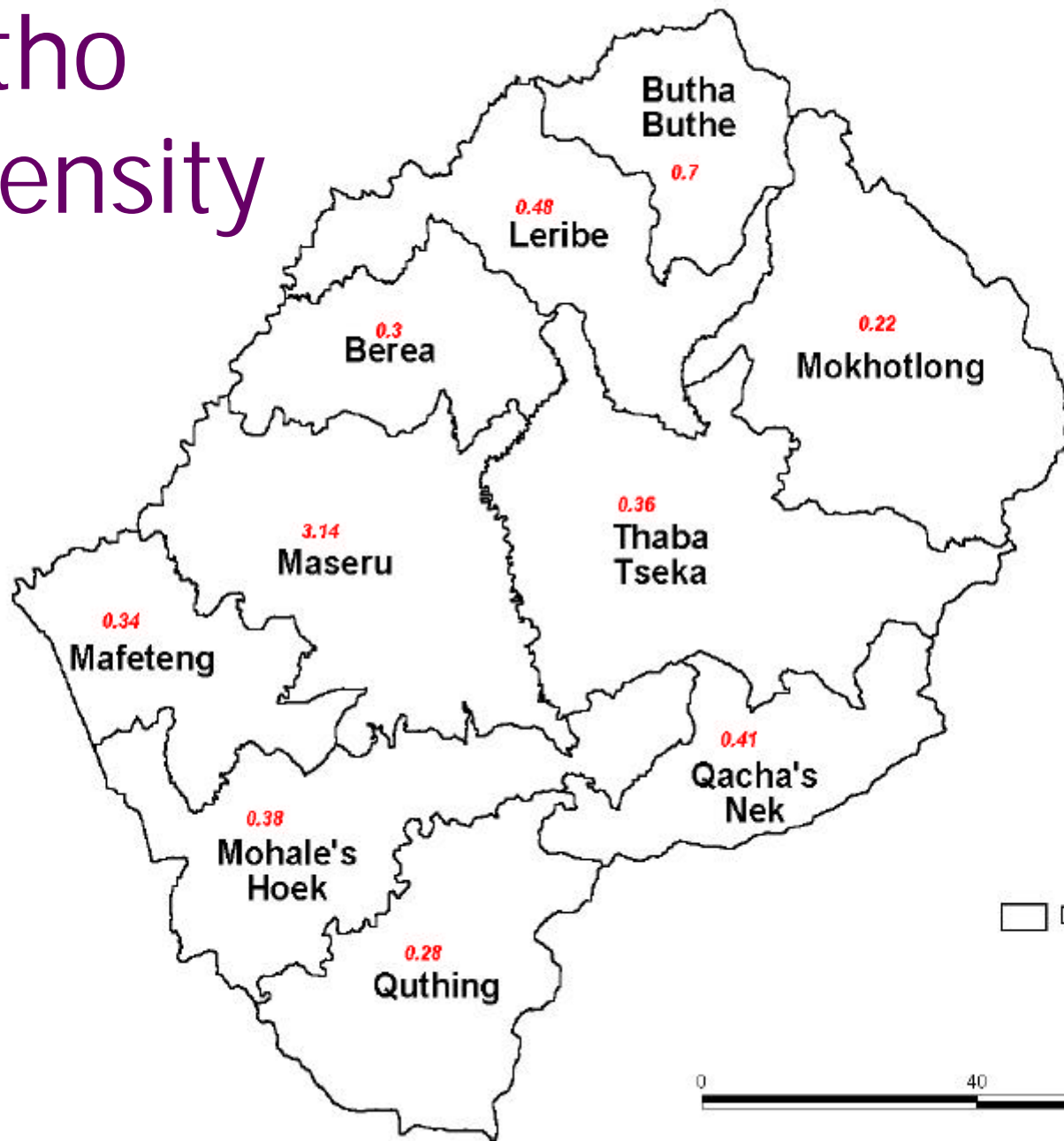
Lesotho Telecommunications Authority

At

The ITU-BDT Workshop on Network Planning Strategies for Evolving Network Architectures, AFRALTI, Nairobi, KENYA, 7 – 11 October 2002.

Lesotho: Country Background

- Geographical area: 32,000 sq km. Completely surrounded by South Africa.

