



MINISTRY OF AGRICULTURE, WATER AND FORESTRY



giz



BGR



CONCEPTUALIZATION AND DESIGN OF A BASIN WATER INFORMATION SYSTEM (BWIS)

Basin Water Information System (BWIS) Validation Workshop

Venue: Polytechnic of Namibia,
Hotel and Tourism School
Date: 30th January 2013

By



Digital PanGea

P.O. Box 6031, Ausspanplatzz, Windhoek

Tel: +264 (0) 855 510 088, Fax +264 (0) 855 055 100 88

Email: info@digitalpangea.com, Website: www.digitalpangea.com

CONTENTS

CONTENTS..... 2

LIST OF FIGURES 3

ACRONYMS..... 4

1.0 WORKSHOP PROCEEDINGS 5

 1.1 Opening and Welcoming Remarks: Ms Maria Amakali, MAWF 5

 1.2 Objective of the Workshop: Digital PanGea 5

 1.3 Introductions by Workshop Participants 5

2.0 WORKSHOP PRESENTATIONS 6

 2.1 Background and status quo of the BWIS consultancy: Digital PanGea 6

 2.2 Development of Current Data Flow Diagrams: Ms Geraldine Pickering - MAWF..... 7

 2.3 Validation & Prioritization of the BWIS outputs (Facts) & Dimensions: Mr. Kebe Mbaye..... 10

 2.4 Development of Dot Models: Mr. Kebe Mbaye 12

3.0 AGREED WAY FORWARD 15

4.0 ANNEXES..... 16

 Annex A: Workshop Program 16

 Annex B: Attendance Register 17

LIST OF FIGURES

Figure 1: DFD by Division of Geo-hydrology.....	7
Figure 2: DFD by Division of Hydrology	8
Figure 3: DFD by Division of Water Planning.....	8
Figure 4: DFD by Division of Water Environment.....	9
Figure 5: DFD by Division of Law Admin.....	9
Figure 6: Facts and Dimensions as identified by Geo-hydrology Division	10
Figure 7: Facts and Dimensions as identified by Hydrology Division	11
Figure 8: Facts and Dimensions as identified by Water Environment Division	11
Figure 9: Facts and Dimensions as identified by Water Planning Division	12
Figure 10: Dot modeling example by the TA	13
Figure 11: Dot model by hydrology Division -Surface water	13
Figure 12: Dot model by Water Planning Division	14
Figure 13: Dot model by Geo-hydrology Division- Ground water levels & quality	14
Figure 14: Dot model by Water Environment Division.....	15

ACRONYMS

BSO	Basin Station Officer
BWIS	Basin Water Integrated System
DRFN	Desert Research Foundation of Namibia
DRM	Directorate Resource Management
IWRM	Integrated Water Resource Management
MAWF	Ministry of Agriculture, Water and Forestry
DPO	Office of the Prime Minister
TA	Technical Advisor
DFD	Data Flow Diagrams
IT	Information Technology

1.0 WORKSHOP PROCEEDINGS

The workshop was held at the Hotel and Tourism of Polytechnic of Namibia. The participants were expected to arrive and register between 7.30 and 8.00am.

1.1 Opening and Welcoming Remarks: Ms Maria Amakali, MAWF

The meeting commenced at 8.15am with welcome and opening remarks from Mary where she gave a brief background of the BWIS project. She underscored the fact that BWIS was borne out of an idea stipulated in the Development of an Integrated Water Resources Management Plan for Namibia, Theme Report 4: The Formation of Information and Knowledge Systems, August 2010. She emphasized the fact that the BWIS has been conceived as an important tool in the water resources sector. Hence, the MAWF commissioned the BWIS project with an overall objective to provide relevant data and information for informed decision making in the water sector at operational, strategic and tactical levels. After making the statements she officially declared the workshop open.

1.2 Objective of the Workshop: Digital PanGea

The consultant from Digital PanGea outlined the objective of the workshop as follows;

- Development of a current data flow diagrams
- Validation of BWIS outputs and dimension
- Development of Conceptual Models as per subject area (Hydrology, Geo-hydrology, Water Environment, Water Planning, Law Administration, Water Supply & Sanitation)

1.3 Introductions by Workshop Participants

An opportunity was given to all participants to introduce themselves and representation of the attendance was as follows;

- MAWF: Officials from the different divisions of the DRM
- BSO: Okavango, Omaruru, Tsumeb, and Lishana;
- Projects: GIZ; UNESCO
- Consultants: Digital PanGea, s

A complete list of workshop participants is attached in Annex B.

