

**The Political Economy and Coalitions in Botswana's Water Sector
Reform 2009-13: to what extent can the process of reform be
understood?**

by

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Abstract

This thesis examines the process of water sector reform in Botswana, focusing on barriers to effective delivery of clean water and improved sanitation services (WSS) to all, and water resource management (WRM), in a water insecure country, dependent for surface water on international river basin organisations. The study provides a critical analysis of policy change in progress. The impact of the water reforms on the poor and the process of centralising control of WSS, from both tribal and local authorities and the problems encountered are addressed. This study first reviews Botswana's historical and recent performance on WRM and WSS and examines the underlying drivers and early outcomes of the recent major reform process.

Advocacy Coalition Theory (Weible et al 2009, 2008; Sabatier and Jenkins-Smith 1999, 1993) provides the theoretical basis to give insights into the processes of policy reform. The research uses documents and observations of government policy planning and implementation processes from 2010 to 2013. Insights are also drawn from key informant interviews and focus groups from village to national level. The results show the relevance of Advocacy Coalition Theory to Botswana's history of water sector reform; a struggle between a pre-2009 hydro-mission coalition comprised of an elite, grown successful on mining revenues and the culture of cattle; to a post-2009 coalition formed broadly around concern about water availability and an ecological culture that harks back to the past. Changes include new tariff reform policies, which could be seen as running counter to Water Demand Management (WDM), as they are mitigated within the Government's policies of poverty eradication. The centralisation of WSS provision under a Parastatal, the Water Utilities Corporation, has been completed.

A new Water Policy and Regulator, set to be established, appears to reflect the gradual success of the more environmentally focused coalition, seeking stronger water secure independent IWRM and WDM policies. This process is still in play and it will require strong political will to complete Botswana's transition to a sustainable water-based political economy. Lessons about surmounting the barriers to effective IWRM and National WRM and delivery of WSS elsewhere in developing countries could be learned from the policy processes in this geographically large, water constrained African country.

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List of Acronyms:

AFUR	African Forum for Utility Regulators
ALAN	Association of Local Authorities in Namibia
AMCOW	African Ministerial Committee on Water
AWEPA	Association of European Parliamentarians with Africa
BALA	Botswana Association of Local Authorities
BCC	Botswana Council of Churches
BDP	Botswana Democratic Party (in power)
BEA	Botswana Environment Authority (proposed by MM as alternative to WRC)
BEWRA	Botswana Energy and Water Regulatory Authority
BFTU	Botswana Federation of Trade Unions
BIWRMWE	Botswana Integrated Water Resource Management - Water Efficiency
BOCCIM	Botswana Confederation of Commerce, Industry and Manpower
BOCONGO	Botswana Council of NGOs
BOFEPUSU	Botswana Federation of Public Sector Unions
BP	Botswana Pula, unit of Botswana currency
BPC	Botswana Power Corporation
CAR	Centre for Applied Research: WRM consultancy in Botswana
CCA	SADC Climate Change Adaptation Strategy for Water
CEDA	Citizen Entrepreneurial Development Agency
CLGF	Commonwealth Local Government Forum
CLTS	Community-led Total Sanitation
CKGR	Central Kalahari Game Reserve (from 1961)
COP	Committee of the Parties to the Kyoto Protocol

COWSO	Community Owned Water Supply Organization
CPRT	Common Property Resource Theory
CPTM	Commonwealth Partnership for Technology Management which supports Smart Partnerships such as Vision 2016 in Botswana
CSO	Civil Society Organisations
DC	District Councils
DDP	District Development Plans
DEAT	Department of Environmental Affairs, South Africa
DGS	Department of Geological Surveys (under MMEWR)
DMS	Department of Meteorological Surveys (under MEWT)
DNA	Designated National Authority of GOB to UNFCCC (MEWT)
DWA	Department of Water Affairs (under MMEWR)
DWM	Department of Waste Management (in MEWT)
DWAF	Department of Water Affairs and Forestry, South Africa
EA	Environment Agency (England and Wales)
ENSO	El Nino/Southern Oscillation
ESKOM	South Africa Electricity Utility
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FBW	Free Basic Water Policy (as for example in South Africa)
FG	Focus Group(s)
FGA	Focus Group in Artesia, Kgatleng District
FGB	Focus Group in Broadhurst, Gaborone
FGMA	Focus Group in Matebeleng, Kgatleng District
FGMO	Focus Group in Mochudi, Kgatleng District
FGOD	Focus Group in Olifants Drift, Kgatleng District

FGON	Focus Group in Old Naledi, Gaborone
FSM	Farmers Stakeholder Meeting in Ghanzi
GCC	Gaborone City Council
GCM	Global Climate Model
GIZ	German International Aid Agency (formerly GTZ)
GOB	Government of Botswana
GRACE	Gravity Recovery and Climate Experiment NASA satellite
GWP	Global Water Partnership
GWPB	Global Water Partnership Botswana
HRWS	Human right to water and sanitation
ICESCR	International Convention on Economic, Social and Cultural Rights
ICLEI	International Council for Environmental Initiatives
ICM	Integrated Catchment Management
IDASA	Institute for Democracy in Africa
IDO	International Development (and Donor) Organisations
IDWS	Improved Drinking-Water Sources
IIED	International Institute for Environment and Development
INGO	International Non Government Organisation
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producers
ISARM	Internationally Shared Aquifer Resources Management
IWRM	Integrated Water Resource Management
KCS	Kalahari Conservation Society (in charge of Botswana IWRM-WE 2009/2012)
KD	Kgatleng District

KDC	Kgatleng District Council
KDLB	Kgatleng District Land Board
KII	Key Informant Interviews
LIMCOM	Limpopo River Basin Commission
LIMS	Land Information Management System
MEWT	Ministry of the Environment, Wildlife and Tourism
MDGs	Millennium Development Goals
MDP-ESA	Municipal Development Partnership for Eastern and Southern Africa
MFADP	Ministry of Finance and Development Planning
MLG	Ministry of Local Government
MM	Mott McDonald, authors of the Water Regulator paper 2011
MMEWR	Ministry of Mining, Energy and Water Resources
MOA	Ministry of Agriculture
MOLAH	Ministry of Lands and Housing
MOPAPA	Ministry of Presidential Affairs and Public Administration
MOTI	Ministry of Trade and Industry
Na	Namibia
NA	National Assembly (of Botswana)
NALCGPWU	National Amalgamated Local, Central Government and Parastatal Workers Union (WUC Trade Union)
NEF	New Economics Foundation
NDP	National Development Plan (2009-2016)
NEPAD	New Partnership for African Development (from 2002)
NMPSW	National Master Plan for Sanitation and Wastewater 2003
NSC	North-South Carrier of Water
NWMP	National Water Master Plan 1992
NWMR	National Water Master Plan Review 2006
NWP	National Water Policy 2010 and the amended in 2012
NWRM	National Water Resource Management

ODA	Official Development Assistance (Overseas Aid)
ODers	Open Defecators
ODF	Open Defecation Free
OFWAT	Office of Water Regulation for England and Wales
OKACOM	Okavango River Basin Commission
ORASECOM	Orange and Senqu Rivers Basin Commission
PDL	Poverty Datum Line used in Botswana
PEI	Poverty and Environment Initiative (from UNDP)
PLHA	People Living with HIV/Aids
PSP	Private Sector Partnership
PQ	Parliamentary Question in the National Assembly
RAD	Remote Area Dwellers (often Basarwa)
RBO	River Basin Organisation
RE	Renewable Energy
RTS	Right to Sanitation
RTW	Right to Water
SA	South Africa
SADC	Southern African Development Community
SASSCAL	Southern Africa Science Service Centre for Climate Change and Adaptive Land Management (based in Namibia)
SANWATCE	Southern Africa Network of Water Centres of Excellence
SDG	Sustainable Development Goals discussed at the 2013 UNGA
SHAA	Self-Help Housing Agency (owner occupied housing often with additional accommodation for rent in yard)
SIWI	Swedish International Water Institute
SnA	Southern Africa
SWA	Sanitation and Water for All
TA	Tribal Administration
TBIWRM	Transboundary Integrated Water Resource Management

TBWC	TransBoundary Water Commissions
TGLP	Tribal Grazing Land Policies
UB	University of Botswana
UCLGA	United Cities and Local Government Association
ULGS	Unified Local Government Service
UNEP	United Nations Environment Programme
UNESCR	United Nations Economic and Social Commission on Rights
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNICEF	United Nations Children's Fund
USAID	United States International Aid Agency
V2016	Vision 2016
VDC	Village Development Committees
VIPL	Ventilated Improved Pit Latrines
WAB	Water Apportionment Board set out in the Water Act 1968
WASH	Water, Sanitation and Hygiene
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WB	World Bank
WBSS	Water Based Sanitation Services
WDM	Water Demand Management
WRC	Water Resources Council proposed in NWMP and NWMPR
WRM	Water Resource Management
WRU	Water Reform Unit
WSS	Water and Sanitation Services

WSN	Water and Sanitation Network (UCLGA)
WSRP	Water Sector Restructuring Project in Botswana
WSSCC	Water Supply and Sanitation Collaboration Council
WUA	Water User Association
WUC	Water Utilities Corporation
WUC KD	Water Utilities Corporation Kgatleng District
ZAMCOM	Zambezi River Basin Commission
ZIADP	Zambezi Integrated Agricultural Development Project in the Pandamatenga area of Botswana

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“To love water is to love what gives us life. To protect it is to protect ourselves and other forms of life. To pollute and destroy it is to pollute and destroy ourselves and other forms of life.”

David Krieger, Santa Barbara, July 2013

Chapter One: Introduction

1.1 Water sector reform: a global phenomenon

In 2013, there are still worldwide some 783 million people without access to potable water, and 2.6 billion¹ people without improved sanitation (UN 2013:42 & 43; Water Aid 2013:4:7; Green 2012:38). In Sub-Saharan Africa, the percentage figures for access to potable water are 61% and improved sanitation 30% (Water Aid 2012: 8 and 9). The global agenda for water sector reform to eliminate these gaps in provision is encompassed in the 2013 proposed UN Sustainable Development Goal (SDG) Six (UN 2013:42). The barriers to achieving sustainable water management are widely discussed in the academic literature (Hepworth 2009; Alhassen 2008; Allan 2003) and are seen as threefold: the availability of water resources; the availability of finance to deliver the infrastructure to provide access to water and improved sanitation; and the processes to ensure that water resources are available, accessed and allocated in an equitable manner, affordable and timely. There is a view that the 'major barrier to water sector reform is the poor governance of these processes' (OECD 2011:26).

The processes around decision-making on water sector reform are multi-scalar, and involve all levels of management from the village administration up to the national state (OECD 2013; Bolding and Wester 2005). Above the national level are the impacts of multi-state negotiation over transboundary rivers and aquifers. The actors in these processes are also multi-level. They can be motivated by altruism to deliver sustainable water resource management (WRM) and the universal availability of water and sanitation services (WSS). However, they, the actors, may also influence the power-play of control of resources of finance and water to ends that may or may not be to the advantage of either water resource sustainability or the people reliant on the resource (Gilmont 2013a). This thesis poses questions about the processes of

¹ 1.1 billion still defecate in the open

reform in WRM and its aims to deliver sustainable clean water and improved sanitation services (WSS), by examining the process in one country, Botswana.

Botswana is chosen as it was identified as an 'outstanding performer' on WSS (World Bank [WB] 2012). It was one of the poorest countries in the world at Independence in 1966 with a GNI per capita income of \$US 50. In 2011, the GNI per capita figure was US\$ 7,480 (WB 2011). This monetary increase was accompanied by the provision of universal healthcare and education at all levels. Access to potable water has been claimed to have increased from 40% to 98%, and for improved sanitation from 20% to 80% in the same period (WB 2011). The figures claimed for the rural areas were significantly lower (Table 2.2 and 2.3: UNICEF 2012). The Government of Botswana (GOB) engaged on water sector reforms to improve its performance in terms of equity, affordability and efficiency (GOB 2010a). Botswana is unusual in this high claim of provision of WSS (AMCOW 2012), and in its plans to become a WRM and WSS provider at a similar standard to that of provision in developed countries (GOB 2010a). But it was only at the time of the research for this thesis that Botswana began to fully address the processes of Integrated Water Resource Management (IWRM) and National Water Resource Management (NWRM) in the understanding and long-term planning of sustainable allocation of its water resources. The situation in other countries may be different and no common panacea in terms of institutional arrangements or water management is universally possible (Ingram 2013). However, an understanding of the processes of water reform in Botswana, analysed in this thesis, whilst context specific, could be of wide interest in other developing countries which are similar with respect to water availability, culture and institutional frameworks.

1.2 The scope of the study

This thesis outlines the worldwide situation on water reform in the literature review (Chapter Two). It uses UN, WB, intergovernmental reports and academic analysis, and concentrates on issues related to availability of water resources, finance and the processes that cause difficulties in delivering positive outcomes in water stressed countries. It then looks at the position of Botswana WRM and

WSS through the published sources and data. The period of analysis of policy literature dates from the introduction of organised water policy in Botswana in the 1920s through to 2013. The main time period for the fieldwork covers September 2010 - July 2011, examining the work of the WB for the GOB (September- November 2010), a period of consultation with stakeholders on Water Demand Management (WDM) and through to the finalising, in June 2011, of the water policy detail to go to the GOB Cabinet, with the final policy to be decided at the National Assembly (NA) in 2014 (GOB 2012d).

The WRM approach in Botswana was planned to move from a predict and provide, hydro-mission, with a subsidised supply-side approach, to a new basis of management of demand. This is to take place through the delivery of consumer domestic services of potable water and improved sanitation moving from local government and central government Department of Water Affairs (DWA), to a centralised parastatal, the Water Utilities Corporation (WUC). There has been a progressively staged change from localised, often low capacity, managed facilities to a centralised merit-based management. The changes took place in tranches of villages over a five year period (2009-13). The movement of existing staff and the recruitment of new employees for WUC operations across Botswana led to new management and trade union practices.

The research encompasses the roles of regional actors working on transboundary water issues, through the Southern Africa Development Community (SADC), based in Gaborone, Botswana, together with the interaction of the international donors such as German International Aid Agency (GIZ), part-funded for their work in SADC by the UK Department for International Development (DFID), and the Stockholm International Water Institute (SIWI). National players, such as politicians, civil servants, civil society and the private sector, were also engaged in the processes which sought to bring about a centrally directed NWRM, as set out in the National Master Water Plan Review (NMWPR) proposals (GOB 2006c) and, at the same time, overlay a Botswana IWRM, involving all stakeholders according to international norms (GWP 2002).

Within the research, voices of the Batswana poor were sought in relation to the WRM and WSS processes through six focus groups at different locations and levels within Botswana society, held February – June 2011. The overall research is in turn placed within Botswana's historical context over the last 150 years since Tswana tribes moved to Botswana. Comparators to the processes in Botswana were collected from data and experiences for Namibia and South Africa. Central to the data collection for Namibia were meetings with key informants in Windhoek in November 2010 and February 2011. Similar meetings took place in March 2011 in South Africa around the African Ministerial Committee on Water (AMCOW) meeting and a Food and Agriculture (FAO) conference that took place in Cape Town to celebrate UN World Water Day in 2011. The researcher returned to Botswana during April-May 2013 for final fieldwork to test whether the original fieldwork conclusions still held.

1.3 Research questions and thesis structure

The overarching research question addressed in this research is:

The Political Economy and coalitions in Botswana's water sector reform 2009-13: to what extent can the process of reform be understood?

The reforms proposed in Botswana were wide reaching and the research sought to understand the extent to which a conceptual framework based on advocacy coalition (AC) could explain the shifts in consensus around key aspects of the ongoing policy reforms in the water sector. A series of sub-questions were structured to explore several complementary elements of the main issue:

- What was the governance of WRM and WSS in Botswana prior to the 2009 Water Reform process?
- What were the underlying drivers of water sector reform in Botswana in 2009-2011?

- What were the WRM and WSS reforms 2009-2013 that came under consideration and how did they evolve?
- What are the outcomes of the reform process in terms of institutional responsibility for WRM and WSS?
- What were the impacts on the poor of the water reforms in the post Independence AC and the post 2009 AC

The structure of the thesis to answer these questions is as follows:

Chapter Two: A literature review of the theory and concepts of water and sanitation reforms

This provides context to the research questions by reviewing relevant academic research across the world and particularly in developing countries. This chapter reviews the current critiques of WRM and identifies the working model within which regulatory WRM is becoming adopted. The current position of Botswana on WRM and WSS is identified in the context of its hydrology, political structure and economy, as a starting point for understanding the new water sector reforms.

Chapter Three: The Conceptual Framework

This contains an exploration of the concepts that have traditionally framed research into WRM. Included is an academic review of the application of theory of political economy approaches to WRM and the change resulting from the recognition by society of ecological limits. The chapter explores the use of the conceptual framework of Advocacy Coalition Theory (ACT) (Weible et al 2009, 2008; Sabatier and Jenkin-Smith 1999,1993) in explaining change, and particularly, water sector reform processes elsewhere, for example Spain (Bukowski 2007), USA (Weible and Sabatier 2004; Ellison 1998) and Ghana (Ainuso 2009). ACT is tentatively suggested as an explanatory framework for the processes and decision-making by key players in Botswana.

Chapter Four: The Research Methodology

This Chapter details how data have been systematically gathered, based on Blaikie's structure (2012), in order to answer the research questions. Primary data came from key informant interviews (KII), a survey and six focus groups (FG) covering the range of locations used in the research; the capital, Gaborone (2), and Kgatleng District (4: a peri-urban village, an urban village, a riverine village and a cattle post centre). Secondary data are primarily accessed from GOB and WB documents. The process of data gathering is outlined here and shown in detail in Appendix Three.

Chapter Five: What was the governance of WRM and WSS in Botswana prior to the 2009 Water Reform process?

This Chapter is based on a Botswana specific academic literature review and GOB sources. The chapter analyses the decentralised and multi-ministerial basis on which WSS were delivered in Botswana prior to the reform process commenced in 2009. The KIs and FG views of the nature of WSS in the past are also analysed.

Chapter Six: What were the underlying drivers of water sector reform in Botswana 2009-11? To what extent did the national and international perceptions of water scarcity affect WRM decision-making at all levels in Botswana in 2010-2011?

Details are given in this chapter of international, regional, national and local drivers, including physical, religious, economic, political and social factors, expressed in terms of their physical and sociological influence on water availability. Analysis of the scale of influence of these drivers becomes integral to the thesis. The research demonstrates that a national view of water scarcity was ambivalent as demonstrated by KII and FG analysis. The international view of Botswana has remained one of a country with regular droughts, and, even in years of good rainfall, water scarcity (Hulme 1996). The increasing national household water demands, from population increase and increasing standards

of living, overlays any theoretical perception of water scarcity. The tension between the national and international perceptions is examined.

The Chapter goes on to explore the processes that contributed to the potential for change and to examine drivers of change that placed water reform on the agenda.

It looks at the processes of post Independence development planning and of Vision 2016. It examines the 'coalitions' of societal interests, supported by a highly trained civil service (Pickard 1987:147) that led to the National Water Reviews (GOB 1992 and GOB 2006c). An alternative process for a Botswana National IWRM-Water Efficiency (BNIWRM-WE) plan was launched in 2010; data on the perceived BNIWRM-WE drivers of change is analysed from research conducted at the Maun October 2010 workshop.

Chapter Seven: What were the proposed WRM and WSS reforms during 2009-2013 and how did they evolve?

The changes included the centralisation of all WRM and WSS within Ministry of Mining, Energy and Water Resources (MMEWR) through a new Water Resources Council (WRC), with WSS provided by the WUC (GOB 2010a). This is traced to the 1991 NWMP, confirmed in the 2006 NWMPR, worked through in the WB papers of 2008-10 and carried out from 2009. Analysis is provided of the outcomes of the stakeholder consultation meetings and final civil service response at the ministerial meeting in Kasane in June 2011. The changes in the final Water Policy (GOB 2012d) are examined and assessed against the original aim of the reforms.

Chapter Eight: How are the traditional forms of government reacting to the change in their authority over land and water brought about by the elected government in Botswana? What were the outcomes of the post 2009 reform process in terms of institutional responsibility for WSS?

The Chapter examines the changes in Botswana society, with the demotion of the role of traditional chiefs (Kgosi) at Independence in 1966 and, with this, a reduction in direct power over land and water provision in the villages and rural areas. The local institutions responsible for water post independence are now with the changes, only advocates for their electorate. The data from KII and from FGs is used.

