Memorandum of the 1st JCC meeting
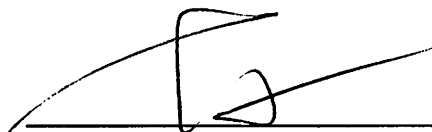
Memorandum

of

the First Joint Coordinating Committee Meeting

for

the Implementation of the Digital Migration Project

in

the Republic of Botswana

(September 24, 2014)

Mogomotsi Kaletseamodimo	Naoaki Nambu
Deputy Permanent Secretary	Team Leader
Ministry of State President	Implementation of the Digital Migration
Government of Botswana	Project in the Republic of Botswana
	(DiMT Project)

Memorandum of the 1st Joint Coordinating Committee (JCC) Meeting of the Project for Implementation of the Digital Migration Project in the Republic of Botswana (DiMT Project)

Date: 24th September, 2014

Time: 08:40-10:10

Venue: 216 Conference Room, Department of Broadcasting Services, Mass Media Complex

Participants:

<Botswana side>

- ■ Ministry of State President
  - ✧ Mr. Mogomotsi Kaboeamodimo, Deputy Permanent Secretary, Ministry of State President
- ■ Department of Broadcasting Services
  - ✧ Mr. Zibani R.S. Makali, Acting General Manager Engineering
  - ✧ Mr. Kabo Dikolob, Chief Broadcast Engineer
  - ✧ Mr. Calvin Goiletswe, Principal Broadcast Engineer
  - ✧ Mr. Solly Nedeng, Head of Programmers
  - ✧ Ms.Lorato Ntuara, Copy Right Administrator
  - ✧ Ms.Salome Senome, Executive Producer
  - ✧ Ms. Linet Habana, Assistant Commissioning Editor
  - ✧ Mr. Edson Malebane, Head Channel Controller
- ■ Botswana Communication Regulatory Authority (BOCRA)
  - ✧ Mr. Bathopi Luke, Director Technical Services
  - ✧ Mr. Itumeleng Batsalelwang, National Digital Terrestrial Television Expert
  - ✧ Mr. Samuel Mpaesele, Manager Maintenance and Monitoring

<Japanese side>

- ■ JICA Botswana Office
  - ✧ Mr. Yasuaki Aihara, Assistant Representative
- ■ JICA Expert Team (JET)
  - ✧ Mr. Naoaki Nambu, Team Leader/Broadcast Policy & Strategy
  - ✧ Mr. Katsuya Terabayashi, Deputy Team Leader/Institution/Training Plan 1
  - ✧ Mr. Yoshiki Maruyama, ASO Plan/Technical Standards 1
  - ✧ Mr. Akira Saito, Technical Standards 2
  - ✧ Ms. Keiko Uchiumi, Public Relations Plan/Coordinator/Training Plan 2
- ■ Invitees
  - ✧ Mr. Shinichi Sakurai, Japanese Embassy in Botswana

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Media for Peace Project
Agenda for 1st JCC
(24th September, 2014, 08:40-10:10)

1. Opening Remarks (5 minutes):
   Mr. Mogomotsi Kaboeamodimo, Deputy Permanent Secretary, MSP

2. Introduction of Participants (10 minutes): <Participants>

3. Report of the Progress of Digital Migration in Botswana (30minutes):
   DBS: Mr. Calvin Goiletswe, Principal Engineer, DBS
   BOCRA: Mr. Bathopi Luke, Director Technical Services, BOCRA

4. Explanation of Modification to PDM and Work Plan and its approval (15 minutes):
   Mr. Katsuya Terabayashi, Deputy Team Leader, JET

5. Introduction and approval of Members of WG (10 minutes):
   Mr. Solly Nadeng, Head of Programmers

6. Introduction of Logo and Short Name and their approval (10 minutes):
   Mr. Katsuya Terabayashi, Deputy Team Leader, JET

7. AOB:

8. Remarks (5 minutes):
   Mr. Yasuaki Aihara, Assistant Representative, JICA Botswana Office

9. Closing Remarks (5 minutes):
   Mr. Mogomotsi Kaboeamodimo, DPS of MSP

I. Discussion Note in the JCC Meeting

1. Opening Remarks

Mr. Mogomotsi Kaboeamodimo, Deputy Permanent Secretary of Ministry of State President, opened the meeting with the observation that the digitalization of television broadcasting will contribute to the economy of the country and expects this project facilitate and help the digitalization process of television broadcasting to take off with among parties such as MTC and BOCRA.

2. Presentations

The following presentations were made in the 1st JCC meeting. The materials of the presentations are attached. (See Annex-2 to 4)

- Progress of Digital Migration in Botswana, Mr. Calvin Goiletswe, DBS

  Mr. Calvin Goiletswe explained that the way of developing broadcasting network including landscape of broadcasting sector and necessity of engaging public education for the migration ,and addressed target date of ASO

- Progress of Digital Migration in Botswana, Mr. Bathopi Luke, BOCRA

  Mr. Bathopi Luke mentioned on spectrum management progress of the digital migration, also indicated the coordination between neighboring countries such as the republic of South Africa, Namibia, Zambia as well as Zimbabwe

- Work Plan, Mr. Katsuya Terabayashi, Deputy Team Leader, JET

  Mr. Katsuya Terabayashi eraborated the principle of how JICA technical cooperation project is conducted and the contents of work plan with PDM midifications.

3. PDM Modifications

In the presentation of "Work Plan of the Project", the JICA expert team, followed by the series of discussion with Botswana side in the beginning of the Project, proposed some modifications in the PDM. Version 0, which was confirmed and signed by Botswana and Japanese sides in the Record of Discussion on 5th May, 2014. The Botswana side agreed the necessity of minor changes to clarify the definition of some words and phrases and agreed that an activity "1-4 review of specifications of receivers" is added . The table 1 shows the modification to the version 0 of PDM.

Table. 1 Modifications in PDM from Version.0 to Version.1

Nr	Item to be modified	Version.0	Version.1
1	Activities 1-2	1-2 To review a roadmap	1-2 To prepare ASO Plan

3

Nr	Item to be modified	Version.0	Version.1
		towards ASO	
2	Activities 1-3	1-3 To review technical standards related to ISDB-T	1-3 To review Botswana ISDB-T Standards
3	Activities 1-4		1-4 To review specifications of receivers
4	Activities 1-4	1-4 To develop regulations for terrestrial broadcasting station licensing criteria	1-5 To prepare terrestrial broadcasting station licensing criteria
5	Activities 1-5	1-5 To review Public Relations Plan for Digital Migration	1-6 To develop draft Public Relations Plan for Digital Migration
6	Objectively Verifiable Indicators, Output1, 1-1	1-1 Roadmap towards ASO is developed	1-1 ASO plan is developed
7	Objectively Verifiable Indicators, Output1, 1-2	1-2 National Standards are developed	1-2 ISDB-T Standards is prepared
8	Objectively Verifiable Indicators, Output1, 1-3		1-3 Specifications of receivers is prepared
9	Objectively Verifiable Indicators, Output1, 1-3	1-3	1-4 *only the number was changed according to the above modification
10	Objectively Verifiable Indicators, Output1, 1-5	1-4 Public Relations Plan is developed	1-5 Draft Public Relations Plan is developed
11	Means of Verification 1-1	1-1 ASO Roadmap	1-1 ASO Plan
12	Means of Verification 1-2	1-2 National Receiver Standards	1-2 Botswana ISDB-T Standards
13	Means of Verification 1-3		1-3 Specifications of receivers
14	Means of Verification 1-4	1-3	1-4 *only the number was changed according to the above modification
15	Means of Verification 1-4	1-4 Public Relations Plan	1-5 Draft Public Relations Plan

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Nr	Item to be modified	Version.0	Version.1
16	Important Assumption Output	Staff received training does not resign BTV	Staff received training does not resign DBS
17	Important Assumption Activities	Staff received training does not resign BTV	Staff received training does not resign BTV
18	Input Japanese side	(1) Chief Advisor/Policy & Strategy (2) Institution/Training Plan (3) ASO Plan/Technical Standards (4) Public Relations Plan (5) HD Program Production (6) Data Broadcasting Contents Production (7) Data Broadcasting Programming	(1) Chief Advisor/Policy & Strategy (2) Institution/Training Plan 1 (3) ASO Plan/Technical Standards 1 (4) Technical Standards 2 (5) Public Relations Plan/Training Plan 2/Coordinator (6) HD Program Production (7) Data Broadcasting Contents Production (8) Data Broadcasting Coding (9) Data Broadcasting Design (10) Data Broadcasting Programming
19	Preconditions	Relevant ministries and agencies are ready to cooperate for migration to terrestrial digital broadcasting	Digital migration plan is not excluded from the national development plan.

4. **Work Plan**

The Work Plan has been explained and approved with necessary modifications in the version.0 of PDM. The revised PDM, as Version.1, is attached to the Work Plan and Monitoring Sheet.

5. Members of Each WG

Members in each WG, Technology and Licensing, Public Relations, Program Production, Programming, Data Broadcasting have been introduced and approved. The explanation has been given that those members in WG are the ones who lead and initiate each activity for which the WG is responsible. The list of members of WGs are attached as Annex-1.

6. Short Name and Logo of the Project

"DiMT" has been proposed as a short name of the Project. "DiMT" abbreviates "Digital Migration for Television". "DiMT Project" has been approved by both Botswana and Japanese sides as an easily understandable and catchy short project name.

Logo of the Project will be determined after the elaboration of the design. The design will be circulated to the same members of the first JCC and will be agreed among them later.

7. Remarks by JICA Senior Representative

Mr. Yasuaki Aihara expressed his gratitude for the participation to the first Joint Coordinating Committee and emphasized that institutional arrangement of the Project should be established as early as possible so that the members of WGs and Japanese Expert Team can focus on the real activities of the Project. He also mentioned that JICA technical cooperation respects the ownership of the recipient country so that commitment and active participation from the Botswana side is critical for the success of the Project.

8. Closing Remarks

Mr. Mogomotsi Kaboeamodimo, Deputy Permanent Secretary of Ministry of State President closed the meeting with expressing his gratitude for JICA's assistance and also expressed the expectation that those members in WGs will commit themselves to the Project and develop their skills and knowledge so that the Project will boost and lead the digital migration process in Botswana.

II. Memorandum following the first JCC Meeting

1. Assignment of Project Director, Project Manager and Deputy Project Manager

Subsequent to the first JCC meeting, the Botswana side assigned the following persons for each role of the Project.

- Project Director : Ms. Kebonye Moepeng, Permanent Secretary, MSP
- Project Manager : Mr. Mogomotsi Kaboeamodimo, Deputy Permanent Secretary, MSP
- Deputy Project Manager : Mr. Calvin Goiletswe, Principal Engineer, DBS

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\<Attachments\>

Annex-1: WG Member Lists

Annex-2: Presentation Material by DBS

Annex-3: Presentation Material by BOCRA

Annex-4: Presentation Material by JET

Annex-5: Work Plan

Annex-1 WG member lists

Technology and Licensing Working Group Member

No	Name	Position	
1	Calvin Goiletswe	PBE-TX (DTT)	
2	Kabo Dikolobe	CBE-BTV	
3	Didibeng Modisenyane	PBE-TX	
4	Bathopi Luke	Director - BOCRA	
5	Itumeleng Batsalelwang	DTT Expert - BOCRA	個人情報のため非公開
6	Thapelo Maruping	Deputy Director - BOCRA	(Not open to the public)
7	Samuel Mpaesele	Manager - BOCRA	
8	Constance Kolaatamo	PBE-TX	
9	Galani Mothobi	PBE-BTV	
10	Maibi Gaotlolwe	PBE - TX	
11	Matshwenyego Kwada	MTC- TPS	

Public Relations Working Group Member

No	Name	Position
1	Lorato Ntuara	Copy Right
2	Last Rakgasa	Head of Radio Programmes
3	Itumeleng Mmusi	Graphic Designer (BTV)
4	Tshireletso Stoffel	Radio Botswana
5	Unknown (will be assigned later)	Daily News
6	Ndulamo Ntopo	Public Relations
7	Unknown (will be assigned once PMO has been established)	PMO

個人情報のため非公開
(Not open to the public)

Program Production Working Group Member

No	Name	Position
1	Solly Nageng	Head of programmers
2	Linet Habana	Ass. Commissioning Editor
3	Gaamangwe Mathame	Programme Producer
4	Gail Mochanang	Programme Producer
5	Ponatshego Ponatshego	Graphic Designer
6	Ernest Segokotlo	Engineer
7	Ontlametse Gaothuse	Videographer
8	Dintle Gaolebale	Studio Director (Operations)
9	Kefilwe Mokgaotsane	Reporter - News and Current affairs
10	Audrey Bonang	Content Acquisition

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(Not open to the public)

Programing Working Group Member

No	Name	Position	
1	Edson Malebane	Channel Controller	
2	Maipelo Montwedi	TX Producer (Programming)	個人情報のため非公開
3	Lorraine Moleki	TX Producer (Programming)	(Not open to the public)
4	Morena Keipeile	Engineer	
5	Nkobi Mosipi	Marketing	
6	Phemelo Tsopito	Sports	
7	Kagiso Mapine	Executive Producer	
8	Onthatile Boti	News and Current Affairs	

Data Broadcasting Working Group Member

No	Name	Position	
1	Salome Senome	Executive producer	
2	Gaone Karele	Graphic Designer	
3	Gosaitse Koobonye	Marketing	
4	Kefilwe Leero	Programme Producer	
5	Gaotsenwe Ngwako	Sports Sports	個人情報のため非公開
6	Kedirileng Makgasa	Engineer	(Not open to the public)
7	Itumeleng Siviya	News and Current affairs	
8	Tabona Luza	Engineer	
9	Torotea Mmopi	Program Producer	
10	Beauty Sendi-Mpho	Editor	
11	Bame Mogomotsi	Acquisition	

Annex-2 Presentation Material by DBS

THE 1ST JOINT COORDINATION COMMITTEE (JCC) FOR THE IMPLEMENTATION OF DIGITAL TERRESTRIAL TELEVISION - BOTSWANA

24th September 2014

MINISTRY OF STATE PRESIDENT
Department of Broadcasting Services
Presented by. Engineer - CALVIN GOILETSWE, BEng Hon.
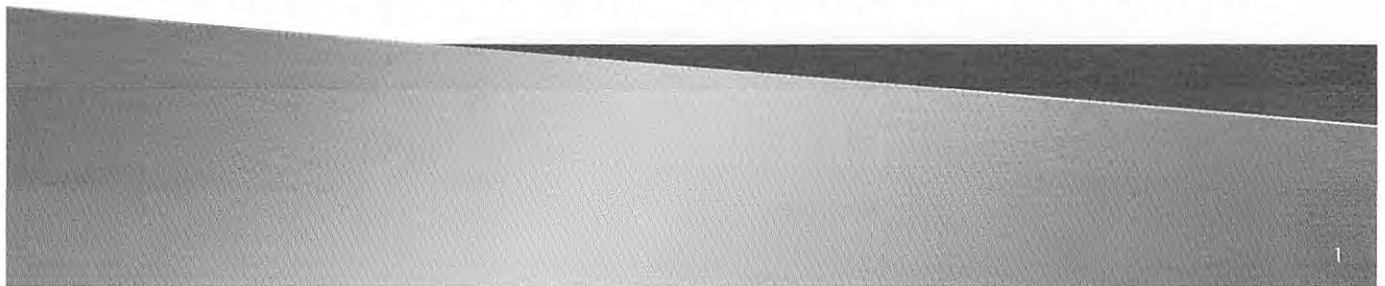
Content

▸ Broadcasting Landscape

▸ Botswana's Digital readiness

▸ Regulatory Environment

▸ Consumer Awareness

▸ Budget

▸ Achievements

▸ Next Steps

Broadcasting landscape...

- **Radio Stations(5)**
  - **Radio Botswana 1 and 2**
  - **Duma FM**
  - **Gabz FM**
  - **Yarona FM**
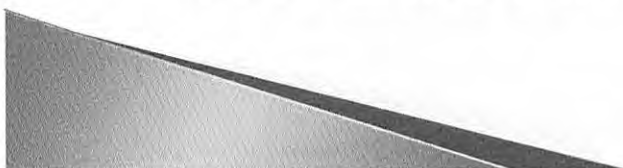 - **They all have nationwide licenses**

3

Broadcasting landscape...

- **Television Stations(2)**
  - **Botswana Television**
  - **Nationwide license**

  - **eBotswana**
  - **Operational only in Gaborone and surrounding areas**
  - **Currently awaiting a variation to change the transmission mode to satellite.**

4

Botswana Television Network

> **Botswana television uses two modes of transmission**

- **Terrestrial and Satellite**

- **The satellite feed is mainly provided for feeding out stations, but it can also be received at home.**

Botswana Television Network

> **48 television transmitters country wide.**

> **Six (6) of them have been replaced with DTT (ISDB-T) ready transmitters.**

> **Two operational on ISDB-T:**
- **February 2013 – Gaborone**
- **August 2013 - Francistown**

> **The remaining forty (42) transmitters will require exciters for conversion from analogue to digital (ISDB-T).**

Botswana Television Network...

▸ **The analogue transmission coverage is at 85% of Botswana's population for television.**

▸ **The coverage map below indicates the area covered by the analogue network.**
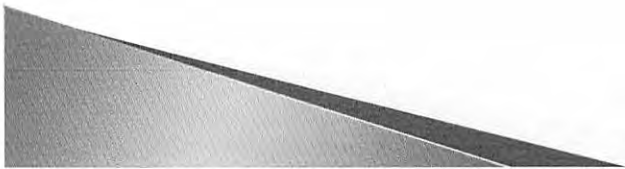
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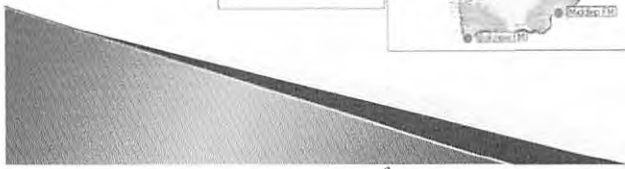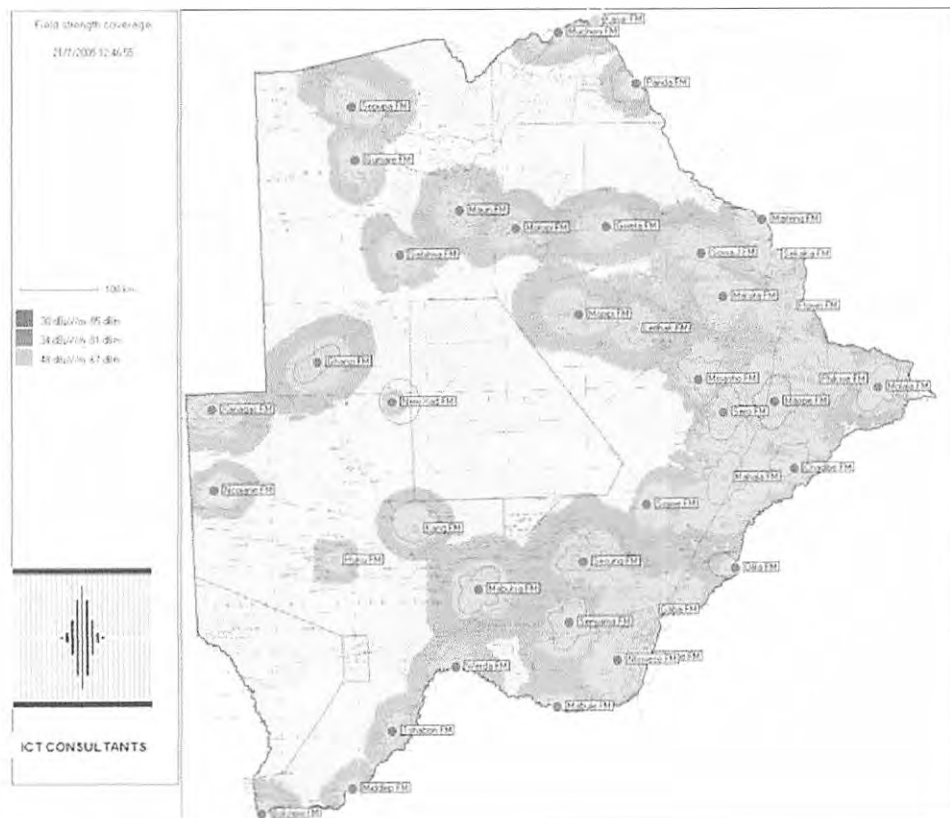
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Botswana Television Network...

