

BOCRA

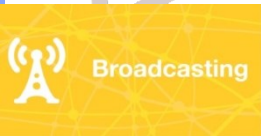


BOCRA
Communications
Regulator



ICT DEVELOPMENT IN BOTSWANA
WORLD TELECOMMUNICATIONS/ICT INDICATORS
SYMPOSIUM, 21 November 2016
GICC, GABORONE
Presenter : NOBLE KATSE,BOCRA.

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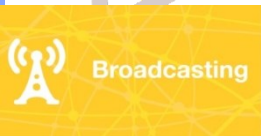
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National Indicators



Population Census of 2011:

1. Population **2,024,904**
2. Number of Households **550 918**
3. Average Household Size **3.68**
4. %age Urban Popn **64.1%**
5. Popn Age Distribution: **72% are 34 years or younger.**
6. Geographic land area **582 000 sq km (at least 17% is national parks and game reserves)***
7. Popn Density national is **3.5 persons per sq km.**
8. **South East** region has **47.3%** of national population with 13.8 persons per sq kilometre.



Botswana Core Welfare Indicator Survey 2009/10:

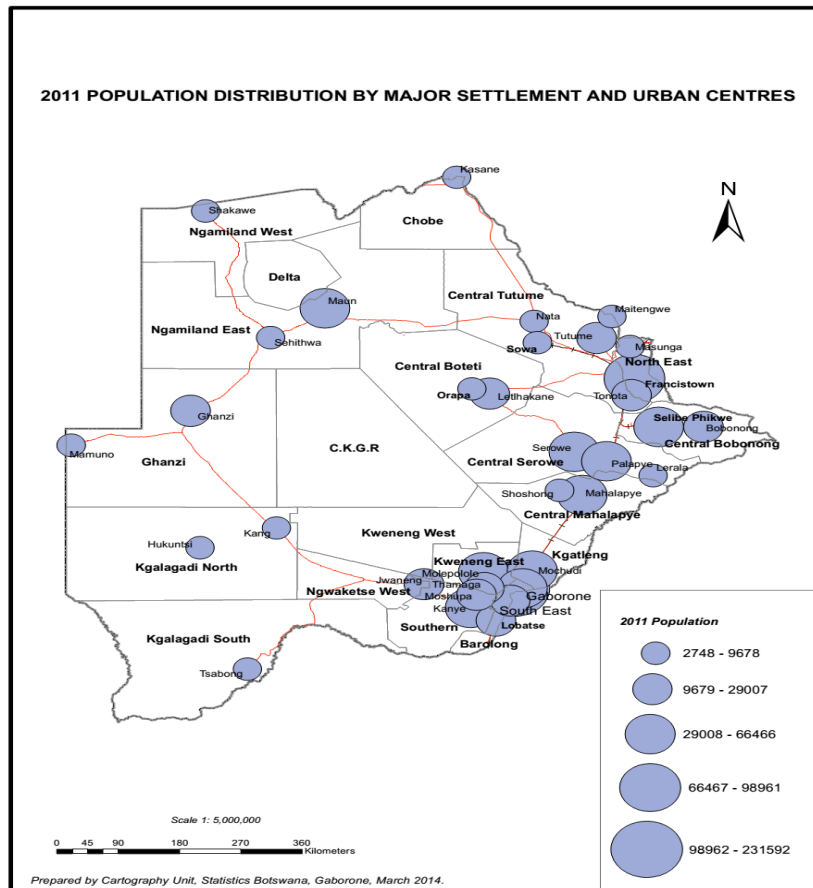
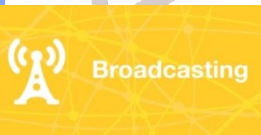
1. Average Monthly household expenditure **Cities & Towns BWP4,931 Rural BWP1,724**
2. Access to Electricity by Households **Cities & Towns 65% Rural 22%**
3. Literacy Rate **83.2%**



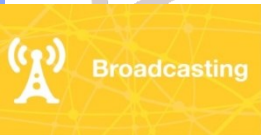
GDP Per Capita, PPP : **USD 15,807.10** (The World Bank 2015)

Group weight for Communications in computation of CPI was **3.01 in Sep 2006 and 4.27 in Sep 2016** (Statistics Botswana)

Population Distribution over 582 000 sq km



ICT Development timeline in Botswana (I)



POST &
TELECOM
prior to
1980

Botswana Telecom
Corporation (BTC)
Act established
monopoly provider
of service who was
also regulator.