Chapter Nine: What were the impacts on the poor of the water policies: pre and post reform?

The position of the Botswana Government on prioritising poverty reduction and particularly the use of WRM to achieve these ends is examined initially for the period 1966-2009, and then in the water reform period post-2009. The position of the San, representing the right to water for indigenous minorities, is analysed in terms of the Botswana Appeal Court water judgement of January 2011. Its implications for Botswana and beyond are explored in terms of both indigenous rights and the broader right to water. This includes the examination of the alternatives of the free water policy of neighbouring South Africa and the stepped approach adopted by Botswana (and Namibia).

The data on the tariff structures 2009-13 is analysed. The potential introduction of the Water Regulator is examined as an attempt to both remove the Government from the tariff issue and also to require the Water Utilities Corporation (WUC) to address poverty eradication. There follows a data analysis of KII and FGs on the different possible impacts of the Water Reforms and the decisions of the GOB. The Chapter goes on to examine the extent to which the reforms have addressed poverty and equity in the main locations of Batswana life: in the villages, at the lands and at the cattle posts. Comparisons are made between the original (GOB 2010a) and final water policy proposals (2012d) and their impact on the poor.

Chapter Ten: To what extent, has the conceptual framework used in the thesis been vindicated?

This chapter examines the evidence from Chapters Five to Nine as to whether the conceptual framework proposed in Chapter Three of an Advocacy Coalition Theory (ACT) is central to understanding the post-1966 WSS hydro mission driven WRM approach and now post-2009 a new Advocacy Coalition being formed around WDM and IWRM.

The thesis concludes in **Chapter Eleven** where answers to the Research Questions, addressed throughout the thesis, are tentatively brought together and summarised.

Chapter Two: Literature Review and Background

2.1 Chapter overview

This Literature Review places the water reforms in the context of international Water Resource Management (WRM) and the delivery of Water and Sanitation Services (WSS), and Botswana history and culture, politics, economy and hydrology. It reviews the current academic theories relating to the understanding of the processes and choices behind the management of water resources. It reviews the five phase model of WRM (Allan 2003), the development of IWRM (GWP 2000), water scarcity analysis (Falkenmark 1990) and the issues of alternative delivery mechanisms of centralisation and decentralisation for WRM and WSS. The main drivers in water sector reform processes are introduced. It then proceeds to ground the discussion of these choices within the context of the 2009 proposed water reforms in Botswana. The review aims to highlight the main issues and background relevant to understand water sector reform in Botswana.

2.2 Water Resource Management (WRM)

There has been a global concern about the failure to deliver potable water and improved sanitation to all (UNDP 2006). It has led to the proposed Goal Six of the Post 2015 Sustainable Development Goals (SDG) (UN 2013: Annex II, 42). But while ‘temporal and spatial distribution [of water] can be problematic, it is the management of water and water resources, rather than physical availability which [is] at its crux’ (Hepworth 2009:11).

Water Resource Management (WRM) has been a contested academic and hydrological concept for the past 50 years (Meinzen-Dick 2007). WRM has been perceived as having passed through five phases (Allan 2003). The first phase was seen as pre-modern (pre-1900), and the second, that of the ‘hydraulic mission’ to deliver ‘industrial modernity’. From the 1980s, thinking has moved, in an age of uncertainty, to one of ‘reflexive modernity’ (Beck 1994) based on the ecology movement, and then, a fourth phase relating to the

economic value of water. Lastly is a concept of 'neoliberal modernity' (Allan 2003).

The Dublin Principles (ICWE 1992) and the subsequent concept of Integrated Water Resource Management (IWRM), based on river basins has been defined as:

'seeki[ng] to address a country's key water-related development problems – water for health, for food, for energy, for environment – more effectively and efficiently ... Integrated approaches, of course, will imply deliberately moving away from fragmented approaches. On the natural system front, they might involve integration of land and water management, of surface water and groundwater management, of quantity and quality, and of upstream and downstream water-related interests. On the human system front, they might involve ensuring that policies and priorities take account of water resource implications, that there is cross-sectoral integration in policy development, that macro-economic effects of water resource development are properly accounted for,] Inherent in an IWRM approach is the recognition that truly sustainable water resources management involves managing demand, not just supply'

(GWP quoted in Grigg 2008:279)

This has led to a developed country consensus around water as scarce, to be paid for, within a market economy (Grigg 2008; GWP 2000). IWRM has been managed through government regulation and has been seen as yielding 'significant societal benefits in Europe' (Hepworth 2009:11). Concern about climate change and its implications for water has led to the view that water is going to become even scarcer in some regions, particularly within sub-Saharan Africa (SSA) (UNFCCC 2007). The World Bank (WB) has supported this perspective and encouraged the recognition of the economic cost of water through the full cost recovery pricing of water and the introduction of the market (Swatuk 2008). The WB have also pressed an agenda of water rights,

decentralised WRM and the full participation in decision-making by all water users, particularly by the poorest in society (Salman and Bradlow 2008:14). The combination of a ‘reflexive modernity’ model² with a full market model in the North has not chimed with models endorsed by governments of countries in the South and particularly in Africa, which have sought to enable rapid expansion to achieve water and sanitation rights for all (UNDP 2006). The high availability of water in many parts of Africa has not always meant high levels of access, because of the lack of investment in water infrastructure (*ibid*). WRM in Africa has been based on the ‘industrial modernity’ paradigm (Allan 2003), as the hydraulic mission of the water engineers has continued to favour delivering water to exporting extractive industries and irrigated agriculture. Where these latter needs are not high, water is often seen to be within the pre-nineteenth century ‘pre-modern’ paradigm, where it is available as a free common good, provided out of local streams and boreholes and generally managed locally, according to customary rights (Schapera 1971:1938b).

In recognition of the political nature of resource management decisions, IWRM was re-designated as Integrated Water Resource and Allocation Management (IWRAM) (Allan 2003a). Allocation decisions, it was proposed, were not made on ecological grounds, but on political ones, by the elites for their own purposes (*ibid*; Allan 2003b). The principles of IWRM have been criticised for being unrealistic (Biswas 2004). The use of river basin systems, which are often transboundary for WRM, has been seen as impractical, and a state-based WRM within political borders, in the concept of a ‘territorial’ WRM, is the norm (Sitorus 2008). It has been pointed out that the Columbia River Treaty is not basin based but state based (Giordano and Shah 2013:8). This analysis of WRM being driven by political decision making, could lead to the conceptualisation of IWRM as being within two competing concepts, the prescriptive ‘Dublin Principles IWRM’ based on river basins, and a more pragmatic politically deliverable ‘Rio Agenda 21 IWRM’ based on political borders. These two concepts from the successive 1992 conferences are shown in Table 2.1.

² This can be defined as understanding the ecological risk contained within a modern industrial society (Beck 1994)

Dimension	'Pragmatic' Rio	'Prescriptive' Dublin
Economic		
Characterised as	<p>Developmental</p> <ul style="list-style-type: none"> • Nature of water • Priority of economic instruments • Priority setting • Role of private sector 	<p>Washington Consensus</p> <ul style="list-style-type: none"> • Economic good • High priority for economic instruments • Stakeholder participation; economic instruments • High priority for role of private sector; limited government
Institutional, international		
Characterised as	<p>Multilateralism continued</p> <ul style="list-style-type: none"> • Trans-boundary approaches • Institutionalisation of global water 	<p>Retreat from multilateralism</p> <ul style="list-style-type: none"> • River basin organisations • World Water Council outside intergovernmental domain
Environmental		
Characterised as	<p>Balance needs of people and environment</p> <ul style="list-style-type: none"> • Infrastructure development a key element • Effective implementation and coordination required • Manage 'in basin context' 	<p>Ecosystem approach</p> <ul style="list-style-type: none"> • 'Development' deleted • Emphasis on 'full stakeholder participation' • River basin organisation the most appropriate entity

Table 2.1 Competing concepts of IWRM (Muller 2011:153)

The donor communities favour the former concept but realities on the ground tend to show support by political elites for the latter concept (Muller 2011, 2010a). ‘Implementation is difficult because of institutional barriers... [to] IWRM [planning]. Improved governance is required to overcome institutional barriers’ (Gregg 2008:279). The Global Water Partnership (GWP) in Southern Africa has worked to deliver national IWRM plans in eight³ countries surrounding Botswana but ‘implementation is lagging behind’ (DWA 2013:33). This thesis explores the process of establishing a national plan for IWRM⁴ in Botswana in Chapter Six. The perceived weakness of the concept of IWRM delivering on the allocation of waters from transboundary rivers basins and aquifers is exacerbated by the lack of agreed legal instruments to enforce such water rights (Leb 2013; Speed 2013; Muller 2011). The UN 1997 Convention on the Non-navigational Uses of International Watercourses codified the rules and principles for enabling and sustaining transboundary cooperation. However, it has not yet entered into force due to the lack of signatory countries⁵. International law on water sits within the 1966 Helsinki Rules and the 2004 Berlin Rules. However, these two instruments are ‘not legally binding’ (DFID 2010:14). The 6th Legal Committee of the UN General Assembly has put off the negotiation of a Convention based on the International Law Commission’s 2008 Draft Aquifer Articles (DAA) until 2014⁶. The delay in establishing a UN⁷ based legal arbitrative framework appears to have come from the perception that:

‘it would pose a threat to certain countries’ national interests to develop or utilise their water resources and so, in and of themselves, these instruments cannot and should not be used as a universal motivation for transboundary cooperation’ (DFID 2010:14)

³ Lesotho, Malawi, Namibia, Zambia, South Africa, Mozambique, Swaziland and Zambia (DWA 2013:31;32)

⁴ Designated IWRM-WE so as to obtain additional funding for water efficiency measures (see Chapter Six)

⁵ As at January 2014, there were 33 signatories and 35 were needed. Botswana supported the 1997 Convention vote at the UN but has not yet become a signatory to the convention. The only SADC state signatories are South Africa and Namibia.

⁶ These can be accessed from <http://untreaty.un.org/ilc/reports/2008/2008report.htm>

⁷ The weakness of the umbrella body UN Water has been explored (Baumgartner 2013)

'River basins and watersheds ...encompass different political entities. This aspect of IWRM often presents the greatest difficulty '(Gregg 2008:289). However it has been proposed that the SADC Protocol on Shared Water Courses (2003) does provide an incipient water law framework (Van de Zaag 2009).The validity of this commentary is reflected in the difficult progress on TBW sharing in Southern Africa and its deleterious impact on water planning in Botswana as outlined in Chapter Five.

Water scarcity

Definitions of water scarcity can be made firstly, on a hydrologically quantitative basis, and secondly, on a social basis of how much is needed against a socially- constructed demand.The hydrological definition covers both surface water and groundwater. The hydrological database for groundwater for Africa has been summarised by the British Geological Survey (Macdonald 2012). However, the Researcher reflects that the summary is based on low levels of data; in the case of Botswana, the questionable data is from 1987 (KII).The need for a 'data revolution' is recognised (UN 2013:23).There is a lack of knowledge on groundwater in SSA (Brawne and Xu 2010:236)⁸.There has been a call for better metrics on water to deal with 'data difficulties' (Mason and Calow 2012:31). This concern at the lack of data on volume and quality and its usage is reflected in KI interviews throughout this thesis. The surface water availability is known, but, in the case of Southern Africa, severely constrained: the basins of the Orange-Senqu River and the Limpopo River are seen as 'closed' with all the water allocated (Falkenmark 2008; Turton 2008), and those of the Okavango River and Zambezi subject to International Agreements. The potential impact of climate change on water availability could add to the existing variability in Southern Africa arising from a continuing cycle of severe droughts (Hulme 1996).This is explored in Chapter Six. The management of drought relief for the poor can be contrasted in the approach of Botswana (Munemo 2012), compared to the lack of action in other SSA countries (Bailey 2013). Hydrological water scarcity could be seen as being ameliorated by the

⁸ The data base at <http://ebmtoolsdatabase.org/tool/waterworld> accessed 12th February 2014 does not include groundwater

concept of 'Virtual Water'. This provides a basis for trade movements of high intensity water utilising products from water rich to water poor countries and, as a concept, has enabled a discourse analysis both on policies to deal with water scarcity and the value of water (Allen 2011; Hoekstra 2005; Earle 2001). Botswana uses this concept to prioritise non-agricultural uses of water for economic benefit, as will be seen in Section 2.3.3.

On the second definition of social water scarcity,

'whether or not water is scarce, depends on such varied factors such as population and distribution, sanitary habits, water distribution systems and customary leisure and amenity uses: scarcity is dependent on the "hydro-social", in addition to the hydrological, cycle.' (Bakker 2003: 29)

In the case of Botswana, this is further explored later in this Chapter (Section 2.3.4) and in Chapter Six with responses of KIs and FGs. Social scarcity of water has led to debate on the universal right to water (Rouse 2013; Gleick 1998) and the shortfall against the achievement of that right has been measured by water poverty indices (Sullivan and Meigh 2006). Water poverty can be seen from the unavailability of affordable potable water for human consumption (Sullivan 2002) but, despite this, there has been a strong drive for a transactional cost approach (Saleth 2005).

Lack of affordable access to water for sustainable livelihoods through subsistence agriculture directly impacts on poverty (Kemp-Benedict et al 2011). Water productivity on the Limpopo is low where water rights are restricted (*ibid*). This is explored in Chapter Five and again in Chapter Nine in demonstrating the impact of the Botswana water reforms on the rural (and urban) poor, both at the cattle posts and in the potential expansion of horticulture by the poor on their owned masimo⁹.

⁹ Botswanan word for the land, originally tribally allocated, now Land Board allocated to every Motswana (Botswana citizen)

However, effective management of hydrological and social water scarcity may not always be pro-poor (Franks and Cleaver 2005). Water has been subsidized as a public good in many countries, including Botswana (Chapter Nine). Water regulation has explicitly incorporated various social policy goals such as income redistribution, employment generation and regional equalisation (OECD 1999), but the application of the principle of economic equity is undermining this practice in most industrialised countries (*ibid*). There is a view that this pricing of water is part of the adoption of a neo-liberalist philosophy towards Water and Sanitation Services (WSS) with 'a shift in the policy goal towards one of efficiency maximisation and its corollary, new classically defined economics' (Bakker 2003: 128). The European Citizens Initiative in 2013 responded that 'Governments have to implement these rights [to water] not leave these services [and pricing] to market forces'¹⁰.

Social scarcity of water can be overcome through cash income. In the urban areas of five out of eight developing countries¹¹, 70 percent or more of the households with daily per capita expenditures of \$6–\$10 have tap water, whereas, for the extremely poor, the share is below 50 percent in all countries but two (Table 2.2). The same pattern holds for latrines; the share of those who have one among urban households with daily per capita expenditures of \$6–\$10 is above 80 percent in seven of the eight countries. Rural areas show similar patterns (Banerjee and Duflo 2008: 5). Any pro-poor policy needs to ensure this bias is removed. The current delivery of WSS in Botswana is skewed towards the urban elites (see Tables 2.4 and 2.5). The impact of water reforms on the poor is explored in Chapter Eight.

The removal of this cash income barrier to WSS was started by the recognition of the right to affordable water for all, which was voted for at the United Nations

¹⁰ Available at <http://www.right2water.eu/faq#why> accessed 2nd July 2013

¹¹ Taken from a sample utilising data from a range of countries including Guatemala, India, Indonesia, Ivory Coast, Mexico, Nicaragua, Panama, Pakistan, Papua New Guinea, Peru, South Africa, Tanzania, and East Timor, quoted in Banerjee A and E. Duflo *What is Middle Class about the Middle Classes around the World?* *J Econ Perspective*. 2008; 22(2): 3–28.

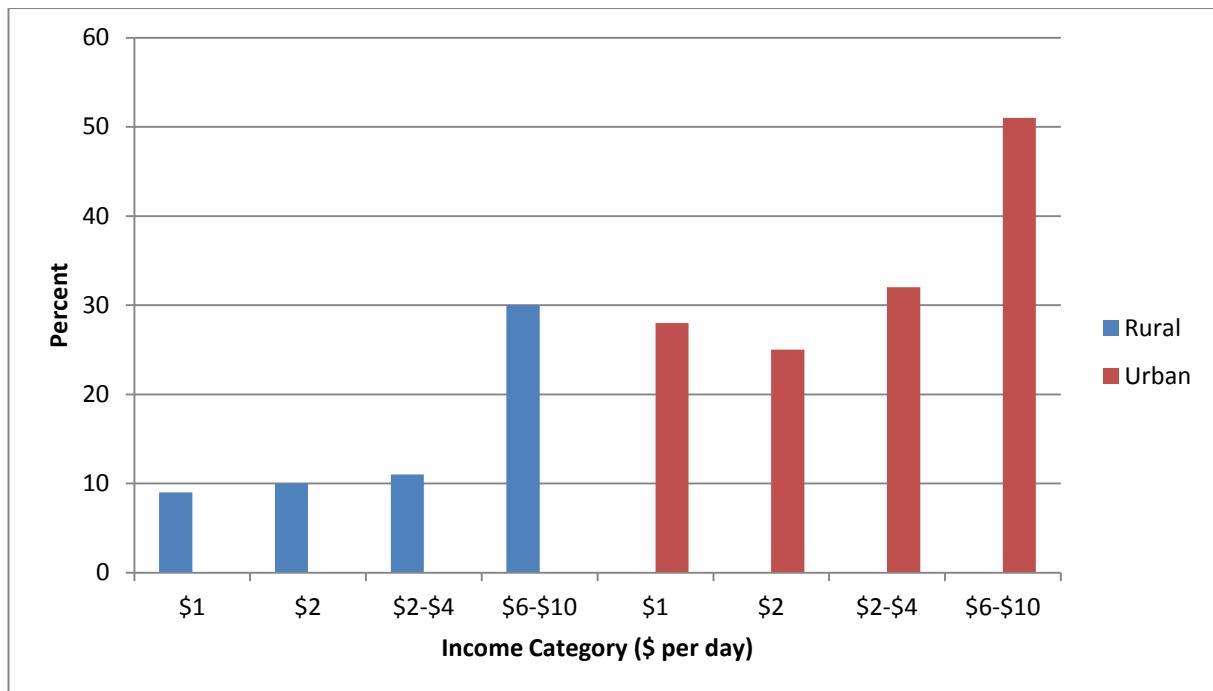


Table 2.2 Per cent of people with access to tap water (weighted average in eight developing countries) (Source: Banerjee and Duflo 2008:21)

General Assembly (UNGA) in July 2010¹². The Assembly's resolution recognized the fundamental right to clean water and improved sanitation (WSS), but did not specify that the right entailed legally binding obligations; this was expanded and endorsed by the UN Human Rights Council (HRC) in October 2010. There, 'the right to water and sanitation [was stated as] a human right, equal to all other human rights, which implies that it is justifiable and enforceable'¹³. On a visit to Namibia in July 2011, the UN HRC Rapporteur on water defined the right to water as not being a right to free water. She stated 'affordable WSS [are] not the same as free of charge, but it means that systems must be in place to ensure access for those who face economic barriers to access'¹⁴. There is a tension between the right to water and water pricing for pro-poor WRM policies; 'striking a sustainable balance between treating water as an economic good and maintaining affordability for the people is a key

¹² Botswana abstained in both votes at the UNGA July 2010 and at the HRC of October 2010, yet these votes were taken into account in the landmark GOB High Court judgement on the Basarwa 'right to water' in January 2011 (See Chapter Nine).

¹³ <http://www.un.org/apps/news/story.asp?NewsID=36308>

¹⁴ <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=11223&LangID=E>

challenge for developing countries' (Gunawansa and Hoque 2012:19). This tension in Botswana water policy will be explored in Chapter Nine.

There has been a move across Africa to establish national central government appointed regulators of WSS to reflect the economic value of water and to price in the ongoing costs of water resources to all in-country consumers. This has led to the establishment of the African Forum for Utility Regulators (AFUR), with South Africa being a driving force¹⁵. This concept particularly sees the regulation of WSS being alongside that for electricity, but in a developed country, for example, the UK, there have been concerns at water being treated in the same way as other utilities: 'the British model of regulation [needs] careful scrutiny' (Bakker 2003:187). The UK water privatisation purported to show that it is possible to price to get full cost recovery of both infrastructure and environmental impacts as has been done with other utilities, such as energy and telecommunications and that this could be done with very little political input (*ibid*). The 2012 review of the work of the Office of Water Regulation (OFWAT) in the UK showed the limits of such an approach; a KI relates that OFWAT has recently taken part in UN meetings to discuss the active involvement of WSS regulators to deliver pro-poor policies. The WSS regulator, where instituted, as potentially in Botswana, could follow the lead of regulators in Ghana and Zambia in delivering pro poor policies: 'however, the extent to which benefits for vulnerable members of society can be realized depends on regulators themselves recognizing and addressing the realities faced by the poor' (Gerlach 2010:1238). This potential to help the poor in Botswana is explored in Chapters Seven and Nine.