- Botswana television has three (3) studios,
- Studio output is SDI

- Two studio to be upgraded to HD by March 2015.

9

eBotswana's Network...

- eBotswana has one analogue transmitter located in Gaborone.
- Their studios are also located in Gaborone.
- They use microwave link to feed the signal from the studios to the transmitter.
- Their signal is included in the digital trial transmissions

10

Botswana's Digital Readiness

▸ **ADOPTION OF ISDB-T – FEBRUARY** 2013

▸ **13 February** 2013 - **Botswana adopted the Japanese Standard for digital television terrestrial broadcasting (DTTB), being; Integrated Services Digital Broadcasting – Terrestrial (ISDB-T).**
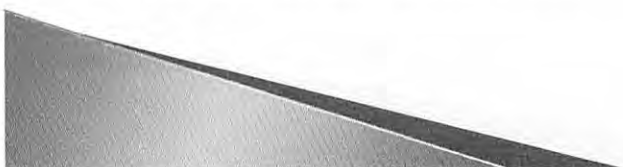
▸ **This then called for all broadcaster / stakeholders to come up with plans to migrate from current analogue setup to digital and to measure on their readiness.**

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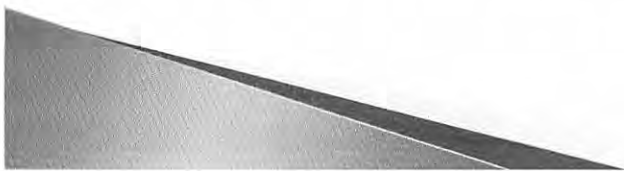
Botswana's Digital Readiness

▸ **JOINT TASKFORCE**

▸ **July** 2013 - **Botswana and Japanese formed a taskforce to advance the implementation of DTT**

▸ **Planning has advanced:**
  ◦ **Training on DATA Broadcasting and ISDB-T technology**
  ◦ **Study tours to equipment manufacturer**

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Botswana's Digital Readiness

- ▸ **SADC PMO VISIT TO BOTSWANA**

- ▸ **August 2013 – The SADC PMO visited Botswana.**

- ▸ **DRAFT DTT implementation plan was developed with SADC PMO assistance**

- ▸ **The Draft plan has been partly implemented**

13

Botswana's Digital Readiness

- ▸ **Anticipated Signal Distribution Model**

14

Block Diagram
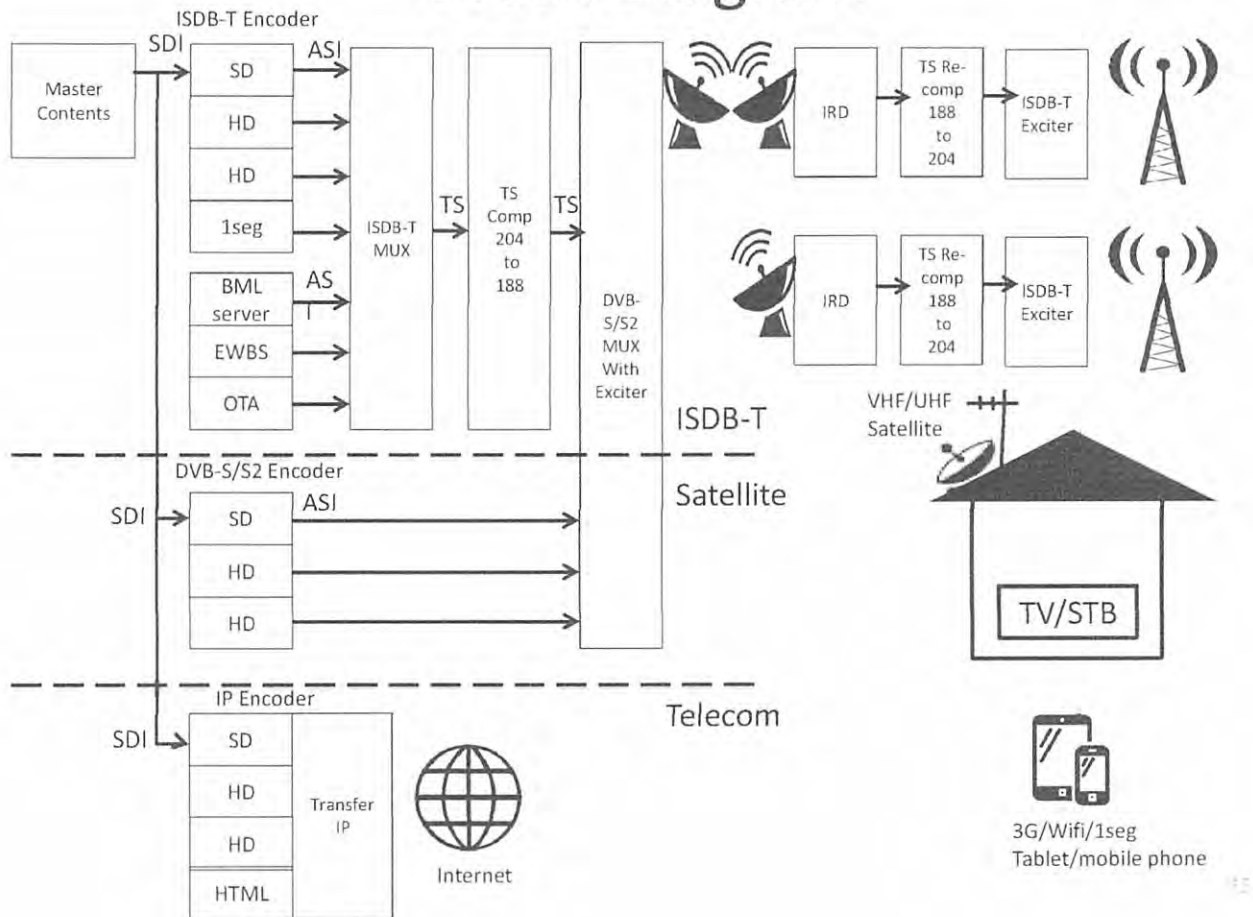
Regulatory Environment

- **Frequency coordination undertaken with neighbouring countries:**

- **VHF channel in country to be re allocated in UHF band.**

- **BOCRA has already allocated UHF frequencies for replacement of VHF channels.**

16

Regulatory Environment

- Frequencies to use for dual illumination or simulcasting are being finalized by BOCRA.

- Licensing frame work still being developed.

- Draft National Set Top Boxes Specification available

17

Communication Strategy

- Tender floating for the implementation of communication strategy.

- Once awarded rigorous public education will be done to increase public awareness and stakeholder engagements.

- Engagements have already begun
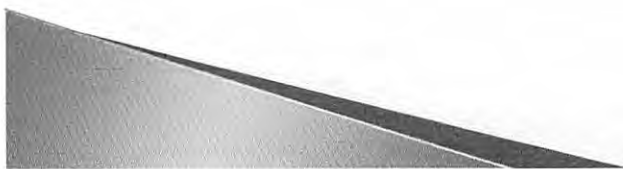
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Consumer Awareness (40%)

- A lot has been done through the two national radio station on talk shows.

- We have also engaged the public through the local fairs; BOCCIM, Consumer fair, etc.

- We have also tried to reach consumers by making presentations to the leadership; Parliamentary ICT committee, House of Chiefs, Cabinet, etc.

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Budget for Digitization

- After evaluation of requirements for digital migration a budget was drawn and submitted to the Botswana Government for approval.

- A budget for critical components to kick start the migration was approved.

- This budget is for the required production and transmission equipment as well as content and human development.

20

Achievements

▶ **Successfully installed two digital transmitter at Gaborone and Francistown**

▶ **Stakeholder trained on DATA Broadcasting**

▶ **EWBS demonstrated to stakeholders**

▶ **Developed the Project Charter and NPMO structure.**

▶ **Draft implementation Plan developed.**

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Next Steps

▶ **Implementation**
  ○ **Target phased Analog Switch Over (ASO) to start on 27th February, 2015.**
  ○ **Frequency and channel planning to be completed by 31st April, 2014.**
  ○ **Draft Set top box specifications finalized by 25th August 2014**
  ○ **Setting up PMO, hence, DMTF and working groups.**
  ○ **Key position will be filled for the smooth implementation of the project.**
  ○ **Stakeholder engagement on going**

22

Next Steps

- **Implementation**
  - **Dual illumination to start March** 2015.
  - **Equipment procurement in progress.**
  - **Communication strategy to be finalized and rolled out by mid November** 2014
  - **Botswana is determined to meet the set ITU deadline besides the tight time frame.**

23

▶Ke a leboga

▶THANK YOU
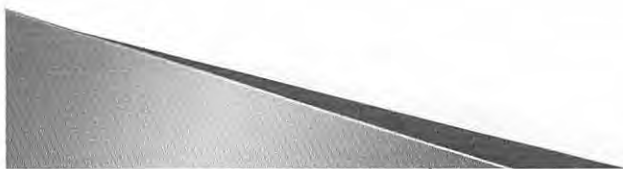
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Annex-3 Presentation Material by BOCRA

BOCRA

● ● ● ●

Digital Migration Plan

Joint Coordination Committee Meeting 24 September 2014

Bathopi Luke – Director Technical Services, BOCRA

Mandate of BOCRA

- Mandate of BOCRA outlined in the Communications Regulatory Act No 19 of 2012

- Regulation of communications sector in Botswana, comprising telecommunications, ICT, broadcasting and postal services

- Responsible for the management of the Frequency spectrum

BOCRA
● ● ●

Broadcasting mandate

- □ Overall promotion of the broadcasting sector to enable service delivery
  - ◪ Currently there are 3 National Commercial Radios and 1 regional TV broadcaster
- □ Issuance of broadcasting and re-broadcasting service licenses (State broadcaster is exempted)
- □ Defining the Licensing Framework which shall specify the types of licenses, subscription management and applicable conditions thereto
- □ Assignment of broadcasting frequencies to all through radio licensing

BOCRA

- □ BOCRA has received numerous applications for digital terrestrial television
- □ BOCRA has developed a DTT Roadmap in order to enable the broadcasters migrate
- □ Plans to have licensed operators by June 2015
- □ Plans to have cleared the Digital Dividend by June 2015

BOCRA

- DTT licensing Framework
- Development of Specifications for Receiver and transmitter equipment
- Licensing of commercial operators (content and signal distribution)
- Assistance on content production
- Public Awareness campaigns
- Stakeholder consultations

BOCRA

- Draft Licensing Framework for Terrestrial Digital Broadcasting
- Successfully re planned GE06 plan
- The Digital frequencies have been coordinated with neighboring countries
- Minimum specifications for DTT Set Top Boxes have been finalized

BOCRA
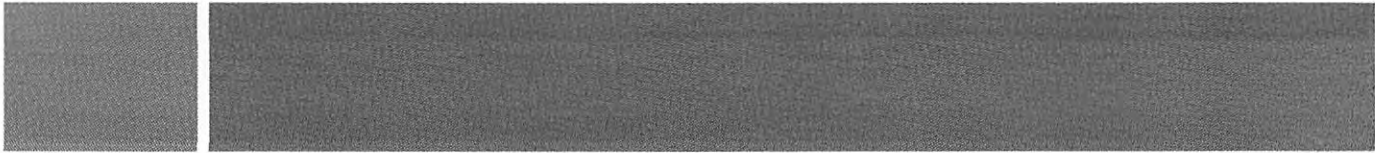
Thank You

Annex-4 Presentation Material by JET

Implementation of the Digital Migration Project
in
Republic of Botswana

Work Plan Presentation

Sep, 2014

JICA Technical Cooperation Project

JICA Technical Cooperation Project

- ● **Technical Cooperation Project is a type of technical assistance by JICA.**
  - A project to resolve specific issues by transferring technology, knowledge and skills to the counter partners of recipient country during a certain project period.

- ● **The recipient country will implement a project, for which JICA provides technical assistance.**

- ● **JICA will provide three input elements to the project:**
  - Dispatch Japanese Experts to provide technical support
  - Invite personnel from the recipient country for training in Japan (or in the third country)
  - Provide equipment for the Project

Project Design Matrix (PDM)

- ● **JICA Technical Cooperation Project should be formulated with**
  - • Clear definitions of
    - overall goal;
    - project purpose;
    - outputs;
    - activities and;
    - inputs

    and, logical relationship among the above.

- ● Project Design Matrix (PDM) is used to indicate these elements and their interrelationship for the Technical Cooperation Project.

- ● PDM will be used for monitoring & evaluation of the Project throughout and even after the implementation period.

Page 3

Project Management (PDM)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal (Target to be achieved in 3 years after the Project)	Indicators to evaluate achievement of overall goal	Statistics, survey, etc.	
Project Purpose (Target to be achieved by the end of Project)	Indicators to evaluate achievement of project purpose	Statistics, survey, etc.	External Conditions to achieve overall goal
Outputs 1. Output 1 2. Output 2	Indicators to evaluate achievement of outputs	Statistics, survey, etc.	External Conditions to achieve project purpose
Activities 1-1 Activity A 1-2 Activity B 1-3 Activity C 2-1 Activity D 2-2 Activity E	**Inputs** Japan Side: - Experts - Training in Japan - Equipment Botswana Side: - Personnel - Project Office - Others		External Conditions to achieve outputs Precondition for starting activities

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
Terrestrial digital broadcasting that takes advantage of the features of Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) is effectively available.	1. Terrestrial digital broadcasting service area covers 65% or more of Botswana (the target in NDP10). 2. O or more number of programs that linked with the data broadcasting contents are produced per year. 3. O or more number of High Definition (HD) programs are produced per year.	1. Radio Wave Measurement 2. Broadcasting Program Schedule 3. Broadcasting Program Schedule	
Project Purpose			
Environment, which allows DBS to implement self-sustainably the terrestrial digital broadcasting that takes advantage of the features of ISDB-T, is ready.	1. O% or more customers recognize the terrestrial data broadcasting of Botswana Television (BTV). 2. Facilities and human resources planned as necessary for producing and broadcasting HD programs based on ISDB-T data broadcasting are developed.	1. Customer Sample Survey 2. Project Progress Report	· Developments of DTTB network and related equipment are executed as planned. · ISDB-T receivers are penetrated to households as planned.
Outputs			
1. Various plans necessary for migration to digital broadcasting are developed. 2. DBS's capacity of producing programs including High Definition (HD) and data broadcasting is improved.	1-1. Analogue Switch Off (ASO) Plan is developed. 1-2. Botswana ISDB-T Standards is developed. 1-3. Specifications of receivers is prepared. 1-4. Terrestrial Digital Broadcasting Station Licensing Criteria are developed. 1-5. Draft Public Relations Plan is developed. 2-1. Sections that handle data broadcasting are established in BTV. 2-2. HD Program Production Manual is developed. 2-3. A training system for producing data broadcasting program is established. 2-4. Program-linked and non-linked data are broadcasted.	1-1. ASO Plan 1-2. Botswana ISDB-T Standards 1-3. Specifications of receivers 1-4. Terrestrial broadcasting station licensing criteria 1-5. Draft Public Relations Plan 2-1. BTV Organization Chart 2-2. HD Program Production Manual 2-3. Training plan for data broadcasting program 2-4. Broadcasting Program Schedule	· Various approval process by the concerned organizations are not delayed. · Staff received trainings does not resign DBS.
Activities		**Inputs**	
1. Relative to various plans for digital migration 1-1 To establish Technology and Licensing Working Group, Public Relations Working Group 1-2 To prepare ASO plan 1-3 To review Botswana ISDB-T Standards 1-4 To review specifications of receivers 1-5 To prepare terrestrial broadcasting station licensing criteria 1-6 To develop Draft Public Relations Plan for Digital Migration	Japanese Side 1. JICA Experts (1) Chief Advisor/Policy & Strategy (2) Institution/Training Plan (3) ASO Plan/Technical Standards 1 (4) Technical Standards 2 (5) Public Relations Plan (6) HD Program Production (7) Data Broadcasting Contents Production (8) Data Broadcasting Coding (9) Data Broadcasting Design (10) Data Broadcasting Programming	Botswana Side 1. C/P Personnel (1) Project Manager (2) Deputy Project Manager (3) Leader of Technology and Licensing Working Group (WG) (4) Leader of Public Relations WG (5) Leader of Program Production WG (6) Leader of Programming WG (7) Leader of Data Broadcasting WG	· C/P personnel continue to work on the Project. · Staff received trainings does not resign DBS.
2. Relative to DBS's capacity of producing programs 2-1 To establish Program Production Working Group, Programming Working Group and Data Broadcasting Working Group 2-2 To develop HD program production capability 2-3 To establish a section that produce data broadcasting program 2-4 To develop a training system for producing data broadcasting program 2-5 To develop programming plan of digital broadcasting, including data broadcasting, based on the market needs survey 2-6 To plan and produce program-linked and non-linked data broadcasting	2. Equipment · *Data Broadcasting Contents Management System: 1 set 3. Training in Japan · HD Studio Operations (Camera, Lighting, Audio, Video Engineer) · Digital Terrestrial Television Broadcasting (DTTB) Training (including Data Broadcasting)	2. Members of Working Groups 3. Project Office for Experts (in both BOCRA and DBS) 4. Project Vehicles: 2 cars 5. Existing BTV's facilities and equipment that can be utilized for Terrestrial Digital Broadcasting 6. All equipment that should be procured during the Implementation Period of the Technical Cooperation Project for migration to ISDB-T	**Preconditions** · Digital migration plan is not excluded from the national development plan.

Project Management/Plan of Operation (PO)

● A planning chart showing a project's activities appearing on the PDM, implementation timing and duration, and inputs.

Month/Year	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Activities								
1-1 Activity A	▨							
1-2 Activity B		▨						
1-3 Activity C		▨▨▨						
2-1 Activity D					▨			
2-2 Activity E							▨	
Inputs								
1-1 Expert A	▨▨▨▨▨▨▨▨							
1-2 Expert B		▨						
1-3 Expert C					▨			
2-1 Training A		▨		▨				
2-2 Training B						▨		

Monitoring Sheet （MS）

PM Form 3-1 Monitoring Sheet Summary

TO CR of JICA •• OFFICE

PROJECT MONITORING SHEET

Project Title :

Version of the Sheet: Ver.•• (Term: Month, Year - Month, Year)

Name:

Title: Chief Advisor

Submission Date:

I. Summary

1   Progress

1-1 Progress of Inputs

1-2 Progress of Activities

1-3 Achievement of Output

1-4 Achievement of the Project Purpose

1-5 Changes of Risks and Actions for Mitigation

1-6 Progress of Actions undertaken by JICA

1-7 Progress of Actions undertaken by GO••

1-8 Progress of Environmental and Social Considerations (if applicable)

1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)

2   Delay of Work Schedule and/or Problems (if any)

2-1 Detail

2-2 Cause

2-3 Action to be taken

2-4 Roles of Responsible Persons/Organization (JICA, GO••,etc.)

3   Modification of the Project Implementation Plan

3-1 PO

3-2 Other modifications on detailed implementation plan

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4   Preparation of GO•• toward after completion of the Project

Project Objectives

1.   Overall Goal
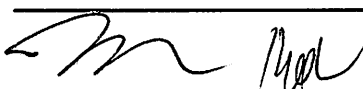
Terrestrial Digital Broadcasting that takes advantage of the features of ISDB-Tis effectively available

2.   Project Purpose

Environment, which allows DBS to implement self-sustainably the terrestrial digital broadcasting that takes advantage of the features of ISDB-T, is ready

3.   Outputs

(1)   Various plans necessary for migration to Digital Broadcasting are developed.

(2)   DBS's capacity of producing programs including HD and Data broadcasting is improved.