Amendment of the BTC

Act:

- +Repealing BTC monopoly.
- +Introduce competition

Two mobile cellular
licenses issued
Mascom and Vista
(now called Orange
Botswana). The MNOs
start operations.

1980

1995

1996

1998

2000

Telecommunications Policy
adopted proposing:

- + An Act to repeal BTC monopoly.
- +Competition through managed liberalisation.
- +Mobile cellular telephony
- +Price controls
- +Independent regulator.

Telecommunications

Act:

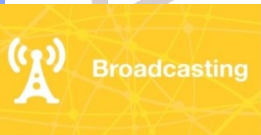
- +Established a
Regulatory Authority
(BTA).
- +Allowed licensing of
private operators

**The
Millennium**

ICT Development timeline in Botswana (II)



Internet



Broadcasting



Telecoms



Postal Services

First fully fledged Pricing Framework implemented by the Regulator:

- +Tariff rebalancing
- +Cost based FTR and MTR

2005

2006

2007

2008

2011

Third mobile operator licensed, beMobile. Owned by fixed operator BTC

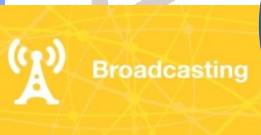
Review of Pricing Framework with focus on:
+ MTR and FTR
+ Pricing framework for wholesale products and services offered by BTC.

Presidential Directive on Further Liberalisation of the telecom sector:

- + Fixed line operators and cellular operators may apply for service neutral licenses.
- +New entrants may apply for service neutral licenses
- +MNOs may self provide backhaul.
- +Stipulates privatisation of BTC.

MAITLAMO National Policy for ICT Development launched providing roadmap on how ICT must drive social, economic & cultural transformation. Also advocates for robust e-GOV platform.

ICT Development timeline in Botswana (III)



Communications Regulatory Authority Act of 2012:

- + Repealed the Telecommunications Act of 1996.
- + Established Communications Regulatory Authority (BOCRA) to regulate ICT, Postal and Broadcasting

Draft National Broadband Strategy making recommendations on how to propel broadband penetration for digital economy.

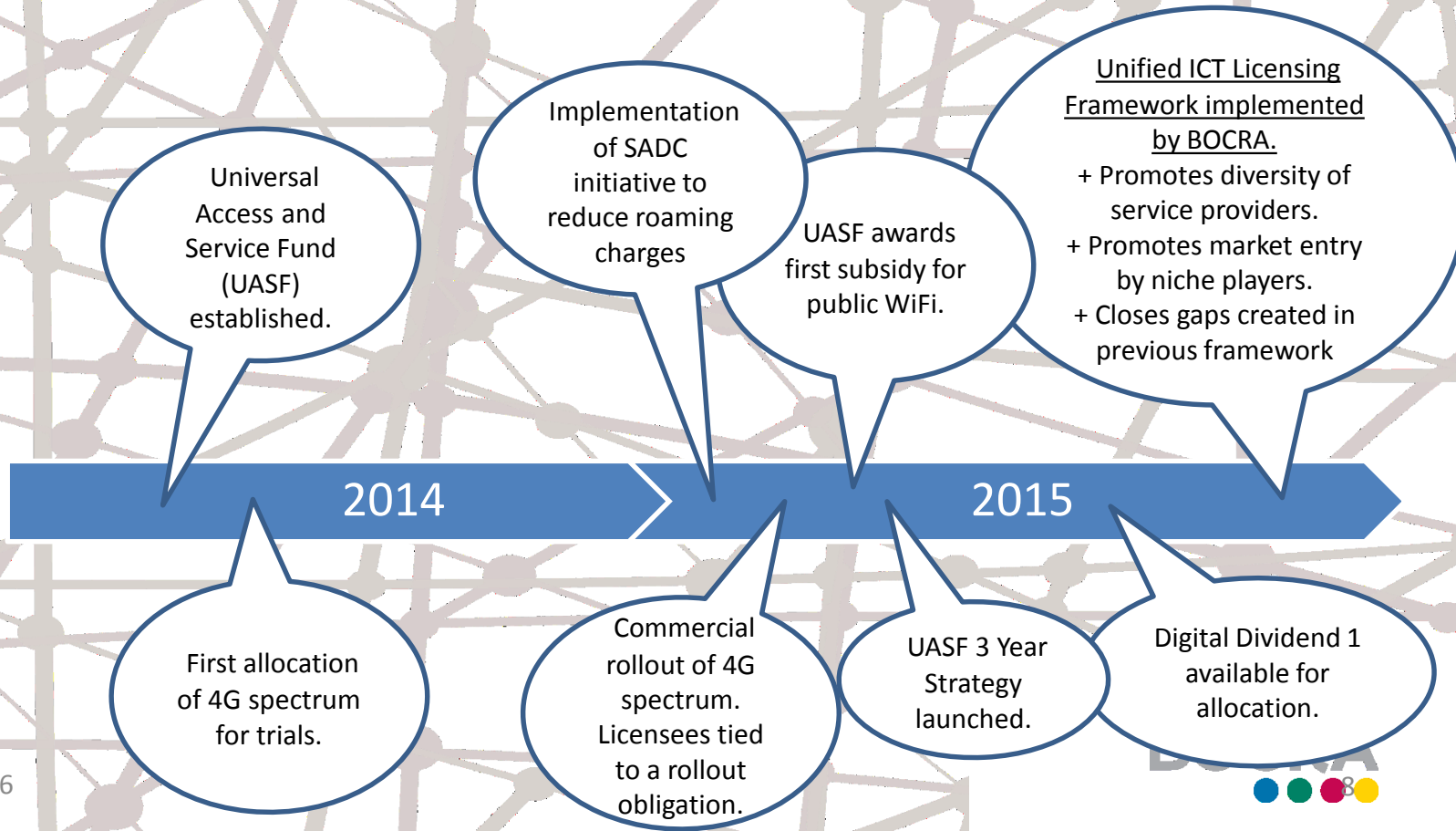
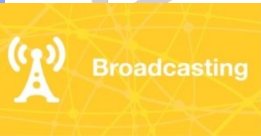
2012