Formal regulation of water could be seen as a way to guard scarce water resources and to avoid the 'tragedy of the commons' based on overuse or exhaustion of water resources available under open free access in tribal areas under customary laws (Hardin 1968:1246). This has been challenged by those who see local community management as better than state regulation, or private ownership, at distributing water fairly, and sustaining water resources

¹⁵ The most recent bulletin notes the reports the annual meetings in SA in 2012 and in Tanzania in 2013: <http://www.afurnet.org/attachments/article/91/AFUR-2012-Bulletin-ENGLISH.pdf>

(Ostrom 2012:1990). Water security within the State needs to be measured against the two gauges of equity and sufficiency (Lankford 2013c). Can regulation achieve this? Is much of what passes as ‘scarcity’, a ‘policy induced consequence of the mismanagement of water resources’ (UNDP 2006:133)? Can policies be improved by either centralisation or decentralisation?

Centralisation and decentralisation of WRM and the delivery of WSS

The Researcher perceives that the current policy paradigm for WRM lies with a decentralised model, with local government taking responsibility (Commonwealth Secretariat 2011; Estache and Humplick 1995). This has been further de-centralised to one of Community Based Water Resource Management (CBWRM) (Day 2011) and International Aid Agencies have supported this approach to delivering WSS. IWRM in developing countries with low institutional capacity could best be seen as working through local solutions by local decision-makers and local politicians (Kooy and Harris 2012). Centralised governance systems for WRM, as seen in the UK, have not been the norm in SSA. A lack of governmental institutional capacity can lead to a ‘regulatory personality’ of WRM fitted to the local requirements, as in East Africa (Hepworth 2009), and IWRM, with its emphasis on organised watershed management with engineering capacity, may not be the way forward (*ibid*).

‘Polycentric systems’ with appropriate levels of central and local institutional responsibility for the same resource have been proposed (Ostrom 2012:82). The continued importance of decentralised traditional authorities continues to be emphasised (Logan 2013). The lack of central government and private sector capacity to deliver WSS can mean poor delivery and bottom up evolution can be better than ‘a delusory top down attempt to leap to institutional perfection’ (Easterly 2008:99). It is thought that planning for drought relief is best done in a decentralised process (Bailey 2013:81). But the state must ensure that local providers are ‘part of a single coherent system’ for WSS (Green 2012:40). It is said that decentralisation has not ‘yet been achieved’ in South Africa and that is a reason for the poor level of WSS there (Muller 2010b:152). The recent analysis of the barriers to rural water supply in

Tanzania describes a ‘power struggle around decentralisation between local and central government’ (Tilley 2013:8). There, WSS are delivered by default by INGO supported Community Owned Water Supply Organisations (COWSO), not accountable to or supported by either district or central government (*ibid*). A key reason put forward for support of decentralisation has been the potential for greater participatory decision-making. Recent WB literature review appears to suggest that participation has often been elite based, with little involvement of the poor (Mansuri and Rao 2012:221). It has been suggested that democratic decentralisation can lead to ‘decentralised despotism’ (Van der Zaag and Bolding 2005:2). CBNRM institutions, it could be argued, are needed to enable national policies for resource governance (*ibid*: 181) but at what point does the conceptual adherence to participative decentralisation, because of the inevitable central ‘Government failure’, cease to be the reason for not following the European centralised model for WRM? (*ibid*: 52). China, it is proposed, has benefited in delivering WRM by having no stakeholder participation in decision-making (Giordano and Shah 2013:9).

The implementation of IWRM has been seen as requiring ‘more centralized policy development and implementation and thus, larger, slower, and more bureaucratic authorities to handle all policy aspects’ (Pahl-Wostl 2007:11). A movement towards the centralisation of WRM occurred in Europe. ‘As water needs moved from small scale to large scale industrial requirements, there has been a parallel movement move from community control [to the state]’ (Bakker 2003:44). Long horizon rent centralisation as opposed to the inefficiency of short term rent decentralisation, can lead to strong economic performance of the state (Kelsall 2013:19). The need for Central Government coordination has recently been emphasised(UNWATER 2014).

Within the processes of centralisation and decentralisation is the issue of accountability of the delivery institution. The case of Zimbabwe serves to exemplify this. There, a move from local government institutions to a single Government owned parastatal, the Zimbabwe Independent Water Authority (ZIMWA) failed and had to be reversed (Nyandoro 2012). The moves to the centralisation of WRM in Zimbabwe could be related to the country’s ‘decline in

democratic governance between 1980 and 2009' (ibid: 20). It has been said that there is an 'undeniable necessity of [central] government responsibility for water supply' (Bakker 2013:188). The increasing vulnerability to hydraulically water scarcity has been identified in the USA (Shi et al 2013). This was discussed at the American Water Summit in November 2013, attended by the Researcher, and seen as being difficult to solve due to the highly fragmented nature of beloved locally elected water utilities, many unwilling to merge or cooperate. 'There are more water utilities in the USA than branches of McDonald Restaurants. The US Government has removed itself from responsibility for WRM (beyond a limited water quality residual interest) (KIs USA).

The analysis of the literature and positionality¹⁶ of the Researcher leads him to believe that politicians have the ability to deliver both WRM and WSS but often do not do so. The rationale for first decentralisation and now centralisation of WRM and WSS in Botswana is explored in Chapters Five and Eight.

The drivers of change for WRM and WSS

The drivers of change on WRM and the delivery of WSS were identified by Cosgrove and Cosgrove (2012) to consist of ten¹⁷: agriculture*, climate change and variability, demography, economy and security*, ethics, society and culture (includes questions of equity)*, governance and institutions (including the right to water)*, infrastructure, politics*, technology* and water resources, including groundwater and ecosystems (Cosgrove and Cosgrove 2012:6). These drivers need to be examined, particularly that of 'politics'. The Delphi approach adopted in the Cosgrove report commented on the 'politics' driver as being the 'lack of coordination and of a mutually agreed water strategy at the national, regional and local levels, result[ing] in ineffective community participation and lack of [their] influence in decision-making' (Cosgrove and Cosgrove 2012: Annex One: 59). The low estimates of successful outcomes for access to WSS by 2030 showed that, in the view of the author, the conceptual approach of IWRM and

¹⁶ This is explored further in Section 4.3

¹⁷ The asterisked drivers were seen as more important by the Cosgroves

CBRM so far adopted as a solution to the problem, was not going to be successful in overcoming a lack of a political drive for change (*ibid*).

In SSA there is seen to be 'a widespread lack of ground water data' with half the 21 countries reached through a survey in West and Southern Africa in 2007 as having 'no national ground water data base at all or have only fragmented ground water data that resides in various organizations' (Braune and Xi 2010: 236). The paper goes on to comment that ground water information services are 'in many African countries virtually nonexistent' (*ibid*). Recharge is inadequately studied (*ibid*: 232) and there is limited knowledge of the agricultural use of groundwater (*ibid*: 236). Given the dependence of rural water consumers on groundwater availability, it may explain the the low ambition for WSS contained in the Southern African Development Community (SADC) Vision 2027 (SADC 2012a:7). There the target for water access is to move from 61% of the 260m SADC population in 2012 to 75% of the 350m in 2027; the targets for sanitation [undefined] are 39% in 2012 and 75% in 2027. There is no plan to deliver WSS to 100% of the people. There appears to be a wish in SADC planning to exploit more surface and groundwater but no commitment to measure the availability (*ibid*).

It should be noted that the accuracy of the UN statistical base for WSS provision has been questioned (Sattersthwaite 2013; 2000). The figures are filled in by the government respondents and often have no hard data surveys to back them up (*ibid*). It is suggested that the Joint Monitoring Programme (JMP) figures (UNICEF/WHO 2012) which are used to pronounce the success of access to water are flawed. A KI from the JMP confirmed the very low level of finance, and thus surveying, that is available to verify the claims of respondent governments.

The achievement on WRM and WSS has further been 'held back by bad advice, Northern arm-twisting and self interest and in some cases by public attitudes and beliefs' (Green 2012:39). WSS policies, so as to be implemented for all, has been said to require 'improvements ...in three aspects of water governance and management, namely, legislation, implementation, and financing (Guwanasa and Hoque 2012:28). A survey of 40 African countries carried out

by the United Nations Environmental Programme (UNEP) for the African Ministers Committee on Water (AMCOW) demonstrated that they are not constrained in the main by a lack of money to implement WSS reforms (AMCOW 2012). The key constraints are around political and legal barriers and a lack of interest from the governments surveyed (outside the water ministries)¹⁸. This is important in understanding the position in Botswana and will be explored in Chapter Six looking at the drivers for change in WRM. The literature on water scarcity, both hydrological and social, has provided reasoning for institutional structures to deliver changes in WRM. The emphasis on the concept of IWRM perfection has been difficult to achieve, and success has come from the more pragmatic state-based political IWRM (Muller 2011; Allan 2003), while noting the transboundary initiatives in SADC (Van der Zaag 2009). This has led to a move to more centralised nation state regulation of WRM, but political constraints could still hold back the delivery of WSS (Cosgrove 2012). The 'politics of service delivery' has contributed to the restriction of the completion of continuously provided water reticulation to all, so as to provide the continuation of the power of patronage in both local and national elections (Harris and Wild 2013; Khemani 2013).

This literature review now explores the particular potential constraints expressed in the literature and from Key Informant Interviews (KIIs) on developing a water policy in Botswana and redefining its delivery architecture for WRM and WSS.

2.3 The context for WRM and WSS in Botswana

Botswana has gone through several periods within which policy on WRM and WSS has evolved. The key events are described in Table 2.3 and provide the introduction to this section.

¹⁸ <http://www.guardian.co.uk/global-development/2012/aug/30/water-sanitation-priorities-african-governments?INTCMP=SRCH> "only 18 out of 40 felt constrained on WSS by lack of finance".

	1960-9	1970-9	1980-9	1990-9	2000-2014
Water Events	1968 Water Act 1968 Water Apportionment Act	1970 Act establishing WUC	1982 start of negotiations on ORASECOM & LIMCOM (2000; reviewed 2007-11) water-sharing agreements	1991 NWMP 1994 (2001) SADC Water Protocols/Negotiations start on OKACOM and ZAMCOM	2006 NWMP 2007-10 World Bk. Consultancy 2009-14 Implementation of water reform
Presidential Terms	Seretse Khama 1966-1980	→	Quett Masire 1980-1998	→ Festus Mogae 1998-2008	→ Ian Khama 2008-
Income per Capita (US\$) (source: Africa Monitor 2012)	\$80 (1966)				\$8,277 (2011)
Key Events	1966 Independence from UK	1970 Discovery of Diamonds 1976 Establishment of DEBSWANA	1980-92 → Establishment of SADCC in Gaborone 1980-92 Botswana as 'Front Line State' opposing apartheid	1992- Foundation and Establishment of SADC in Gaborone, Botswana	2008 Ibrahim Prize for Mogae 2008 World Bank Loan 2007-13 Botswana Budget Deficit

Table 2.3 Botswana Policy Timelines 1960-2010

(Source: the Researcher)

Botswana is a landlocked country in southern Africa bordered by Namibia to the West and North, Zambia and Zimbabwe to the Northeast, and South Africa to the South East and South. It occupies an area of approximately 582,000 sq km. Botswana is similar in size to France or Kenya. The majority of its people live on the eastern corridor of the country, where the soil is more conducive to agriculture and there are access routes through to Zambia, Zimbabwe and South Africa. This is shown in detail in Figure 2.1 with the main fieldwork location of Kgatleng District arrowed.



Figure 2.1 Political Map of Botswana (Source: www.nationsonline.org)

Climate and water availability of Botswana

Botswana's climate is arid to semi-arid (GOB 2006c:3). The high summer of November to March with temperatures in excess of 40°C is countered by the winter of June to August when the temperature can go below 0°C. Rainfall is variable and there are periodic droughts, which have been mapped for the last 150 years (The Botswana Society 1979). Between 2007 and 2011, there has been increasing rainfall, and during 2012-14, a drought. Annual rainfall varies from 300 mm to 650 mm from the south to the north of the country, as is shown in the Isohyet map of Botswana in Figure 6.2.

36% of the water used in Botswana originates from surface water and of this, 85% is from allocations from the four transboundary rivers that surround Botswana: the Okavango River (North), Zambezi River (North-east), the Limpopo (East and West) and the Orange-Senqu River (South) (GOB 2006c:1) shown in Figure 2.2. These are subject to the South African Development Community (SADC) Protocol on Shared Water Courses (2002, 1997) and from the river water commissions set up under the protocol (see Chapter Five). Botswana is one of only 6 countries where over 75% of the surface water comes from outside its territorial boundaries (UNDP 2006:210). The country's average annual runoff is very low at 1.2 mm ranging from zero in the West and Central Botswana, to over 50 mm per annum in the North. This average annual runoff implies a total annual run-off of 696 million m³ but only a small portion of the runoff can be captured owing to the lack of suitable dam sites, high variability of runoff over time and high evaporation rates. 'Evaporation in the reservoirs exceeds consumption and global climate change is expected to increase evaporation losses' (Arntzen 2006:16).

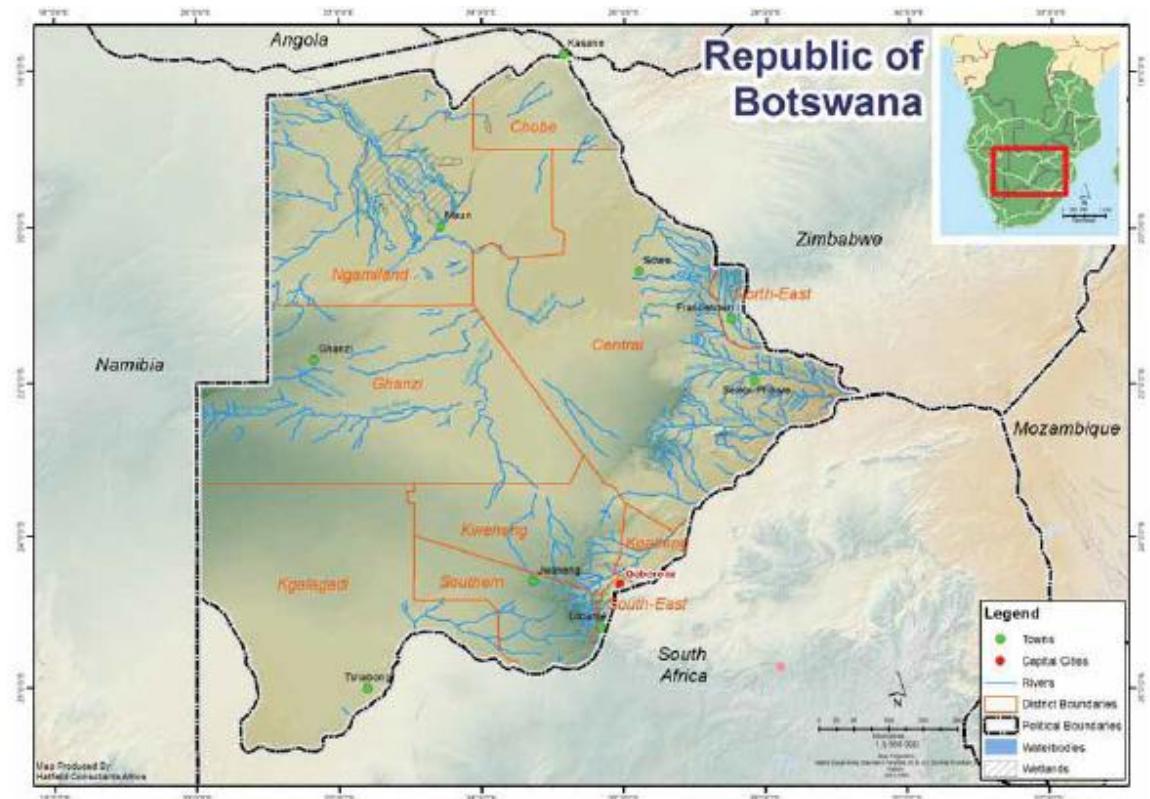


Figure 2.2 The rivers of Botswana

Source: DWA 2013:36

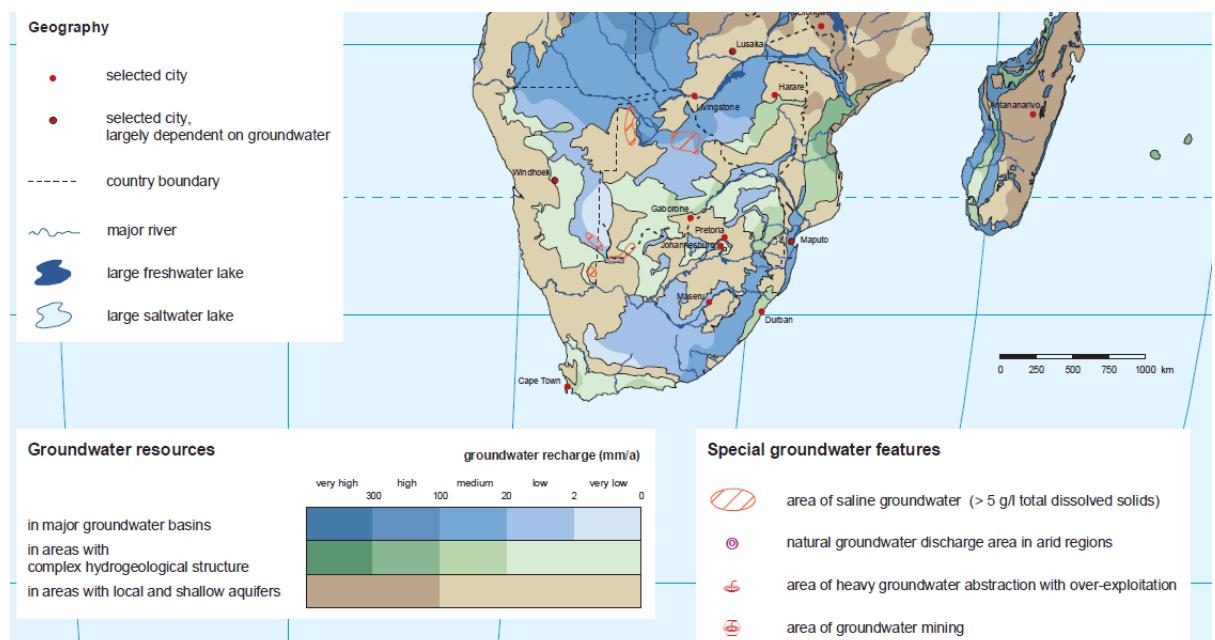


Figure 2.3 The Groundwater Map for Botswana and surrounding countries¹⁹

¹⁹ Available from

http://www.whymap.org/whymap/EN/Downloads/Continental_maps/gwrm_africa_pdf.pdf?blob=publicationFile&v=2 accessed February 1st 2013

Some 64% of the water needs of the country are fulfilled from groundwater. 'Western Botswana has virtually no [surface] water sources and relies on groundwater [which is] also limited in most parts of the country' (Arntzen 2006:15). Botswana's total groundwater resources (including saline) are estimated at around 100 billion m³ with a low average annual recharge of 1.6 billion m³ (*ibid*) and 'minimal recharge (<1mm/a) over much of central and SW Botswana' (Mokokwe 2003:15). The data is limited but depicted in Figure 2.3. The climate data of Botswana will be further explored in Chapter Six.

The social and political structures that impact on the WRM policy process

The tribal structures in Botswana are largely homogeneous. The Basarwa, also known as the San, the indigenous tribe of Botswana, number under 10,000 out of a total population of two million (BIS 2012). The eight Tswana tribes that form over 85% of the population (*ibid*), moved into Botswana from modern-day South Africa in the early to mid-nineteenth century. The Bakgatla Tribe moved into what is now Kgatleng District (S.E. Botswana), which is the main area of study for this thesis. They came to Botswana from Transvaal in South Africa from the 1800s (Matemba 2003:56). The incoming Tswana took the indigenous Basarwa as labourers within a cattle-based economy with the latter being the cattle keepers or 'boys'. Wars between the Tswana and the Boers of South Africa, with the successful seizure of cattle by the Tswana, led to significant increases in the national herd. From this came problems of their watering (Morton 2009). Because of the wars, unlike elsewhere in Southern Africa, there were few white settlers.