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4.   Activities

(1) Relative to Output 1

1-1 To establish Technology and Licensing WG and Public Relations WG

1-2 To prepare ASO plan

1-3 To review Botswana ISDB-T standards

1-4 To review specifications of receivers

1-5 To develop terrestrial broadcasting station licensing criteria

1-6 To develop draft Public Relations Plan for Digital Migration

(2) Relative to Output 2

2-1 To establish Program Production WG, Programming WG, and Data Broadcasting WG

2-2 To develop HD program production capability

2-3 To establish a section that produces Data broadcasting program

2-4 To develop a training system for producing Data broadcasting program

2-5 To develop programming schedule of digital broadcasting, including Data broadcasting, based on the market needs survey

2-6 To plan and produce program linked and non-linked Data broadcasting programs

1-1, 2-1 Establish Working Group (WG)

WG	Objectives	PDM Activities	Member
1 Technology and Licensing WG	Prepare ISDB-T technical standards appropriate to Botswana and promote the smooth digital migration from the technical point of view.	• Prepare ASO plan • Review Botswana ISDB-T Standards • Review specifications of receivers • Develop r terrestrial broadcasting station licensing criteria	MTC,BOCRA DBS
2 Public Relations WG	Expedite the smooth digital migration and promote digital broadcasting	• Prepare ASO plan • Develop draft Public Relations plan	MSP (PMO, subject to its establishment) BOCRA DBS
3 Program Production WG	Improve capacity to produce programmes and develop human resources for the digital migration	• Develop HD program production capability • Develop programing plan of digital broadcasting including data broadcasting, based on the market needs survey	DBS
4 Programming WG	Understand the demand for TV programmes that make use of the advantages of ISDB-T, and examine broadcasting business strategy	• Develop programming plan of digital broadcasting including data broadcasting, based on the market needs survey • Plan program-linked and non-linked data broadcasting	DBS
5 Data Broadcasting WG	Understand the demand for TV programmes that make use of the advantages of ISDB-T, and examine broadcasting business strategy	• Establish a section that produces data broadcasting program • Develop a training system for producing data broadcasting program • Plan and produce program-linked and non-linked data broadcasting	DBS *Members from relevant ministries and agencies are invited as required

1-2 Prepare ASO Plan

Sub Activity	2014 9	10	11	12	2015 1	2	3	4	5	6	7
1 Anlalyzing the result of coverage prediction for main TX sites	▬										
2 Examination on ASO block division	▪										
3 Examination of equipment procurment plan	▪										
4 Examination of outlook for receivers penetration	▬										
5 Discussion on ASO major step	▪										
6 Discussion on ASO criteria		▪									
7 Draft ASO Plan			▬▬								
8 Review draft ASO Plan				▬▬▬▬▬▬▬▬▬							
9 Approval of ASO Plan									▬		
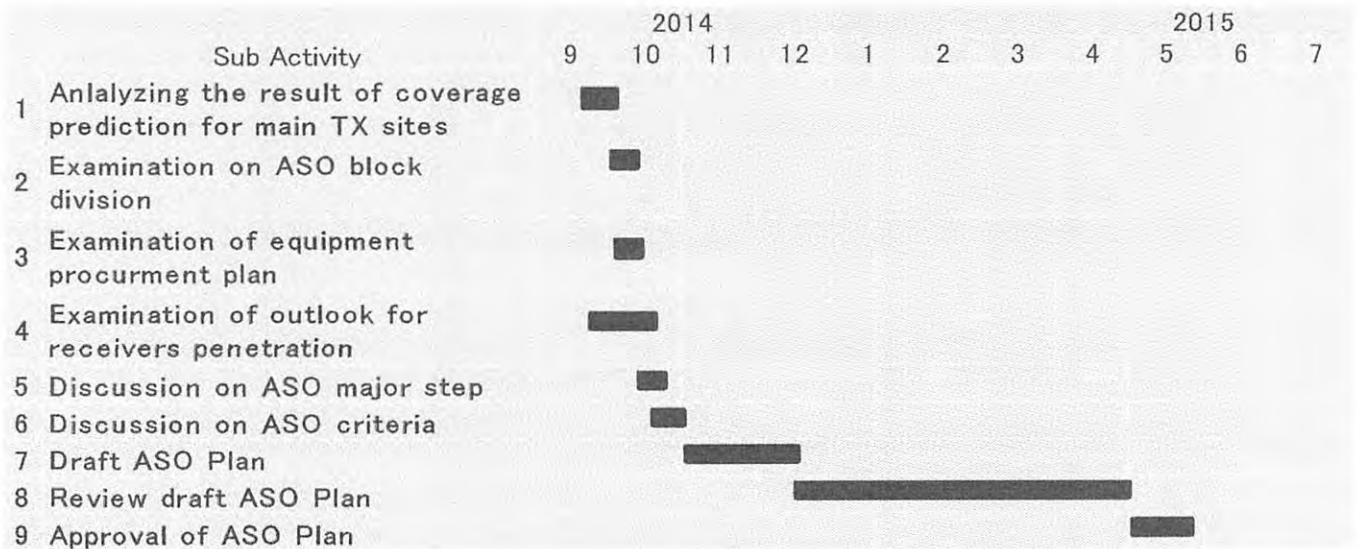
1-3 Review Botswana ISDB-T Standards
1-4 Review Specifications of receivers

Sub Activity	2014 9	10	11	12	2015 1	2	3	4	5	6	7
1 Review Botswana ISDB-T Standards	▬										
2 Approval of Botswana ISDB-T Standards		▬									
3 Review draft specifications of STB			▬▬▬▬▬								
4 Preparation of specificatons of IRD						▬▬▬					
5 Preparation of specifications of ISDB-T receiving function for mobile								▬▬			
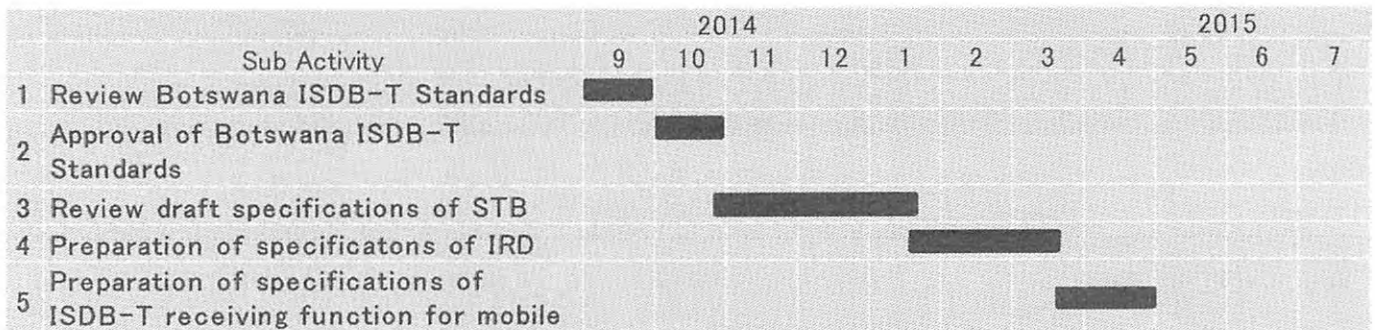
1-5 Develop terrestrial broadcasting station licensing Criteria

Sub Activity	2014				2015						
	9	10	11	12	1	2	3	4	5	6	7
1 Analyzing existing licnse criteria		▬									
2 Examination of license criteris in other country(ies)			▬								
3 Preparation of draft license criteria				▬▬▬							
4 Review draft license criteria					▬▬▬▬▬						

1-6 Develop Draft Public Relations Plan
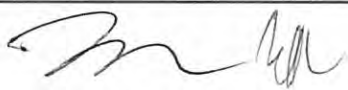
	2014				2015												2016							P/O
	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	
1.Establishment of Public Relations WG																								
· FIX members of WG · Establish WG	→ ▲ JCC																							1.1 To Establish Technology and Licensing WG, Public Relations WG
2.Collect necessary Data																								
· Data collection (TV penetration data, rate of electrification etc...)	→																							1.5.2 Analyze viewers and organization involved
3.Discussion and to Develop draft Public Relations Plan																								
· Data collection and discussion (support the distribution of STBs at village and town level) · To Develop Draft Public Relations Plan		→																						1.5.2 Analyze viewers and organization involved
4.Holding of the first public promotion seminar (Gaborone)																								
· Assumed members: public organizations at village and town level, private companies · Questionnaire research · BTV news				→																				1.5.2 Analyze viewers and organization involved
5.Analysis of collected data																								
· Procedures and analyze				→	···>																			1.5.2 Analyze viewers and organization involved 1.5.3 Improve the draft and propose
6.Improvements and revisions of the public relations plan																								
· Nationwide development organization · Examination of concrete activities taken place · Examination of implementation methods and targets · Examination of Budget · Measurement of the effectiveness of public relation						→	·····························>																	1.5.3 Improve the draft and propose
7.Holding of the second public promotion seminar																								
· Implementation of the second public promotion seminar (Local region)						→																		1.5.4 Establish an organization 1.5.5 Implement Public Relations Plan
8.Holding of the third public promotion seminar																								
· Implementation of the third public promotion seminar (Local region)									→															1.5.4 Establish an organization 1.5.5 Implement Public Relations Plan

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2-2 Develop HD Program Production Capacity

	Sub Activity	2014				2015												2016						
		9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
1	Evaluate Program Production Capability			▬																					
2	Formulate Training Plans and Prepare Training Materials			▬																					
3	Conduct Training (Planning, Research, Production, Evaluation)							▬						▬						▬					

2-3 Establish a section that produces Data Broadcasting Programs

	Sub Activity	2014								2015			
		9	10	11	12	1	2	3	4	5	6	7	8
1	Analyze the structure of DBS and BTV		▬										
2	Examine a new organization chart, roles of each department criteria for recruite new staff			▬									
3	Draft and Approve the plan				▬								

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2-4 Develop a training system for producing Data Broadcasting Programs

	Sub Activity	2014				2015												2016				
		9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1	Analyze the criteria to recruite staff and OJT methods		▮																				
2	Plan Data Broadcasting training system			▮																			
3	Approve				▮																		
4	Prepare training materials						▮																
5	Conduct training, evaluate results and review them								▮▮					▮▮							▮▮		

2-5 Develop programming schedule of digital broadcasting

	Sub Activity	2014				2015												2016				
		9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1	Conduct market survey		▮																				
2	Analyze the result of market survey			▮																			
3	Formulate a draft program schedule						▮																
4	Approve							▮															
5	Broadcast them								▮▮					▮▮							▮▮		
6	Evaluate the result of broadcasting and review									▮					▮							▮	

2-6 Plan and produce program linked and non-linked Data broadcasting

Sub Activity	2014				2015												2016					
	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1 Plan program-linked and non-linked Data broadcasting programs			▬																			
2 Approve			▬																			
3 Prepare template						▬																
4 Produce program non-linked data broadcasting program and approve it								▬														
5 Review plan of program linked Data broadcasting programs and approve it														▬								
6 Produce program linked Data broadcasting programs and broadcast them																				▬		
7 Evaluate the result and propose points of improvement																					▬	

Joint Coordinating Committee (JCC)

- Once in a 6 months
  to check progresses and approve deliverables and make decision on important issues
  and so on

Information Exchange Meeting
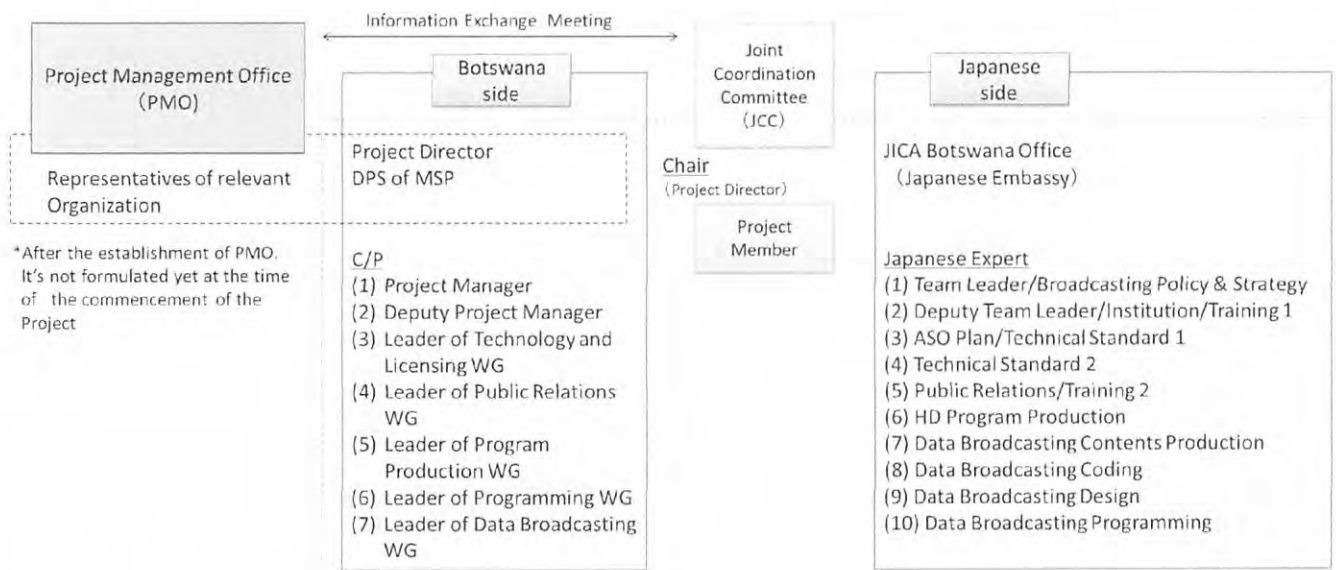
Project Management Office (PMO)	Botswana side	Joint Coordination Committee (JCC)	Japanese side
Representatives of relevant Organization	Project Director DPS of MSP	Chair (Project Director)	JICA Botswana Office (Japanese Embassy)
*After the establishment of PMO. It's not formulated yet at the time of the commencement of the Project	C/P (1) Project Manager (2) Deputy Project Manager (3) Leader of Technology and Licensing WG (4) Leader of Public Relations WG (5) Leader of Program Production WG (6) Leader of Programming WG (7) Leader of Data Broadcasting WG	Project Member	Japanese Expert (1) Team Leader/Broadcasting Policy & Strategy (2) Deputy Team Leader/Institution/Training 1 (3) ASO Plan/Technical Standard 1 (4) Technical Standard 2 (5) Public Relations/Training 2 (6) HD Program Production (7) Data Broadcasting Contents Production (8) Data Broadcasting Coding (9) Data Broadcasting Design (10) Data Broadcasting Programming

* The highest decision making body of JICA Technical Cooperation Project

Japanese Expert

Nr	Expertise	Name	Main Roles and Responsibility
1	Team Leader / Policy & Strategy	Mr. Naoaki NAMBU	• Project Management, JCC meeting • Establish WG, Set Verifiable Indicators
2	Deputy Team Leader / Institution / Training Plan	Mr. Katusya TERABAYASHI	• Support Project Management • Establish section, HD, Data broadcasting training
3	ASO Plan / Technical Standards 1	Mr. Yoshiki MARUYAMA	• Prepare ASO plan • Develop Licensing Criteria
4	Technical Standards 2	Mr. Akira SAITO	• Review technical standards for IDSB-T • Review minimum specifications for receivers
5	Public Relations Plan	Ms. Keiko UCHIUMI	• Prepare ASO roadmap • Review Public Relations Plan and implement it
6	HD Program Production	Ms. Chiaki MATSUMOTO	• Develop capacity to produce HD programs • Prepare training plan
7	Data Broadcasting Contents Production	Mr. Susumu SATO	• Develop capacity to produce Data Broadcasting programs • Prepare training plan, material and system
8	Data Broadcasting Coding	Mr. Toshikazu KOJIMA	• Provide training for coding Data broadcasting programs
9	Data Broadcasting Design	Mr. Fumitaka WATANABE	• Provide training for designing Data broadcasting programs
10	Data Broadcasting Programming	Mr. Yuichiro HOSHI	• Plan and produce Data broadcasting programs • Prepare digital television program schedule

Japanese Expert Dispatch Schedule

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Memorandum of the 2nd JCC meeting

Memorandum

of

the Second Joint Coordinating Committee Meeting

for

the Implementation of the Digital Migration Project

in

the Republic of Botswana

(March 20, 2015)

Mogomotsi Kaboeamodimo	Naoaki Nambu
Deputy Permanent Secretary	Team Leader
Ministry of State President	Implementation of the Digital Migration
Government of Botswana	Project in the Republic of Botswana
	(DiMT Project)

Memorandum of the 2nd Joint Coordinating Committee (JCC) Meeting of the Project for Implementation of the Digital Migration Project in the Republic of Botswana (DiMT Project)

1. Date: 20th March, 2015
2. Time: 08:30-11:40
3. Venue: 216 Conference Room, Department of Broadcasting Services, Mass Media Complex
4. Participants:
   <Botswana side>
   - ■ Ministry of State President
     - ✧ Mr. Mogomotsi Kaboeamodimo, Deputy Permanent Secretary, Ministry of State President, Project Manager

   - ■ Department of Broadcasting Services (DBS)
     - ✧ Ms. Bontle Mogotlhwane, General Manager, BTV
     - ✧ Mr. Zibani R.S. Makali, Acting General Manager Engineering
     - ✧ Mr. Kabo Dikolob, Chief Broadcast Engineer-BTV Studios
     - ✧ Mr. Calvin Goiletswe, Chief Broadcast Engineer, Deputy Project Manager, leader of Technology and Licensing WG
     - ✧ Mr. Solly Nageng, Head of Programmer, leader of HD program production WG
     - ✧ Ms. Lorato Ntuara, Copy Right Administrator, leader of Public relations WG
     - ✧ Ms. Salome Senome, Executive Producer, leader of Data broadcasting WG
     - ✧ Mr. Edson Malebane, Head Channel Controller, leader of Programing WG
     - ✧ Mr. Itummeleng Mmusi, member of Public Relations WG
     - ✧ Mr. Earnest Sgokotlo, HD studio trainee
     - ✧ Mr. Boyboy, Moreetsi, HD studio trainee
     - ✧ Mr. Didibeng Modisenyane, Chief broadcasting engineer-TX
     - ✧ Mr. Joel Thuto, Technical Director in Operations

   - ■ Botswana Communication Regulatory Authority (BOCRA)
     - ✧ Mr. Bathopi Luke, Director Technical Services
     - ✧ Mr. Tebogo Ketshabile, Spectrum management engineer

   <Japanese side>
   - ■ JICA Botswana Office
     - ✧ Mr. Akihiko Hoshino, Residential Representative
     - ✧ Mr. Yasuaki Aihara, Assistant Representative

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■ JICA Expert Team (JET)
  ✧ Mr. Naoaki Nambu, Team Leader/Broadcast Policy & Strategy
  ✧ Mr. Katsuya Terabayashi, Deputy Team Leader/Institution/Training Plan 1
  ✧ Mr. Akira Saito, Technical Standards 2
  ✧ Ms. Keiko Uchiumi, Public Relations Plan/Training Plan2/Coordinator
  ✧ Ms. Chiaki Matsumoto, HD Program Production
  ✧ Mr. Susumu Sato, Data broadcasting Contents Production
  ✧ Ms. Oreneile, M Matsetse, Public Relations/Facilitator
  ✧ Mr. Kabelo, Nkwane, Transmitter Engineer

5. Agenda

Time	Items		Presenter
08:30-08:35	Opening Remarks		DPS
08:35-08:40	Introduction of Participants		
08:40-09:00	Progress Report from each WG	Technology and Licensing WG	Mr. Calvin Goiletswe (Mr. Akira Satio)
09:00-09:20		Public Relations WG	Ms. Lorato Ntuara (Ms. Keiko Uchiumi)
09:20-09:40		HD Program Production WG	Mr. Solly Nageng (Ms. Chiaki Matsumoto)
09:40-10:00		Programing WG	Mr. Edson Malebane (Mr. Masatoshi Sano)
10:00-10:20		Data Broadcasting WG	Ms. Salome Senome (Mr. Susumu Sato)
10:20-10:40	HD studio training in Japan		Mr. Ernest Segokotlo (Ms. Keiko Uchiumi)
10:40-11:00	BOCRA		Mr. Bathopi Luke
11:00-11:10	Tea Break		
11:10-11:30	Review of Activities and PDM indicator		DiMT Project (Mr. Katsuya Terabayashi)
11:30-11:35	AOB		
11:35-11:40	Closing Remarks		DPS

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I. Discussion Note in the Second JCC Meeting

1. Opening Remarks

Mr. Kaboeamodimo welcomed Mr. Hoshino, JICA Botswana office and Mr. Nambu, Team Leader, and the working group leaders to the 2nd JCC meeting which is held every 6 months to gauge the progress of the Project for Implementation of Digital Migration Project in Botswana.

He informed that one of the features of this Digital Migration is a Project Management Office (PMO) whose functions occur from the office of the state president headed by himself as the overseer of the implementation of the whole project. He further extended that he is hoping that the reports will bear good progress and solve any bottlenecks which may have been encountered so far.

Mr. Nambu expressed his gratitude towards the 2nd JCC meeting and informed that he is pleased to see that most of the activities are proceeding well. He proposed to the Botswana Counterparts that the PDM can be changed to be more suitable to implementation and management of the project in every JCC meeting.

2. Presentations (Progress Report)

The following presentations were made in the 2nd JCC meeting. The materials of the presentations are attached. (See Annex 1 to 7). The summaries and agendas to be concerned raised in each presentation are noted in this memorandum.