2013

Nteletsa II Rural Connectivity Government subsidy funding for 197 rural villages with inhabitants of 500 to 1000 persons.

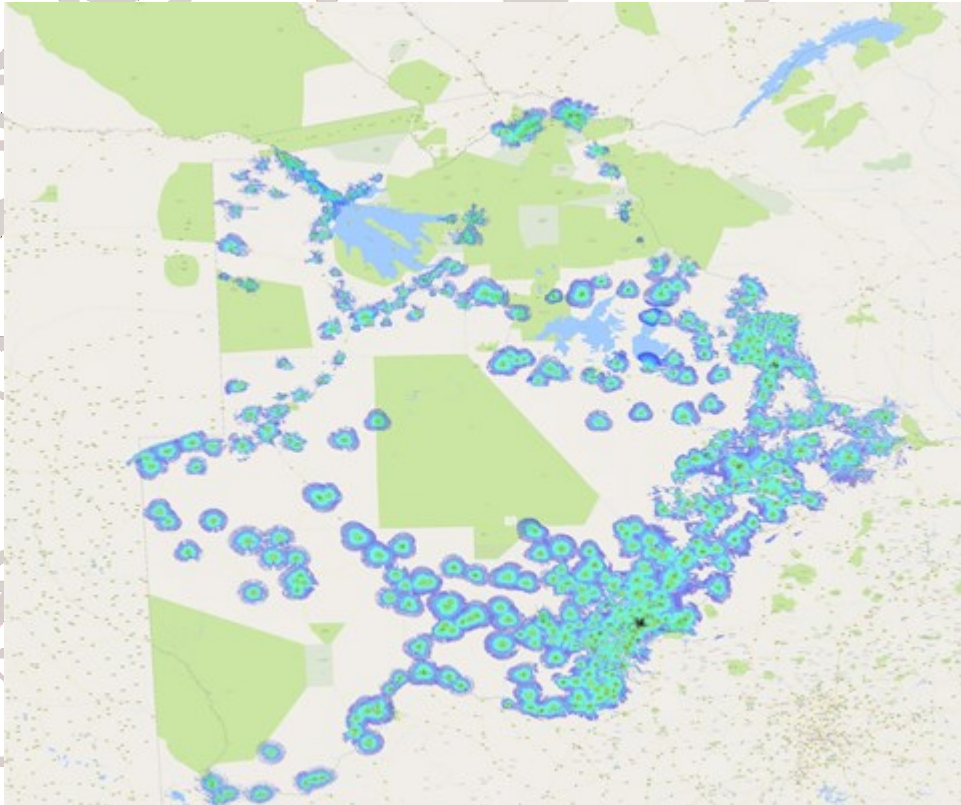
Award of license to BOFINET, the Govt owned wholesale provider of ICT backbone network and international connectivity . Operates on Open Access principle.