- 75% mountainous (highlands); 25% lowlands

- Population : 2.12 million, most of the population live in the lowlands. 84% rural.

- 10 districts; Maseru (also capital city) the district with highest population density.

- Tele density = 1.3. (2002, fixed network) Maseru has the highest (3.14), Mokhotlong the lowest (0.22). (2000 figures)

Lesotho teledensity 2000

Lesotho: Access Vital Stats

- ◈ 1.3 people in 100 have a fixed phone line.
- ◈ 58% of all fixed subscriber lines are in Maseru.
- ◈ < 0.4 people in a 100 have a phone line outside Maseru district.
- ◈ Approximately 4 in 100 people have a mobile phone.
- ◈ < 1 person in a 100 have access to the internet.

Telecommunications Sector

◆ Liberalized in 2000, through the "Lesotho Telecommunications Authority Act 2000" of 2000.

  ■ The Lesotho Telecommunications Authority (LTA) established as an *autonomous* and *independent* regulatory Authority.

Cont.

- LTA mandate (under the "Act No. 5 of 2000"):
  1. To provide restructuring and the development of telecommunications.
  2. Licence the providers of telecommunication services having regard to fairness, transparency, universal service, accountability to the general public; and for related matters.
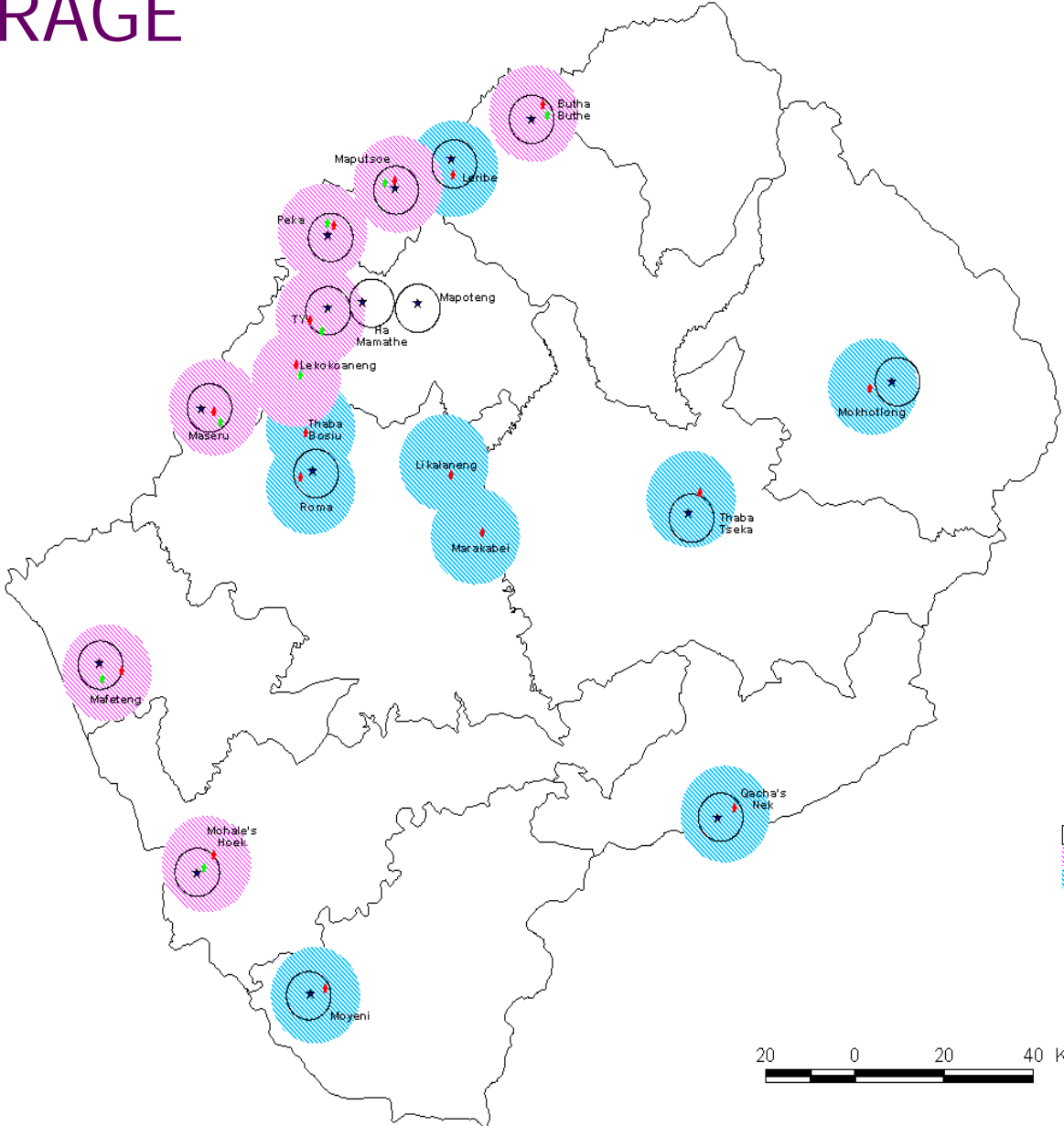
Telecommunications Operators in Lesotho