(1) Technology and Licensing WG, Mr. Calvin Goiletswe, DBS

It was explained that the installation of transmitters will be conducted according to four clusters set by DBS. Digital broadcasting will be available from the site that has completed the installation works. ASO schedule has been tentatively set in March, 2016. ASO criteria have been introduced which uses the population coverage of digital broadcasting and penetration of digital receiver as indicators.

- It was confirmed whether the interference exists from neighboring countries like Zambia, Zimbabwe and South Africa. According to BOCRA, there is no interference anticipated. After the commencement of digital broadcasting, the interference will be confirmed again.
- The question was raised as to whether there is a fixed date in which the set top boxes are expected to be on the market.
  With regard to the policy concerning the set top boxes, the cabinet information note will dictate it. The availability of the set top boxes in the market is not known. JET was requested to provide advice on this issue.

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- The DPS advised that we have to have set target dates to show when each activity is supposed to happen such as the start of delivery of equipment, installation and digital broadcasting, and the termination of analogue broadcasting.

  The installation schedule of transmitters and available date of digital broadcasting will be communicated once it has been fixed.

- The question was raised as to how far we are with the completion of the minimum specifications of the standards. Set top box technical specification was publicized by BOCRA. Some of the information included in the technical specification does not match with ISDB-T Standards of Botswana and BOCRA is aware of it and under examination.

- Issue of why Botswana chooses ISDB-T standard is always recurring. We need to move away from that and focus more on taking advantage of the features of the standard that we have chosen.

(2) Public Relations WG, Ms. Lorato Ntuara, DBS

The progress has been reported on the mall event and TV, the Radio and Daily news adverts. The demarcation has been discussed between the local consultant companies of public education on the migration by the tender project and JICA project.

- The question was raised whether there is a fixed time of the completing of the tender project. The tender processes should be speeded up to kick start the overdue public education.

- Biggest issue is people are requesting for set top boxes and how they can be attained. The issue was raised during the mall demonstrations as to how we are addressing the question of when the set top boxes will be available and its price.

  The following information should be consistent when communicate with the public, availability of receivers, the likely cost of receivers and when and where those can be purchased. In order to be consistent, a frequently asked question list and exemplary answers should be prepared.

- During these demonstrations, information going out to the public should be handled by the leader of the events to ensure consistency in information disseminations.

- Media briefing will be on the 31st March 2015.

  The preparation meeting will be held on 23rd March, Monday from AM 9:00.

(3) HD Program Production, Mr. Solly Nageng, BTV

It was explained that at the first training period, digital migration is taken up to produce feature news which also is used as a tool for public relations activity. During

4

the second training period, edutainment program that takes advantage of HD format will be produced to promote HD programs. In the final training period, football game will be produced that takes advantage of HD format and Data broadcasting.

- Film industries who are our stakeholders can also be engaged to assist with content production.

(4) Programing WG, Mr. Edson Malebane, BTV

The objective of the market survey was introduced. The market survey has been conducted and scheduled with public relations activities on 13th, 14th and 20th and 21st March in popular shopping malls. The questionnaire was mainly aimed at producing program schedule for digital broadcasting. The result of the market survey has been presented.

- The Public Relations group needs to continually send out information that proper condition of the receiving system is a requirement for the public to access features of the terrestrial TV/ data casting i.e. equipment that one needs for this migration.
- In the market survey questionnaire, we should rephrase our question so that it doesn't give the impression that this migration is about Multichoice (satellite)
- Data broadcasting or normal television programming in the questionnaire should be clear so that it does not confuse people.
- The market survey should be more extended to remote areas where people watch terrestrial television to get a reflection of people who watch solely terrestrial TV.

(5) Data Broadcasting WG, Ms. Salome Sanome

The section to produce Data broadcasting has been presented. The number of staff members and their professions has been introduced. Where the section is situated in the current organizational structure is not fixed yet. Given the fact that the government is downsizing its operation, the members are suggested to be filled from the current DBS staff members.

- Manpower issue to be able to carry out all these tasks. However, people will be reassigned to work with whatever is available. Given the government is downsizing the operation, the necessary staff members are likely to be reallocated from the existing sections.

5

(6) HD Studio Training in Japan, Mr. Ernest Segokotlo

What has been learnt during the HD studio training in Japan was presented. In house training for sharing the results of the training will be organized.

- HD training that took place in Japan is very important such that participants who took part in it need to arrange for knowledge sharing and skills transfer to the rest of the BTV or technical staff.
- DPS has requested that HD training should not be provided only to technical operators and engineers but it should be open to directors and producers too.

(7) BOCRA

BOCRA presented on the following points; frequency coordination, development of technical specifications for broadcasting equipment, development of digital terrestrial television licensing framework, licensing of commercial broadcasters, public awareness campaigns and establishment of local content production fund.

3. Approval of PDM Modifications

(1) Review of Activities and PDM indicators, Mr. Katsuya Terabayashi

The proposal was made in the presentation on PDM indicators and some modifications in the Version 1 of PDM through the review of the activities. The Botswana side agreed on those figures of PDM indicators and modifications necessary to smoothly implement the rest of activities. The PDM version 2 has been approved for the rest of the project period.

- Very important plan which can cater for improving content production skills
- Very good indicators that will help working groups monitor their progress.
- The presentation should be compiled with the review of the activities so that Cabinet ministers can appreciate hence facilitating big decisions that have to be taken regarding the project.
- CMS has been removed so the question was raised as to whether there is any complimentary arrangement. The production engineering will be added as one of the professions of Japanese expert.
- During the formulation of the PR plan, we could not cover all the activities by the experts given the short time for the project implementation of 2 years.
- Important for all the groups in the next assignment to commit to some indicative timelines for the activities so that when we sit again for progression assessment in the next meeting, we refer to timelines.
- The figures that we have for 56.8% is constituted by people on satellite hence we

have to advertise this as much as possible to ensure people move to terrestrial.

- The role of monitoring sheet has been reminded and the contents of monitoring sheet version 2 has been confirmed as per the Annex-8.

7

Project Name: Implementation of the Digital Migration Project
Period of Implementation: September 2014 to August 2016   **Target Group: Staff of DBS, BOCRA and other concerned with Implementation of the Digital Migration**
Target Area: The Entire Country of Botswana   **Date: 20th Mar. 2015**
Implementing Agency: Department of Broadcasting Services (DBS), Ministry of State President   **Version. 2**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
Terrestrial digital broadcasting that takes advantage of the features of Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) is effectively available.	1. Terrestrial digital broadcasting service area covers 65% or more of Botswana (the target in NDP10). 2. 3 or more number of programs that linked with the data broadcasting contents are produced per year. 3. 20 or more number of High Definition (HD) programs are produced per year.	1. Radio Wave Measurement 2. Broadcasting Program Schedule 3. Broadcasting Program Schedule	
Project Purpose			
Environment, which allows DBS to implement self-sustainably the terrestrial digital broadcasting that takes advantage of the features of ISDB-T, is ready.	1. 34% or more customers recognize the terrestrial data broadcasting of Botswana Television (BTV). 2. Facilities and human resources planned as necessary for producing and broadcasting HD programs based on ISDB-T data broadcasting are developed.	1. Customer Sample Survey 2. Project Progress Report	·Developments of DTTB network and related equipment are executed as planned. ·Developments of HD studio systems are executed as planned. · ISDB-T receivers are penetrated to households as planned.
Outputs			
1. Various plans necessary for migration to digital broadcasting are developed. 2. DBS's capacity of producing programs including High Definition (HD) and data broadcasting is improved.	1-1. Analogue Switch Off (ASO) Plan is developed. 1-2. Botswana ISDB-T Standards is developed. 1-3. Specifications of receivers is prepared. 1-4. Terrestrial broadcasting station licensing criteria are developed. 1-5. Draft Public Relations Plan is developed. 2-1. Sections that handle data broadcasting are established in BTV. 2-2. HD Program Production Manual is developed. 2-3. A training system for producing data broadcasting program is established. 2-4. Program-linked and non-linked data are broadcasted.	1-1 ASO Plan 1-2. Botswana ISDB-T Standards 1-3. Specifications of receivers 1-4. Terrestrial broadcasting station licensing criteria 1-5. Draft Public Relations Plan 2-1. BTV Organization Chart 2-2. HD Program Production Manual 2-3. Training plan for data broadcasting program 2-4. Broadcasting Program Schedule	· Various approval process by the concerned organizations are not delayed. · Staff received trainings does not resign DBS.
Activities		**Inputs**	
1. Relative to various plans for digital migration 1-1 To establish Technology and Licensing Working Group, Public Relations Working Group 1-2 To prepare ASO plan 1-3 To review Botswana ISDB-T Standards 1-4 To review specifications of receivers 1-5 To review terrestrial broadcasting station licensing criteria 1-6 To develop Draft Public Relations Plan for Digital Migration 1-7 To conduct public relations activities in accordance with the Draft Public Relations Plan	**Japanese Side** 1. JICA Experts (1) Team Leader/Policy & Strategy (2) Institution/Training Plan 1 (3) ASO Plan/Technical Standards 1 (4) Technical Standards 2 (5) Public Relations Plan/Training Plan 2 (6) HD Program Production (7) Data Broadcasting Contents Production (8) Data Broadcasting Coding (9) Data Broadcasting Design (10) Data Broadcasting Programming (11) Production Engineering	**Botswana Side** 1. C/P Personnel (1) Project Manager (2) Deputy Project Manager (3) Leader of Technology and Licensing Working Group (WG) (4) Leader of Public Relations WG (5) Leader of Program Production WG (6) Leader of Programming WG (7) Leader of Data Broadcasting WG	· C/P personnel continue to work on the Project. · Staff received trainings does not resign DBS.
2. Relative to DBS's capacity of producing programs 2-1 To establish Program Production Working Group, Programming Working Group and Data Broadcasting Working Group 2-2 To develop HD program production capability 2-3 To establish a section that produce data broadcasting program 2-4 To develop a training system for producing data broadcasting program 2-5 To develop programming plan of digital broadcasting, including data broadcasting, based on the market needs survey 2-6 To plan and produce program-linked and non-linked data broadcasting	~~2. Equipment~~ ~~· ·Data-Broadcasting-Contents-Management-System: 1 set~~ 2. Training in Japan · HD Studio Operations (Camera, Lighting, Audio, Video Engineer) · Digital Terrestrial Television Broadcasting (DTTB) Training (including Data Broadcasting)	2. Members of Working Groups 3. Project Office for Experts (in both BOCRA and DBS) 4. Project Vehicles: 2 cars 5. Existing BTV's facilities and equipment that can be utilized for Terrestrial Digital Broadcasting 6. All equipment that should be procured during the Implementation Period of the Technical Cooperation Project for migration to ISDB-T	**Preconditions** · Digital migration plan is not excluded from the national development plan.

~~·Procurement of CMS will be determined late~~

4. **AOB**

- Highly fundamental for working group leaders to meet amongst them for updates about latest information and development with other groups. The DPS suggested that he will incorporate their meeting in the weekly Wednesday meeting.

- Meeting on Monday at AM 9:00 with the assigned team to prepare for the media briefing.

- BOCARA has invited DBS/ DiMT team to join in their annual event in Ghanzi in May, something that will help in the market survey and also disseminations of information.

- Leaders of the working groups should get together and package information pack for frequently asked question to ensure uniformity of information to the public.

- Highly imperative to establish a call centre here at DBS to complement the activities taking place on the field.

- The following points were suggested by the team leader of JET.

  - ➤ To accelerate public awareness by the public relations plan, it is important to list up necessary activities and allocate appropriate budget, harmonize efforts made by each WG, mount an effort to promote receivers to each household for early ASO and establish a call centre to support the viewer.

  - ➤ To know the public demands for the programs of BTV, the market survey should be continued by targeting different groups and areas and BTV prepares draft programing schedule which takes target audience, air time and style of programs into consideration and take challenge to develop new style of programs.

  - ➤ To procure necessary equipment and facilities, it is recommended that BTV prepare the concepts of design for upgrading, make milestone of upgrading of the systems and facilities for adapting HD, and allocate the budget for the upgrading.

5. **Closing Remarks**

The DPS thanked JICA and other stakeholders for the insightful and fruitful the 2nd JCC meeting which is indicative that there is progress on the project. He informed the forum that for the entire stay of the experts, the working groups will maximize their expertise and use them where possible to make this project a success. Mr. Kaboeamodimo congratulated the good work this far by the working groups and encouraged them to work hard so that in the next JCC meeting, there is much more progress with the project. He concluded by encouraging the leaders to proceedings of the meeting with other group members to achieve inclusiveness as much as possible.

<Attachments>

Annex-1: Presentation Material by Technology and Licensing WG

Annex-2: Presentation Material by Public Relations WG

Annex-3: Presentation Material by HD program production WG

Annex-4: Presentation Material by Programing WG

Annex-5: Presentation Material by Data broadcasting WG

Annex-6: Presentation Material by HD studio training in Japan

Annex-7: Presentation Material of Review of Activities and PDM indicator

Annex-8: Monitoring Sheet Version 2

Technology and Licensing WG

Implementation of the Digital Migration Project
in
Republic of Botswana

2nd JCC meeting

20th March, 2015

JICA Technical Cooperation Project

Content

1. To prepare ASO Plan
2. To review ISDB-T Standards of Botswana
3. To review specifications for receivers
4. To prepare terrestrial broadcasting station licensing criteria

1. To prepare ASO plan

- DBS divided 45 transmitting stations into 4 clusters and installation and construction works will be conducted from **Cluster 1 to 4** by four teams by the Supplier.

- DSO will start from the transmitting stations that completed construction and installation works.

- Though the draft ASO plan has been presented in Technology and Licensing WG, the detail has not been discussed yet(note). The tentative target of ASO is March, 2016 which accords with the end of public education awareness activities by the tender project.

  Note

  The target of ASO has not been fixed mainly because of the following reasons.

  – There is no commercially available receivers in the market.
  – There is no policy on the provisions of STB.
  – The service coverage is not confirmed yet.

1-1 Implementation Schedule
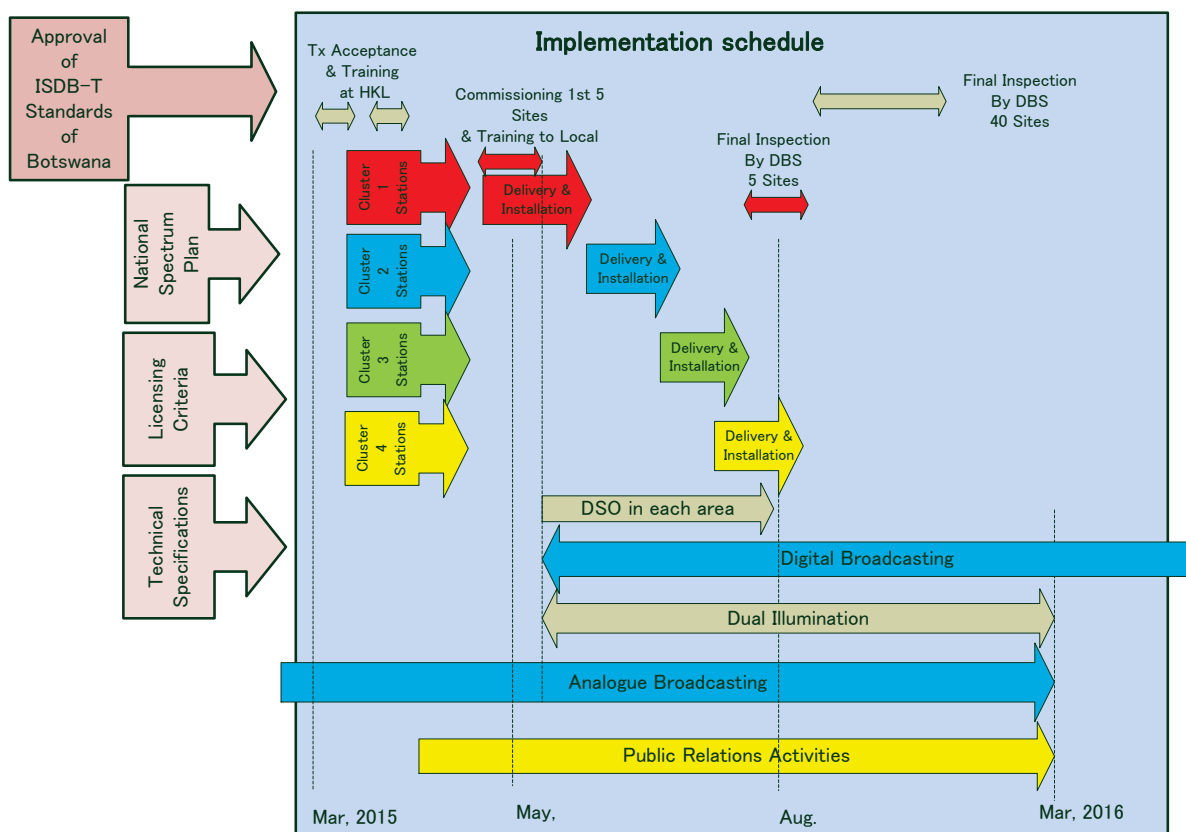
1-2 Transmitter installation clusters

No	Installation Sites Cluster 1	Digital Power (Watts)	Ch
1	Sesung	750	41
2	Oliphant's Drift	125	37
3	Mahalapye	500	31
4	Serowe	500	46
5	Mmashoro	500	30
6	Francistown	500	44
7	Kasane	125	36
8	Maun	125	44
9	Ghanzi	500	25
10	Mabutsane	750	24
11	Tshabong	250	37
12	Senyamadi	500	45
13	Lobatse	500	47
14	Kanye	125	43
15	Selebi-Phikwe	1200	39
16	Gabane	2500	24

No	Installation Sites Cluster 2	Digital Power (Watts)	Ch
1	Sojwe	500	25
2	Tshootsha	250	38
3	Ncojane	250	30
4	Hukuntsi	500	33
5	Werda	250	31
6	Middlepits	125	47
7	Bokspits	125	29
8	Mabule	125	33
9	New Xade	250	45
10	Kang	500	48
11	Charleshill	500	35

No	Installation Sites Cluster 3	Digital Power (Watts)	Ch
1	Chadibe	500	44
2	Maope	500	28
3	Molalatau	250	21
4	Letlhakane	500	39
5	Mopipi	500	23
6	Motopi	500	
7	Sekakangwe	500	22
8	Maitengwe	125	35
9	Semowane (sowa junction)	250	28
10	Pandamatenga	125	38

No	Installation Sites Cluster 4	Digital Power (Watts)	Ch
1	Matsitama	500	33
2	Gweta	500	24
3	Mabele	125	26
4	Sehithwa	250	26
5	Gumare	250	28
6	Sepupa	750	25
7	Ntsweseolo	250	33
8	Sebele	1250	24

1-3 Transmitter Sites Map

NOTE: Red site shows VHF in Analogue

1-4 ASO Criteria

It is necessary to prepare ASO criteria by which the judgments to conduct ASO is made.

The coverage area of digital transmitter network and the penetration of receiver will be an indicator for ASO criteria.

1. Service Coverage : **90%** of analogue service area
2. Penetration of Receiver :**85%** of household

If each area covered by each transmitter satisfies this criteria, ASO can be realized.

2. To review ISDB-T Standards of Botswana

- Technology and Licensing WG in DiMT Project conducted discussions on ISDB-T Standards of Botswana from the beginning of the Project for almost two months based on the document made by DiBEG TF.

- With regard to EWBS, DiMT worked hand in hand with NDMO to develop the Area Code Table.

- The document has been officially **submitted to BOCRA on 3rd Dec, 2014** for its approval.

- BOCRA informed to JET that they divided the document into three parts, 1. Main body, 2. Appendix-1 Operational Guideline, 3. Appendix-2 Development of ISDB-T Standards of Botswana to be approved in BOCRA

- ISDB-T Standards of Botswana was examined in the Regulatory Committee in BOCRA on **2nd Feb**, and forwarded to the Board meeting for its approval.

- The document was **approved on 10th March** in the BOCRA's board meeting. The document will be available on their website in one week.

3. To review specifications for receivers

- The Specification for receiver involve three types of receivers such as STB, IRD and Portable/Mobile.

- Those specification documents will be mainly used for type approval.

- Technical specification for STB that has been discussed in the WG has been **submitted** with ISDB-T Standards of Botswana on **3rd December**.

- Before the submission, BOCRA had already approved technical specifications for STB by going though the public consultation on November 2014 and it was made to conform to all standards as a generic specifications.

- Draft IRD technical specification, Portable/Mobile technical specification that conform to ISDB-T Standards of Botswana has been communicated with BOCRA on 9th February to be given feedback and comments. Those comment are waited.