Only 3% of the land of Botswana is freehold and available for sale to non-Batswana, but it is located in towns and farmland near rivers, such as the Tuli Block alongside the Limpopo River (Hillborn 2012). Post colonial debates about riparian water rights for white farmers, which impact on water reforms in neighbouring Zimbabwe, South Africa and Namibia do not feature in Botswana. The continuance of tribal institutions alongside the introduction of democratic institutions has been seen as key to Botswana's success. The Tswana were not unique in Africa in having institutions like this, but they were unique in the extent

the institutions survived the colonial period largely unscathed. ‘British rule had been all but absent. The new structures of Independence were not meant to expunge the indigenous institutions but to build on them ...new *kgotlas* [community or tribal meeting places] were planned’ (Acemoglu and Robinson 2012:411). Their interplay, with the critical juncture that independence from colonial rule created, could be said to have laid the foundations of Botswana’s economic and political success on WSS. There is a view that the almost unique success of post Independence Botswana in Sub-Saharan Africa is a result of this combination of the traditional with the modern institutions with ‘the historical development of institutions in Botswana and the contingent factors [being] built on rather than overthrown or distorted as they were elsewhere in Africa’ (Acemoglu and Robinson 2012:117,404; Guldbrandsen 2012:5). This view will be further explored in Chapter Five and Section 7.1. However, a contrary view can be sustained of the success of Botswana on WSS resulting from a strong centralisation of power. Control over all land and natural resources, including water, was taken from the tribal chiefs and became vested in the State through the Tribal Lands Acts of 1968 and 1993, and the Water Act 1968, with water rights being allocated by a national Water Apportionment Board (WAB) and land allocated by a District Land Board (DLB) (HABITAT 2010). Thus water (and land) became a national resource, as did the diamonds that funded the development of Botswana (Poteete 2009).

The new institutional framework for water allocation came from the post-1966 Independence structure of elected central government institutions, echoing the UK Westminster model. Thus, the President combined the powers of Head of State and Prime Minister and was, and is, elected from the National Assembly by the majority of Members of Parliament. The President at all times has to have majority support in the National Assembly to remain in office. If he/she lost a vote of confidence, a General Election would have to be called. This differs from elsewhere in Commonwealth Africa where there are no such checks and balances. The directly elected presidential process in Namibia was seen by Good (2008) as preferable in obtaining a mandate from the people for a five year term, and thus accountable directly to them. Parliamentary accountability is seen as a poor second best, despite the fact that the Botswana President could

be thrown out at any time. A more nuanced view is that Botswana decision-making takes place through ‘broad consultation and consensus building in a system described by the country’s leading human rights activist as “gentle authoritarianism”’(Green 2012:159).

Commentators have seen an elite coalition across Botswana society, driving a modernising consensus since 1966 on the use of natural resources, including water.

‘The political system is dominated by, and policy is set, in the interest of a coalition of wealthy well-educated cattle owning political elites who are committed to rapid economic growth in the framework of a largely free enterprise system. This coalition of traditional leaders, teachers, junior state functionaries, and wealthy farmers were joined by more senior administrators beginning in the 1970s.’

(Picard 1987:147)

This insight by Picard, while over 20 years ago, still has validity from the fieldwork for this thesis. It can explain the decision group that decides on policy in Botswana; the Presidential leadership of this grouping or coalition, is criticised as militaristic and dictatorial by Good (2012, 2011, 2009, 2008), but is lauded by others, as the key to the Botswana’s economic success (Kelsall 2013:26; Sebubudu and Molutsi 2011, 2009; Acemoglu and Robinson 2012). It has been argued that the success of Botswana as a ‘strong and effective state’ relates to a strong well-educated bureaucracy, largely expatriate, that remained in Botswana after Independence (Eriksen 2011:445). There is support for the concept of Botswana being the African example of successful development by becoming a ‘developmental state’²⁰ (Routley 2014:164; Leftwich 1995:405). This has been supported by Taylor (2012) but there is a view that the success of Botswana comes because it is a ‘development-oriented gate-keeping state’ (Hillborn 2012), concentrating on the successful economic

²⁰ The developmental state model is seen as having six components: a determined developmental state elite, relative autonomy, a powerful, competent and insulated bureaucracy, a weak and subordinated civil society, the effective management of non-state economic interests and legitimacy and performance (Leftwich 1995:405)

strategies of the GOB, without as yet the full development of a broad-based employment creating state. It could be seen as a ‘competent state’ (*ibid*) driven by very powerful elite with a highly competent civil service. When change was perceived to be needed, the state apparatus delivered. It is in this context of policy making and delivery that the water reforms post-2009 were conceived. Understanding how the decision making process played out is the objective of this thesis.

Economic structures that utilise Water Resources

The economic development of Botswana has been dependent on both the wise use of water and its diamond resources. The data on water availability and use is analysed in Chapter Five, but it is important to note here the water based origins of the pre-Independence economy based on cattle, and post-Independence based on diamond mining. Each of the three bases of Botswana life, namely, in the village, *masimo* and *moraka* (cattlepost), brings new demands on water resources and complex governance structures. This is explored in Section 9.3. The cultural lifestyle of the Batswana²¹, is set around the role of the cattle that could be drawn down by slaughtering for use at key events such as weddings or funerals. The one to five million²² cattle have been both a cultural necessity²³ (to establish status and wealth in the tribe) and also the main entry point into the post-Independence cash economy. Botswana’s wealth in 1966 was its cattle and it was also the basis of subsistence livelihoods of that time. This generated relatively high utilisation of water resources in Botswana for cattle drinking, which remains, with the support of the Ministry of Agriculture (MOA), in small dam construction and boreholes (FAO 2005). The cyclical extreme droughts of Southern Africa have seen wide fluctuations in numbers of cattle as surface water resources and fodder became scarce. The use of groundwater, through the widespread use of boreholes across the

²¹ Batswana is the plural for Botswana citizen; Motswana is the singular.

²² The variance in numbers 1966-2012 was related to the incidence of droughts during the period.

²³ In 1985, total households owning cattle were 43.4% (23.2% in urban and 57.5% rural) and in 2003 still 37.5% (urban 24.9% & rural 46.2%) (Statistics Botswana 2012:23)

country, has ameliorated the impact of the droughts (*ibid*). Data on the availability of groundwater is however sparse (KII).

The discovery of diamonds in 1967 led to the establishment of DEBSWANA, a joint venture between the GOB and De Beers PLC²⁴, with 86% of the income coming to the GOB. The resource curse seen elsewhere, such as in Nigeria, did not occur in Botswana. This is seen by some as the result of good governance structures (Fusu 2011). ‘Rational choices were made [that] the scarce resource of water would be shared between mining/energy and the settlements, with smaller proportions going to livestock and irrigation’ (Toteng 2008: Table 1). But no detailed data of the use of water for mining is available, only estimates (Statistics Botswana 2012).

Botswana is perceived to have gained by importing products from water rich countries (Dabrowski 2009). Analysis of virtual water trade movements shows Botswana as a high user of virtual water for imported goods, largely from South Africa (SA) (Earle 2001:33). This has led to a low level of commercial horticulture in Botswana, a trend maintained by SA food retailers expanding in Botswana (Dabrowski 2009). Export of virtual water from Botswana comes in beef exports, as cattle drink up to 60L per animal per day²⁵, normally sourced from groundwater piped to cattle posts. It has been suggested that ‘on rangeland, [such as that in Botswana] more than 200,000 litres of water are needed to produce 1Kg of beef... and production quality is low under such arid conditions’ (Pimentel 1997:100). However, it has been pointed out that such consumption by cattle amounts to under 1% of the Botswana estimated groundwater each year (KII Lankford 2013). Together with the utilisation of fodder from ground cover, this could be seen as a sustainable economic use of available water. The Researcher remains concerned about the lack of data on available groundwater and that with the reduction of surface water resulting

²⁴ From 2012, a subsidiary of Anglo American PLC, but the GOB/De Beers BOTSWANA arrangements remain.

²⁵ Stated by KI I6, 18th October 2010. The water need for fodder growth is in addition. Cattle kept in feedlots used fodder brought in from SA, an additional virtual water transfer.

from climate change, the cattle consumption²⁶ may be using up a largely uncharged limited aquifer resource (see Chapter 6.2.2).

In addition, there is the hidden virtual water transfer from the export of diamonds, as dewatering (leading to evaporation of the extracted groundwater) is required prior to extraction of the stones, and the ground level process requires significant volumes of water. The hydro mission of 'industrial modernity' in support of use of water for mining was accepted as paramount (Allan 2003; GOB 1992). Up to 40% of the water use in Botswana was from the mining operations but, with significant policy change in the post 2000 period, this consumption figure is being reduced (de Beers 2011; Brook 2009). But these figures still do not include the water loss coming from dewatering. The difficulties arising from the lack of defendable water metrics is explored in Chapter Five.

The 2013 IMF forecast per capita income in Botswana is \$11,066²⁷.

'[The] longer-term current account outlook was seen as rosy, with a comfortable surplus likely to be maintained to the end of [the] forecast period in 2021, driven by high demand from Asia, Botswana will ramp up coal, copper and uranium exports.'

(African Monitor Southern Africa July 2012:2)

Botswana is a 'free market economy that does everything by planning' (Green 2012:159). The plan for extractive industries' expansion will be dependent on increased use of groundwater, and surface water brought from NW Botswana by pipeline (the N-S Carriers alongside the Francistown to Gaborone main road). All the mining initiatives proposed would lead to significant additional demand for water (Grynberg 2012:20). They would increase the vulnerability of the groundwater to pollution (Mokokwe 2003:16). Water availability is the

²⁶ Estimated to be 85% for cultural non-economic use from Ministry of Agriculture (MoA) and Botswana Meat Commission figures KII i 4)

²⁷ IMF World Economic Outlook 2012 quoted in Mmegi 19th April 2013:B3 and at <http://www.econsult.co.bw/tempex/Econsult%20Review%202013%202nd%20quarter%20final.pdf> accessed 22nd July 2013

'constraint'²⁸ on the future sustainable economic development of Botswana (Van der Zaag 2009:246).

The unknown water availability position in Botswana

Before the post Independence water reforms, Batswana always saw themselves constrained by the lack of water. There was a deep belief in water as the mystical bedrock within the Batswana psyche (Tsuang 2010). The ability of the Tswana chief in initiating rain for the tribe, both through his own skill and that of his rainmaker was therefore crucial to his power (Schapera 1943). The white missionaries sought to prove their superior knowledge of nature by importing European concepts of dams, water harvesting and sand wells to collect and store the scarce water. But the Chiefs, while ostensibly converting to Christianity, still maintained their primacy, as far as the Batswana were concerned, in the delivery of rain (Comaroff and Comaroff 1991:130; Schapera 1970:125). This is further explored in Chapters Five and Seven. In 1966, Botswana planned to provide potable water to all Batswana. Rapid population growth was seen as the main driver of change in WRM in Botswana (Vorosmarty et al 2000; Falkenmark 1990). At the time of Independence, in 1966, the population was only 400,000 and is now 2,038,228 (BIS 2012). The impact of the HIV/AIDS epidemic on population growth from early 1990s has slowed this²⁹, but even so, Gaborone has grown from 9,000 in 1966 to 350,000 in 2008. The water for Gaborone comes largely from the Molatedi Dam in South Africa as the main share of the transboundary Limpopo River.

Botswana obtains the majority of its surface water through transboundary river allocations³⁰ and is subject to the 'benevolent' but real hegemonic powers in each international river basin (Van der Zaag 2009:256; Allan 2009) and the detail of this is explored in Chapter Five. Botswana is thus security-dependent on the use of the limited amounts of in-country surface water and its aquifers.

²⁸ 'Shortage of water in the south ...holding back growth' (Econsult Economic Review, December 2013)

²⁹ The universal free provision of anti-retrovirals from 2008 onwards has led to normal Western life lengths becoming the norm resulting in a speeding up again of population growth.

³⁰ ORASECOM, LIMCOM, OKACOM and ZAMCOM.

The GOB planned, in the National Water Management Plan (NWMP) (GOB 1992) and the National Water Management Plan Review (NWMR) (GOB 2006c), on a fall back WRM approach with dams and with North–South Carrier (NSC) pipelines, ultimately from the Shashe River, delivering water to the densely populated areas to the South East. The GOB key water reforms were based on unknown water availability within its land-based political boundaries, rather than an insecure dependence on known surface water sharing from the transboundary rivers that form much of those political borders (Sitorus 2008:18).

The management of relief from the recurrent droughts by cash transfers, now planned within the institutions of the National Development Plans (NDPs) from 1991, has provided a safety net for both urban and rural Batswana (Monemo 2012). In recognising that the remaining water resources were largely unquantified, President Khama hosted world leaders in 2012 and signed the Gaborone Declaration on the sustainable conservation of water and other natural resources of Africa³¹. Future constraints on the economy of Botswana are coming from the inadequacy of existing policies on WRM (GOB 2006c). The UN JWP Statistics for WSS are, in all countries, subject to question (Satterthwaite 2013, 2000). Botswana has good social survey records; these are shown in Table 2.4 on Access to Drinking Sources, and Table 2.5 on Use of Sanitation Facilities. Access to potable water in the urban areas has officially reached 99-100% (UNICEF 2012). The percentage having potable water piped inside the house or plot, has moved from 23% (1990) to 66% (2010), but rural levels of piping to inside the house/plot are still only 36%³² in 2010 compared to 85% in urban areas. Rural dependence on local surface water for drinking has reduced from 9% (1990) to 4% (2010). 22% more of the population have gained access to potable water 1995-2010 (ibid). Access to sanitation (Table 2.5) has lagged severely, with only 75% (urban) and 41% (rural) having access to all forms of improved sanitation (UNICEF 2012). Open defecation (OD) nationally has reduced from 24% (1990) to 15% (2010) and in urban areas to 1% (2010) from 12% in 1990. However, in the rural areas, OD has only reduced from 53%

³¹ <http://www.gov.bw/en/News/Gaborone-Declaration-Sustainability-2012/>

³² Only 5.1% in rural villages in the last Household Income and Expenditure Survey of 2002/3

(1990) to 38% (2010). Other figures collated show levels of national OD of 17% (2010) and a forecast of 15% by 2015 (Galen et al 2013:527).³³

The performance gaps identified in these figures has been seen by Key Informants (KI) in Botswana as a key driver to the post 2009 WRM reforms which are the focus of this thesis and are outlined in Chapter Seven.

2.4 Summary

This review has highlighted the importance of recognising a water scarcity situation that sits alongside a paucity of water data (Braune and Xi 2010). There is an international agenda of IWRM organising the surface water at river basin level within and between states that seeks to address this, but fails at present to integrate groundwater management. The delivery of WSS has been contested within centralisation/decentralisation alternative models but there has always been a need perceived for the state to provide the rules of performance for both WRM and WSS, with regulation potentially to be able to provide access to water for all (Gerlach 2010). Politics appears to be the key constraint to action (Cosgrove and Cosgrove 2012). All these issues are relevant to, and are being confronted in Botswana as a landlocked, water scarce state, dependent on water for its culture of cattle and its economy for the extraction of diamonds. The specialness of Botswana in its governance structures are noted (Acemoglu and Robinson 2012). This literature review has provided the background to start to understand the changes in water management in Botswana. These themes will be used in each Chapter as a background to each Research Question (RQ) and will finally frame the responses to RQs in Chapter Eleven. The next chapter puts forward a potential conceptual framework that can be used.

³³ From the same article, levels of OD in Namibia of 55% (2005), 54% (2010) and a forecast of 53% (2015), and in SA of 9% (2005), 6% (2010) and a forecast of 3% (2015).

Year	USE OF DRINKING WATER SOURCES (percentage of population)													Proportion of the 2010 Population That Gained Access Since 1995 (%)		
	Urban				Rural				National							
	Improved		Unimproved		Improved		Unimproved		Improved		Unimproved					
	Total Improved	Piped on Premises	Other Improved	Unimproved	Surface Water	Total Improved	Piped on Premises	Other Improved	Unimproved	Surface Water	Total Improved	Piped on Premises	Other Improved	Unimproved	Surface Water	
1990	100	38	62	0	0	88	13	75	3	9	93	23	70	2	5	22
2000	99	63	36	1	0	90	25	65	4	6	95	45	50	2	3	
2010	99	85	14	1	0	92	36	56	4	4	96	66	30	2	2	

Table 2.4 Use of Drinking Water Sources in Botswana (percentage of population)

Source: UNICEF/WHO 2012:41

USE OF SANITATION FACILITIES (percentage of population)													
Urban				Rural				National				Proportion of 2010 Population That Gained Access Since 1995 (%)	
Improved	Unimproved			Improved	Unimproved			Improved	Unimproved				
	Shared	Other Unimproved	Open Defecation		Shared	Other Unimproved	Open Defecation		Shared	Other Unimproved	Open Defecation		
61	5	22	12	22	6	19	53	38	6	20	36	26	
69	6	19	6	32	8	15	45	52	7	17	24		
75	6	18	1	41	11	10	38	62	8	15	15		

Table 2.5 Use of Sanitation Facilities in Botswana (percentage of population)

Source: UNICEF/WHO 2012: 4

Chapter Three: The Conceptual Framework

3.1 Chapter overview

This chapter examines potential conceptual frameworks that will enable interpretation of the shift in policy on Water Resource Management (WRM) and Water and Sanitation Services (WSS) in Botswana. The review and choice of conceptual framework is set within post-positivist critical realist ontology and the thesis is grounded in the data analysed through rational empirical enquiry. This, it is proposed, is the way forward to examine the setting of policy and the process it entails (Blaikie and Springate-Baginski 2012:61). The nature of the theories of political economy, and its evolution to take account of ecological limits is explored. The impact of water on power in societies starting from ancient civilisations to the present day in the Mekong Basin (Sneedon and Fox 2006; Witfogel 1956) is reviewed. The work of Bakker (2003:vii) is used in explaining changes to WRM in England and Wales, where she sees a movement from a political economy framework based on a state hydraulic paradigm (Allan 2003), to an understanding of change through the lens of political ecology towards a more sustainable management of water. This sustainability is seen as coming from a 'market environmentalism' movement, driven by the groups behind UK WRM, post privatisation of the delivery of WSS in 1989 (Bakker 2003:viii). A proposal is made that the frameworks for policy change have been created by advocacy coalitions (AC) (Sabatier and Jenkins-Smith 1993) and this is demonstrated by Advocacy Coalition Theory (ACT) which has developed to explain changes in water policies.

A potential conceptual framework of ACT is proposed to explain the changes in water policy in Botswana. The structure of WRM and WSS in Botswana 1966-2009 is seen by the researcher to be embedded in a wider political economic frame, in delivering the economic promises of the politicians, post-Independence (explored in Chapter Five). The thesis describes the gradual movement of the opinion of the governing elite towards understanding water management, which entails appreciating the needs of the environment, of

delivering sustainability in the economy and requiring the protection of the ecosystem. The drivers of this movement are tentatively identified (see Chapter Six). The relevance of the theory is proven in Chapter Ten where it is explicitly used to interpret the evidence of the data in Chapters Five to Nine.

3.2 Research epistemology based on grounded rational empiricism

The Researcher's ontology as a former businessman and politician is the background to the proposal to set the thesis within a post positivist critical realist frame in attempting to understand the structures of society. It is believed that knowledge can only exist if it is 'justified true belief' (Plato). The thesis seeks to be objective and to proceed on the basis of data acquisition that can be used to explain the phenomenon uncovered by the research. The rationalism of the scientific approach, however, is tempered by empiricism, recognising that, in understanding the processes of water reforms, knowledge can only be acquired through experience. The analysis is post-positivist: positivism proposes that science can provide provable models but post-positivist thinking sees this being changed by multiple processes of knowledge production. The Researcher believes that WRM, as described in Chapter Two, requires multiple perspectives for its study.

Alongside the post-positivism of multiple perspectives is the application of critical realism as an attempt to 'understand real structures of society and the world, while acknowledging that any model of such structures will reflect only partial experiences of them, and social and political framing is within a research process' (Forsyth 2003:16). Reality may not be achieved from such 'partial experiences' however much it is striven for, because all measurable data is fallible to a degree. Therefore, the Researcher proposes to use data from multiple methods, sources and observations to enable the triangulation of results (Bryman 2006). The data is collected by quantitative and qualitative research techniques which are described in Chapter Four. The thesis organises evidence within a theory of social construction, where the 'social component is best seen as indicating the attributions of knowledge [that] are context-

sensitive', where many social, cultural and political factors will influence local knowledge and understanding (Cohen 1986:576).