1. One Fixed Network:

- ◆ **Telecom Lesotho (TL)**, with 5-year "exclusivity" (for voice and data) period (which ends 2005). TL has about 27,000 subscribers.

2. Public Land Mobile Networks

1. Vodacom Lesotho (in operation since 1996)
   - covers most of the densely populated lowlands region
   - 65,000 subscribers.
2. Econet Ezi-Cel Lesotho – (a subsidiary of TL, launched June 2002).
   - covers all major population centres including the highlands regions.
   - 20,000 subscribers.

COVERAGE

3. Internet Service Providers:

- ◆ 1 Private Licence held by the National University of Lesotho.

- ◆ 3 commercial licence holders (all 3 in Maseru).

Broadcasting

◆ The LTA Act was amended in 2001 for inclusion of broadcasting and broadcasting content

◆ Broadcasters:

  ■ 6 Radio Station licensees in operation – (5 private, 1 public).

  ■ 2 Television stations (1 private and 1 public, i.e. government owned).

Technological Status of the Networks

◆ All the networks employ digital and circuit switched platforms. (there are no analogue switches).

⇒ The basic PSTN infrastructure is complete.

⇒ Interconnection capability planned.

⇒ Transmission network digitized (but not complete).

Cont.

⇒ One PLMN (Econet) and Fixed network (TL) employ SS7 signalling. The other PLMN (Vodacom Lesotho, i.e.VCL) employs R2 signalling protocol.

⇒ IP carrier by the fixed network (there are 4 ISPs), the other 2 mobiles are "IP capable".

⇒ Leased lines for IP are digital (digital modems used) for large institutions only. Private (home) users still on analogue PSTN "twisted pair" lines.