2.0 WORKSHOP PRESENTATIONS

2.1 Background and status quo of the BWIS consultancy: Digital PanGea

The consultant gave a brief background on BWIS;

- The Basin Water Information System (BWIS) was conceived during the development of *an Integrated Water Resources Management Plan for Namibia, Theme Report 4: The Formation of Information and Knowledge Systems, August 2010*.
- The overall objective of BWIS is to provide relevant basin water data and information for informed decision making in the water sector at operational, tactical and strategic levels.

The consultant also gave current status of the BWIS and an outline of what deliverables of the assignment have been produced so far i.e.

- Inception Report
- Situation Analysis Report
- Draft System Functional Specifications Document.

It was stated that that the drafting of the BWIS Conceptualization Report is ongoing and that the output of this workshop are going to make a great input to this effect.

Also outlined during the presentation were the findings during the situation analysis which included the existing information systems and challenges in the water sector that could hinder the successful establishment of the BWIS and measures to be taken to mitigate these challenges.

Another aspect presented was the pre-implementation action activities that need to be put in place in order to have an enabling environment for BWIS. These included;

- Sensitization and advocacy for the BWIS among key stakeholders to create awareness and promote ownership of the system.
- Strengthening of the IWRM institutional linkages through periodic meetings on BWIS data standardization, generation and sharing
- Development of a MAWF unified and standardized Information Technology (IT) platform and infrastructure linking and harmonizing the Ministry computer networks, software and hardware
- Development of Information Management procedures and standards, and Information interoperability and sharing framework.

2.2 Development of Current Data Flow Diagrams: Ms Geraldine Pickering - MAWF

This kicked off with a presentation by a staff from the MAWF, who introduced the concept of data flow diagrams to the participants. After which the participants went into groups as per the divisions represented (Hydrology, Geo-hydrology, Water Environment, Water Planning, Law Administration,) The Water Supply & Sanitation did not have representation at the workshop to come up with the current data flow diagrams illustrating the flow of information into and out of their divisions. The exercise was to show what kind of data/information the respective divisions request from stakeholders and also to show what information is generated and shared with stakeholders. The BSOs also participated by joining and working together with the different groups. The Consultants and other officials present went round to make sure that the groups understood what was required of them and helped where necessary.

On completion of the group work, each individual group presented their preliminary findings to which questions and contributions were encouraged. Below are graphical presentations of what the groups came up with;