Recent work on social learning and WRM emphasises a move 'from individual "multiple cognitions" to interrelated "distributed cognition" and to an understanding of group processes to capture the essence of social learning. Learning concepts [can be] applied to whole social entities' (Pahl-Wostl 2007:3). The 'social entities' could be seen as small communities where 'community-based management enhances adaptive capacity in two ways: by building networks that are important for coping with extreme events and by retaining the resilience of the underpinning resources and ecological systems' (ibid:3). Large changes in WRM governance involving basic belief structures can be conceived as being context specific to each society (Kooy 2012). That context in WRM, and specifically in land management, is recognised as being of an 'entire range of political economic relations of the land users themselves, both with each other and with the state' (Blaikie 1985:1). For true understanding, the context requires the use of political economy theory for subsequent policy analysis (Kooy 2012).

3.3 Political Economy

The use of political economy theory for understanding water policy is shown in the importance to governments in having control over water resources to provide the economy with food (Wittfogel 1956). Water management was a means to continuing power. This can be seen in the political economy policies of decision-making behind the river basin of the Mekong, where national interests are all powerful in delivering the outcomes for water that the politicians demand (Sneddon and Fox 2006). Linton (2010) demonstrates the long-term link between water and the changing social fabric. The engineering of water was a key to the opening up of America to agriculture and irrigation, and the taming of the inhospitable land farmed by the Zionists in Palestine in the 1920s (Linton 2012). Mehta (2000) identified the driving force of politicians' decision-making in the provision of water in India. The justification for the dams in India

was from the alarm created over water scarcity (Mehta 2007); this came from the political economy policies of ‘uncertainty’ over water which manufactured the need to govern water centrally (Mehta and Leach 2008).

Political Economy Theory has developed different strands of thinking: the Statist Theory believes that WRM and WSS are best delivered by the state, and the Neo-liberal Market Theory that the private sector through the market could deliver the required outcomes (Budds and McGranahan 2003:91). The latter theory influenced the neo-liberal Dublin Principles (1992); where ‘modern water’ was created, with a value as an input to modern society (Linton 2010:17). However neo-liberal political economy policy in practice has not delivered WRM and WSS to all; low income neighbourhoods have not been a good market for the private sector (Budds and McGranahan 2003:109).

These two strands of thinking have been seen in Sub-Saharan Africa in the relationship between water, political power and economic development, often related to the involvement in mineral extraction which requires large quantities of water (Buscher 2009:3952). WSS have been provided for human consumption locally, by individuals or village level communities, but post independence, since the 1960s, states in Africa have taken control of water resource management (WRM) within a ‘state hydraulic paradigm’ (Bakker 2003:13; Allan 2001). This shift follows the pattern of WRM dominant in Britain and in many other countries (Bakker 2003:13) throughout much of the 20th century, and entails a ‘planning for growth, supply-led solutions, command and control regulation, a discursive representation of nature as a “resource”, and state ownership [of water]’ (*ibid*). This Weberian centralised state-organised approach to the delivery of WSS (and other economic goods such as health and education services) can lead to the neoliberal model of markets for water (Budds and McGranahan 2003:191). However, the establishment of ecological limits to the hydrological availability of water has led to a new framing of political economy theory.

3.4 Political Economy Policy influenced by an Ecological lens

The Researcher sees the need to have an 'ecological lens' to provide an analytical framework (Moore Lappe 2013:15). This lens integrates 'the concerns of ecology and a broadly defined political economy' (Blaikie and Brookfield 1987:17). It is a 'useful framework for analysing how politics and power mediate the intersection of human societies and biophysical phenomena' (Sheridan 2012:240). It began as an accepted epistemology in the 1980s, and a multidisciplinary approach to research, bringing together 'the different social sciences of anthropology, environmental sociology and political science of the environment' (Blaikie and Brookfield 2008:766). Such a lens seeks to 'politicise the understandings about the distribution of water' (Loftus 2009:953). Those who use it stand for environmental justice, do not sit on the fence and are 'against apolitical ecologists' (ibid: 954). The Researcher supports the view that political ecology 'wrestles simultaneously with questions of social justice and environmental justice' (Bakker 2003:193), and, as such the Researcher asserts, forms the backdrop for the water reforms in Botswana. The failure by societies to deliver potable water to all comes from failed policies, not from a lack of water (Loftus 2009). There is enough water, technology and money, but the political and societal will is not seen to be there (ibid).

Common Property Resource Theory (CPRT) concentrates on the ability of the community or village to manage land and water sustainably with minimal central government intervention (Ostrom 2012; 1990). But studies of degradation of grasslands in Botswana saw open grazing by peasant farmers within the common land as the reason for this, and became the excuse for fencing off the land for private use (Blaikie and Brookfield 2008:769). In water constrained countries, there has been a clear ecological framework around WRM, as has been seen in the Sa'dah Basin of Yemen (Lichtenthaler 2003). This became disturbed by the 'politicised environment' of the 1970s and the rise of the State, but sustainable management of groundwater resources has continued to come from traditional communities continuing to 'manage their own water' (ibid:6).

Politicians, at all levels of government, could be seen as having failed to recognise the barrier they form to the delivery of a balanced ecosystem for both humans and the non-human natural environment. Political economy theory development, tempered by an ecological lens, provides a viewpoint through which to understand 'the issue of the agency of both human and non-humans in a way that much political and economic research does not' (Bakker 2003:192). It not only begins from the assumption that socio-economic and environmental change are co-produced, but also 'broadens the set of actors - non-humans as well as humans - who are considered both as objects of study and also holders of legitimate claims to equitable treatment' (Bakker 2003:193).

In the case of a less water constrained country, such as the UK, post WSS privatisation, an ecological policy framework, it is proposed, could be seen in 'market environmentalism' terms (Bakker 2003:192), where environmental objectives are being delivered through managed market mechanisms. These cover a range of objectives such as efficiency, fairness in pricing, planning for scarcity, using a water regulator to deliver on both economic and environmental goals. However, meeting the demands of people and of nature, with its limits, judged by the powerful, is not easy in developing support for WRM reforms, or for concerns about water at a time of climate change. Dependence on 'market environmentalism' entails 'disorderly ecologies, societies and moralities' (Sheridan 2012:240). So how could it be envisioned that order from disorder, reflected in policy choices, takes place?

3.5 Advocacy Coalition Theory (ACT)

Policy in terms of this thesis can be defined as 'a set of stated intentions and resultant practices in the name of the public good. The policy process is the means by which policy is conceived, negotiated, expressed and perhaps brought into law, and procedures of implementation and practice' (Blaikie and Springate-Baginski 2012:61). Policy reform on natural resources such as water does 'not emerge as a linear response'; research data does 'not automatically become new truths' and support 'alternative rational arguments for a policy

change': 'Changes to policy are much more complex than the simplistic rationalist mode' (*ibid*).

Sabatier and Jenkins –Smith (1999,1993) sought to codify this complex policy consensus-formation process into a system-based approach, with power moving across, top-down and bottom-up. The Advocacy Coalition Theory (ACT) they proposed understands the 'black box' of decision-making as being explained by changes in the beliefs of the participants in the process and policy change over a period of time. Underlying the ACT are three belief levels and, from these beliefs, come the subsystems to support change to a new coalition in support of a policy (Figure 3.1):

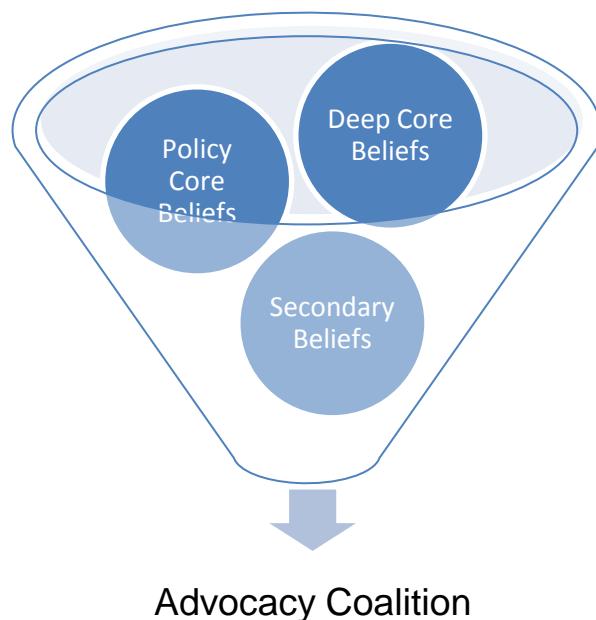


Figure 3.1 The Three Belief Levels (after Sabatier and Jenkins-Smith 1993)

- 1) **Deep core beliefs**, predominantly normative across a society being analysed'
- 2) **Policy core beliefs**, which can be changed by evidence and can lead to coalition formation

- 3) **Secondary beliefs**, more narrow and subject to change over time, leading to fine tuning of reforms on an empirical basis

The deep core beliefs (1) of ACT are those that have been used to long term effect, to provide a meta-narrative for 'intractable difficult decisions, such as budget decisions or environmental stand-offs, where there is no consensual advocacy coalition being formed to provide a solution to the potentially intractable problem'. This narrative of beliefs can come from 'stories from individuals or groups, which together make a way forward for the policy makers, which has broad support from the community' (Roe 1991:296). Such a story telling approach...

'brings the social sciences and humanities together to better address real-world problems of public policy—particularly those issues characterized by extreme uncertainty, complexity, and polarization—which, if not more effectively managed now, will plague us well into the next century' (ibid).

The deep common belief systems in water governance could be described as a 'commons imaginary' that bring together coalitions of believers (Wagner 2012). Policy process at the micro level, or in ACT terms, the secondary belief level (3), can also provide the evidence based justification for political decisions (Friedman 2002:8).

By 2010, the presentation of the ACT has evolved beyond the simple three belief systems linear movement of opinion (and feed back, when new evidence came forward) to that contained in Figure 3.2 (Weible et al 2008).

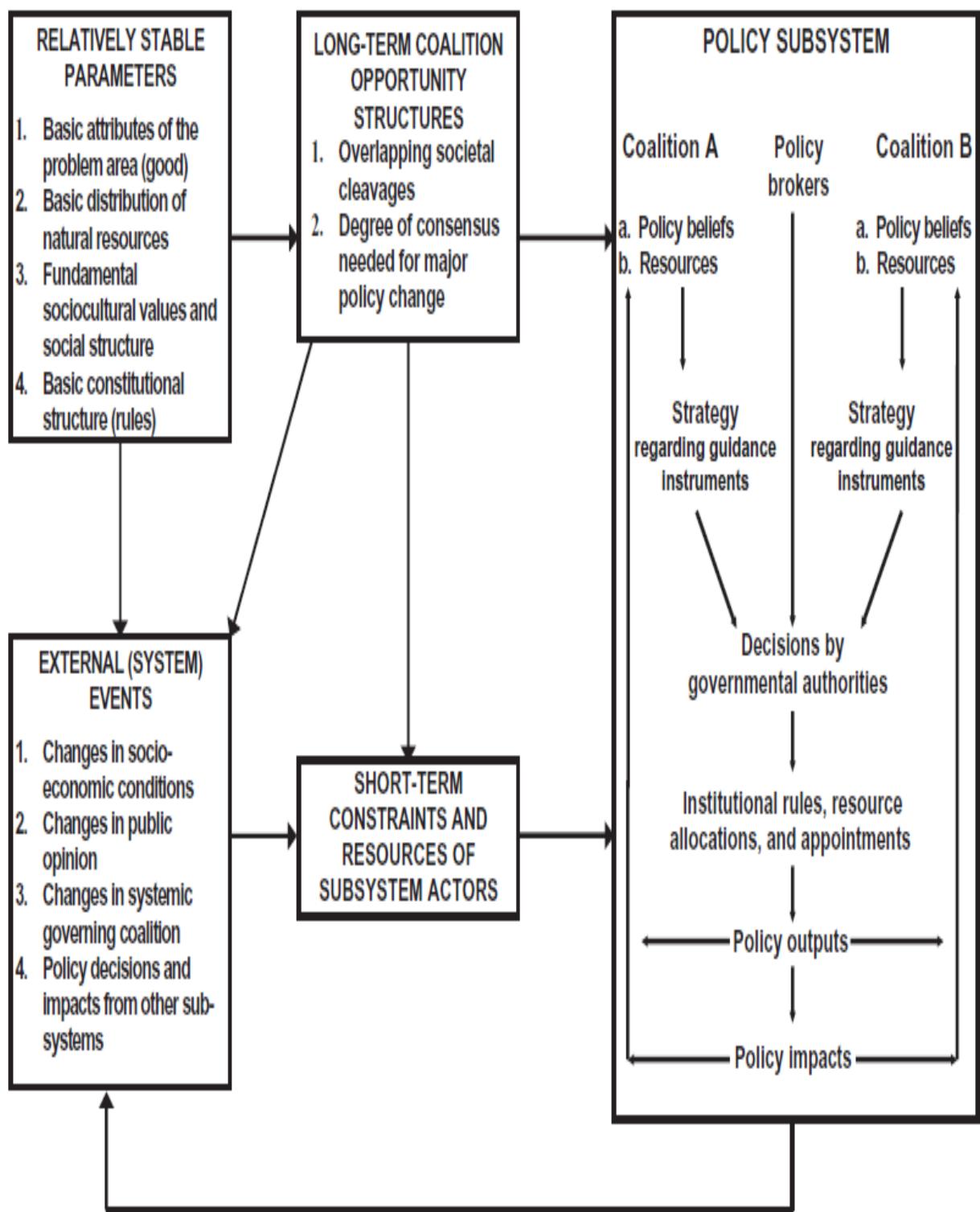


Figure 3.2 The Advocacy Coalition Theory (Weible et al 2008)

The left hand side of Figure 3.2 named 'Relatively Stable Parameters' represents the deep core belief systems (1). This moves to the right in the Figure to establish the 'Long Term Coalition Opportunity Structures' that in turn feed into the 'Policy Subsystem'. This latter right hand decision box explains the movements between Coalition A and Coalition B, arising from potentially new evidence based changeable policy core beliefs (2), mediated by the policy brokers, the experts who have access to the secondary beliefs (3). The feedback loop box from the 'Policy subsystem' box at the bottom left takes account of 'External (System) Events' that could impact on the 'Relatively Stable Parameters' (1), subject to 'Short Term Constraints' that could lead to the formation of new coalitions. This figure seeks to show in a dynamic form how advocacy coalitions are formed and can be re-formed.

The logic of ACT rests upon the assumption that 'well organised interest groups, mission-oriented agencies, weak political parties, multiple decision-making venues, and the need for super-majorities to enact and implement policy change' (Weible et al 2008:199). This was seen as applicable to situations in the USA but not elsewhere (ibid). Therefore a new category of variables, known as 'coalition opportunity structures' was developed referring to factors such as resource constraints that affect the behaviour of advocacy coalitions (ibid: 3). This revision to the ACT contained two additional sets of variables: the degree of consensus needed for major policy change, and the openness of the relevant political system. Unlike the USA, 'Westminster rules'³⁴ democracies require a simple majority for change and, often in these democracies, [more usual in Commonwealth African countries], the political system is more closed, with a lack of nongovernmental organizations able to influence the policy process (ibid).

The ACT can help to explain policy change through policy orientated learning and external events, helping to contrast and simplify hundreds of actors into coalitions based on shared beliefs. It can explain the policy role of scientific and

³⁴ The UK system of government set in the Palace of Westminster and utilised by many countries, primarily of the Commonwealth, as their democratic mechanism of governance.

technical input and of political behaviour. But the ACT has also been criticised. It is said that ACT does not explicitly account for, or is ambiguous about, the role of ideas and self-interest in the policy process (ibid 2008:6) and that ACT is unclear in its depiction of collective action and coalition formation, strategies, and their maintenance (ibid). Major policy change could be better conceptualized as multiple cascading external events rather than a single external event (ibid). The ACT can overlook the stages of the policy cycle and the role of public opinion in shaping public policy (ibid).

However, despite these criticisms, ACT has become a tool in the development of the policy process across a number of countries and sectors. ACT has been used to analyse water reform processes in a number of cases. A key example is in Denver USA where ACT explains the positions of federal, state and local institutions in Colorado and their movement towards a policy on water for the city region (Ellison 1998). The Lake Tahoe water quality analysis, seen through an ACT lens, saw, after a heated division in the local community, a coming together of a common coalition of consensus on the use of the Lake water (Weible and Sabatier 2004). A Ghanaian academic example of the use of ACT explains the evolution of a common agreed policy on private sector participation in water delivery, where there had previously been deep divisions over the way forward (Ainuson 2009). These three papers posit how change evolves with the movement from a previous Advocacy Coalition (AC) towards the coming together of a new AC, with an understanding of continuing deep common belief systems but changed by new policy oriented learning.

Research in Spain shows a water policy AC to have replaced a hydrological paradigm, with an environmentally based AC of politicians together with CSOs working through a democratic election process, creating a new coalition, based on the recognised need for water reform (Bukowski 2007). The Chinese Government's moves towards a renewable energy and climate change policy subsystem after 2007 has been envisaged as the result of an AC explained change (Stensdal 2012).

Bakker (2003) captures the move of the UK Government towards a new AC in her analysis of UK privatisation of WSS. Here she argues that the separate role on WRM of the non- privatised, state controlled Environment Agency, and the state regulation of the privatised WSS companies by the Office of Water Regulation (OFWAT),

'requires an analysis of mutually constitutive interrelationships between the discursive, social, and material dimensions of environmental change and social economic restructuring. Thus [there] arises a tendency for political and ecological work to bridge scales while examining the construction of those scales'

(Bakker 2003:192)

ACT can be seen as a way for coalitions of policy makers based on political economy to 'construct those scales' with new scientific information underpinned by continuing deep core beliefs. Could this be the lens to examine water policy change in Botswana?

3.6 A potential Conceptual Framework

The Researcher has seen policy formation and reformation over his forty years in politics at the highest level and witnessed the move from political economy policies, based on no restriction to growth, to the more sober planning for a resource- constrained world based on ecological limits. He brings these insights to this thesis.

It is proposed that ACT is an appropriate conceptual framework to explain the success of Botswana as a 'developmental state' (Leftwich 1995) and the policy changes with regard to WRM and WSS in Botswana. The strength of the deep core beliefs about water could be seen as a test of the efficacy of the ACT model. The Batswana continue to see water as a mystical bedrock within the Batswana psyche (Tsuang 2010). The beliefs in Botswana emphasise the roles of tribal leaders and rainmakers in the source and delivery of water and

these are explored in Chapter Five and Eight. Recent analysis of the continued influence of deep belief systems in the power of rain in Tanzania, even in a deconstructed symbolic system of tribal power (Sheridan 2012:240), provides support to similar data from Botswana which is outlined in this thesis. A further deep core belief is the non-tribal ownership of water resources seen under a post 1966 Independence consensus as being under the ownership of all citizens of Botswana: all Batswana have responsibility to use it wisely for the benefit of everyone in the community (Poteete 2009).

The ACT policy core beliefs (Figure 3.1) on water are examined through the expertise imbued in the civil service and water engineers. This, it is argued, provides the underpinning for the formation of coalitions on WRM by powerful trained elite groups of knowledge brokers, many trained in European universities, based on new knowledge of constraints on WRM and WSS from both the hydrological and societal demand in Botswana. This change in policy core beliefs is covered in Chapter Six. The study tentatively proposes that there is movement between two ACs in Botswana: that of political economy policies unconstrained by water limits (1966-2008) then amended to take account of ecological limits driven by concepts of water scarcity (2009+).

The structural drivers of policy change on water are defined as the 'core social processes and arrangements, reflective of social and cultural norms, values, networks, structures and institutions, that operate in concert with individuals' behaviours and practices' (Seeley et al 2012:1³⁵). This has led to the interviewing of a wide range of key Batswana informants to gather data on these core processes and arrangements in Botswana. The movement could be conceptualised as coming from the *kgotlas*³⁶ in each village and town and at state level and internationally, of an advocacy coalition for change on water reform, first in 1966 and then again from 2009.

³⁵ In this case analysing the HIV/AIDS epidemic

³⁶ Official meeting places where politicians, tribal leaders and the people gather to discuss issues.

The existing political economy policies on water, where politicians in Botswana need to win elections on a universally subsidised price and unconstrained availability of WSS, could delay an underlying shift to a new AC. The thesis explores a complex policy process. In Chapter Ten, the data is analysed to see to what extent ACT does explain the changes to policy from 'alternative rational arguments' (Blaikie and Springate-Baginski 2012: 61).