- With regard to IRD technical specification, comments are waited from TF too. In particular, it was raised by a Japanese manufacture that EMC of CISPR24 is considered to be strict for television technical specification.

Parameters of STB technical specifications that does not match with ISDB-T Standards

Page	Item	JET corrections	BOCRA Version (Nov, 2014)
4	4 Auto Search	**Auto Search**	Auto/Manual Search
	4 Auto Search	**The unit will perform an automatic search for channels**	The unit will perform an automatic search for channels or can be selected manually
5	9 Input signal	**0dBm to -78.4dBm**	-35dBm to -85dBm
	12 Guard Intervals	**1/4, 1/8, 1/16, 1/32**	1/4, 1/8, 1/16, 1/32, 1/64, 19/128, 19/256
	13 Channel/Noise Ratio	**5dB(QPSK1/2) to 23dB (64QAM 7/8)**	3dB(QPSK1/2) to 24dB (256QAM 5/6)
	14 Interleaving	**Bit, Time, Frequency, Byte**	Bit+Cell+Time+Frame
	15 Video decoding	**MPEG-4 (H.264)**	MPEG-2 and MPEG-4 (H.264)
6	II. Decoding and Outputs		manually is added with approved processes and acceptable to
11	XII. Input signal	**Same as 9. Input signal**	
	XIII. Subtitles	**The STB shall be able to display subtitling in reference to ARIB STD-B24 (last sentence)**	The STB shall be able to display Subtitling in reference to ETSI 300 706
	XIV. C/N Range (Rice Range)	**Same as 13. Channel/Noise Raito**	
12	Frequency off set	**(Not required)**	Frequency off set added

4. To prepare terrestrial broadcasting licensing criteria

- BOCRA issued consultation paper on licensing framework and collected comments by 23rd January 2015.

- Workshop on the consultation paper has been conducted on 3rd Feb, 2015.

- The licensing framework for the commercial broadcasting stations are currently under development.

• Thank you.

• Arigato gosaimas

• Ke a leboga
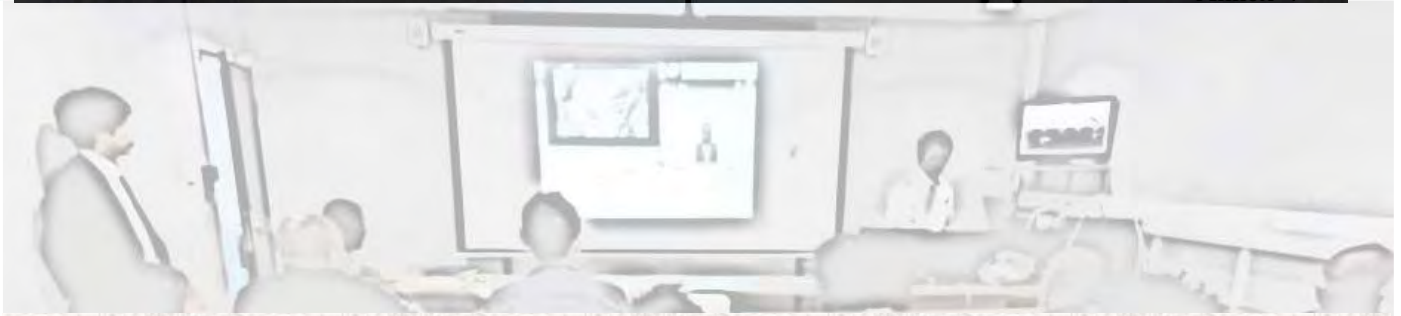
PR Working Group

Second Joint Coordinating Committee

March, 2015

JICA Technical Cooperation Project

Content

1. DiMT Activities
2. Framework of Public Relations Activity
3. Progress
4. Additional PR activities (Pilot)
5. Responsibility

1. DiMT Activities

1. Establishment of Public Relations WG

2. Collect necessary data

3. Discussion and to develop Public Relations Plan

4. Holding of the first public promotion seminar (Gaborone)

5. Analysis of collect data

6. Improvements and revisions of the public relations plan

7. Holding of the second public promotion seminar

8. Holding of the third public relation seminar

2. Framework of Public Relations Activity

Public Relations Plan → supported by JET

feedback

PR Activities:
1. Information provision
   - Events activities, web site, TV program, media briefing, etc.
2. Campaign
   - Seminars, workshops, mascot competitions, etc.
3. STB Distribution
   - Demonstration, distribution plan, etc
4. Viewers provision
   - Call Centre, plan for poor reception areas, receivers installation assistance, etc.

supported by JET as pilot activities

carried out by the local consultant

<tentative target completion date>
The activities are conducted by 1 year after ASO.

3. Progress - 1

Draft contents of public relations plan

Preface

1. Background

2. Objectives

3. The Basic Concept of Public Relations Plan

4. Category of Activities

5. Action of Activities

6. STB Distribution Plan

7. Budget

8. Timeline and Validity

9. Indicator

10. Public Relations after ASO (Analogue Switch Off)

3. Progress – 2

PR promotional materials procured for pilot seminars

100 T-shirt

3 Banners

200 pens

200 Posters

200 Flyers

4. Additional PR activities (Pilot)

- Promotions on TV, Radio and daily news ongoing
- Internal education for DBS/DIS has already been done on 12/03/15
- Mall demonstrations have started –Airport Junction 13/14 & Main mall 20/21
- We meet and evaluate our progress every Thursday

1. Internal Education for DBS, BTV

2. Promotion on Daily News

3. Mall Demonstration

5. Responsibility

Activities	DiMT Project	Local consultant hired by DBS
Development draft Public Relations Plan	O	
TV Advert (Initial)	O	
TV Advert (Others)		O
Radio Advert (Initial)	O	
Radio Advert (Others)		O
Media Briefing (24th Mar.)	O	
Promotional Materials (Initial)	O	
Promotional Materials (Others)		O
Seminar in Gaborone (16th Apr.)	O	
Seminar in Francistown (7th May)	O	
Collaboration other events	O (Ghanzi)	(TBD)
Seminar in Maun (TBD)	O	
Seminar (Others)		O
Modification of Draft Public Relations Plan	△	O

A-4-104

Thank you for your attention!

A-4-104

BOTSWANA TELEVISION

HIGH DEFINITION PRORGAM PRODUCTION WORKING GROUP

JICA
DIGITAL MIGRATION PROJECT
20th March 2015

WG MEMBERS

	Name	Position
1	Solly Nageng	Head of programmers
2	Linet Habana	Asstant Commissioning Editor
3	Gaamangwe Mathame	Programme Producer
4	Gail Kgomotso	Programme Producer
5	Ontlametse Gaothuse	Videographer
6	Kefilwe Mokgaotsane	Reporter - News and Current affairs
7	Audrey Bonang	Content Acquisition
8	Ponatshego Ponatshego	Graphic Designer
9	Dintle Gaolebale	Studio Director (Operations)
10	Ernest Segokotlo	Engineer

PURPOSE OF WORKING GROUP ACTIVITY

❑ Enhance and improve skills and knowledge of BTV staff in HD format program production

  ✓ On the job training (OJT)

  ✓ Produce programs to broadcast

❑ HD Studio Operation Training (Technical) was executed in Tokyo, Japan in February, 2015

PLAN and GOAL

❑ Produce three programs and broadcast
  1. Informational Feature News
  2. Edutainment Program
  3. Live Football with Data Broadcasting

❑ Coordinating and collaborating with Public Relations, Programming, and Data Broadcasting WG to improve quality of production and programs at BTV

INFORMATIONAL FEATURES

❑ First Project – **Informational news features**

    ✓ In three parts

    ✓ To provide information about digital migration

    ✓ Spread the news of BTV becoming "DIGITAL" and promote the digital TV broadcasting

❑ 5 minutes Duration

❑ Currently in production

❑ Collaboration production of HD Program Production, Programming, and PR WG

EDUTAINMENT PROGRAM

❑ The 2nd Project - **Edutainment**

❑ Pre-production including research and gathering information have started in February and currently in progress

❑ Production (shooting) to start before the scheduled August

❑ Possibly produce 2 programs

    1. 60 minutes program

    2. Series of 3-5 minutes short programs for several re-broadcast

❑ Consultation with the Department of Forestry and Range Resources and JICA project team

DBS
Department of
BROADCASTING SERVICES

PURPOSE AND CONTENT OF EDUTAINMENT PROGRAM

❑ Program for a whole family

❑ Create awareness of FOREST, one of the important natural resource of Botswana for daily life of people and wild animals

❑ Capture beautiful nature and landscapes Botswana, using the feature of the HD technology

❑ Educate people about importance and necessity to protect forest by introducing several projects and activities by Department of Forestry and Range Resources (DFRR)

LIVE FOOTBALL

❑Collaboration production of HD program production, Data Broadcasting WG and Sports section

❑Football game on a wider screen and more information

❑Use of HD cameras will be able to show more activities on the screen

❑Data broadcasting will be able to enrich the content of the game; providing much more information to the viewers and making the program more enjoyable

CURRENT PRODUCTION

❑ Feature 1 - Broadcast during the 1st week of April

  ✓ Digital migration, what is it? – The history of the concept of migration and why Botswana opted for ISDBT

❑ Feature 2 - Broadcast during the 1st week of May

  ✓ How much do we know? Awareness – Progress being made towards the launch date

❑ Feature 3 - Broadcast during the 1st week of June

  ✓ The Countdown – Last minute preparations and update

PRODUCTION MATERIALS

❑ Since there is no manuals how to produce programs at BTV, JICA expert provides materials to the members for reference

❑ Blank and examples of

  ✓ Program proposal sheet

  ✓ Shot list

  ✓ Shooting schedule

  ✓ News Check List

  have been introduced to help staff to organize production

TENTATIVE PLAN

Year											2014	
Month	---→ Planning										November	December
Overall Pre-production	---→ News Production: Pre-production to Post-production										---→	
Year	2015											
Month	January	February	March	April	May	June	July	August	September	October	November	December
Overall Pre-production			---→ Pre-production					---→ ---→ Pre-production				
Year	2016											
Month	January	February	March	April	May	June	---→ Educational Program Production					
Overall Pre-production			---→				---→ Data Program Production					

Joint Meeting with Data Broadcasting WG on 11.03.15

WG crew interview public at Digitalization PR Event in Airport Junction on 13.03.15

WG film crew shooting at Digitalization PR Event in Airport Junction on 14.03.15

THE END

A-4-112

THANK YOU
FOR YOUR ATTENTION

DIGITAL MIGRATION

PROGRAM SCHEDULE

DBS
Department of
BROADCASTING SERVICES

Btv

QUALITY RADIO AND TELEVISION

Mandate

- To gather information from the public that will help draw broadcast schedule.

- Information provided to guide in terms of genres, local vs. International content as well as data casting.

- Information to indicate readiness of the nation to migrate

SURVEYS

- Mini survey was done on mass media staff on 12/03/15
- 18 Staff members filled the questionnaire
- Surveys for public done on 13/03/15 and 14/03/15
- Over 500 people visited the demonstration side
- 276 people filled the questionnaire

DBS *Btv*

QUALITY RADIO AND TELEVISION

QUESTIONARE

Questionnaire After Demonstration (Airport Junction)

1. Gender

Male ☐   Female ☐

2. Age group

Below 16 ☐   16 – 25 ☐   26 – 40 ☐   40 – 60 ☐   Above 60 ☐

3. Where do you live?

_____

4. How often do you watch Botswana television?

Very Often ☐   Sometimes ☐   Never ☐

5. What time do you usually watch Botswana Television?

Morning ☐   Day ☐   Evening ☐   Night ☐

6. What is your favorite show on BTV?

DBS *Btv*

QUALITY RADIO AND TELEVISION

Questionare

1. *Which new program do you want to* _____

2. *Do you use Internet at home?*

   Yes ☐   No ☐   Reasons : _____

3. *Which do you prefer?*

   Local Content ☐   Internationally Popular Content ☐

4. *Do you watch television (BTV) by Satellite or Terrestrial?*

   Satellite(Multi Choice) ☐   Terrestrial ☐

5. *Was it easy to understand what data broadcasting is?*

   Yes ☐   Not really ☐   No ☐

6. *How was the layout & arrangement of the information?*

   Good ☐   Just OK ☐   Bad ☐

Questionare

1. *Was it easy to operate?*

   Yes ☐   Not really ☐   No ☐

2. *Will you use the service once it has started?*

   Yes ☐   No ☐   Reasons : _____

3. *What information would you like to see on data broadcasting?*

   Sports ☐ Drama ☐ Music ☐ Movie ☐ News ☐ Weather ☐

   Program Schedule ☐   Other: _____

4. *Which shows would you like to have linked to data broadcasting?*

   News ☐ Sports ☐ itshireletse ☐ Silent Shout ☐ The Eye ☐ Movies ☐

   Other:_____

5. *What genre of television would you like to see on mobile television?*

   Sports ☐ Drama ☐ Music ☐ Movie ☐ News ☐ Weather ☐

   Other: _____

6. *What improvements do you think can be made to the demonstration?*

Results of Survey
Age Group
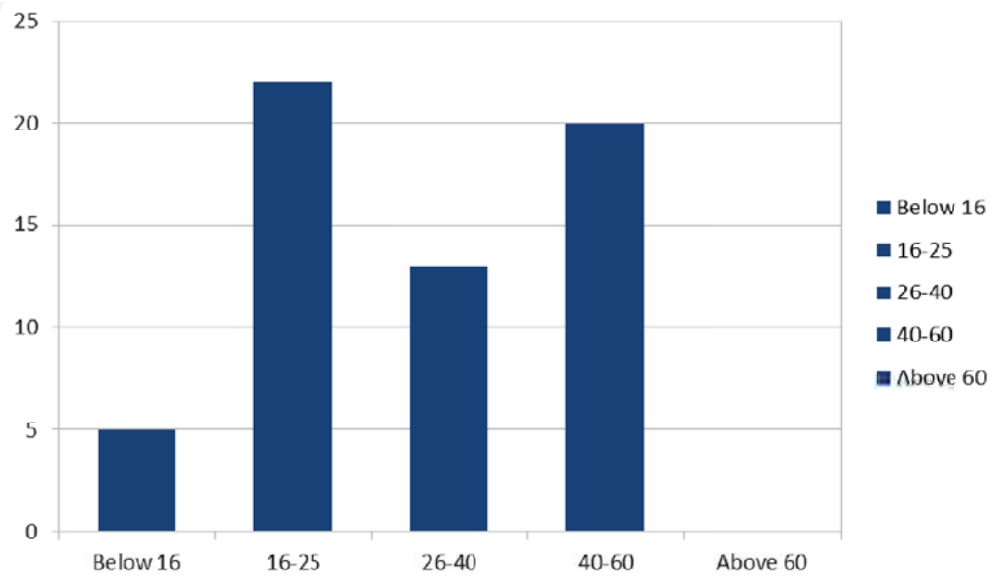
QUALITY RADIO AND TELEVISION

Transmission Mode
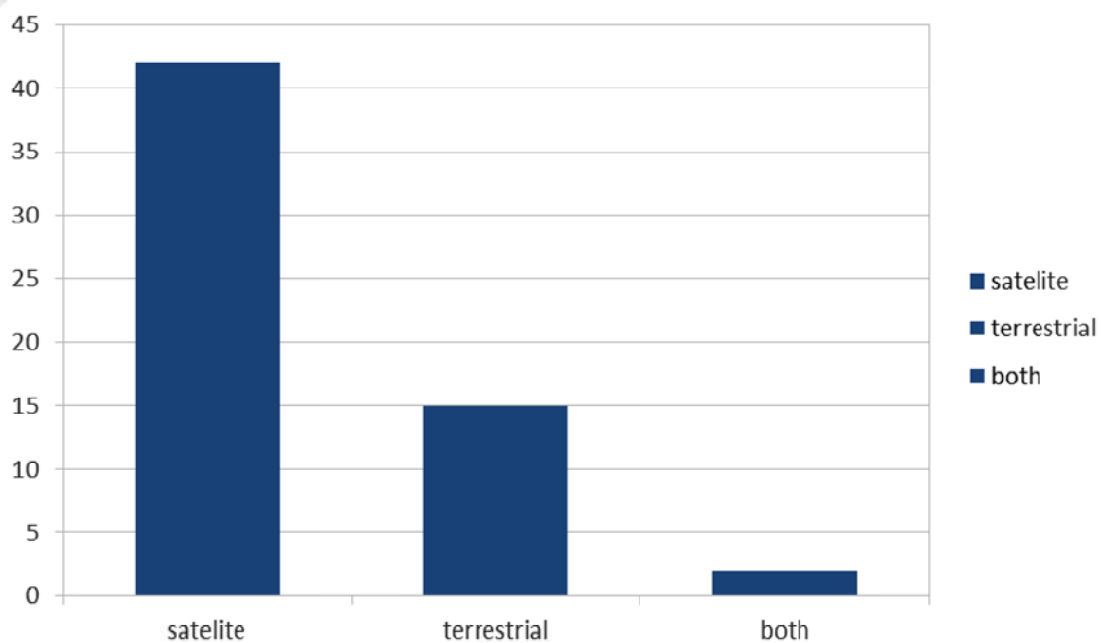
Migration Pattern
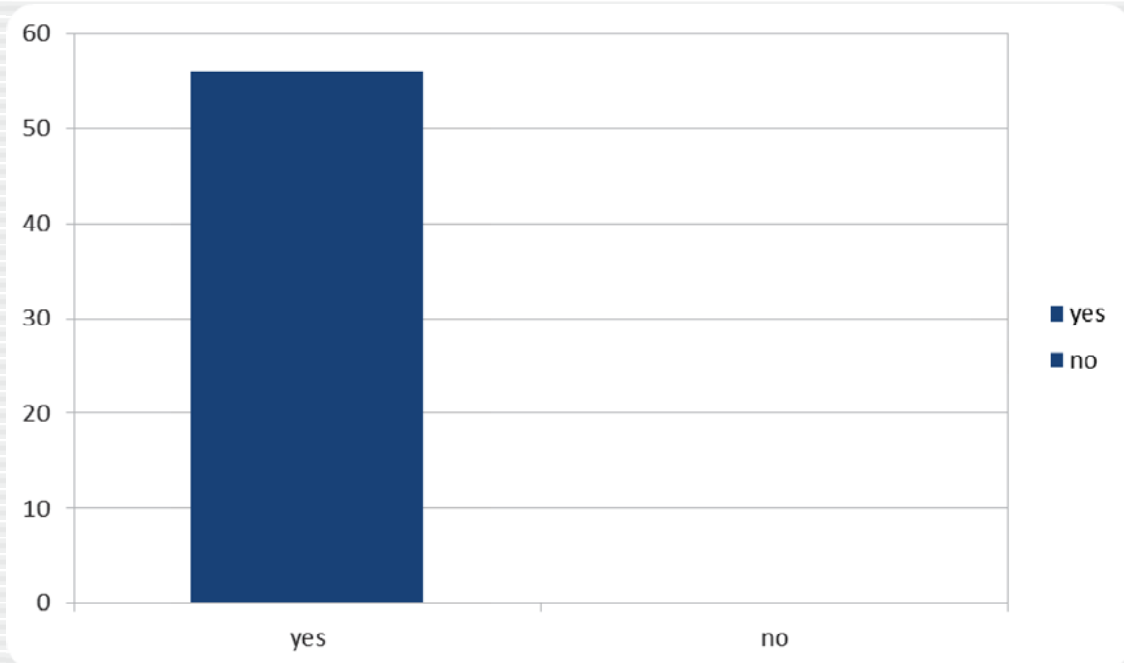
CONTENT PREFERANCE
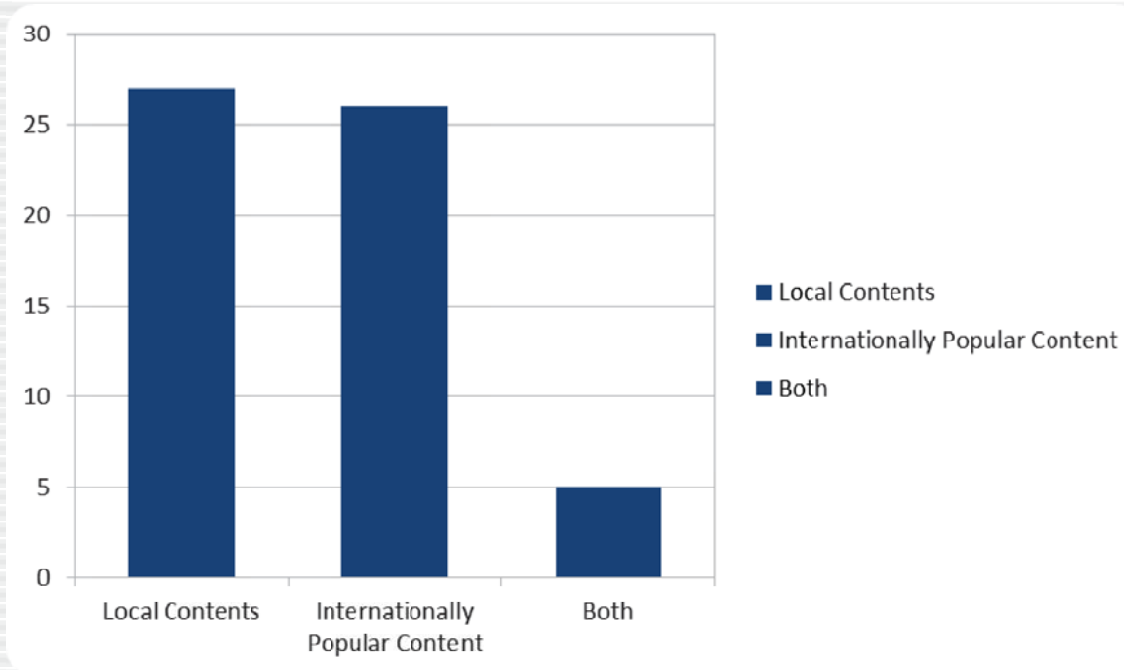
DATA BROADCASTING CONTENT WISH
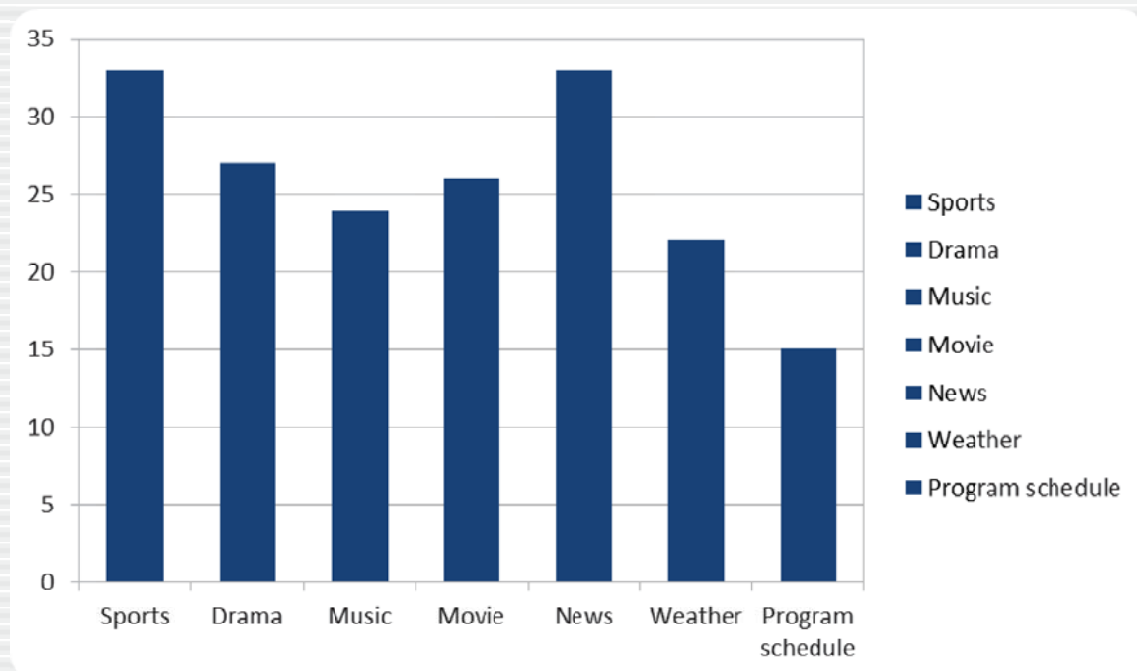
Observations