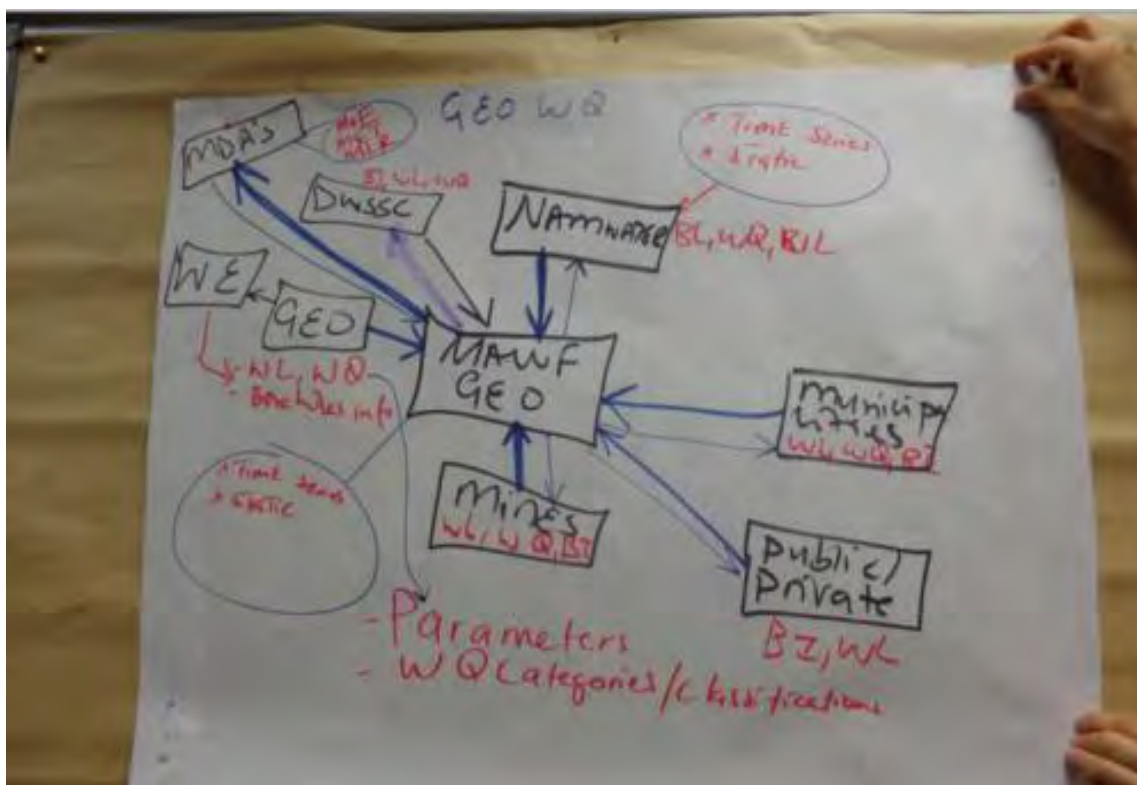


Figure 1: DFD by Division of Geo-hydrology

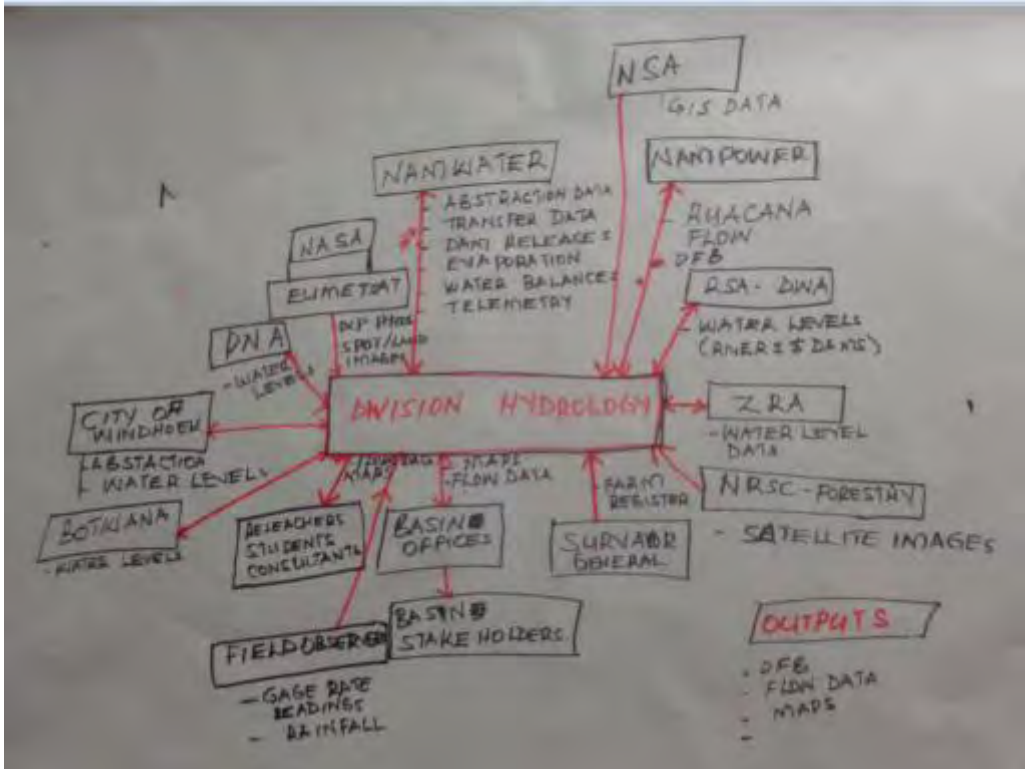


Figure 2: DFD by Division of Hydrology



Figure 3: DFD by Division of Water Planning

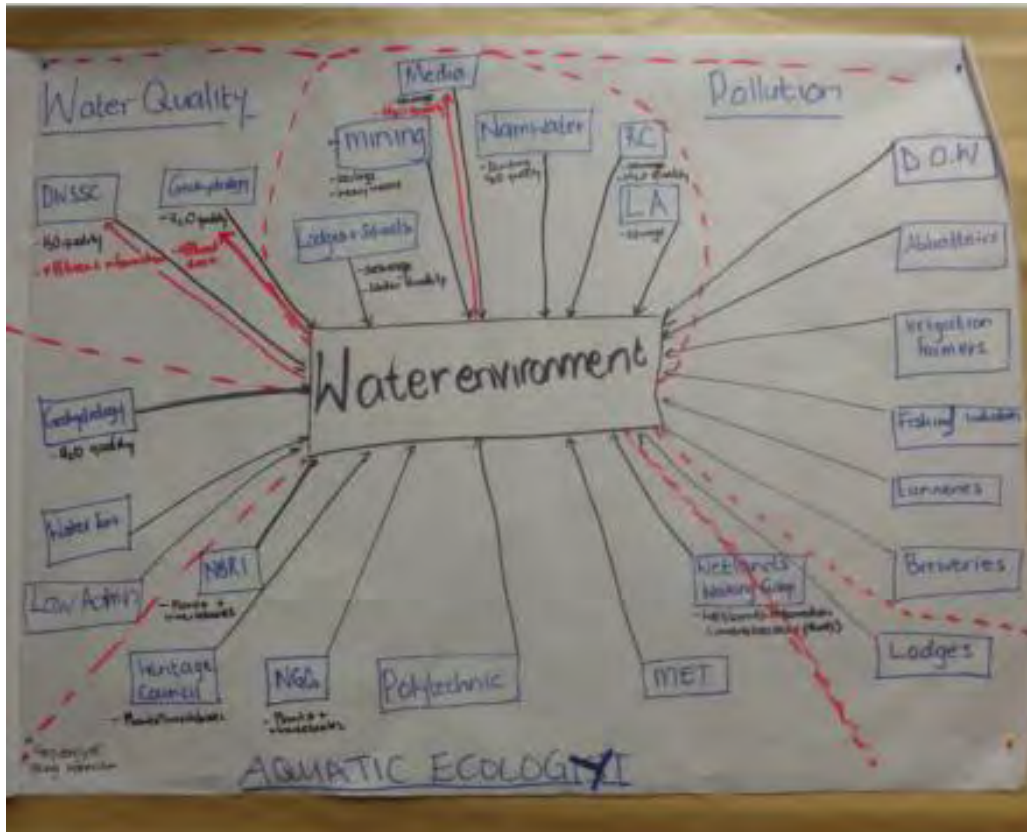


Figure 4: DFD by Division of Water Environment

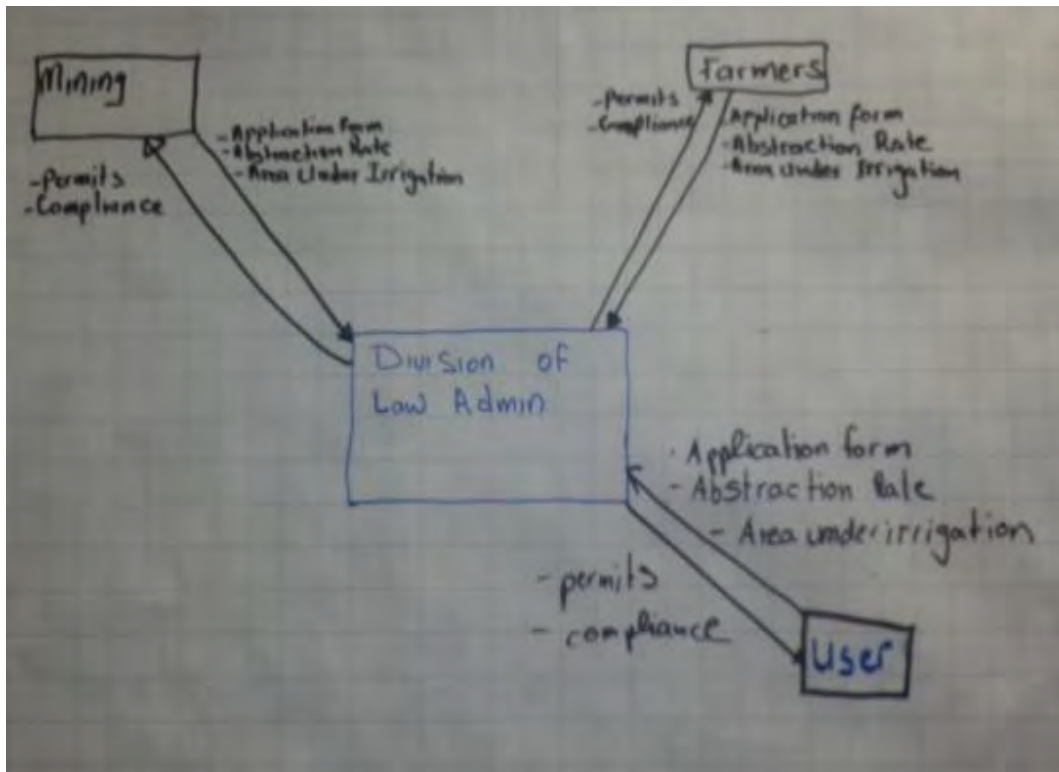


Figure 5: DFD by Division of Law Admin

2.3 Validation & Prioritization of the BWIS outputs (Facts) & Dimensions: Mr. Kebe Mbaye

This session was facilitated by a technical advisor from the DOP, MAWF who introduced the concept to the participants. This aimed at guiding participants into identifying the facts and dimensions derived from the DFDs which would form a basis of the Dot Models for BWIS conceptualization. After the presentation by the TA, the same groups went back into their respective groups to come up with the facts and dimensions for their areas and after which they reconvened and presented to the plenary.