ICT Development timeline in Botswana (IV)



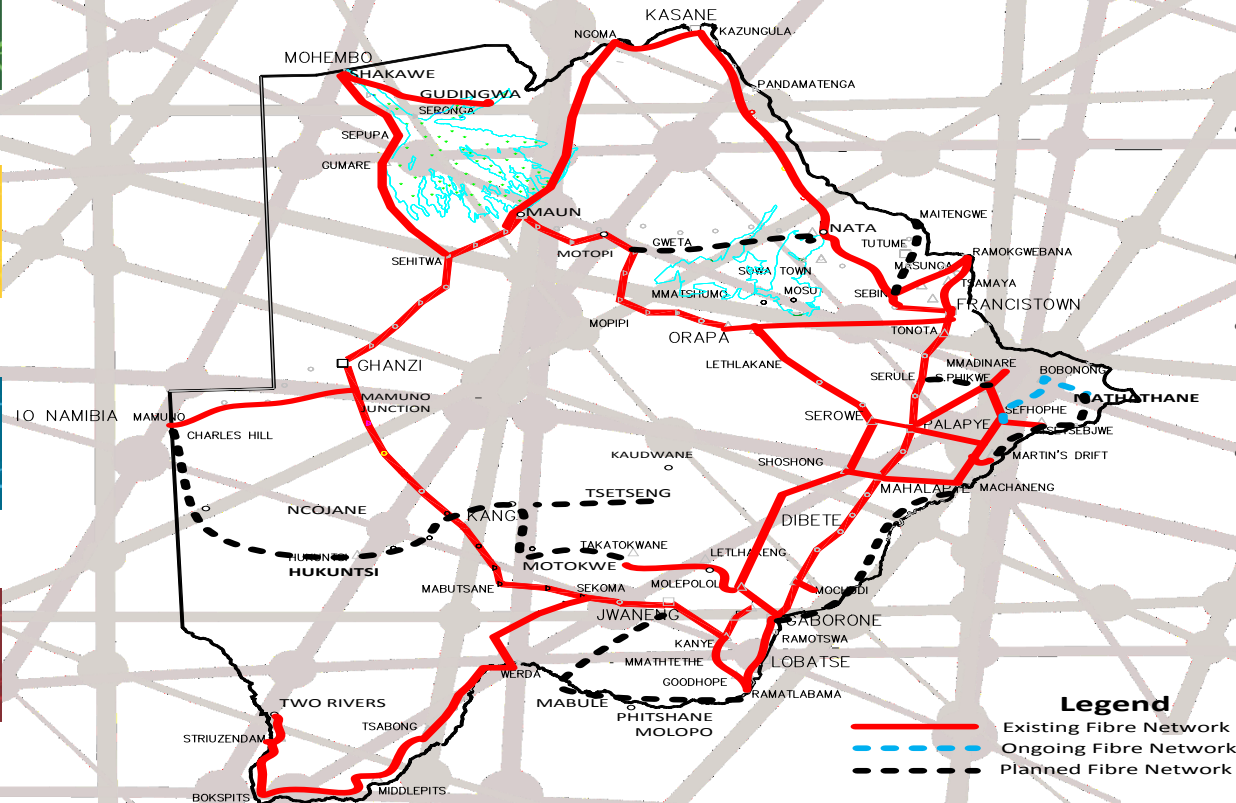
All these policies, regulatory initiatives and market interventions have resulted in a remarkable ICT market growth and general socio-economic growth as shown in the following...

Mobile Network Coverage by 2G, 3G and 4G covering cities, towns, villages and rural communities.



- Mobile cellular networks of Mascom, Orange and BTCL combined cover >90% of popn.
- Market characterised by Multiple SIM ownership.
- Mobile SIM penetration stands at 162% by Sep 2016.
- Mobile broadband penetration is 66%. **4G rollout taken off well.**
- Mobile money accounts is 30 accounts per 100 head of population.
- Use of mobile for social media and financial transactions is prevalent.
- OTTs are applications of choice for the youthful market.