- Call for deliberate increase of local content (Local soapies)

- Call for attractive foreign content(South African Soapies)

- Demonstrations to be done in Setswana , height of monitors to be improved as well as the space

DBS Department of BROADCASTING SERVICES

Btv

QUALITY RADIO AND TELEVISION

Next Surveys

- Friday March 20th 2015 (9 a.m. -4p.m)
- Saturday March 21st 2015 (9a.m. -4p.m
- VENUE : Gaborone main mall

- THANK YOU.

DBS Department of BROADCASTING SERVICES   **Btv**

QUALITY RADIO AND TELEVISION

Datacasting WG

Implementation of the Digital Migration Project
in
Republic of Botswana
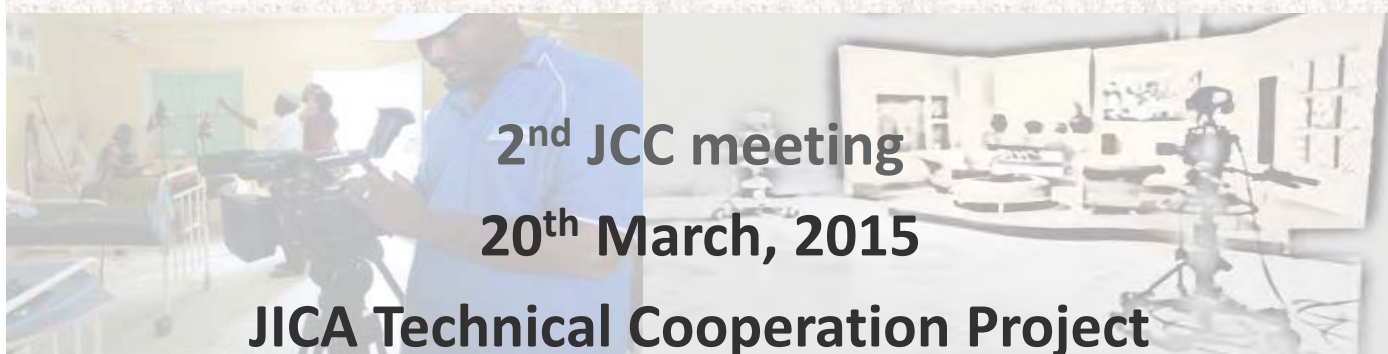
2nd JCC meeting

20th March, 2015

JICA Technical Cooperation Project

Table of contents

- Purpose of WG
- Establishment of Datacasting Unit
- Co-working with existing sections
- Datacasting Unit Equipment & Design
- Training system for data broadcasting
- Demonstrating data broadcasting for market survey

Data Broadcasting WG Purpose

Objectives	Activities	Scope of Work and Responsibility
• Learn operation technology for stable Data broadcasting and the ability to produce advanced Data broadcasting programs	• To establish Data broadcasting section • To prepare Data broadcasting program production training system • To design and produce Data broadcasting programs	• Matters relating to the establishment of Data broadcasting section, Data broadcasting program production training system, and planning and production of Data broadcasting programs

Data Broadcasting WG Members

Ms. Salome Senome was appointed as the leader of the WG.

No	Name	Position
1	Salome Senome	Executive producer
2	Gaone Karele	Graphic Designer
3	Gosaitse Koobonye	Marketing
4	Kefilwe Leero	Programme Producer
5	Gaotsenwe Ngwako	Sports Sports
6	Kedirileng Makgasa	Engineer
7	Itumeleng Siviya	News and Current affairs
8	Tabona Luza	Engineer
9	Torotea Mmopi	Program Producer
10	Beauty Sendi-Mpho	Editor
11	Bame Mogomotsi	Acquisition
12	Kaone Mosenti	Director
13	Maipelo Montwedi	Programing

Datacasting Unit
<Datacasting dedicated members>

Head of Unit x1

Tasks
➢Resource management / Scheduling
➢Arrangement with all video program sections

Required skills
➢Experience of program production, contracts, event production, supervisory and management skills
➢Understanding all video program sections
➢Degree in media studies

Graphic Designer x2

Tasks
➢Datacasting User Interface (UI) designing (layout) – look & usability
➢Co-work with BML coding engineer

Required skills
➢Adobe creative suits experience
➢Diploma or higher in graphic related courses

Coding engineer x2

Tasks
➢BML language application development
➢Co-work with Designer and CMS engineer

Required skills
➢BML language programming
➢Understanding UI design and CMS system
➢Degree in software engineering

Specialized Area

Producer stroke Area

Operator x6 (2 for each program sections)

Tasks
➢Data info generation via CMS client PC
➢Auto updated info checking
➢Inter-lock with video program

Required skills
➢Experience of Studio/Master control e eng
➢Good computer skills
➢Degree in media studies

CMS system engineer x1

Tasks
➢CMS & Packetizer system maintain
➢CMS application development

Required skills
➢PHP server application programming
➢Data source management (Ex: Daily News)
➢Degree in engineering

Specialized Area

Monitor x4

Tasks
➢Monitoring all interactive pages of live & Portal using STB and remote.
➢Checking all contents, and if some problem found, make trouble report and support operators.

Required skills
➢Understanding STB operation
➢Reporting and reproduce problems
➢Degree in media studies

Co-Working with existing sections

Datacasting as a content based system will need to work closely with the departments in DBS/BTV that provide content. Below is a diagram explaining this office will relate with the existing content departments.

**Datacasting Unit
<BTV internal partners>**

Ref; Data Broadcasting Unit
Housing (Last Page)

Contents Providers side
Datacasting Unit co-work with contents closely

Programs Section +
2 operators from Datacasting Unit

Tasks
➢Planning Datacasting service together
➢Inter-locking operation together
➢Copy-right management together

News Section
Tasks
➢Planning news & current affairs

Sports Section
Tasks
➢Planning sports news

In-house Programs
Talk Show & Magazine
Entertainment
Children & Youth
Special Event
Commissioning (Acquisition)

+ 2 operators from Datacasting Unit

+ 2 operators from Datacasting Unit

Service Providers side

+ CMS engineer from Datacasting Unit

Marketing Section
Tasks
➢Datacasting Ad planning & sales

Engineering Section
Tasks
➢Head-End system (Mux/Enc) maintain (Co-Work with CMS engineer about Datacasting system trouble-shooting)
➢Master schedule inter-lock

Operations Section
Tasks
➢Cameras, Editors, Directors, Studios, OBs

Channel Section
Tasks
➢Channel scheduling of Datacasting (Linked with Video programs)

Datacasting Unit Equipment

The Datacasting Unit Office will have the necessary equipment that will help in creating the day to day datacasting contents. The equipment will be provided by Project Tender (Tomo-Digi) and some will be provided by Hitachi for the Master Control Room. Some of the equipment will be provided by DBS/BTV.

Datacasting unit office Equipments

\<BTV needs to prepare\>

Video connection cabling
- Studio1 Basebands
- Studio2 Basebands
- OB Van Basebands
- Stored contents
- Semi live edited (Delay)
- Ch1 before encoding
- Ch2 before encoding
- Ch1 RF
- Ch2 RF

LAN & Internet connection

Office Space

Air conditioning
(must especially for the equipment)

Real time TV x1
(USB port for Clip check)

Internal/land phone lines x8
+ Head mount type x4

Office use PC x12

Still Camera with Pocket WiFi

Multi function Printer x2
Office Cabinets
Freezer & Microwave

Desk x10, Chair x8

\<Tender project delivered equipments\>

Video Switcher x2
(waiting for system design about number)

Monitor displays x8

CMS system engineer
System maintain
CMS apps development

Monitors
All interactive page check
Trouble reporting
supporting operators

Program inter-lock monitoring

Datacasting operation PC x8

- Auto update management
- Manual input
  (including Emergency message)
- Program inter-lock operation
  + Live programs by director
  + Non-lives by Q-sheet

Head of Unit
Management
Schedule
Other sections arrange

Operators
Datacasting info generation
Auto updated data check
Inter-lock with video

Direction

Operation
(CMS Clients)

Coding engineers
BML apps development
Co-work with Design & CMS
Test & Simulation

Simulation & Preview

Graphic designers
Look & Feel designing
Co-work with Coding & CMS

ISDB-T simulator

STBs & TV monitors
(For Simulation)

Operation
Desks(2) & Chairs(4)

Other room equipments
At Master control room

Annex-4
Blue : Supplied by Hitachi
Red : Supplied by Tomo-Digi

Digital Head-End Rack room
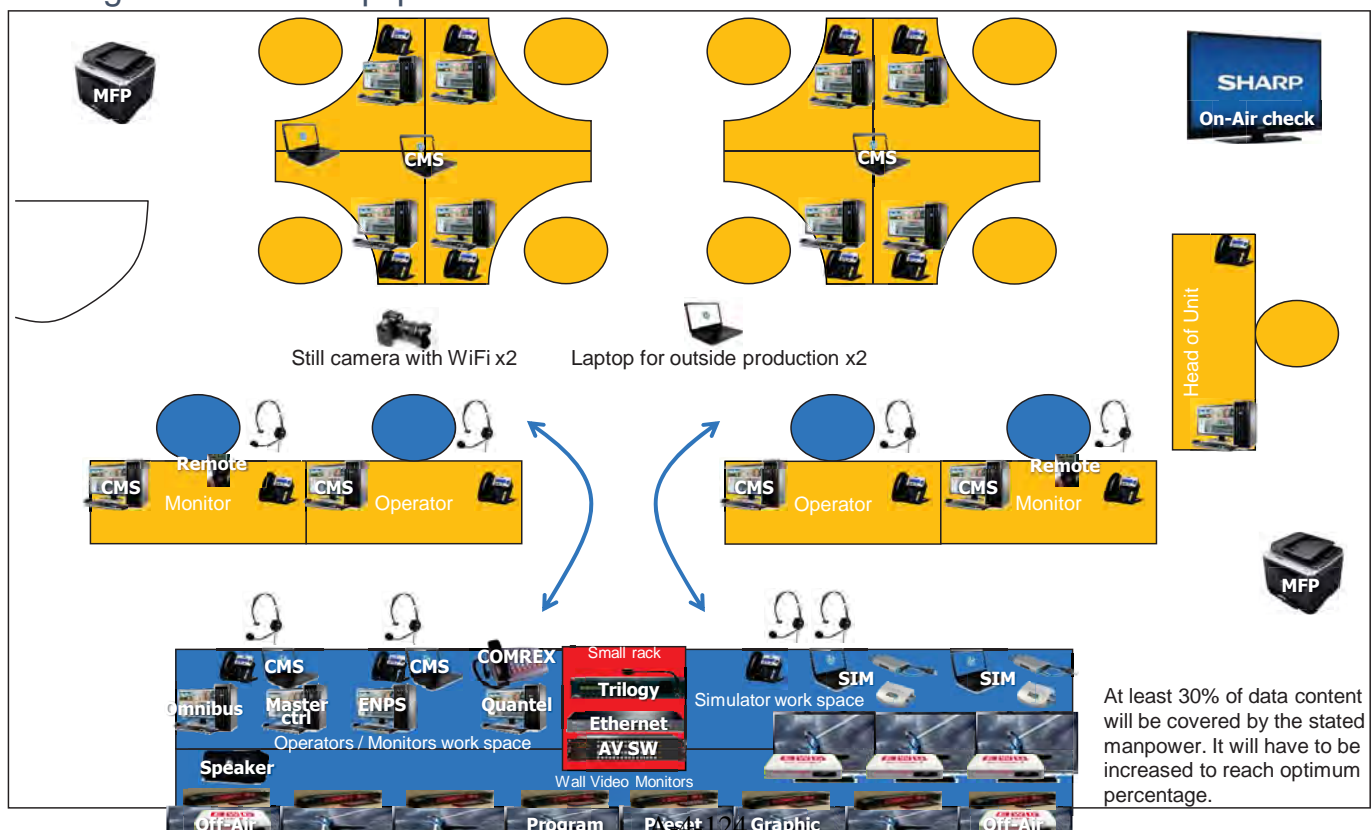
Video/Audio Digital Head-End equipments

Ch1 Video
Ch1 Audio

Switchers

12 seg
Video encoding
Video Enc
Audio Enc

Ch2 Video
Ch2 Audio

1 seg
Video encoding
Video Enc
Audio Enc

EWBS/CC Server

Multiplexer

To Transmitter

Digital Head-End system engineer

Co-working For Trouble shooting

CMS system engineer

External information live sources (Ex: Daily News)
DailyNews

Internet

Data (Ethernet cable)

Mirrored CMS Server at Japan

Datacasting Digital Head-End equipments

CMS Servers
(Main)
(Hot standby)

Packetyzers
(Main)
(Hot standby)

1+1 Hot Standby Switching

TS (ASI cable)

Other room CMS Clients

LAN
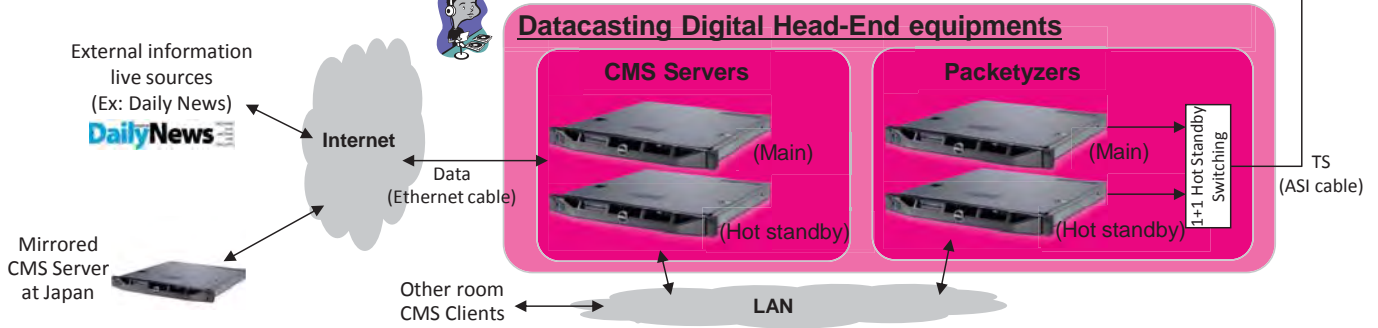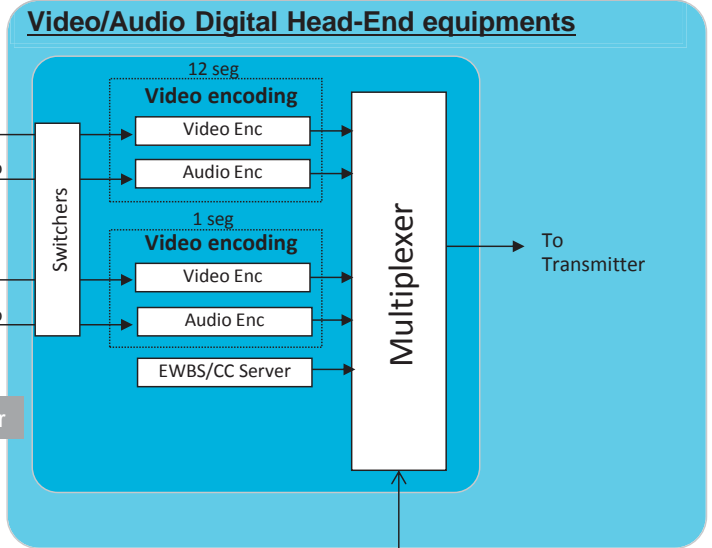
Datacasting unit office
Floor plan

Below structure is showing the layout of the Datacasting Unit Office and the arrangement of the equipment to be used.

MFP

CMS

CMS

SHARP
On-Air check

Still camera with WiFi x2

Laptop for outside production x2

Head of Unit

Remote
CMS Monitor
CMS Operator

CMS Operator
CMS Remote Monitor

MFP

CMS
CMS
COMREX
Small rack
Trilogy
SIM
SIM
Omnibus
Master ctrl
ENPS
Quantel
Ethernet
Simulator work space
AV SW
Operators / Monitors work space
Speaker
Wall Video Monitors
Off-Air
Prpgram
Preset
Graphic
Off-Air

At least 30% of data content will be covered by the stated manpower. It will have to be increased to reach optimum percentage.

Training system for data broadcasting

The objective of the training is to ensure that the Data Broadcasting WG and the Datacasting Unit Office understands and has the necessary skills and knowledge to undertake daily datacasting services.

Officers will be trained to understand the processes necessary to create datacasting contents. The training has been organised and planned with the relevant Japanese Experts (Data Broadcasting Coding and Data Broadcasting Design). Knowledge and skills will be imparted so that officers can work on their own to create contents.

The main contents are the news, sports and program schedule in a portal basis. In addition to those, Special events, Flava Dome, Silent Shout, Live & Record, Talk Back, Molemo Wa Kgang were discussed to be linked with Data broadcasting. These are the programs that the training will focus on to create contents for the official launch in June 2015.