3.7 Summary

This Chapter outlines the main concepts and proposed conceptual framework for the thesis. Knowledge and realism is understood from a critical realist standpoint. The theory of Political Economy and its' interpretation in changing policy processes is acknowledged for use in analysing the data collected. Finally, the framework of Advocacy Coalition Theory (ACT) (Weible et al 2008; Sabatier and Jenkins-Smith 1993) is examined. It is proposed that ACT be used to understand the processes of water reform in Botswana. The data analysis will seek to test the use of ACT as a conceptual framework to explain the movement to a changed paradigm. However, the political economy policies of unconstrained water, where politicians in Botswana need to win elections on a universally subsidised price and unconstrained availability of WSS, could delay an underling shift to a new ecologically constrained AC. The next Chapter demonstrates the methodology used for data collection and analysis.

Chapter Four: The Methodology

4.0 Chapter overview and background

The methods chosen allow the collection and analysis of data to explain the research questions on why and how the processes of water reform have been conducted in Botswana. The positionality of the Researcher and those researched are examined. The modes of data collection will be identified with the ethical code used. The approach is based on an analysis of narrative arising from the collection of Key Informant Interviews (KII), a quantitative survey, and qualitative Focus Group (FG) data with a six part file system (Blaikie and Springate-Baginski 2012).

The adoption of the Advocacy Coalition Theory (ACT) (Chapter Three) requires a methodology to enable an analysis of the process of decision-making on water reform in Botswana. The data collected is systematically analysed, so as to understand the systems and sub-systems that have formed and are being formed to influence the new coalitions which are taking shape with the availability of new expert advice (Sabatier and Jenkins Smith 1993: Figures 3.1 and 3.2). A water reform process is analysed by Karen Bakker in researching the UK water industry changes (1991-2003). She saw her approach as 'characterised as hypothesis building rather than hypothesis testing, conceptualising the key vectors and dimension of the transformation in this period of innovation with (and re-regulation of) normative codes and regulatory practice' (Bakker 2003: ix). This approach has been taken to explain the changes in the Botswana water industry 1966-2014.

4.1 Modes of Data Collection

The primary mode of data collection is qualitative (Ellen and Firth 1984), addressing the research questions through a multi-method, interdisciplinary³⁷

³⁷ Blaikie 2014

empirical study of Water Resource Management (WRM) and Water and Sanitation Services (WSS) KI transactions in Botswana. Insights regarding existing modes of water resource use and management are derived through practitioner and participant observation. Semi-structured interviews are carried out and kept open ended.

In addition to semi-structured KII, data collection methods include: keeping a research journal, which was updated daily; participant observation and recording of interviews; document collection and analysis; questionnaire surveys; and biophysical and social data collection from papers, reports and government documents. This provides triangulation, where possible, against the results of the qualitative research and the researcher's observations. A quantitative survey was conducted outside a supermarket in Mochudi, Kgatleng District (KD) to obtain data to triangulate with that from WUC internal surveys³⁸ and the KII and FGs³⁹.

The largest element of the qualitative data collection was through FG case studies. In arranging FGs, the Researcher noted the need to avoid distortion that can come from the hierarchy, explicit in the dominant tribe, and over lesser tribes (Mompatti and Prinsen 2000). The selection of participants in FGs was from the poor, represented by the non-tribal representative Village Development Committees (VDCs) and workfare participants (the Ipelegeng)⁴⁰. Table 4.1 demonstrates the reasoning behind the selection of FG locations and participants. The details of each FG are laid out in Section 4.4, File 5 of this chapter and fully in Appendix Three. It is important that individual voices are heard in this thesis, particularly noting that:

‘development discourse about poverty has been dominated by the perspective and expertise of thousands of professionals, politicians and others who are not poor...and [that] open ended

³⁸ WUC provided the Researcher with their private surveys on the changes from 2009-12

³⁹ Details of data collection are in Appendix Three

⁴⁰ Because of the lack of a VDC, the selection of the FG for Old Naledi was with the cooperation of the GCC social workers. The choice was deliberately pro-poor and not tribal specific.

participatory methods give voice to the true experts ...the poor people themselves'

(Narayan et al 2000:3)

In this research project, the quantitative 'statistical generalizability' has been 'eschewed in favour of an evidence based strategy, supporting inductive rather than deductive reasoning' (Bakker 2003: ix). This strategy 'is particularly useful in periods of great economic and social change that poses new challenges to analytical categories and theoretical principles' (Schoenberger 1991:181). The water reforms can be seen as such a challenge to Botswana society.

4.2 Ethics of participatory methods

The UEA code of ethics was followed at all times and permission sought and obtained for all KII and FG interviews. The consent forms used, translated into Setswana, are in Appendix Three. In all cases, anonymity of FG participants was guaranteed. The Researcher notes four ethical challenges that can apply to this type of research, namely, 'taking peoples' time, raising expectations, feedback and follow-up action' (Narayan et al 2000:16-17):

1) Taking peoples' time

The Researcher agreed to meetings at times that fitted with the organisers (usually VDC Chairs) of the group which could be early or late in the day. No payment was made for participation⁴¹. All groups received food and drink at the end of the two hour interviews and knew that these refreshments were going to be available⁴².

⁴¹ A group of 'destitutes' in Olifants Drift were withdrawn by the KDC social worker at two hours notice, who had organised them to meet, because the Researcher would not pay for the attendance or contribute to a 'local fund'. The Researcher and his assistant replaced the group, with the support of the sub chief and VDC chair, with a group of *lpelegeng* workers at the same location. This is not unusual for example 'research teams did not always have control over who participated' (Narayan et al 2000:9).

⁴² 'In some countries, particularly in Latin America and the Caribbean, researchers paid people small amounts of money for participation in discussion groups. In other countries, snacks,

2) Raised Expectations

It was repeatedly stressed to participants that the Researcher could not promise assistance.

3) Feedback

As the research was conducted under GOB permit (Appendix One), the final report is required to be available in Botswana.

4) Follow-up action

Where clear actionable concerns were raised, the Researcher immediately contacted the Council or WUC to seek remediation. The open ended questions, about who was responsible, also visibly empowered participants to consider what they should do. However, there remains an ethical dilemma of raising hopes of radical immediate action.

4.3 The Methodological approach

The data collection procedure at each step used a mixed methods approach (Newman et al. 2013). It involved obtaining available quantitative data, and the collection of qualitative data. The data was then triangulated with the observation of the Researcher, who kept a notebook of all meetings and a daily reflective journal. This approach 'can result in new understandings' from this combination (Bryman 2006:111). The initial data analysis could be revised after reflection at a later point in the day. However, using both quantitative and qualitative methods could be jeopardised by the positionality and the potentially restricted reflexivity of both the researcher and the researched (Greenbank 2003).

coffee, or tea served half way through or at the end of the discussions were greatly appreciated by the participants' (Narayan et al 2000:11)

The Researcher is aware of his positionality as a white, older, professional male, previously an international businessman and politician. He has both observed and taken part in decision-making processes in the UK and internationally, both with the private sector and within senior levels of both local and central government. He has visited Botswana previously, prior to the field work period, and has taken part in conferences organised by the Africa Venture Capital Association and by the Commonwealth Local Government Forum. As important, his home until the age of 20 (1964), was in a very poor, rural village in Norfolk, where the only water supply was from a spring-fed reservoir in the centre of the village and sanitation was based on a bucket in an outside shed. Due to his father's illness, he was the person who carried the water in pails from the reservoir, and each week disposed of the human waste. A standpipe was erected locally in 1965; utility run, house connected, tariff based WSS arrived in 1979. The reason for the delay could be seen as the lack of political will; the full WSS had been available within two miles for over 50 years, but the poor were kept waiting. This positionality gives him some added insight compared to other UK researchers, but not as deep as local informants. The positionality of the KI, who were members of the elite of Botswana, needs to be reflected upon. KI could often feel that they had to defend the existing situation rather than be frank about what they really felt. The length of time spent on the field work meant that KIs felt able to speak more openly, having come to trust the Researcher and his motives.

The Researcher spent 10 months in Botswana (September 2010 - July 2011) and has externally tracked the changes between the start of the research in 2009 to the completion of the thesis in 2014. He maintained relationships throughout this time with key stakeholders and returned to Botswana in April-May 2013 after the agreed policy was published, and undertook a final round of KIs. He further returned to South Africa in March 2014 to reflect upon the previous data collected from that country.

The research methodology follows an Analytical Narrative (AN) approach, based on the work of Blaikie and Springate-Baginski (2012). He suggests an AN path to grounded and useful research, from research design to research practice, using a 'document facility' concept, as trialled by the International Centre for Integrated Mountain Development (ICIMOD) in Kathmandu in 2007/8, and as used in his own research (Blaikie and Springate-Baginski 2007). He suggests the following formal steps that he calls 'files':

File 1: The goals of the research programme, utilising the policy documents available.

File 2: A history of the struggle for environmental justice, establishing how the policy environment is changing [amended titling in this research].

File 3: A listing of the key actors who have 'unequal powers'.

File 4: Interfaces between the actors in File 3. What are the effective operational linkages between actors?

File 5: The choices of the researcher as to whom he/she wishes to work with.

File 6: Policy argumentation: what does the evidence based research show?

This approach is used in this thesis to construct and analyse a detailed picture of policy change, using multiple sources and types of data from a range of perspectives. The data was organised using the file system listed here, prior to answering the research questions. The results and insights from across the files are integrated in the results and analysis Chapters Five to Nine. The files are presented here in sequence to explain their rationale and main activities.

File 1: The goals of the research programme, utilising the policy documents available:

The goal is to understand the water policy reform programme in Botswana. The policy documents available are: the reports of the Botswana National Water Plan by the Snowy Mountain Engineering Company (SMEC) of Australia (2006), the World Bank Botswana Briefing Paper (2009) and the Ministry of Mining, Energy, and Water Resources, Department of Water Affairs (MMEWR/DWA) implementation reports (2009/10). These documents form the backdrop to the

internal Botswana decision-making processes on water governance since 2009. In addition to this Botswana specific activity, the Researcher reviewed documentation from the World Bank and other Trans-National Organisations on water sector reform processes that provide a wider comparative context. He had access to the MMEWR DWA Water Reform Unit in Gaborone, in particular to Mr Bafitlhile, who headed the Unit and was driving the process of reform. The Researcher attended key meetings and was able to draw from a rich set of observations of the processes. The draft proposals for a new water policy, Water Act and particularly for the powers of the new water regulator went to Cabinet in July 2011 and the final policy went to the National Assembly (NA) for approval in 2014. Given the use of the UK water reforms (1989-2012) as a potential template for the Botswana reforms, a KII took place with a senior representative of UK OFWAT⁴³, on a lessons learned basis in June 2012, so as to inform the final analysis.

File 2: An Analysis of how the policy environment is changing:

Alongside File 1, a literature review of country research of the post Independence (1966-2013) water governance systems that are being reformed has been established (Swatuk 2004). The decision process on the allocation of water in Botswana is moving from a decentralised, community and customary law basis to a centralised, national government and common law basis. The process started in March 2009 and was planned to be completed in 2014. The changes were proposed as being more efficient, cost effective and sustainable (World Bank meetings in Gaborone, September 2010). However, the high levels of inequality, already evident in Botswana, could be entrenched through the changes (UNDP 2010) and this is explored in Chapter Nine.

File 3: A listing of the key actors, who have ‘unequal powers’:

The Researcher conducted iterative interviews with the ‘key actors’ (Blaikie 2010:10) both within and outside the government; those who had decided in the past and now, on the allocation of water in Botswana. Interviews continued to

⁴³ KI WEUK 1

be on a formal /semi-formal basis, so as to ensure that all aspects of decision-making were covered. The interviewees were central decision-makers from the Ministries, primarily the Department of Water Affairs (DWA) and the parastatal, the Water Utility Corporation (WUC) and large private sector users of water. These were the key centres of power. During the course of fieldwork, the Researcher met a large number of Batswana senior civil servants, all of whom were trained to a very high level (PhD or Chartered Institutes) often as water engineers or hydrologists. They have progressively moved up the GOB civil service ladder. They now run the MMEWR and the Ministry of the Environment, Wildlife and Tourism (MEWT) and the Ministry of Agriculture (MOA), the three most important ministries on WSS. They also run the WUC.

The President of Botswana, Leader of the majority group of MPs in the National Assembly, has the power to deliver change in Botswana. The second President of Botswana, H.E.Kwett Masire's autobiography provides a first-hand witness of the formation of policy in Botswana from the 1940s (Masire 2006). Whilst his insight is likely to be biased in the need to self-justify decisions taken in the past, it provides a stage-side view and ear to key events. The President is both advised and constrained by a coalition of senior politicians, and social, cultural and economic interests.

Below the central level, the interviewees were those now dispossessed of power over WSS in Gaborone and in Kgaleng District, namely the District Authorities (both elected politicians and appointed officials), the District Commissioners, the Land Board officials and the various levels of Dikgosi (tribal chiefs). The role of civil society organisations (CSO) was reviewed. Women's CSOs were involved with the selection of focus groups in line with the Dublin Principles (1992). The category listing of the KIs is in Appendix Three.

The roles of external actors with power, for example, the World Bank (WB), the United Nations Development Programme (UNDP) and private mining companies such as De Beers were examined. Despite the withdrawal of many International Aid Agencies from Botswana after 1990, because of the rerating of Botswana as a middle income country, there were still significant players such

as the European Union (EU) and the German International Aid Agency (GIZ) (on IWRM in SADC) and United States International Aid Department (USAID) (largely on issues on HIV/AIDS).

File 4: Interfaces between the actors in File 3. What are the effective operational linkages between actors?

The operational linkages between actors in the old and new policy structures and processes were mapped (see Figure 5.1 and Figure 7.1). It was noted that elsewhere there are difficulties in establishing accountable institutions for water governance (Cleaver 2007). The external players are muted in their lobbying but can still at times be strident, particularly in their advocacy of IWRM and the Dublin Principles, as will be seen in Chapter Six. Data collection took the form of semi-structured interviews with these players as they sought to influence the reform process. The funding of Southern African Development Community (SADC) institutions by donors has strengthened the regional protocols and reviews of WRM. The thesis seeks to place the Botswana reforms in this regional context, and data was collected on these operational linkages. Both primary and secondary data was collected on the water policy structure and processes in Namibia and South Africa, SADC Trans-boundary Water Commissions (TBWCs) and the African Ministerial Committee on Water (AMCOW)⁴⁴. The Researcher also engaged with the United Cities and Local Government Association (UCLGA) and the International Centre for Local Environmental Initiatives (ICLEI) data collection in 2011 on WSS across Africa.

File 5: The choices of the researcher as to whom he/she wishes to work with:

⁴⁴ Primary data from Namibia came in November 2010 from KII and the Commonwealth Local Government Forum (CLGF) Conference on 'The State of Local Government in Southern Africa' (attended by ministers and civil servants from Southern African States including Namibia, Botswana and South Africa) and in February 2011 from a Commonwealth Partnership for Technology Management (CPTM) SMART Partnership meeting on regulation in SADC countries.

The South Africa primary data came in March 2011 from KII at the UN Water Day/Week in Johannesburg, where the Researcher also interviewed AMCOW participants at the same event.

In order to drill down from the bigger picture so far examined, the Researcher moved to more localised research in February 2011, using semi-structured questionnaires⁴⁵ in FGs held in six areas. Five were linked by the Notwane River from the Gaborone Dam down to the Limpopo River at Olifants Drift - and the Artesia site was chosen to represent a non-riverine water stressed area. The characteristics of each FG are outlined in Table 4.1. The selection of FG locations was made so as to provide a range of data covering different levels of WSS provision. The participants in the FGs were chosen to represent poor people, broadly earning less than P500 (£50) per month, to provide a counterpoint to both the KIs, who tend to be with the wealthier and more educated elite, and the quantitative survey of Mochudi supermarket shoppers outlined later in this section. The choice of participants in each FG was left to the VDC Chair except in the case of the FG in Old Naledi where the choice was made by the senior social worker for the area.

The different WSS interactions at the six locations are compared and contrasted⁴⁶, and details of the FGs are contained in Appendix Three. In all but the Artesia FG, the participants were balanced male/female and aged 30-70 years old. The data obtained provided an alternative viewpoint on the WRM reforms from the poor of Botswana to compare with the views of the KI who were usually from the elite. While the FG discussions were open-ended, there was a semi-structure to the events. Questions were framed around subjects that sought to illuminate the research questions.

⁴⁵ The Researcher employed a male Setswana speaking research assistant, who was chosen because he came from outside Kgatleng District, and so reduced the likelihood of bias. He translated the responses from focus groups and KI where the participants chose not to speak English or could not.

⁴⁶ Gaborone has had WUC running its water services and the City Council running the sanitation services. In Kgatleng District (KD), the DWA was, pre 2009, responsible for all WSS in Mochudi, and KDC was responsible elsewhere in KD. Mochudi and KD have been chosen as research sites because of the rich range of social science research carried out there (Ellis 2010; Henry 2009; Comaroff and Comaroff 2007; Suggs 2002; Peters 1994; Schapera 1943). This has enabled comparisons to take place on the processes of change in this area, which have been seen as having lessons for Botswana as a whole and Southern Africa (Henry 2009:4). Many Mochudi households have cattle at Olifants Drift.

Name of FG	Population 2011	Location	Main water provision	Reason for choice	Other relevant points
Old Naledi	19,079	SW Gaborone next to dam	Standpipes until 2013, then piped	Last area of Gaborone to move away from standpipes	Township with cheap accommodation used by new migrants to the capital
Broadhurst	16,257	NE Gaborone, south of sewerage works	Piped water since 1990s	Planned residential area from 1960s	Alongside Notwane River
Matebeleng	2,196	Southern edge of Kgatleng District	Piped water from Bokaa Dam since 2000 but some standpipes	Peri-urban village for commuters to Gaborone	Some horticultural farming using Notwane River and re-used water
Mochudi	44,815	Capital and main village in the centre of Kgatleng District	Mainly piped water and sewerage but some standpipes (2011)	Main urban centre for Kgatleng District	Centre for Bakgatla Administration
Olifants Drift	925	NE Kgatleng District, alongside Limpopo River	Mainly standpipes, moving to piped water in 2011	Riverine village and centre for cattle post support	Border village with South Africa
Artesia	2,365	NW Kgatleng District	Standpipes in 2011	Centre for cattle posts	Transport stop on main trunk road between Gaborone and Francistown

Table 4.1 Characteristics of Focus Groups (FG)

The findings from the FGs are spread across Chapters Five, Six, Seven, Eight and Nine to provide voices of the poor as well as KII in evaluating the impact of the water reforms.

The Mochudi Supermarket Survey

During the fieldwork period in May 2011, it was decided that some quantitative data was needed to balance the evidence from the FGs which was largely from poorer members of the communities. Therefore a survey of 100 water consumers was conducted in June 2011; the questionnaire of which is in Appendix Three. Those surveyed were coming out of a supermarket in the centre of Mochudi, the main large village in KD. The respondents were randomly chosen and interviewed over two periods of time. The results appear in Chapters Six, Seven, Eight and Nine.

The Researcher returned to Botswana in April/May 2013, and collected further data from KI. By doing this, he was able to make comparisons between the original policies proposed and consulted on, as reported in Chapter Seven, and the final outcome in Section 7.7.

File 6: Policy argumentation: what does the evidence based research show? The Researcher sought to analyse, reflect on and triangulate the evidence from the data, so as to assess the impact of the processes of change coming from the water reforms. The data from KI, FGs and the supermarket survey were examined to answer the research questions in Chapters Five, Six, Seven, Eight and Nine. Chapter Ten seeks to integrate the insights from the various sources, to link back to the theories of policy processes, and change, expressed in Chapter Three. Chapter Eleven provides a tentative answer to the research questions utilising the previous five Files (Blaikie and Springate-Baginski 2007).

4.4 Summary of Chapter

The methodological approach draws from the work of Karen Bakker (2003) in researching the UK water industry changes (1991-2003). Blaikie's Six Files structure has been employed to rigorously collect and systematically interrogate data, following a broadly political ecological study design (Blaikie and Springate-Baginski 2012, 2010). The reflexivity of the Researcher provides both triangulation and contextualisation of the data from across the files, which is then used to answer the research questions

The following chapters, taking account of the literature review (Chapter Two), the chosen conceptual framework (Chapter Three) and the methodological approach covered in this chapter, now seek to analyse the data collected to provide tentative answers to the research questions. Chapter Five commences this process by looking at the provision of WRM and WSS in Botswana prior to the 2009 reforms.