National Backbone Connectivity covering cities, towns, villages
and rural communities by BOFINET.



- 155 cities, towns, villages connected to National Fibre backbone.
- National backbone 1,984xSTM-1 (307.5 Gb/s).
- FTTB rollout ongoing.
- All the above in fulfilment of National Broadband Strategy.
- International connectivity is via WACS (564xSTM-1), EASSy (115xSTM-1) and terrestrial infrastructure.

Source: BOFINET

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Population Distribution



Internet



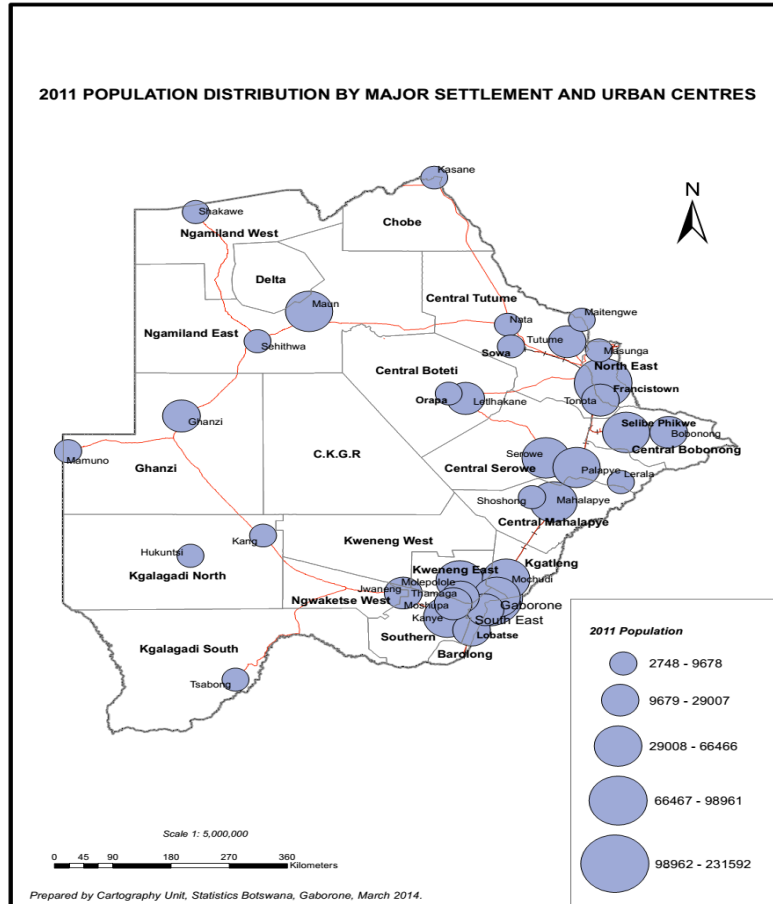
Broadcasting



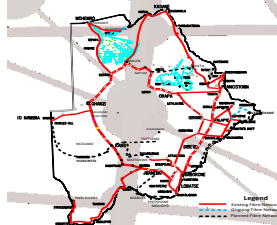
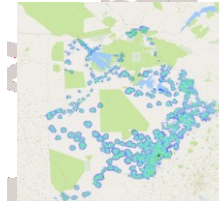
Telecoms