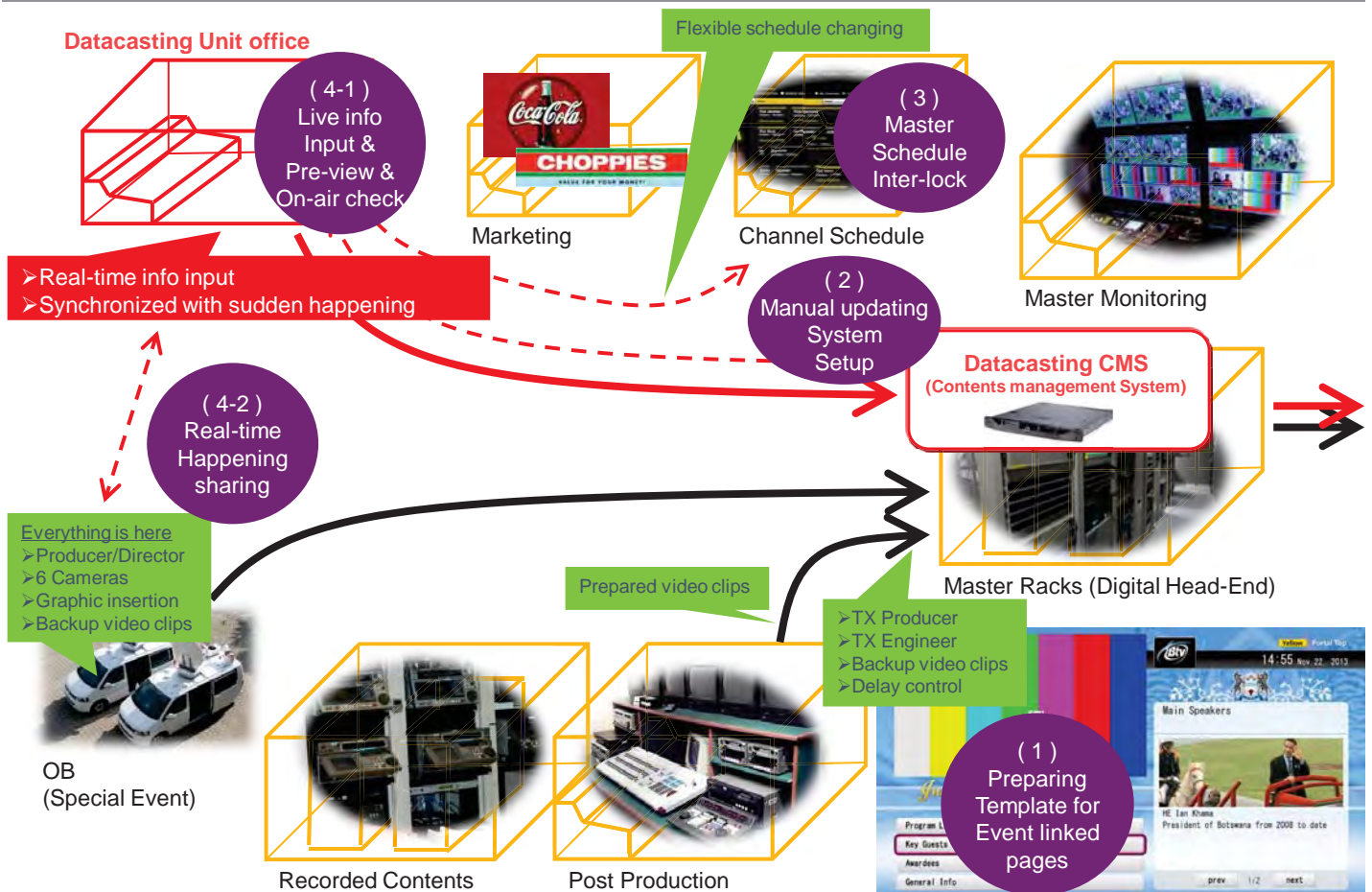## Producing program-linked and non-linked data broadcasting contents

Data broadcasting will produce two types of datacasting contents being program linked and non-linked contents. These contents will be produced for the official launch in June 2015, these are contents related to the video stream and those not related to the video stream. However for the first official launch only contents from DBS/BTV will be used because it will be easier to access the information (data source). Also several programs have been chosen to pioneer the launch of digital migration in Botswana

The training that the Data Broadcasting will undertake will include the creation of such contents. The following is a list of the programs chosen for the first official launch.

Lists of programs to be prepared

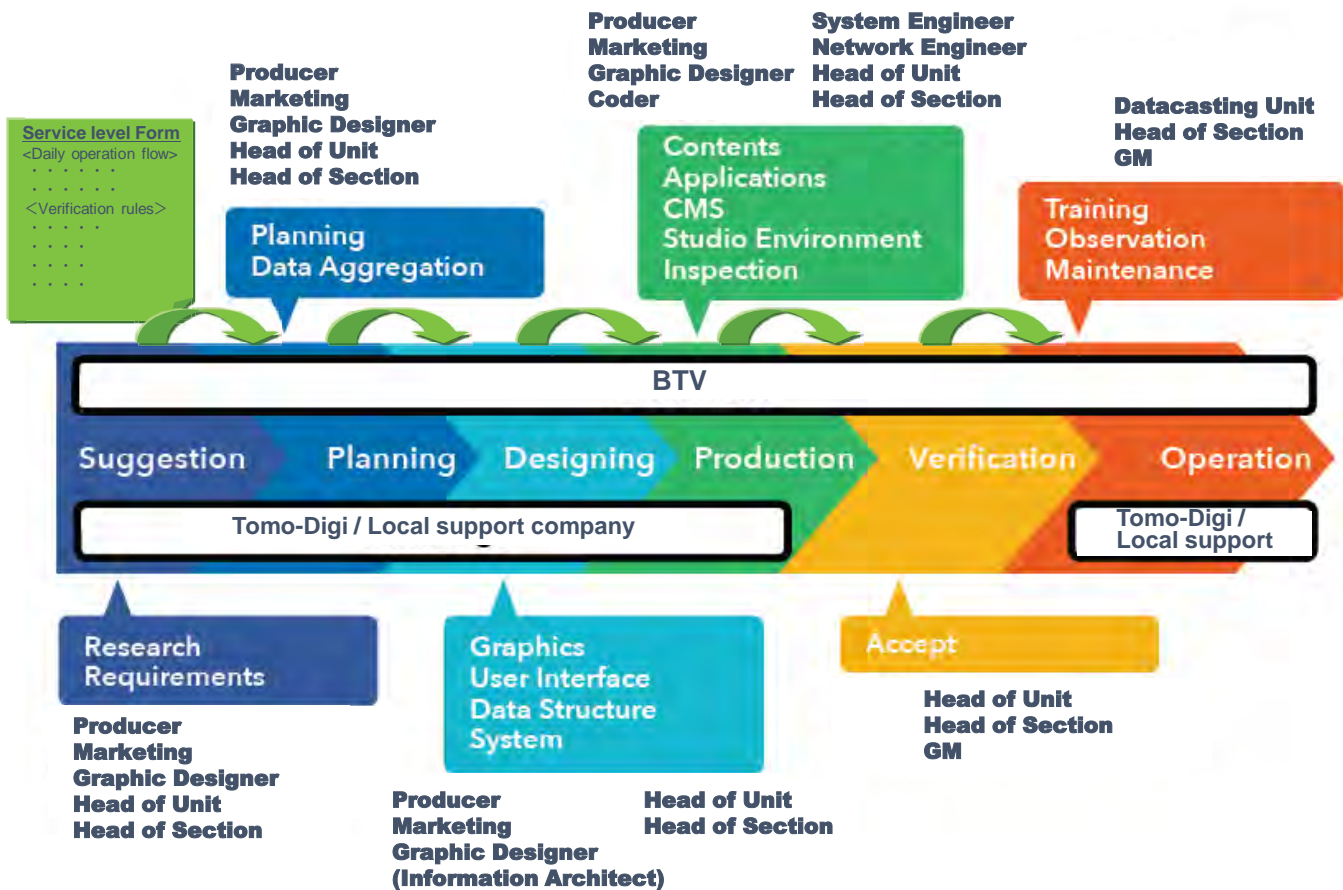| No	Programs	Officers
1	Special Events	Torotea Mnopi
2	News & Current Affairs	Itumeleng Seviya & Onthatile Boti
3	Sports	Veronica Olivins
4	Marketing	Gosaitse Koobonye
5	Channel	Maipelo Montwedi
6	Flava Dome	Kefilwe Leero
7	Silent Shout, Live&Record	Letso Bakwena
8	Talk Back	Godiraone Motswagae
9	Molemo Wa Kgang	Patrick Morolong

Existing video program units + Datacasting
<Operation Flow: Live OB, like special events>

Datacasting Unit office

Flexible schedule changing

(4-1)
Live info
Input &
Pre-view &
On-air check

Marketing

(3)
Master
Schedule
Inter-lock

Channel Schedule

Master Monitoring

➤Real-time info input
➤Synchronized with sudden happening

(2)
Manual updating
System
Setup

Datacasting CMS
(Contents management System)

(4-2)
Real-time
Happening
sharing

Everything is here
➤Producer/Director
➤6 Cameras
➤Graphic insertion
➤Backup video clips

Master Racks (Digital Head-End)

Prepared video clips

➤TX Producer
➤TX Engineer
➤Backup video clips
➤Delay control

OB
(Special Event)

Recorded Contents

Post Production

(1)
Preparing
Template for
Event linked
pages

Production Flow

The trainees will be taught production processes. They will need to follow this process in designing and creating templates for their programs.

Training Evaluation Criteria

To measure the level of understanding, the trainees will be responsible for explaining datacasting contents to members of their sections. This way, we are able to tell if they know and understand datacasting and the purpose of the training. Thereafter one on one discussions will be done with the head of section to verify if indeed they understood and benefited from the training. A verification form will be produced to confirm.

Datacasting procedure
Program by program, Event by event, service planning

Producer
Marketing
Graphic Designer
Coder

System Engineer
Network Engineer
Head of Unit
Head of Section

Producer
Marketing
Graphic Designer
Head of Unit
Head of Section

Service level Form
<Daily operation flow>
· · · · · ·
· · · · · ·
<Verification rules>
· · · · ·
· · · · ·
· · · ·

Datacasting Unit
Head of Section
GM

Contents
Applications
CMS
Studio Environment
Inspection

Planning
Data Aggregation

Training
Observation
Maintenance

BTV

| Suggestion | Planning | Designing | Production | Verification | Operation |

Tomo-Digi / Local support company

Tomo-Digi /
Local support

Research
Requirements

Graphics
User Interface
Data Structure
System

Accept

Producer
Marketing
Graphic Designer
Head of Unit
Head of Section

Producer
Marketing
Graphic Designer
(Information Architect)

Head of Unit
Head of Section

Head of Unit
Head of Section
GM

Datacasting Training

On-Job Training of
Planning -> Creation -> Testing -> Verification -> Test Broadcasting

@BTV Board Room

Service planning discussion
Graphical design discussion
Data source flow discussion
Following verification flow

with 10 program producers/Supervisors

@Studio3 Room
(Temporally Datacasting operation room)

BML cording training
BML designing training

Actual Template creation
Working test with sample CMS & Simulator
After verification test broadcasting through Sebele station
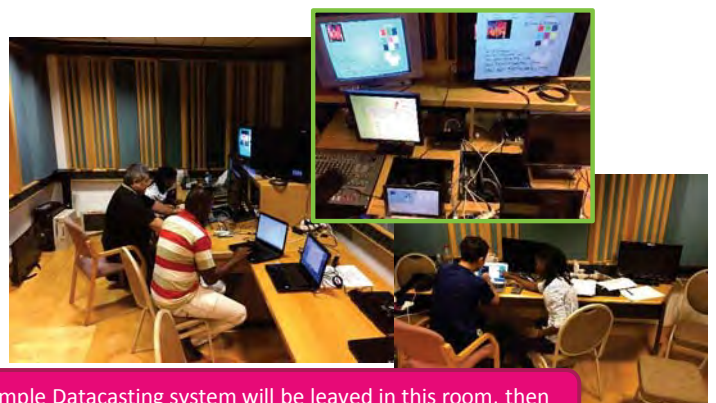
At end of training, sample Datacasting system will be leaved in this room, then
BTV members can keep operating with trial broadcasting.

Demonstrating datacasting for market survey

Data Broadcasting WG was part of the market survey conducted by the Programming WG in order to come up with a program schedule for datacasting. The Data Broadcasting WG was involved in the sense that they had to explain to the public what data broadcasting is for them to be able to understand and conduct the questionnaire for the survey.

They survey was conducted at Airport Junction mall at 13-14th March 2015, where interaction was made with the public and demonstration as well as explaining what data broadcasting is. Next survey will be held at Main Mall at 20-21 March 2015.

BTV HD STUDIO OPERATIONS TRAINING (JAPAN)

SPONSORED BY JICA

Schedule

Dates:

➢ Departure: 14/02/2015

➢ Arrival in Tokyo Narita : 15/02/2015

➢ Training: 16/02/2015 to 28/02/2015

➢ Departure: 28/02/2015 to 01/03/2015

➢ Accommodation: TIC (Jica)

➢ Training Venue: Nippon TV, Shiodome

Contents

Contents	Executive Summary
	Introduction
	Participant Reaction
	Learning
	Job Impact
	Business Impact
	Return on Training Investment
	Additional Information
	Conclusion and Recommendations
	Acknowledgements

Executive Summary

➢ Day 1; was briefings/orientation by the training coordinator.

➢ Visit to Nippon Television Network facilities,

➢ courtesy call to JICA Headquarters, address by JICA's CEO, Mr Shumoda Kiyohito.

Introduction

➢ Nippon Television Technical Resources Inc. (NiTRo), is Japan's leading expert in motion picture and multimedia broadcasting production.

➢ Nitro uses state-of-the-art multimedia technology in four main areas of expertise:

     (i)   Production Engineering (Live Broadcasting, Studio Broadcasting, ENG)

     (ii)   Post-Production (Compilation, Media Conversion, MA and CG Animation)

     (iii)   Broadcast Engineering (Operations and Management)

     (iv)   Photography (promotional photos for television programs)

Participants Reaction

BTV TEAM IN JAPAN

Team went on a two weeks hands on training at Nippon TV station in Japan.

From heat wave in Botswana into Snow in Tokyo

First day in Tokyo, Japan. Some team members experiencing snow fall for the first time.

Learning

16/02	**Orientation/General Briefing; Nippon Television - Infrastructure, Capacity, Coverage etc** **Shumoda Kiyohito – some highlights on the relationship (Technical) between JICA and BTV through their respective Governments with regard to Digital Migration.**
17/02	**Tours – editing, production & news studios, news reporting floor, media centre, signal distribution centre(SDC);** **Staff compliment – 107; Image Archive Division – raw footage is archived for a minimum of 2yrs.**
18-20/02	**Taken through – the passage from SD television to HD television(via simulcast broadcasting);** **Video engineering** **Advantage and Disadvantages of HD (small display, 4:3 aspect ratio)** - **real time graphics, vitzs software, 3 dimensional image, soft to Miya image, 4K technology** - **New HD OB van (W-2 490 mm, H-3 540 mm, L-10760 mm)**
21, 23/02	**Cultural experience – visit to the - Great Buddha** - **Hachimangu Shrine** - **Television Kanagawa, TVK**

24/02	**SET operation in an HDTV environment** - Program production, maintenance - Safety measures A-4-134
25/02	**Basics of digital sound signal operation; Hands on exercises on the switcher/sound desk**
26/02	**Comprehensive practice** **Script writing – the rest of the team/crew was involved in coming up with the script; camera, sound, technical director,.**

Job Impact

➢ **Planning of productions were done in details, with everyone on board.**

➢ **Time management,**

➢ **Communication**

➢ **Back up; Standby equipment**

➢ **Archiving,**

Business Impact

- **Human resources allocation**

- **Productions Planning: Scripting, Detailed floor Plans**

- **NO workshops: Manufacturers provide service maintenance**

- **Equipment handling: Cases, cable drums in studios, trolleys**

Return on Training Investment

CAMERA SWITCHER/TECHNICAL DIRECTOR

- Basic HD camera operation

- Switching/vision mixing with HD system

- Pre and post productions

VIDEO ENGINEERING

- HD video engineering adjustments.

- Equipment Maintenance(No workshop)

Additional Information

In order to keep pace with the digital world BTV needs the following as a matter of urgency:

➢ Basics of television program production.

➢ Responsibility of each crew member.

➢ Better methods of equipment care (handling) and storage.

➢ Buy Equipment for each Studio

➢ Signal testing (Ik tone audio, colour bars for video) prior to any production should be adopted.

Conclusion and Recommendations

CAPACITY BUILDING (Operational Staff, Tactical Managers & Strategic Leaders)

TEAM BUILDING.

Acknowledgements

Thank you to

Btv,

Nitro,

Nippon TV,

Jica,

Botswana Embassy in Japan

Nippon TV Archive Unit.

Multiple servers used to save all footage through the use of the main
server and a backup .

Nippon, MCR

Officer monitoring Channel using earphones to avoid all destructions also paying attention to audio and video output. Officers switch posts to optimize concentration.

Nippon, Editing desk

Editing desk fully equipped with sound monitors and footage injection deck.

Nippon, Newsroom

News centre segmented into areas of specialization, Notice the cameraperson for the group making a presentation.

HD cameras

Cameras are numbered
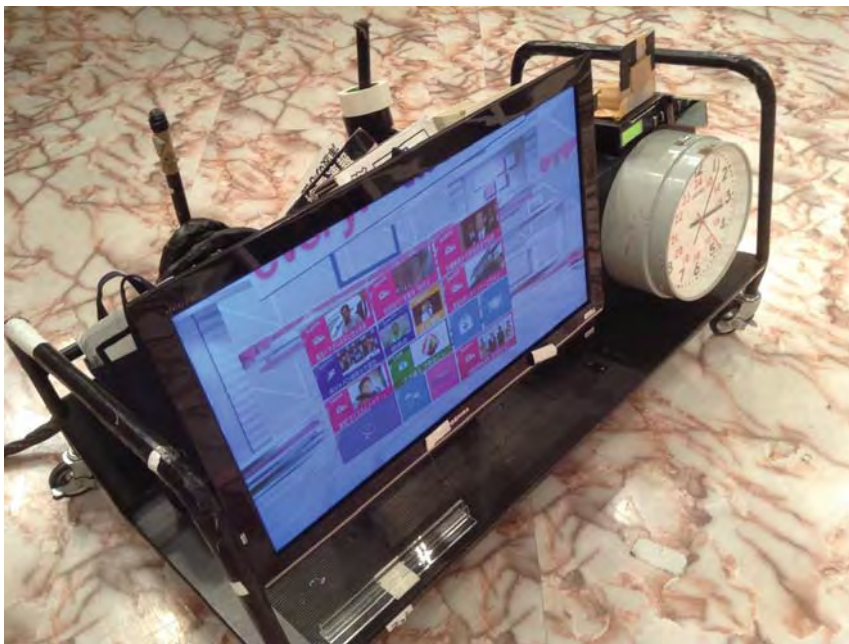
In studio Video monitors

Presenter and guests able to view video clips and keep time.