Below are the graphical representations of the group work outcome by the respective groups/divisions: Note: The yellow cards represent the Facts whereas the white ones are the Dimensions.

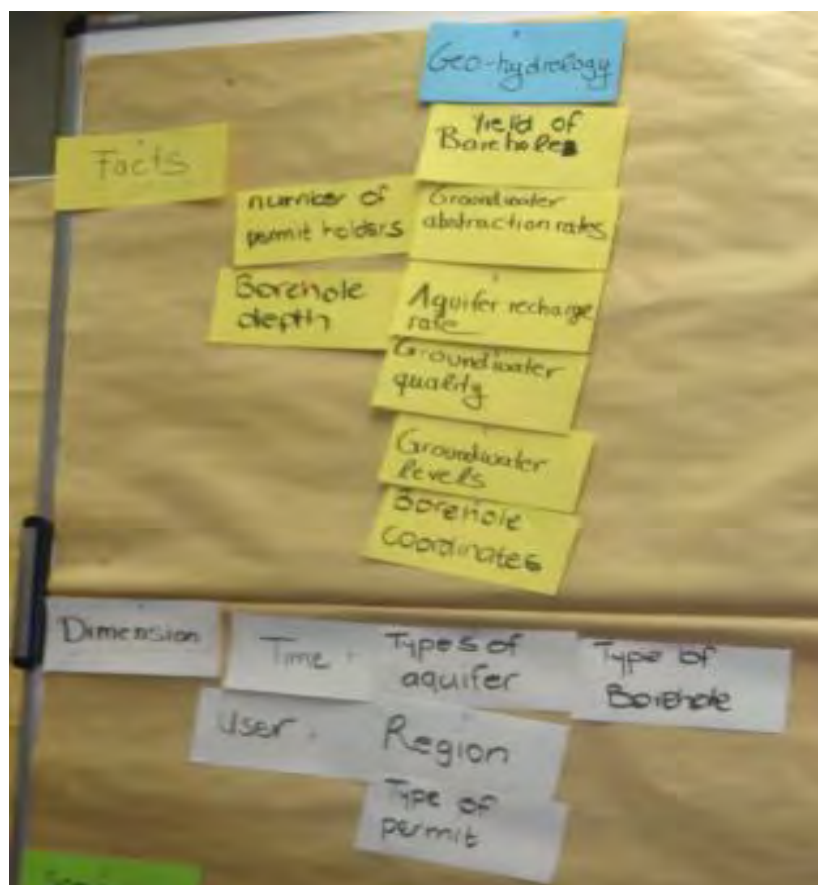


Figure 6: Facts and Dimensions as identified by Geo-hydrology Division



Figure 7: Facts and Dimensions as identified by Hydrology Division

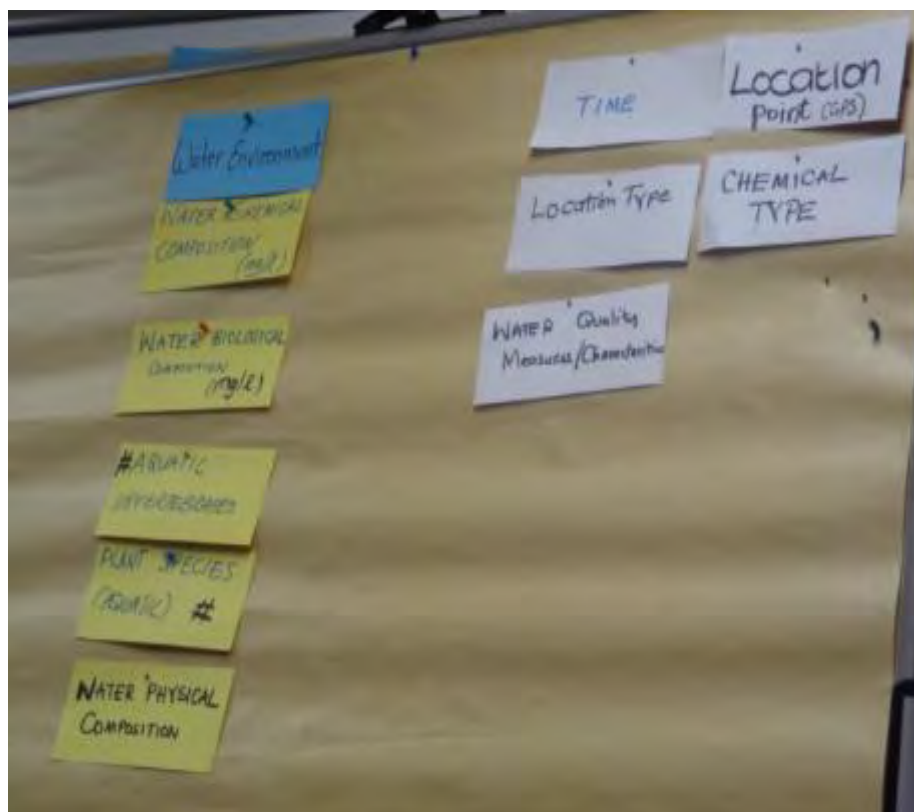