Chapter Five: What was the governance of Water Resource Management (WRM) and Water and Sanitation Services (WSS) in Botswana prior to the 2009 Water Reform process?

5.0 Introduction

The conceptual framework of Advocacy Coalition Theory (ACT) (Chapter Three) is used to examine the extent to which pre-Independence 'deep core beliefs' on water are held and how these underpin a narrative of water scarcity (Sabatier and Jenkins-Smith 1993). An explanation is given for evidence of post independence Advocacy Coalition (AC) policies on water and their role in removing water scarcity as a constraint on the economic development of Botswana. The data comes from the methods and range of sources employed as outlined in Chapter Four.

5.1 WRM and WSS decision-making structures before 1966

Prior to the water reforms following Independence in 1966, Batswana saw themselves constrained by a lack of water (Schapera 1943). The ability of the Tswana Chief to initiate rain for the tribe, both through his own skill and that of his rainmaker, was crucial to his power (*ibid*). In the village of Mochudi, the remains of the rainmaker's house, next to that of the Chief, can still be seen (Photograph 5.1).

The white missionaries sought to prove their superior knowledge of nature by importing European concepts of dams, water harvesting and sand wells to collect and keep the scarce water. But the Chiefs, while ostensibly converting to Christianity, still maintained their primacy, as far as the Batswana were concerned, in the delivery of rain (Comaroff and Comaroff 1991:130; Schapera 1970:125). This is further explored in Chapters Eight and Nine.



Photograph 5.1 Remains of Rainmaker's house in Mochudi 2011

The Bakgatla tribe, whose capital is Mochudi, had dug wells after their arrival in 1884. They were among the pioneers in the drilling of boreholes in 1926, initially at their own expense and subsequently with the support of the then Bechuanaland Protectorate colonial government (Shapera 1970:99). The tribal leaders had the power to allocate land, and through that power, water rights, under that allocated land (ibid: 99). The tribal grazing grounds became organized around cattle posts (*moraka*). The universal childhood of boys was organised around the tending of cattle there and this common experience of need for rainfall for the cattle to drink and grow fodder became part of the deep belief system of all Batswana (Head 1969). This altered with the drilling of boreholes organised by tribal leaders and syndicates of the wealthy (see Chapter Nine).

Outside the tribal lands, the colonial power, the UK, (1880-1966) provided water and sanitation services (WSS) in the large towns. This was sourced from

municipal boreholes, piped to standpipes in each area and, occasionally connected to individual houses. The sanitation services were largely undeveloped with the exception of private cesspits available to certain domestic houses. The capital of the Bechuanaland Protectorate, forerunner of Botswana, was in an area of Mafeking, South Africa. The capital of the new state of Botswana was planned at the village of Gaborone in 1964, in part for its access to water from the River Notwane, which formed one of the perennial head-waters of the Limpopo River. This led to the construction of the Gaborone Dam in that year to serve the new capital (Grant 2012:23).

5.2 Views of Batswana on water in the Botswana deep belief systems (Sabatier and Jenkins Smith 1993)

The giver of rain was seen to be God. In all the FG discussions⁴⁷, there was a high appreciation of the role of God and of hydrological processes: In the Old Naledi Township, next to the Gaborone Dam, the consensus view was as follows:

“Yes, I believe that water...it comes from above. It is rain-water brought by God from above. The one we drink, the one we use from taps, is from dams and is purified with machines and is brought to us through taps. I mean water comes from God as rain and goes into dams, and then people go and connect at the dam and put it in taps for us. I take it's like that” (FGON 1)

“I will be a little different. You mentioned something about culture and there is water that when I was growing up I found it coming from the ground and sometimes naturally like in places like Kumakwane. It is a

⁴⁷ The six Focus Group locations and context are in Section 4.3. The coding for the focus groups used in this section is: FGA (Focus Group Artesia, Kgatleng District), FGB (Focus Group Broadhurst, Gaborone), FGM (Focus Group Matebeleng, Kgatleng District), FGMO (Focus Group Mochudi, Tsukududu ward, Kgatleng District), FGOD (Focus Group Olifants Drift, Kgatleng District) and FGON (Focus Group Old Naledi, Gaborone). The different voices are identified by numbering where appropriate.

place that has spring water from the ground. Even though water seeps into the soil when rain falls, there is water that comes from the ground as springs" (FGON 2)

The view from the Broadhurst FG was the same:

"Water is from the ground. You know when it rains, water falls to the ground and we dig a borehole and then it comes and we drink it" (FGB 1)

"No. Nobody disagrees. Water is from the ground" (FGB2)

In the Kgaleng District (KD) FGs, the consensus was that:

"Water comes when rain falls. Long ago we would dig and water would spring out and we would fetch from this spring and that would be water for drinking and doing everything in the home. But that would be the case only when rain had fallen. Without rain, there is no water" (FGM 1)

"I take it that water is from the seas then it rises up and falls as rain. That is when it becomes water. It flows to rivers and some of it we get from boreholes" (FGM 2)

"Water, we get it when rain falls. That is when there can be water under the ground. Water really comes from rain. Water comes from rain and that's when you can find it underground" (FGOD 1)

There was an understanding of water recycling at the Matebeleng FG:

"Water is from rain. Like we heard the lady say that for rain to fall, winds rise from the sea, raising clouds and then water falls to the ground as rain. There is also some like now we have water which is dirty. This water... water from the toilets is pumped into dams and then it is purified after which it is pumped back into circulation and

this is water which was made by cleaning toilets and everything else. It is still rain water but it changes when it gets to places like toilets" (FGM 1)

The water harvesting in the past was a group effort:

"But when rain has fallen, when we were growing up, we used to keep it in small wells or we would dig small dams and water would spring from these dams. That's how we got it; we got it after it seeped out. There is a place which is called *motswedi* (place of spring). In this place there is a little spring and we knew we fetched from there but when there was no rain our spring would dry up. I mean, when there is no water the spring cannot hold much water, and we would have a water drought and there would be no water" (FGM 3)

Rain water harvesting by individuals in their *lapa* (yard) was not seen by most of the participants of the six FGs as a matter for individual initiative. An exception was an older lady from Matebeleng who had in the last 20 years dug out six rainwater tanks utilizing the soil as bricks to build dwellings and to water a vegetable garden.

"I hired some boys to dig, but this one and that one were done by me. I harvest the rain falling from the roofs of my buildings in these holes; I have six holes now from my six buildings. I cement in channels from the edge of the walls to direct the water to the holes. I cover the holes to prevent the water evaporating. I use the water I have saved to water the vegetables in this *lapa*. I can sell the vegetables all year round" (KI BR 8)

But it had been the norm in the past:

"I built this house yesterday in 1950. I have a buried tank there [under the house] and an outside tank.... this house was set up before I left to go to SA in 1945. I am not the first person,[we all did it then]. I use the rainwater tanks for drinking, after filtering" (KI BR7)

Underlying this understanding of the hydrological process was an agreement on the role of God. The spiritual source of water was emphasized at all the FGs:

“We believe God is the one who makes water to be there. Only God can cause rain to fall. If there was no rain for a long time, even Gaborone dam would dry up. If a long time passes without rain, even the dam can dry up” (FGON 1)

Who ensures there is enough water? “It’s God. Mm! It’s God. That means it’s everybody’s answer. That is everyone’s answer” (FGB all)

“The weather is different from what it was before. In olden times, water was everywhere. It has changed very badly. It is time to plough and there is no rain. Now there is no rain; then it was plenty. At present it is now God’s law, they do not follow the Chiefs. They slaughter each other like goat or like sheep; this is a bad time for us older people who lived in those olden days; there is no Christianity” (KI BR 7)

“We were never short of rain.... when it got less, it rained again; people trusted each other; we had no fine buildings. All these fine buildings make people mad.... It all comes as a gift from God” (KI BR 7)

The role of the rainmaker was known by all FGs and seen as an intermediary to God used by their predecessors, not themselves. But in Matebeleng village, there was this testament:

“I can comment about one lady, when I was growing up, who used to make rain fall. There was one lady, when we were growing up, called Mma Morwadi. When rain was not falling she would call.... she would talk to the Chief. The Chief would disperse a *mophato* (regiment). This regiment would go around picking *dibeela* (things that were

believed to stop rain from falling, like litter, dead animals etc). After picking up the *dibeela*, they would be brought to the *Kgotla* and *megaga* and *mesimama* plants would be brought to her and she would look for young ladies and small children and they would come to the *Kgotla*. Some of us who had started growing small breasts would dip our feet in water in a bath tub. This water would contain *mosimama* and *mogaga*. After that, this lady would take this water and pour it in small buckets and she would take these children, around 9, 10 years old, and she would have a certain plant called *motshetsane* and she would take these children around the village, going around all these areas sprinkling water and talking to rain saying, 'let the rain fall down in droplets'. And when she said that, even if the place had become a desert, the rain would later fall. This lady, I wonder why she had to die leaving nobody with the gift. She is the one we knew in Matebeleng. We used to get rain because of this lady. She was called Mma Morwadi" (FGM 1)

"So rain was kick started... I mean forced..." (FGM2)

"She asked God" (FGM1)

"That's what I mean. Was it kick started?" (FGM2)

"I don't know how she got the gift, but she spoke to God. It used to be that after she had gone around sprinkling, the heavens would rise and rain would fall." (FGM1)

The majority view from the FG in Mochudi was:

"Water, Rra, belongs to God" (FGM 2)

From the FG in Old Naledi, Gaborone:

“A village like Radisele is a very good example. They can go for days without water and when you ask the elders they say that the ancestors are unhappy and that a certain ritual needed to be performed, known to the elders” (FGON 1)

The ritual was described as follows:

“We had a rainmaker. They had small clay pots. They lived in a private house. The pots are not for pleasure but to pray for rain to give God respect. The medication in the pots were roots from trees.... nobody knows which. Bones gave direction as to how they must work. They make medication to keep the thunder away and keep soft rain. I cannot tell you the current rainmaker. Of course there is one.... he can stop the rain altogether.... stop the ploughing. Maybe this year here will be no ploughing. If you put the lid on the pot there will be no rain.... I only saw this because I am related [to the royal family]. I was respected as a child. They do not respect me [now]. Only men were in the room for the ceremonies. Women get too angry” (KI BR 7)

In summary, in 2011, the FG responses show that, despite a good knowledge of the hydrological process, there was still a deep belief in the role of God and the ancestors and in the intermediary role in the bringing of rain, of the Chief and the Rainmaker. The challenge that the water reforms represent to this role, that is, through the removal of power from the Chiefs and traditional institutions, is explored further in Section 8.1.

5.3 WRM and WSS decision-making structures 1966 – present

Botswana became independent in 1966. All land, water and minerals under the land became vested in the State, and the powers of the Chiefs over land were largely extinguished, in the period 1966-1972. As illustrated in Figure 5.1, the structure for decision-making on WRM and WSS was within a quadrilateral system of government, still in existence today, with a strong central government (represented in each district by the District Commissioner (DC), elected local

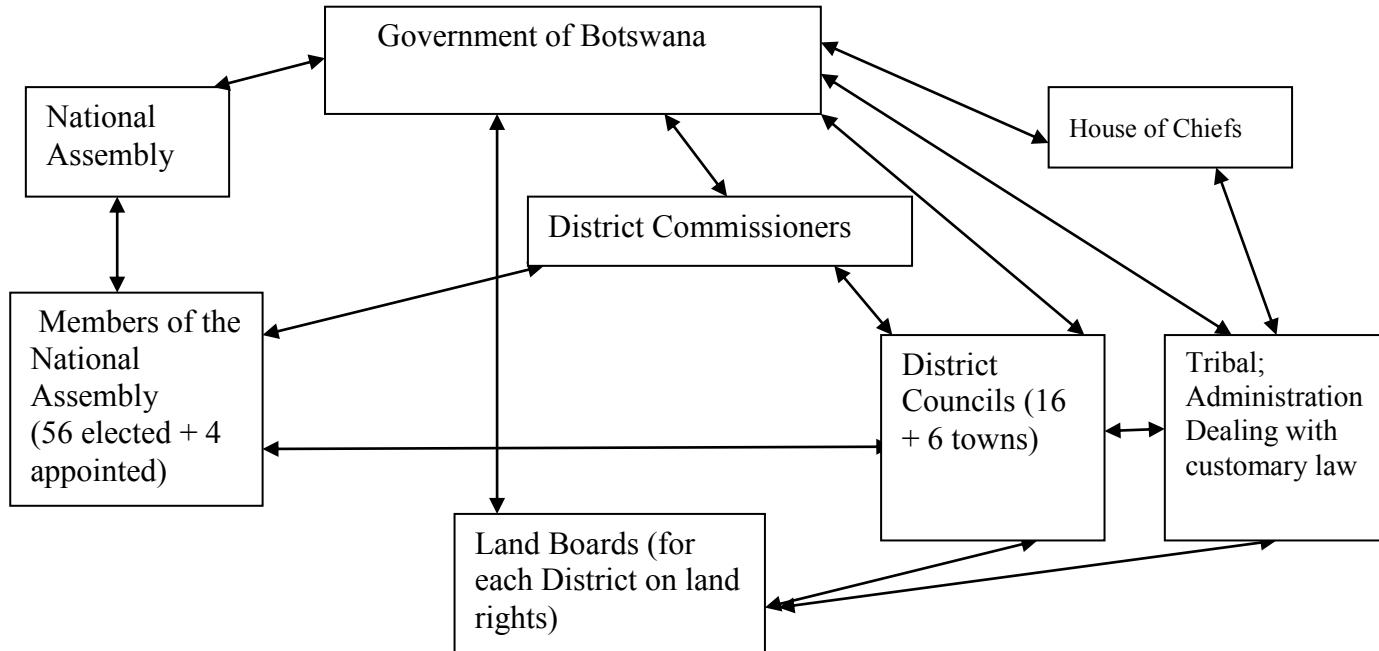


Figure 5.1 The WRM and WSS decision-making structures 1966-present

NB: The lines represent the reporting relationships, which are both up and down, while final power after full consultation lies with the Cabinet of the Government of Botswana, who seek to secure a majority in favour in the National Assembly

Source: The Researcher's reflection after KII 2010-11

District Councils (DCs) (10) and Town Councils (6), Land Boards (LB) appointed by Central Government, and lastly, the Tribal Administration (TA), through which the Chiefs exercised their remaining powers. Above this is the central legislature with an elected National Assembly (NA) of members elected by constituency for five years and an appointed tribal representative House of Chiefs (limited in power⁴⁸). The President is elected each five years as the candidate of the political party that has the majority of the Members of the NA, and the Cabinet he/she chooses must be members of the NA. The complicated web of relationships shown makes it difficult for decisions to be taken with speed but it does ensure that full debate has to take place at all levels. There is a lack of a distinct and clear hierarchy seen in other systems of government. The Botswana structure of decision-making may be seen to require a coalition of interests to be formed before any key decisions are made, including those on WRM and WSS (Gulbrandsen 2012:109)

While water rights (and all mineral rights) were centralised under state ownership, the model for exercising those rights was multifaceted and decentralised (Figure 5.1). The removal of tribal powers over land and water rights was controversial at the time, but as discussed in Chapter Two and later in Chapters Eight and Nine, it is argued that an AC of strong elite leaders in support of the change, had been formed under the first President Seretse Khama, heir-apparent paramount Chief of the largest tribe, the Bangwato (Williams 2006). It gained majority support, in elections for both central and local government. This led to his party, the Botswana Democratic Party (BDP), forming the first post independence government. This political party has remained in power since then through democratic elections. The constitutional settlement was challenged in 2010-12 by Kgosi Kgafela Kgafela of the Bakgatla tribe and this will be explored in Section 8.1.

⁴⁸ This is explored in Chapter Eight, Section One

5.4 Institutions for WSS 1966-2009

The post Independence settlement on water was codified in legislation: the Water Act, 1968 [CAP 34:01] and the Water Utilities Act, 1970 [CAP 74:02] set the framework, shown in Figure 5.2. Some pre-Independence water laws remain in force, such as the Waterworks Act of 1962 [CAP 34.03], with Ministerial powers to set tariffs and prevent water wastage, and the Boreholes Act of 1956 on the control on boreholes (FAOLEX 2011). Other Acts and regulations that impact on WRM in Botswana are listed and briefly outlined in Appendix Two.

The Water Act, 1968 asserts that the State owns all water resources and has delegated water development and user rights to various providers:

The Water Utilities Corporation (WUC) is a parastatal organisation wholly owned by the Botswana Government, established in 1970 by an Act of Parliament, reporting to the Minister for the Ministry of Mining, Energy and Water Resources (MMEWR). It took over the previous responsibility of government set out in the Water Works Act (1962) for the supply of safe drinking water in urban areas in so-called *waterworks areas*⁴⁹, such as Gaborone, the capital, Francistown, Lobatse and Selebi-Phikwe. There, WUC had a monopoly and was the only entity allowed to drill boreholes in those areas, subject to permission from the WAB set up under the Water Act 1968. WUC is required by law to break-even⁵⁰. Before the reforms, WUC provided water to 21.5% of Batswana

⁴⁹ The defining of the ‘waterworks areas’ could be expanded by order of the Minister and it is under the Water Works Act 1962 that WUC has been enabled to take over all responsibility for WSS in Botswana after 2009.

⁵⁰ CAP 74:02:Para19.1: ‘It shall be the duty of the Corporation to conduct its affairs on sound commercial lines...and so prescribe the charges payable in respect of the supply by the Corporation of water so as to ensure that its revenues are sufficient to produce on the fair value of its assets a reasonable return measured by taking its net operating income as a percentage of the fair value of its fixed assets in operation plus an appropriate allowance for its working capital’.

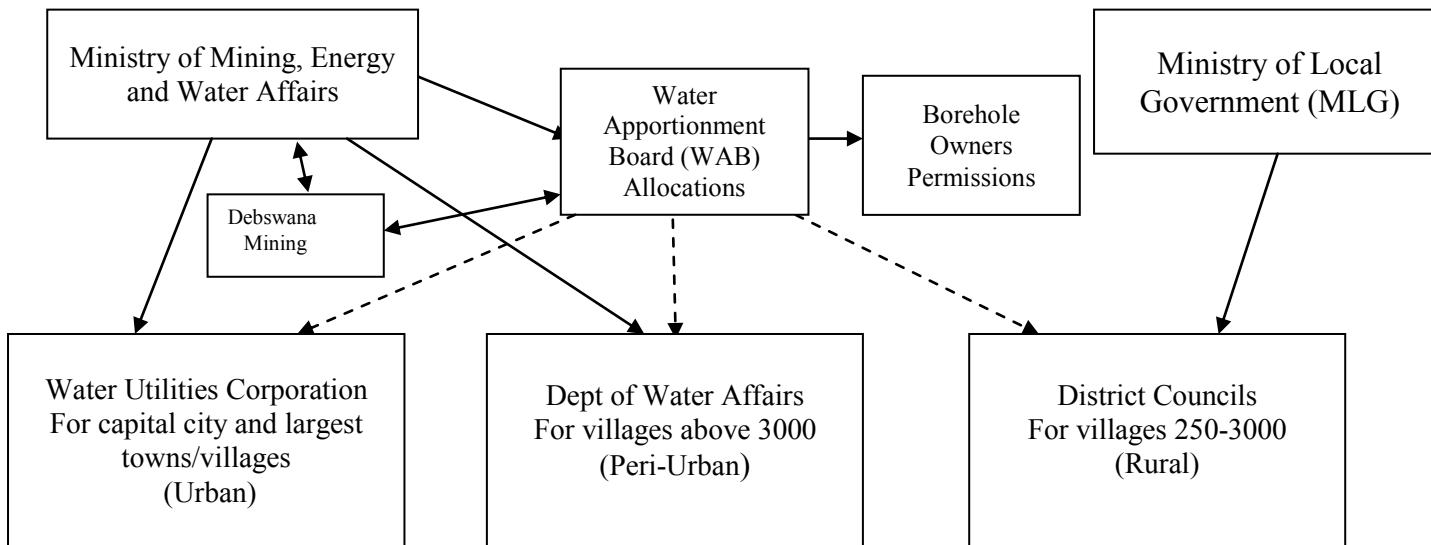


Figure 5.2 1968-2009 Responsibilities for water delivery Source: Researcher's Observation from KII's, 2011

NB: The arrows represent the decentralisation of power from the centre. The dotted lines from WAB represent the low levels of power held by the WAB

domestic users in the urban areas (National Development Plan (NDP) 8, 2000).