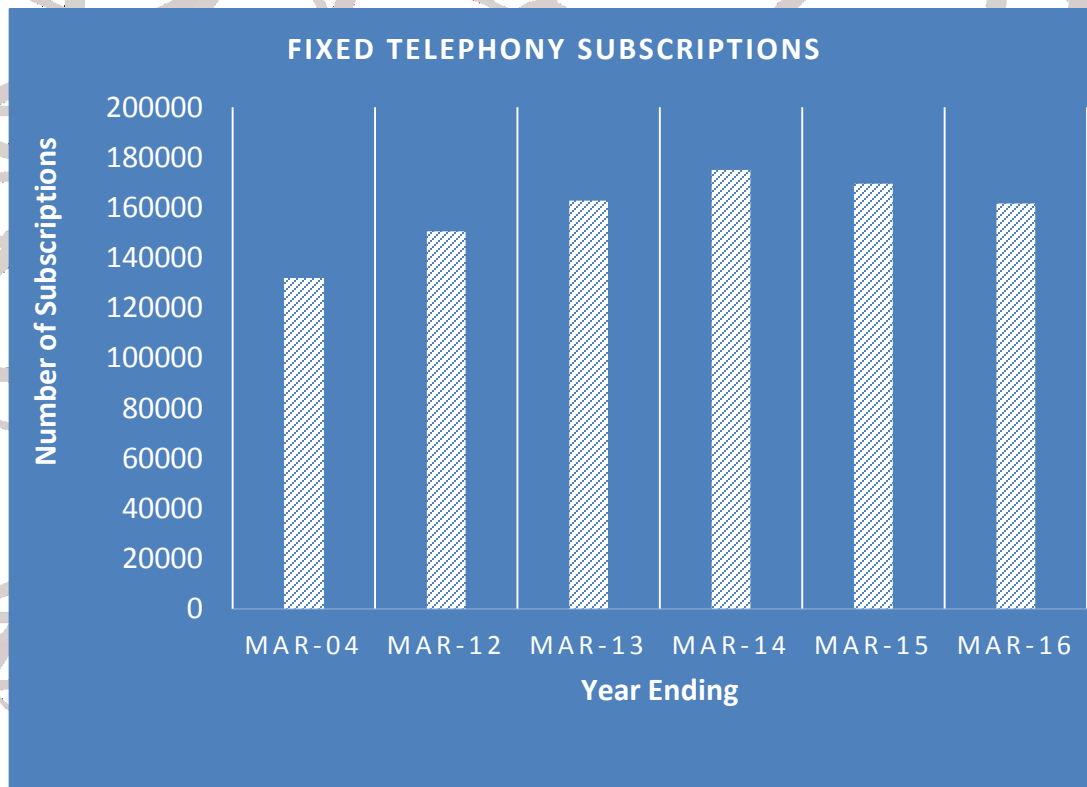
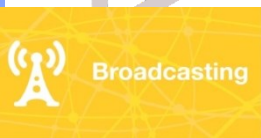
Postal Services



- 47.3% of the population is in South East.
- Other places with high population are Central and North East.
- Networks are designed to cater for population catchment areas.



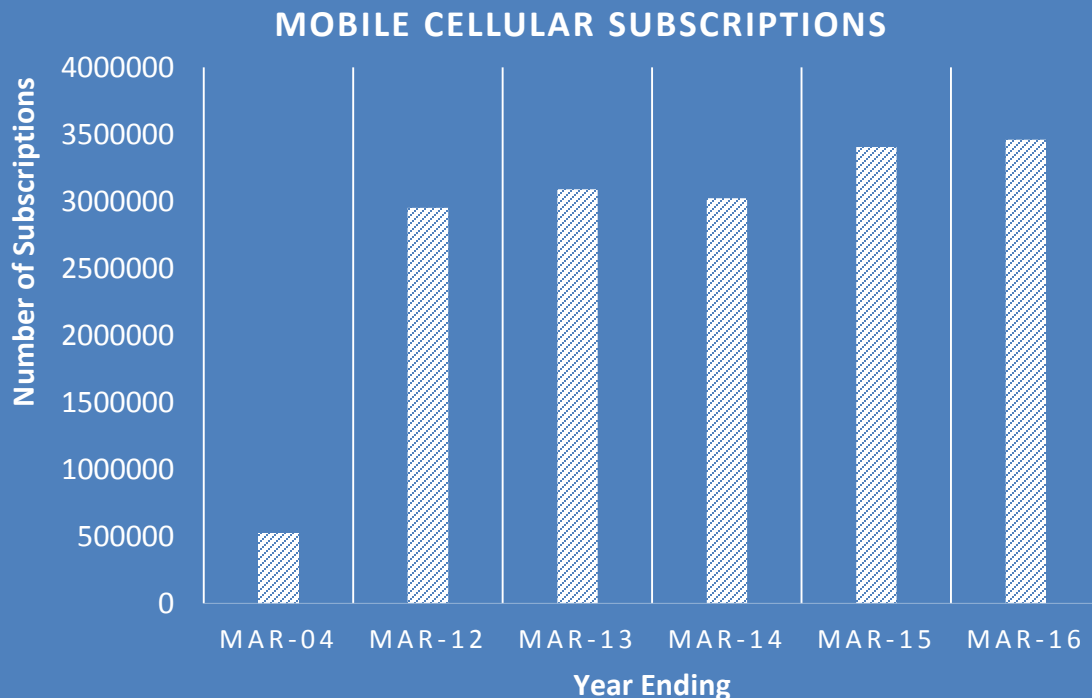
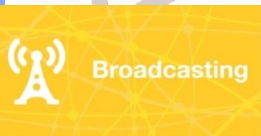
Fixed telephony uptake



- Fixed telephony network is the oldest network.
- Teledensity is 7%.