Figure 8: Facts and Dimensions as identified by Water Environment Division

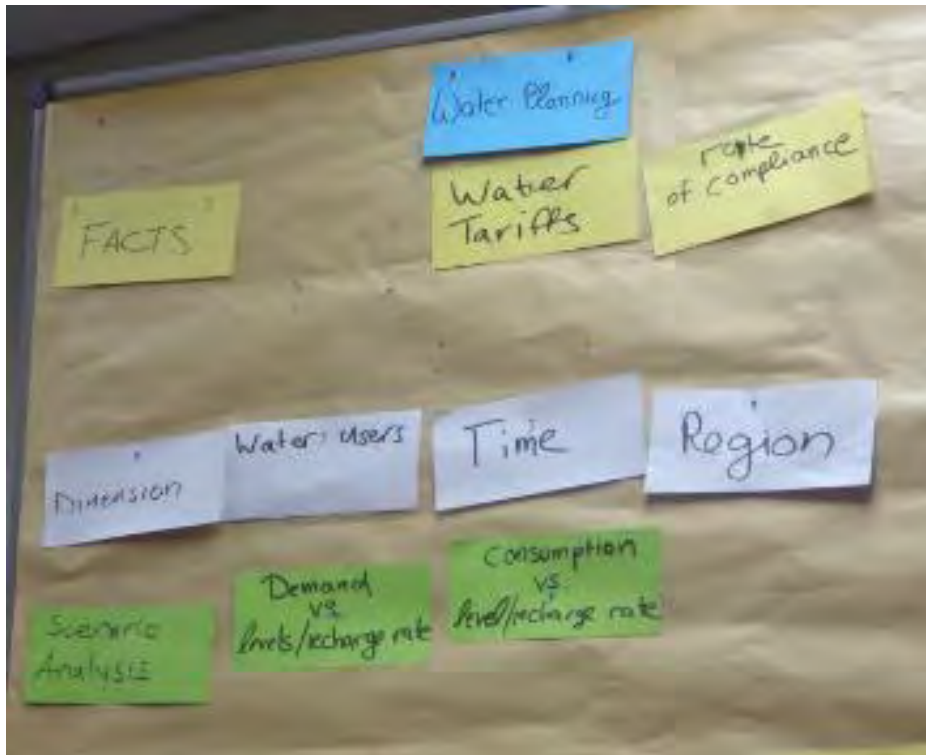


Figure 9: Facts and Dimensions as identified by Water Planning Division

2.4 Development of Dot Models: Mr. Kebe Mbaye

After the groups' presentation of the facts and dimensions, the TA provided a highlight on Dot Modeling. Bellow is the example demonstrated.