Storage shelves

Trays/trolleys to move around equipment and labels to identify it.
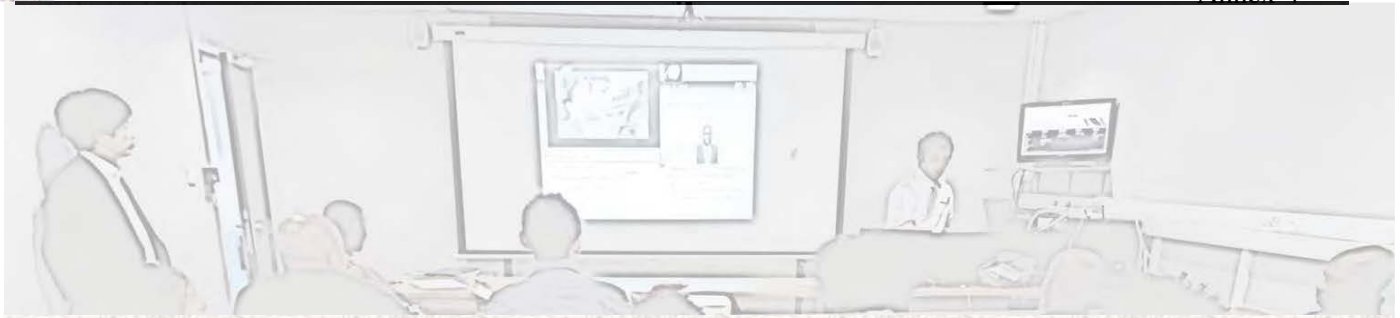
Implementation of the Digital Migration Project in
Republic of Botswana

Second Joint Coordinating Committee

20th March, 2015

JICA Technical Cooperation Project

Content

1. JICA technical cooperation project
2. Tools to manage the Project
3. PDM version 1
4. Plan of Operation (PO)
5. PDM version 2
6. PDM indicator
7. Summary of Achievements and Activities
8. Monitoring Sheet

1. JICA Technical Cooperation Project

● **Technical Cooperation Project is a type of technical assistance by JICA**

- A project to resolve specific issues by transferring technology, knowledge and skills to the counter partners of Botswana during a certain project period

● **The Botswana side will implement the project, for which JICA provides technical support.**

- Project Director, PS
- Project Manager, DPS
- Deputy Project Manager, Mr. Calvin Goiletswe   whom Japanese experts work together.
- The leaders and members of each WG

● **JICA will provide three input elements to the project:**

- Dispatch Japanese Experts to provide technical support
- Invite personnel from the recipient country for training in Japan (or in the third country)
- Provide equipment for the Project

2. Tools to manage the Project

1. **Project Design Matrix (PDM)**

    One sheet of paper to describe overall goal, project purpose, outputs, activities and inputs and, logical relationship among them

2. **Plan of Operation (PO)**

    Indicate the schedule for each activity to take place

3. **Monitoring Sheet**

    Report the progress of each activity and problem and action to be taken

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
Terrestrial digital broadcasting that takes advantage of the features of Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) is effectively available.	1. Terrestrial digital broadcasting service area covers 65% or more of Botswana (the target in NDP10). 2. O or more number of programs that linked with the data broadcasting contents are produced per year. 3. O or more number of High Definition (HD) programs are produced per year.	1. Radio Wave Measurement 2. Broadcasting Program Schedule 3. Broadcasting Program Schedule	
Project Purpose			
Environment, which allows DBS to implement self-sustainably the terrestrial digital broadcasting that takes advantage of the features of ISDB-T, is ready.	1. O% or more customers recognize the terrestrial data broadcasting of Botswana Television (BTV). 2. Facilities and human resources planned as necessary for producing and broadcasting HD programs based on ISDB-T data broadcasting are developed.	1. Customer Sample Survey 2. Project Progress Report	· Developments of DTTB network and related equipment are executed as planned. · ISDB-T receivers are penetrated to households as planned.
Outputs			
1. Various plans necessary for migration to digital broadcasting are developed. 2. DBS's capacity of producing programs including High Definition (HD) and data broadcasting is improved.	1-1. Analogue Switch Off (ASO) Plan is developed. 1-2. Botswana ISDB-T Standards is developed. 1-3. Specifications of receivers is prepared. 1-4. Terrestrial Digital Broadcasting Station Licensing Criteria are developed. 1-5. Draft Public Relations Plan is developed. 2-1. Sections that handle data broadcasting are established in BTV. 2-2. HD Program Production Manual is developed. 2-3. A training system for producing data broadcasting program is established. 2-4. Program-linked and non-linked data are broadcasted.	1-1 ASO Plan 1-2. Botswana ISDB-T Standards 1-3. Specifications of receivers 1-4. Terrestrial broadcasting station licensing criteria 1-5. Draft Public Relations Plan 2-1. BTV Organization Chart 2-2. HD Program Production Manual 2-3. Training plan for data broadcasting program 2-4. Broadcasting Program Schedule	· Various approval process by the concerned organizations are not delayed. · Staff received trainings does not resign DBS.

Activities	Inputs		Important Assumption
1. Relative to various plans for digital migration 1-1 To establish Technology and Licensing Working Group, Public Relations Working Group 1-2 To prepare ASO plan 1-3 To review Botswana ISDB-T Standards 1-4 To review specifications of receivers 1-5 To prepare terrestrial broadcasting station licensing criteria 1-6 To develop Draft Public Relations Plan for Digital Migration	**Japanese Side** 1. JICA Experts (1) Chief Advisor/Policy & Strategy (2) Institution/Training Plan 1 (3) ASO Plan/Technical Standards 1 (4) Technical Standards 2 (5) Public Relations Plan/Training Plan2 (6) HD Program Production (7) Data Broadcasting Contents Production (8) Data Broadcasting Coding (9) Data Broadcasting Design (10) Data Broadcasting Programming	**Botswana Side** 1. C/P Personnel (1) Project Manager (2) Deputy Project Manager (3) Leader of Technology and Licensing Working Group (WG) (4) Leader of Public Relations WG (5) Leader of Program Production WG (6) Leader of Programming WG (7) Leader of Data Broadcasting WG	· C/P personnel continue to work on the Project. · Staff received trainings does not resign DBS.
2. Relative to DBS's capacity of producing programs 2-1 To establish Program Production Working Group, Programming Working Group and Data Broadcasting Working Group 2-2 To develop HD program production capability 2-3 To establish a section that produce data broadcasting program 2-4 To develop a training system for producing data broadcasting program 2-5 To develop programming plan of digital broadcasting, including data broadcasting, based on the market needs survey 2-6 To plan and produce program-linked and non-linked data broadcasting	2. Equipment · *Data Broadcasting Contents Management System: 1 set 3. Training in Japan · HD Studio Operations (Camera, Lighting, Audio, Video Engineer) · Digital Terrestrial Television Broadcasting (DTTB) Training (including Data Broadcasting)	2. Members of Working Groups 3. Project Office for Experts (in both BOCRA and DBS) 4. Project Vehicles: 2 cars 5. Existing BTV's facilities and equipment that can be utilized for Terrestrial Digital Broadcasting 6. All equipment that should be procured during the Implementation Period of the Technical Cooperation Project for migration to ISDB-T	**Preconditions** · Digital migration plan is not excluded from the national development plan.

Page 6

4. Plan of Operation (PO)

Inputs	Year	2014			2015				2016			
		III	IV	I	II	III	IV	I	II	III	IV	
Expert												
1. Team Leader/Broadcasting Policy & Strategy (Naoaki NAMBU)	Plan											
	Actual											
2. Deputy Team Leader/Institution/Training Plan 1 (Katsuya TERABAYASHI)	Plan											
	Actual											
3. ASO Plan/Technical Standards 1(Mr. Yoshiki MARUYAMA)	Plan											
	Actual											
4. Technical Standard 2 (Akira SAITO)	Plan											
	Actual											
5. Public Relations Plan/Training Plan 2/Coordinator (Keiko UCHIUNMI)	Plan											
	Actual											
6. HD Program Production (Chiaki MATSUMOTO)	Plan											
	Actual											
7. Data Broadcasting Contents Production (Susumu SATO)	Plan											
	Actual											
8. Data Broadcasting Coding (Toshikazu KOJIMA)	Plan											
	Actual											
9. Data Broadcasting Design (Fumitaka WATANABE)	Plan											
	Actual											
10. Data Broadcasting Programming (Masatoshi SANO)	Plan											
	Actual											
Training in Japan												
HD Studio Operations (Camera, Lighting, Audio, Video Engineering)	Plan											
	Actual											
Digital Terrestrial Television Broadcasting (DTTB) Training (including Data Broadcasting)	Plan	TBD										
	Actual											

A-4-143

Activities	Year	2014		2015				2016			
Sub-Activities		III	IV	I	II	III	IV	I	II	III	IV

Output 1: Relative to various plans for digital migration

Activities / Sub-Activities	Plan/Actual
1.1 To establish Technology and Licensing WG, Public Relations WG	Plan / Actual
1.1.1 Define objectives, scope of work, responsibility	Plan / Actual
1.1.2 Select members	Plan / Actual
1.1.3 Approve	Plan / Actual
1.2 To prepare ASO plan	Plan / Actual
1.2.1 Learn ASO schedule and procedures	Plan / Actual
1.2.2 Learn current status of digital migration such as preparation of transmitting stations, receivers	Plan / Actual
1.2.3 Improve the draft and propose	Plan / Actual
1.3 To review Botswana ISDB-T Standards	Plan / Actual
1.3.1 Learn the draft of ISDB-T technical standards	Plan / Actual
1.3.2 Select necessary technical standards and compare with the draft	Plan / Actual
1.3.2 Improve the draft and propose	Plan / Actual
1.4 To review specifications for receivers	Plan / Actual
1.5 To prepare terrestrial broadcasting station licensing criteria	Plan / Actual
1.5.1 Learn exsiting broadcasting license and its criteria	Plan / Actual
1.5.2 Examine necessaery amemdment for digital migration, and prepare a draft	Plan / Actual
1.5.3 Improve the draft and propose	Plan / Actual
1.6 To develop draft Public Relations Plan for Digital Migration	Plan / Actual
1.6.1 Learn the draft Public Relations Plan	Plan / Actual
1.6.2 Analyze viewers and organization involved	Plan / Actual
1.6.3 Prepare and Review the draft	Plan / Actual
1.6.4 Establish an organization	Plan / Actual
1.6.5 Implement Public Relations Plan	Plan / Actual

Output 2: DBS's capacity of producing programs including High Definition (HD) and data broadcasting is improved.

Activities / Sub-Activities	Plan/Actual
2.1 To establish Program Production Working Group, Programming Working Group and Data Broadcasting Working Group	Plan / Actual
2.2 To develop HD program production capability	Plan / Actual
2.2.1 Evaluate program production capability of BTV	Plan / Actual
2.2.2 Formulate training plans and prepare training materials	Plan / Actual
2.2.3 Conduct training（Planning、Research、Production, Evaluation）	Plan / Actual
2.3 To establish a section that produces Data Broadcasting program	Plan / Actual
2.3.1 Analyze the structure of DBS and BTV	Plan / Actual
2.3.2 Examine a new organization chart, roles of each department, criteria for recruite professional staff	Plan / Actual
2.3.3 Approve and establish a new section	Plan / Actual
2.4 To develop a training system for producing Data broadcasting program	Plan / Actual
2.4.1 Analyze the criteria to recruite staff and OJT methods	Plan / Actual
2.4.2 Plan Data Broadcasting training system	Plan / Actual
2.4.3 Approve	Plan / Actual
2.4.4 Prepare training materials	Plan / Actual
2.4.5 Conduct training, evaluate results and review them	Plan / Actual
2.5 To develop programing plan of digital broadcasting, including Data Broadcasting, based on the market needs survey	Plan / Actual
2.5.1 Conduct market survey with regard to Data Broadcasting	Plan / Actual
2.5.2 Analyze the result of the market survey	Plan / Actual
2.5.3 Formulate a draft of program schedule	Plan / Actual
2.5.4 Approve	Plan / Actual
2.5.5 Broadcast them	Plan / Actual
2.5.6 Evaluate the result of broadcasting and review	Plan / Actual

	Plan/Actual
2.6 To plan and produce program-linked and non-linked Data broadcasting	Plan / Actual
2.6.1 Plan program-linked and non-linked Data broadcasting programs	Plan / Actual
2.6.2 Approve	Plan / Actual
2.6.3 Prepare templates	Plan / Actual
2.6.4 Produce program non-linked Data broadcasting programs and broadcast them	Plan / Actual
2.6.5 Review plan of program linked Data broadcasting programs and approve	Plan / Actual
2.6.6 Produce program linked Data broadcasting programs and broadcast them	Plan / Actual
2.6.7 Evaluate the result and propose points of improvement	Plan / Actual

Monitoring Plan

Year	2014		2015				2016			
	III	IV	I	II	III	IV	I	II	III	IV

Monitoring

	Plan/Actual
Joint coordinating Committee	Plan / Actual
Set up the detail plan of operation	Plan / Actual
Submission of Monitoring Sheet	Plan / Actual

Reports/Documents

	Plan/Actual
Work Plan	Plan / Actual
Deliverables of technical cooperation	Plan / Actual
1. Training materials for HD program production	Plan / Actual
2. Training material for Data broadcasting	Plan / Actual
3. Result of the market survey for Data broadcasting, including program sc...	Plan / Actual
4. Data broadcasting programs that are produced and broadcasted during the course of the Project (electronic data)	Plan / Actual
5. A set of technical standards for ISDB-T	Plan / Actual
6. Public Relations Plan	Plan / Actual
Project Completion Report	Plan / Actual

Public Relations

	Plan/Actual
Broadcasting programs that are produced as a part of training	Plan / Actual
Workshop for digital migration	Plan / Actual

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
Terrestrial digital broadcasting that takes advantage of the features of Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) is effectively available.	1. Terrestrial digital broadcasting service area covers 65% or more of Botswana (the target in NDP10). 2. 3 or more number of programs that linked with the data broadcasting contents are produced per year. 3. 20 or more number of High Definition (HD) programs are produced per year.	1. Radio Wave Measurement 2. Broadcasting Program Schedule 3. Broadcasting Program Schedule	
Project Purpose			
Environment, which allows DBS to implement self-sustainably the terrestrial digital broadcasting that takes advantage of the features of ISDB-T, is ready.	1. 34% or more customers recognize the terrestrial data broadcasting of Botswana Television (BTV). 2. Facilities and human resources planned as necessary for producing and broadcasting HD programs based on ISDB-T data broadcasting are developed.	1. Customer Sample Survey 2. Project Progress Report	· Developments of DTTB network and related equipment are executed as planned. · Developments of HD studio systems are executed as planned · ISDB-T receivers are penetrated to households as planned.
Outputs			
1. Various plans necessary for migration to digital broadcasting are developed. 2. DBS's capacity of producing programs including High Definition (HD) and data broadcasting is improved.	1-1. Analogue Switch Off (ASO) Plan is developed. 1-2. Botswana ISDB-T Standards is developed. 1-3. Specifications of receivers is prepared. 1-4. Terrestrial Digital Broadcasting Station Licensing Criteria are developed. 1-5. Draft Public Relations Plan is developed. 2-1. Sections that handle data broadcasting are established in BTV. 2-2. HD Program Production Manual is developed. 2-3. A training system for producing data broadcasting program is established. 2-4. Program-linked and non-linked data are broadcasted.	1-1 ASO Plan 1-2. Botswana ISDB-T Standards 1-3. Specifications of receivers 1-4. Terrestrial broadcasting station licensing criteria 1-5. Draft Public Relations Plan 2-1. BTV Organization Chart 2-2. HD Program Production Manual 2-3. Training plan for data broadcasting program 2-4. Broadcasting Program Schedule	· Various approval process by the concerned organizations are not delayed. · Staff received trainings does not resign DBS.
Activities	**Inputs**		
1. Relative to various plans for digital migration 1-1 To establish Technology and Licensing Working Group, Public Relations Working Group 1-2 To prepare ASO plan 1-3 To review Botswana ISDB-T Standards 1-4 To review specifications of receivers 1-5 To review prepare terrestrial broadcasting station licensing criteria 1-6 To develop Draft Public Relations Plan for Digital Migration **1-7 To conduct public relations activities in accordance with the Draft Public Relations Plan**	Japanese Side 1. JICA Experts (1) Chief Advisor/Policy & Strategy (2) Institution/Training Plan 1 (3) ASO Plan/Technical Standards 1 (4) Technical Standards 2 (5) Public Relations Plan/Training Plan2 (6) HD Program Production (7) Data Broadcasting Contents Production (8) Data Broadcasting Coding (9) Data Broadcasting Design (10) Data Broadcasting Programming **(11) Production Engineering**	Botswana Side 1. C/P Personnel (1) Project Manager (2) Deputy Project Manager (3) Leader of Technology and Licensing Working Group (WG) (4) Leader of Public Relations WG (5) Leader of Program Production WG (6) Leader of Programming WG (7) Leader of Data Broadcasting WG	· C/P personnel continue to work on the Project. · Staff received trainings does not resign DBS.
2. Relative to DBS's capacity of producing programs 2-1 To establish Program Production Working Group, Programming Working Group and Data Broadcasting Working Group 2-2 To develop HD program production capability 2-3 To establish a section that produces data broadcasting program 2-4 To develop a training system for producing data broadcasting program 2-5 To develop programming plan of digital broadcasting, including data broadcasting, based on the market needs survey 2-6 To plan and produce program-linked and non-linked data broadcasting	**2. Equipment · *Data Broadcasting Contents Management System: 1 set** **2.** Training in Japan · HD Studio Operations (Camera, Lighting, Audio, Video Engineer) · Digital Terrestrial Television Broadcasting (DTTB) Training (including Data Broadcasting)	2. Members of Working Groups 3. Project Office for Experts (in both BOCRA and DBS) 4. Project Vehicles: 2 cars 5. Existing BTV's facilities and equipment that can be utilized for Terrestrial Digital Broadcasting 6. All equipment that should be procured during the Implementation Period of the Technical Cooperation Project for migration to ISDB-T	**Preconditions** · Digital migration plan is not excluded from the national development plan.
*Procurement of CMS will be determined later			

	Roles	Name	2014					2015												2016								Total Botswana
			8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	
Or	Team Leader/Broadcaseting Strategy & Policy	Mr. Naoaki Nambu																										2.67
Mo	Team Leader/Broadcaseting Strategy & Policy	Mr. Naoaki Nambu																										3.00
◎	Deputy Team Leader/Institution/Training Plan1	Mr. Katsuya Terabayashi																										8.33
◎	ASO Plan/Technical Standards 1	Mr. Yoshiki Maruyama																										4.00
◎	Technical Standards 2	Mr. Akira Saito																										3.17
Or	Public Relations Plan/Training Plan 2/Coordinator	* * * *																										7.00
Mo	Public Relations Plan/Training Plan 2/Coordinator	* * * *																										9.00
	HD Program Production	* * * *																										8.83
Add	Production Engineering	* * * *																										1.00
◎	Data Broadcasting Content Production	Mr. Susumu Sato																										6.00
	Data Broadcasting Coding	* * * *																										2.00
	Data Broadcasting Design	* * * *																										2.00
	Data Broadcasting Programing	* * * *																										6.00
																											63.00
	Public Relations Plan/Training Plan 2/Coordinator	* * * *							(12)																			

	Report	Submission	①		②		③		④		⑤	
		Domestic （MM）										

Total	▽ JCC	▽ JCC	▽ JCC	▽ JCC	▽ JCC	63.00
						63.0

6. PDM indicator

- ## Objectively Verifiable Indicators

  - Project Purpose (at the end of the Project)

    34% or more customers recognize the terrestrial data broadcasting of Botswana Television (BTV).

    ⬆

    56.8% of household have working television according to CSO survey

    As the result of questionnaire, **59%** of people answered that Data broadcasting is very useful

    56.8% * 59%= 34%

A-4-146

PDM indicator

- ## Objectively Verifiable Indicators

  - Overall Goal (3 to 5 years from the end of the Project)

  2. **20** or more number of High Definition (HD) programs are produced per year.

  Currently, **19** programs are produced by BTV annually and assuming that all will be produced in HD and take a round number.

PDM indicator

- ## Objectively Verifiable Indicators

  - Overall Goal (3 to 5 years from the end of the Project)

  3. **3** or more number of programs that linked with the data broadcasting contents are produced per year.

  The number of staff members in television production is **112** (Programmes, Operation, Sport, News and Current Affairs)

  The number of staff members planned in Data broadcasting unit **16**

  19 * 16 / 112 =2.71 take a round number 3

7. Summary of Achievements in the Past 6 months (Sep, 2014 to Mar, 2015) and Activities for the Next 6 months (Apr to Sep, 2015)

	Achievements (Sep, 2014 to Mar, 2015)	Activities (Apr to Sep, 2015)
Technology and Licensing WG	• ISDB-T Standards of Botswana was approved • ASO plan was drafted • Technical Specifications were reviewed	• Complete ASO plan • Complete technical specifications • Complete licensing criteria
Public Relations WG	• Conducted the Mall events • Publicized advertisements on Daily news, the Radio, Television	• Complete draft Public relations plan and implement it accordingly, monitor public awareness campaign by the companies
HD program Production WG	• Training plan has been finalised • Producing feature news programs on Digital migration	• Produce an edutainment program that takes advantage of HD format • Broadcast them
Programing WG	• Market survey has been done	• Analyze the results and create a draft programing schedule and finalize it
Data Broadcasting WG	• Data broadcasting section was discussed and approved • Training was conducted	• Establish a unit • Establish a training system • Produce program linked and non-linked Data broadcasting programs
Training in Japan	• HD studio training in Japan has been completed	• Digital Terrestrial Television Broadcasting (DTTB) Training (including Data broadcasting) will be planned

8. Monitoring Sheet