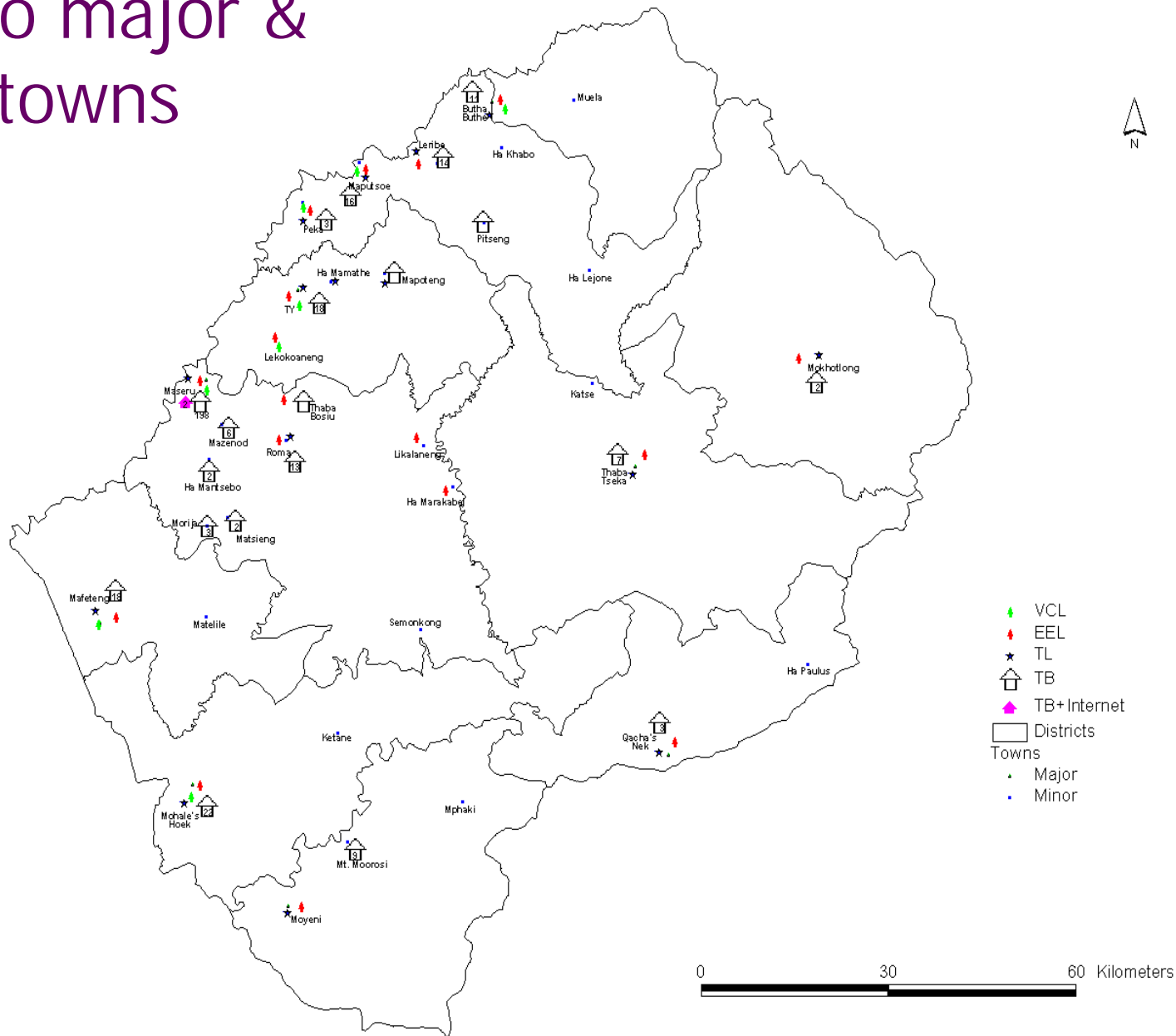⇒ No DSL (or derivatives thereof) or other broadband access for private (home) users.

Problem Areas

◈ Packet switching does not exist in all the networks.

◈ One mobile network,VCL employs R2 signalling protocol (not SS7).

⇒ Problem of interconnection with the other mobile, Econet regarding SMS and CLI between the two.

◈ Transmission network digitized:

⇒ Public t.v. broadcaster signal (analogue) can no longer be carried country-wide by Fixed network.

Network Expansion and Universal Access

◆ Goal is to provide coverage to all major & minor towns.

◆ Use of Fixed Cellular Terminals and Wireless Local Loop (only by TL) for faster network roll-out:

- Expected rollout approx. 34,000 additional subscribers by end Dec 2002.

Lesotho major & minor towns

Technology.

LTA is "Technologically neutral".

- Ericsson AXE10 switch for TL fixed lines, Motorola technology for WLL.
- Econet (PLMN) switches and BTS are Ericsson, CMS 40 & RBS series.
- VCL (PLMN) main switch is Siemens EWSD, with Motorola BTSs'.

PROPOSED MIGRATION STEPS (ITU-BDT) IN THE PSTN & CELLULAR/MOBILE NETWORKS (TO PACKET SWITCHING)

Country Level : LDC

Country : LESOTHO

NETWORK	STEP 1 Are the basic PSTN infrastructure and cellular networks available?	STEP 2 Is the switching network digitized & planned for interconnection capacity?	STEP 3 Is the transmission network digitized between ISC & earth station, NTSC & NSC, NTSC & ISPs NTSC & mobile?	STEP 4 Is international standard SS7 signaling implemented ?	STEP 5 Are ISDN, IPTC & GPRS platforms for packet switching implemented in the PSTN & MOBILE ?	STEP 6 Is IP implemented in the network?
FIXED (TL)	YES	YES	YES	YES	NO	YES
MOBILE (VCL)	YES	YES	N/A	NO	NO	YES
MOBILE (Econet)	YES	YES	N/A	YES	NO	YES

Thank You
Kea Leboha!
Asante - Sana!!!