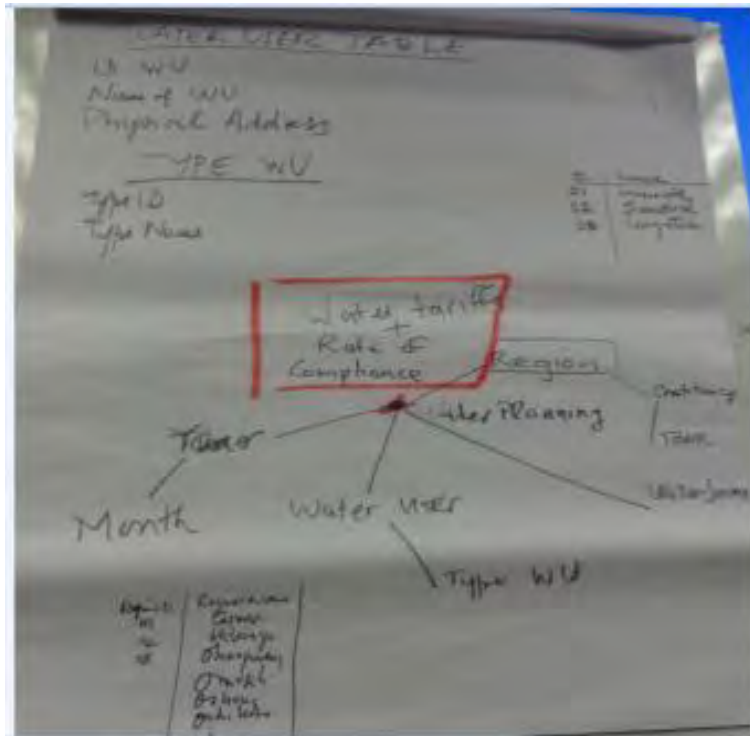


Figure 100: Dot modeling example by the TA

After this presentation, the participants went back into their respective groups with an aim to come up with at least one dot model for the identified facts, naming the relevant dimensions and attribute. These were later discussed to make sure that the participants understood the concept. Below are graphical outputs the groups were able to produce:



Figure 111: Dot model by hydrology Division -Surface water



Figure 122: Dot model by Water Planning Division



Figure 133: Dot model by Geo-hydrology Division- Ground water levels & quality

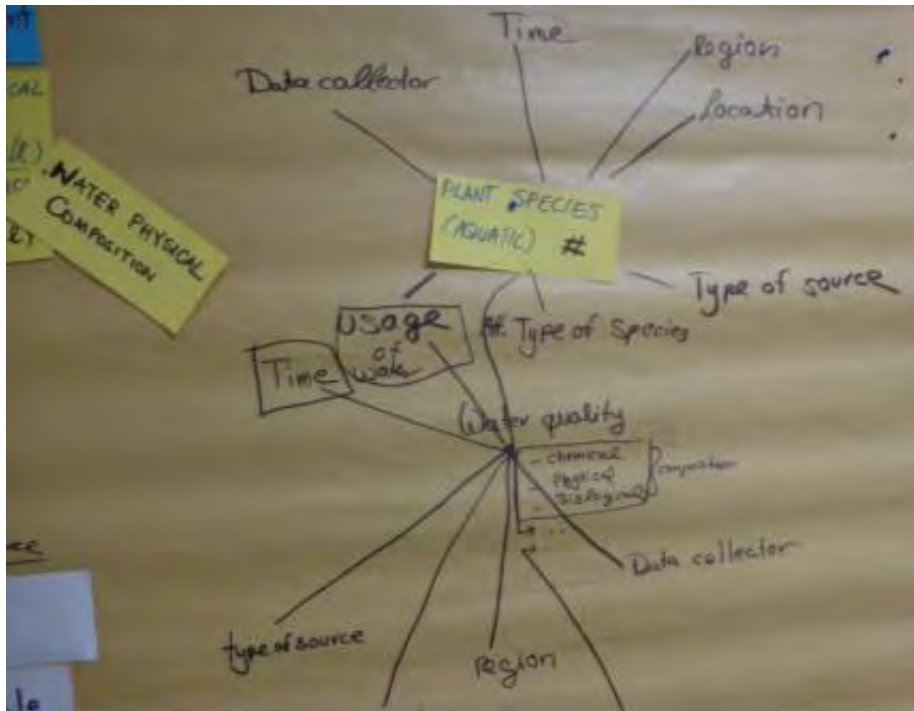


Figure 144: Dot model by Water Environment Division

3.0 AGREED WAY FORWARD

It is important to note that the graphical outcomes from the workshop by the different group, do not present the accurate picture of the Data flow, Facts & Dimensions and the Dot model structures of the ground. The main purpose was to give an understanding of the concepts so that the subject matter specialist can identify and state what it is they would like to see BWIS provide to the users.

As a way forward, it was agreed that the participants go back to their respective divisions and consult with the technical officers in charge of the existing databases and build on what was produced during the workshop to ensure that they depict the real scenario and what they would like to see implemented in the BWIS. The participants were given 2 weeks in which to accomplish this task of coming up with the actual DFDs, Facts & Dimensions. .

It was emphasized that the output for BWIS should and will be defined by the divisions and then the BWIS consultants will actualize these wishes into the Conceptualization report to guide the actual development of the system.

To achieve this, it was agreed that each division should identify 2 officials, one technical and another preferably a Deputy Director, who will supervise this activity and also sign off the outputs to promote ownership of BWIS.