Source: BOCRA

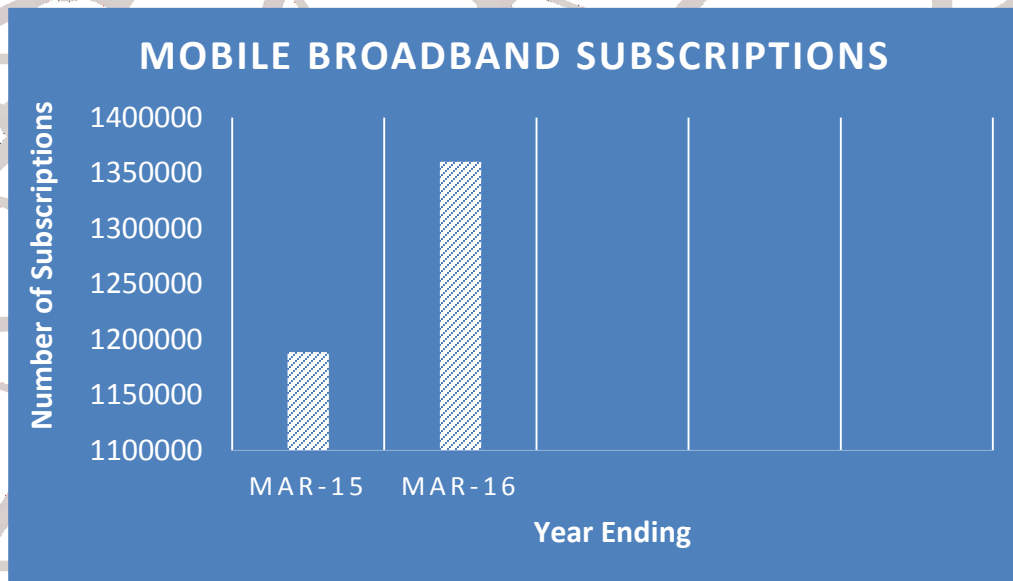
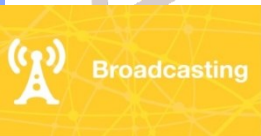
Mobile cellular subscriptions



- Mobile cellular penetration is greater than 162%.
- 98% of subscriptions are Prepaid.
- Low cost smartphones becoming popular.

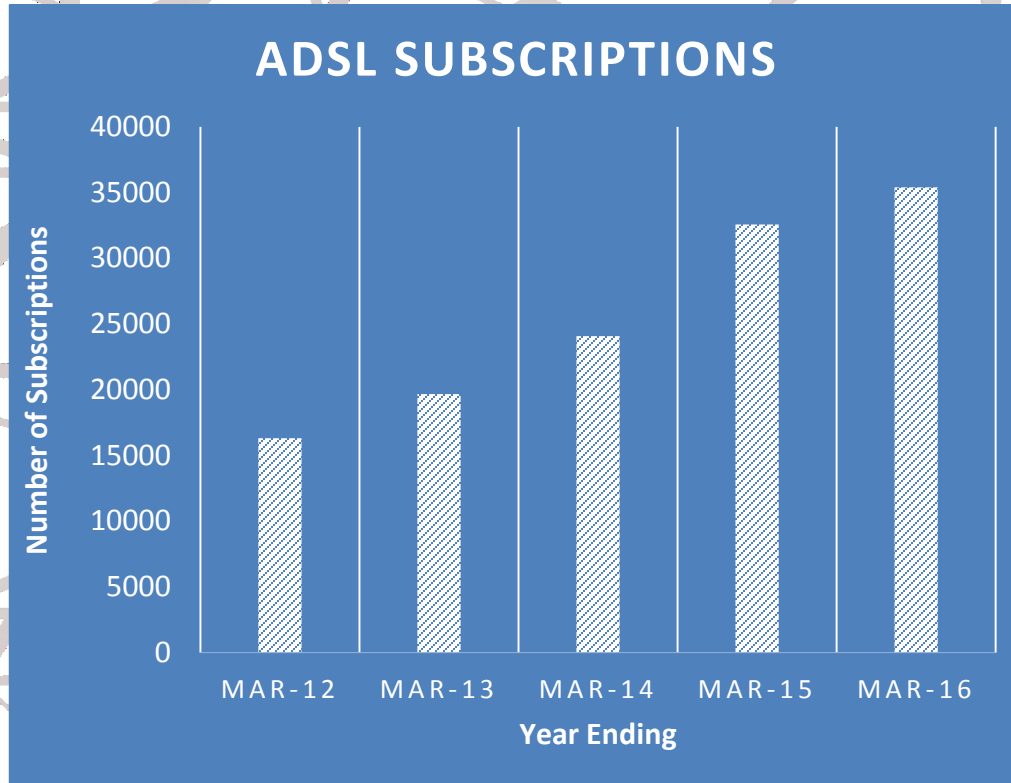
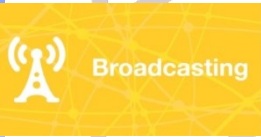
Source:BOCRA