4.0 ANNEXES

Annex A: Workshop Program



giz



BGR



Agenda – Basin Water Information System (BWIS) Validation Workshop

Objective:

1. *Development of a current data flow diagram*
2. *Validation of BWIS outputs and dimension*
3. *Development of Conceptual Models as per subject (Hydrology, Geo-hydrology, Water Environment, Water Planning, Law Administration, Water Supply & Sanitation)*

Time	Topic	Resource Person
7h45	Registration of participants	Intern
08h00	<i>Introductory Session</i> <ol style="list-style-type: none"> a. Opening & Welcoming remarks b. Objective of the Workshop c. Background and status quo of the BWIS consultancy 	M Amakali M Amakali Digital PanGea
08h30	Development of a current data flow diagram <ul style="list-style-type: none"> • Introduction • Break away in groups as per subject • Present to the plenary 	All
10h00	Refreshment Break	All
10h15	Validation and prioritization of the BWIS outputs (facts) and dimensions <ul style="list-style-type: none"> • Introduction • Break away into groups as per subject • Present to the plenary 	All
11h45	Introduction to the Dot Model	Mr. Kebe
13h00	Lunch	All
14h00	Development of Dot Models as per subject groups <ul style="list-style-type: none"> • Break away into groups as per subject 	All
15h45	Refreshment Break	All
16:00	Development of Dot Models as per subject groups <ul style="list-style-type: none"> • Present to plenary 	All
16h50	Agreed way forward	

Annex B: Attendance Register

No	Title	First Name	Surname	Position/Institution	Cell Phone	E-mail Address
1.	Mrs.	Sonja	Berdau	IWRM-CEB Technical Advisor	08 14778464	Sonja.bardau@giz.de
2.	Mrs.	Tuwilika	Haludilu	IWRM-CEB Technical Advisor	0811471797	tuliwilika.haludilu@giz.de
3.	Ms	Amwaama	Aune	MAWF - Chief Hydrologist	081277 7855	AmwaamaA@mawf.gov.na
4.	Ms	Maria	Amakali	DWAF	0812900823	amakalim@mawf.gov.na
5.	Mr.	Emmanuel	Mnzava	Consultant -Digital PanGea	0817342942	davemmad@yahoo.com
6.	Ms	Agnes	Munalitsi	Consultant -Digital PanGea	0816428664	agnes.munalitsi@digitalpangea.com
7.	Mr.	Martin	Neumann	GIZ	0811403066	martin.neumann@giz.de
8.	Mr.	Silvanus	Uunona	OLBMC	0812792212	unonas@gmail.com
9.	Mr.	Jabian	Linus	OFBM	0812393062	linus20053@yahoo.com
10.	Mr.	Reinhold	Kambuli	BSO-Okavango	0812052285	rkambuli@yahoo.co.uk
11.	Mr.	Constantine	Bitwayiki	Consultant -Digital PanGea	0816428683	cbitwayiki@yahoo.com
12.	Mr.	Taddeus	Nakangombe	ROSO-KBMC	0812338046	kamuvulundje@gmail.com
13.	Ms	Anna	Haufiku	BSO-NSBMC	0812811934	anna.hausiku@giz.de

No.	Title	First Name	Surname	Position/Institution	Cell Phone	E-mail Address
14.	Ms	Penehafo	Shidute	Geo-hydrology	0811271071	shidutep@mawf.gov.na
15.	Ms	Helvi	Shalongo	GIZ-Intern	0814210000	helvi.shalongo@giz.de
16.	Ms	Thomas	Mayday	BSO-Tsumeb	0814035251	angeliaus37@gmail.com
17.	Mr.	Leonard	Hango	BSO-Lishana	0812434895	ronyhango@yahoo.com
18.	Mr.	Leo	Maruwasa	Consultant -Digital PanGea	0855510088	leo.maruwasa@digitalpangea.com
19.	Mr.	Martin	Quingor	BGR	0816485129	martin.quingor@bgr.de
20.	Mr.	Kebe	Mbaye	DOP-MAWF	061 2087658	mbaykebe@gmail.com
21.	Mr.	Jaenena	Muatjetjeja	DGS-MAWF	061 2087551	muatjetjeja@mawf.gov.na
22.	Ms	Geraldine	Diergaardt	Hydrology-MAWF	061 2087233	pickeringg@mawf.gov.na
23.	Ms	Selma	Kanandjembo	Water Planning-MAWF	061 2087009	kanandjembs@mawf.gov.na
24.	Mr.	Bernhardt	Haraseb	BSO-Omaruru	0812938396	bbrahaseb@yahoo.com
25.	Mr.	Youssef	Filali	UNESCO	0813312846	y.filali-meknassi@unesco.org
26.	Ms	Lineekela	Shalongo	GIZ-IT Consultant	0814297772	shalongoln@gmail.com