Mobile broadband subscriptions



- Demand for subscriptions is growing.
- Mobile broadband penetration is 66%.

Fixed Broadband Subscriptions



- ADSL penetration is 1.75%.
- Demand for mobile broadband surpassed that for fixed broadband.

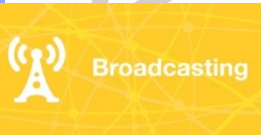
Source: BOCRA

Comparison of ICT Development Index : Botswana vs Best in Africa

	SCORE IN 2015			SCORE IN 2011	
	BOTSWANA	BEST IN AFRICA		BOTSWANA	BEST IN AFRICA
IDI	3.82	5.41 Mauritius		IDI	4.36 Seychelles
ACCESS	4.22	6.48 Mauritius		ACCESS	5.49 Seychelles
USE	2.37	3.37 RSA		USE	2.12 Mauritius
SKILLS	5.92	7.13 RSA		SKILLS	7.07 Mauritius

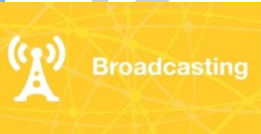
- **ICT Development Index (IDI)** – a composite index used to monitor and compare ICT development across countries.
- IDI has 3 Sub Indexes of **Access**, **Use** and **Skills** comprising 11 indicators covering telephony, fixed broadband, mobile telephony and mobile broadband.
- Botswana shows progress over the 5 year period.

How ICT benefits the economy



1. Exchange of information made easier.
2. Adoption of electronic commerce reduces cost of doing business.
3. Mobile financial services resulted in financial inclusion of previously unbanked persons.
4. Distance learning enhanced.
5. eGov improves welfare of people and makes public service more efficient.
6. ICT contribution to GDP was 2.0% in 2011 and 2.4% in 2015!

Management of Information on ICT Indicators



ICT Indicators are reviewed for relevance and usability.

Data is presented to ITU in required format (through response to questionnaire).

Data is also shared with other authorities and stakeholders.

Data is published on BOCRA website.

Data is published (comprehensively) in the Annual Report.

Participation in:

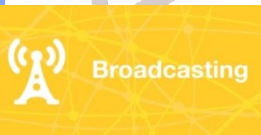
- Expert Group on Telecom/ICT Indicators (EGTI)
- Expert Group on Household Indicators (EGHI)
- World Telecom/ICT Indicators Symposium (WTIS)

BOCRA issues Indicators, Definition and frequency of data collection. Three ways of collecting data:

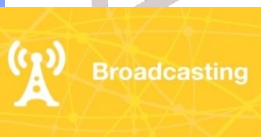
- Monthly statistics on uptake of service and QoS.
- Quarterly returns on key Indicators such as usage, pricing, revenue, etc.
- Ad hoc

BOCRA analyses data received to check for validity, reliability. Also for trends.

Challenges in Achieving Universal service



- 1. Exclusion of economically under-privileged communities and persons.**
- 2. Quality of services for broadband internet is not meeting customer expectations.**
- 3. Large land mass with sparse population makes service provisioning costly.**
- 4. Difficulty in securing land and sites for infrastructure development.**
- 5. Consumer Education is at infancy stages of development.**
- 6. Regional co-operation can be slow at times.**



Thank you

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