- **The Department of Water Affairs (DWA)** within MMEWR charged with the establishment of reticulated water supply systems in the rural villages. In addition, it operated and maintained the systems in seventeen large villages. It provided potable water to an estimated 22.5% of the population (NDP 8, 2000). WUC operated largely independently of DWA (KI WUCO 5).
- **The 18 District Councils (DCs)** who operated and maintained the water supply systems in all other rural settlements, usually through the Water and Sanitation Division of each District Council. This covered 22% of the people (NDP 8, 2000).
- **DEBSWANA PLC**, the diamond producing joint venture between De Beers PLC and the Government of Botswana (GOB) which provided potable water to the mining towns of Orapa and Jwaneng, from boreholes. DEBSWANA development was restricted by a lack of water (Stephenson 2007).
- **Self-providers** who included livestock owners, arable farmers and mining companies that operated outside villages and settlements. Self-providers applied for surface or groundwater rights to the Water Apportionment Board (WAB), who granted such rights with an abstraction ceiling. Details of boreholes (yields, depth, water quality and so forth) were to be recorded in the National Borehole Registry, held by the Department of Geological Surveys (DGS), as required under the Boreholes Act (1956). Monitoring of abstraction of the self-providers was difficult and in practice inadequate. By the 1970s, 'the water rights situation in rural areas was nearly chaotic. In 1972, allocations of individual borehole rights in the Central District were being made at a rate that amounted to 14% to 17% of the total territory per year' (Parsons

1984:66). It is suggested that the DGS overview of the system “has been and remains poor, due to lack of financial resources and political will” (KI CGCS3). This has been seen as a major gap in the country’s water management system, as self-providers provide potable water for not only 34% of the population but also the water for livestock farmers, general agriculture and the mines (NDP 8, 2000). No definitive figures are available as there is almost no monitoring of the off-take of water from self provided boreholes and their use of surface water (KI CGCS3). This will be further pursued in Chapter Nine.

5.5 The Water Act (1968)

This Act controlled access to, and use of, water resources. Box 5.1 outlines the institutions that flowed from the Act.

Water rights were needed to abstract, store, dam and divert water. They were granted for abstraction for a specific purpose (for example, mining, forestry, industry, power generation and agriculture) and indicated the maximum amount and period of abstraction. The abstraction ceiling varied, according to the use but usually did not exceed 22.75 M³ per day. The Water Apportionment Board (WAB) granted water rights and kept a record of these⁵¹. Water rights may be cancelled if they are not used within three years or if there is too little water. It is said that ‘the rights are conditional: that water should be returned (where reasonable) to the body from which it was abstracted and as much water as possible (given the type of use) should be returned; water should not be polluted’ (Centre for Applied Research (CAR) 2005:33). However, the same 2005 report states ‘the penalties for non-compliance were high in 1968, but have not been adjusted and are now very low. The monitoring and enforcement mechanisms are inadequate’ (ibid).

⁵¹ The records held in paper form at the DGS were “uncoordinated and incomplete” (KI CGCS 3)

Box 5.1 The institutions and their roles under the 1968 Water Act

I. Supply agencies:

Water authorities (WUC, DWA and DCs) who

- Supply the planning of water resources
- Have the duty to supply reticulated water in waterworks areas
- Have the right to propose water tariffs to Cabinet
- The right to supply other users, but not at lower charges than those for waterworks (WUC) areas
- Do surface and groundwater explorations and borehole drilling and well field development
- Do desalination

II. Water management institutions:

- Water Apportionment Board (national level) which is responsible for the allocation and monitoring of the use of the water rights. The Registrar is based in the DWA.
- District Land Boards and sub-Land Boards who allocate land use rights, which have to be obtained to enable an application to the WAB for water rights under the land
- National Conservation Coordinating Strategy Agency which carries out the Implementation of Environmental Impact Assessment(EIA) legislation, including reviewing the EIAs and the coordination of resource use and management (e.g. land and water)

Source: 1968 Water Act

No water rights have been removed since the inception of WAB and there have been no fines for over abstraction. “There is no check on abstraction levels” (KI WUCO1). There was no fee for the abstraction of groundwater beyond the P60 [£6 in 2010] for the initial application (Grynberg 2013:5). Groundwater, after the costs of abstraction, was free. Within the areas granted for mining under the Mines and Minerals Act, Part II, Article7 (1), there was no limit on the abstraction of water (*ibid*).

The Act was seen as deficient as cited by CAR 2005:

- ‘There is inadequate demand prioritisation and allocation;

- It does not provide for an integrated water management approach, for example, catchment area management;
- The treatment of water pollution is inadequate;
- There is no provision in the Act for management of shared water courses'

In other words, the 1968 Act is not in line with the SADC Protocol on Shared Water Courses (2003, 1997). In the absence of a comprehensive revised water policy, the institutional framework of water planning and management was seen as having limitations. However, water suppliers and authorities had managed to improve access to potable and affordable water, and to adapt to droughts and growing water scarcity. This push for more water for all had led to 'the past bias towards [unlimited] water supply at the expense of a balanced IWRM approach' (CAR 2005:33). There has been a strong critique of the failings of this WRM framework. It is said that:

'water resource planning and monitoring of use has not been adequately institutionalised. No single institution is responsible for IWRM planning in the country, and no water planning and policy unit exists...the absence of a policy and planning institution must have contributed towards the delay in water law reforms. Lack of such an institution has also contributed to fragmentation and gaps in water supply, use and management data' (ibid).

The institutional framework for WRM and WSS through the Water Act (1968) appeared, by 2005, to be both inadequate and incoherent in accountability. But the rationale for the water decision-makers in Botswana outlined in Section 5.4 meant that there was no change in their decision-making process and the outcomes of those processes. It was seen as a barrier to the introduction of Integrated Water Resource Management (IWRM). It could be conjectured that

the maintenance of the status quo involved all key stakeholders in a mutually consensual advocacy coalition that had held since 1966.

5.6 Sponsoring Ministries

The wording of the 1968 Water Act in its range of official institutions (Box 5.1), disguised the multitude of Ministries and their powers attached to the provision of WRM and WSS in Botswana prior to the 2009 reforms as is seen in Box 5.2.

Box 5.2 Sponsoring Ministries on Water Issues before 2009

Ministry	Responsibility
Mining, Energy, Water	WAB, WUC, DWA, DGS, Debswana and all mining rights, Botswana Power Corporation (BPC) and all power producers
Local Government	District and Town Councils, Tribal Administration, and WSS to villages (with water from WUC)
Lands and Housing	Land Boards
Environment and Wildlife	Impact Assessment, Sewerage Regulation
Agriculture	Irrigation, Cattle, Agriculture
Lands and Housing	Land Boards
Environment and Wildlife	Impact Assessment, Sewerage Regulation
Agriculture	Irrigation, Cattle, Agriculture

Water extraction rights given for mining and energy production, responsible for over 20% of water consumption (NDP 2000), once given by the WAB, were not further restricted (Grynberg 2013) (Figure 5.3). But as the industries were contained within the single Ministry for Mining, Energy and Water Resources (MMEWR), they were overviewed by a single Minister for policy direction. But that policy was one of providing that which was seen as necessary for the economic development of Botswana, with no restrictions.

The second Ministry with a dominant influence on water, with over 40% of the water usage (Figure 5.3), that of Agriculture, was perceived to have operated outside the MMEWR/WAB rights based regime. It saw itself as supporting the livelihoods of Batswana in providing water, through boreholes, to the up to five million cattle (in non-drought years) and the mitigation of rain-fed subsistence agriculture through small dams. It has been said that 'the Ministry of Agriculture (MoA) has operated a parallel but separate water policy to MMEWR since 1966 as part of the consensus on water' (KI WUCO 1). MoA had, it was alleged, 'established and operated dams and boreholes without an application to the WAB' (KI WUCO 1). 'It is estimated that over 21,000 boreholes exist in the country, but many are not used and capped. Just over half of the registered boreholes in the country are owned by the government, the remainder by private individuals' (AQUASTAT for Botswana 2012:1). 'Until 1993, the MoA supplied water to farmers at no charge. In 1993 the Ministry [MoA] changed its policy and asked farmers to contribute 15 percent of dam construction costs. The Ministry [MoA] also gives grants to syndicates to finance a portion of the costs of sinking boreholes for livestock watering. Syndicates operate and maintain the boreholes, but pay nothing for the water. They are required to obtain water rights from the WAB, which are free of charge' (ibid: 2). However there are a large number of unlicensed boreholes, many of which have been drilled with the support of the MoA (KI NGON 6). This is further explored in Section 9.2. Official statistics show 2% of the Botswana GDP came from the 44% usage of water (Figure 5.3). The assessment of only 2% of formal employment coming from agriculture belies the almost total part time employment of the nation, in pursuit of cattle raising and the planting of the *masimo* (ibid). The lack of monitoring of borehole water throughput also brings into question the accuracy of the official record.

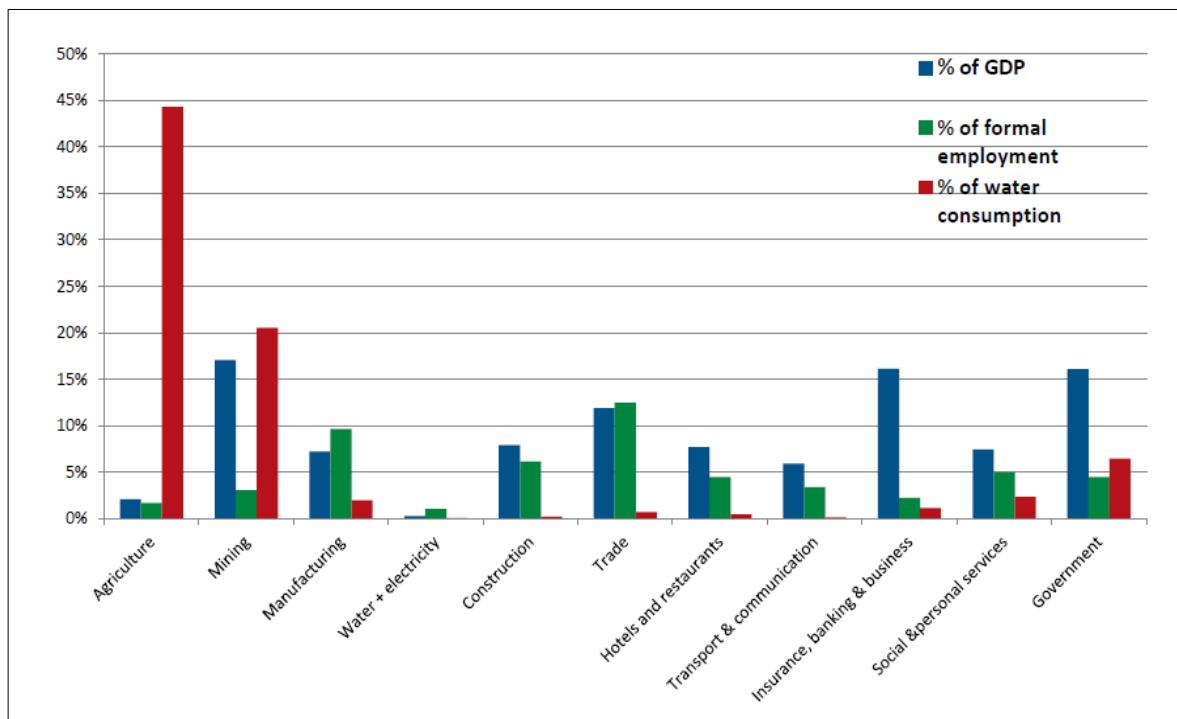


Figure 5.3 Water Use in Botswana 2011(showing share of GDP, employment and water use)

Source: GOB 2013⁵²

The role of the Ministry of the Environment, Wildlife and Tourism (MEWT) in ensuring the sufficient allocation of water to ecosystems is perceived to have been weak relative to the other two ministries. But agreement to the RAMSAR designation for the Okavango River delta and the increasing importance of water rights to maintain the pristine wild-life parks and thus the Tourism Industry shows a balancing within this allocation system, supported by the Wildlife Policy passed in 2013. The Environmental Impact Assessments (EIAs) required to take place before major projects which could impact on water resources, have been weak and have not led to a change in those plans, usually sponsored by MMEWR (KI CGCS 9 2013). The regulation of waste-water by MEWT has not led to reuse of water for human consumption and only limited quantities have been used for irrigation. The siting of pit latrines authorised by MEWT has not always taken account of their impact on the aquifers below as in the case of the Ramwotswa aquifer in the 1990s.

⁵² Available at

<https://wavespartnership.org/waves/sites/waves/files/images/Bot%20WAVES%20Botswana%20Presentation%20April%209,%202013.pdf> accessed 16th July 2013

It is said that “WAB has never been known to turn down a water rights application” (KI WUCO 1). The WAB chair denies this but was unable to provide any evidence of applications having been turned down (KI CGCS2). “WAB has never had a single field staff member” (KI WEN 5). The interviews at MoA with Ministers and civil servants confirmed a “strong independent line of command over the provision of water for agricultural use” (KI CGP2 and KI CGCS9). It should be noted that while there are farmers’ groups that lobby MoA for water, there are no water user associations. The cooperative associations set up in the years after independence have largely died out with the withdrawal of support of ODA money and expertise. The almost universal secondary occupation of every Batswana at all levels was and is that of being a farmer at the lands (*masimo*) or at the cattle post (*moraka*). The researcher reflects that during the fieldwork period, he has heard farmers assert their right to whatever water is available as an ‘unalienable right’. This contradicts any policy of restricted water demand management (WDM) at any time.

The database of borehole locations and water off-take is “very poor” (KI CGCS 3). A water point survey of Kgatleng District, the last comprehensive analysis of water points in the fieldwork area, supports this view (Wellfield 1997:12). “Very few water points are registered [with WAB] and the few records that are available have unsatisfactory completed forms” (ibid). “A much large[r] number of water points than had been originally estimated were encountered” (ibid: 30). The Kgatleng Land Board suspended all new land and therefore water rights applications from December 2010 to January 2012; this was to conduct an audit of exactly how many and where the boreholes were in Kgatleng District. “Nobody knew” (KI LBCS 1). “There are many boreholes in this area of rangeland and they are not 5 km apart as is required. They do not have WAB authorisation and have been drilled by the MoA” (KI NGON 6). “Other Land Boards are considering the same course of action” (KI LBCS1). There is similarly a “lack of detailed mapping of land rights for land allocated by the Chiefs and subsequently allocated by the Land Boards” (ibid). The trial mapping, that took place in 2010/11 by the Ministry of Lands and Housing

(MOLAH) in Matebeleng Village in Kgatleng District, is being evaluated to see if this can be done throughout Botswana⁵³.

This process of borehole and land tenure mapping has brought into question the future procedure for the drilling and allocation of boreholes. Discussion at the WB presentations of September 2010 (see Chapter Seven) proposed the use by GOB of satellite/Google Earth/NASA imaging to track down all boreholes to enable WDM to take place. This has not yet been authorised by GOB but is seen as “feasible” (KI CGCS 6). However, a former senior civil servant says “Lots of borehole water is reticulated in underground plastic pipes to a kraal or water point that may be far, far away from the borehole itself. Neither updated (cheap) Landsat or Google Earth will be able to locate the roof of a 2.5m x 3m pump house” (KI WEN 5).

The researcher reflects that the pre-reform WRM framework for Botswana can be seen as fundamentally flawed, in part because of the rivalry between MoA and MMEWR, leading to a lack of coordination of allocation of water resources.

5.7 River Basin Organisations (RBOs) impacting on Botswana WRM

The post 1966 water settlement expressed in legislation did not take account of the Botswana dependence on surface water from the transboundary rivers surrounding the country (Figure 2.4). It is one of only six countries which depend on over 75% of its surface water needs on transboundary waters (TBW) (UNDP 2006:210). ‘It is the Southern African State which depends the most on good neighbourly relations’ (Maupin 2013:12). Botswana is the ‘State of all the Commissions’ (*ibid*) by participating in four river basin organisations:

- The Okavango RBO, OKACOM: established in 1994
- The Orange-Senqu RBO, ORASECOM, established in 2000

⁵³ MOLAH Newsletter, 2010:1,2,8 Bontsibokae K. “LAPCAS (Land Administration Procedures, Capacity and Systems), A New Tool for Modern Land Administration”

- The Zambezi RBO, ZAMCOM, established in September 2011
- The Limpopo RBO, LIMCOM, agreed upon in November 2003, but not yet ratified by all members.

The RBOs are guided by the 1997 UN Water Courses Convention⁵⁴ (not signed by Botswana) and the revised SADC Protocol on Shared Water Courses that came into force in September 2003. The latter has 'the overall objective of fostering closer cooperation with judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty reduction' (GOB 2010:8; Jacobs 2012). The Secretariats have now been set up, the last being that for the ZAMCOM in May 2011 in Gaborone, located within the MMEWR offices. The Water Act (1968) which forms the framework for water resources in Botswana does not mention RBOs or the powers of GOB to ensure their integration into WRM in Botswana.

It has been proposed that the SADC transboundary water commissions are evolving regional water law⁵⁵ (Van der Zaag 2009). The four RBOs have been in the very early stages of negotiation and the availability of water to Botswana has been questionable. The renegotiation of the LIMCOM upper water allocation, that currently accrues 90% to SA and 10% to Botswana, under an agreement made during the apartheid years, moves slowly. The result of such a hegemonic process on the availability of water to SA was shown in fieldwork on the irrigated farming taking place in 2011 across the Mariko/Limpopo River, on the international border between Kgatleng District and the Limpopo Province of SA. On the SA side was multi-crop arable farming, using open tower day time spraying of water straight from the river. On the Botswana side in Kgatleng District, there was scrubland and some subsistence farming. At Olifants Drift

⁵⁴ Only SA and Namibia have signed from the SADC states but the SADC Protocol (2003) is based on the 1997 convention (Jacobs 2012:72,73)

⁵⁵ Although the results are patchy: the Incomati TBWC has a strong basis of evolving water law although progress on the Limpopo TBWC is slow' (Van der Zaag 2009:256)

there were two small horticultural ventures utilising the limited water extraction permits from the Limpopo River. Further limited water extraction licenses were issued by the WAB in August 2012 and could represent the first changes on water allocation. Sergio Sitoé, the Interim Executive Secretary of LIMCOM, mentioned a recent complaint in which the Botswana government felt their South African counterparts should have officially informed them before beginning a development in the river basin. The LIMCOM Head said that “while regional agreements allowed for disputes to be taken to the SADC Tribunal, there were a number of conflicts in the region that were being discussed behind closed doors”⁵⁶. Recent academic analysis point up the disproportionately low uptake of Botswana share of Limpopo River water (Lankford 2013:138).

South Africa, as the local hegemonic power (Saunders 2012: 6; Van der Zaag 2009:256; 2007), takes from the Orange-Senqu River system⁵⁷, 99% of the flow” (KI IA6). These arrangements were being renegotiated in 2013-14. The hegemonic nature of the relationship between SA and Botswana is pointed up by the comments of a retired SA negotiator who in discussions with the Researcher stated that “if Botswana wanted more water [from ORASECOM or LIMCOM], they only had to ask me” (KI WESA 2 2012). The negotiating position of Botswana as a frontline state opposing apartheid SA was tempered to take account of its dependence in surface water on rivers controlled by SA (Masire 2006).

In 1994, Angola, Namibia and Botswana signed the OKAKOM treaty establishing a legal framework for the sharing of the waters of the River Okavango within the instrument of the Permanent Okavango River Basin Organisation (Weinzierl 2013). The GOB unilaterally ratified the RAMSAR convention in 1997 to protect the wetland ecosystem of the Okavango Basin, and thereby restricted its water from general availability to the economy, beyond

⁵⁶ Reported in <http://ipsnews.net/print.asp?idnews=108042>, accessed 7th June 2012

⁵⁷ There has been academic justification for this allocation of water because of the greater water productivity in South Africa (Heyns 2008; Lange 2007).

the use for human consumption, local rural livelihoods for subsistence farming and the support and development of tourism⁵⁸. Recent research updates the Okavango water allocation needs of the three riparian states and the expansion of agriculture that is likely in southern Angola, which is seen as more water scarce than Namibia or Botswana (Weinzierl 2013; SADC 2012a Project XB-1). Botswana tourism depends on the continued flow of the Okavango River flowing through Angola and Namibia to the RAMSAR ecosystem at the end waters of the river (ibid).

Botswana's hopes for water abundance lay on securing a significant⁵⁹ share of the waters of the Zambezi River and of the feeder Chobe River. The SADC water protocol process for ZAMCOM was important to Botswana as water from the Orange, Limpopo and Okavango Rivers are largely seen as allocated (SADC KII November 2010). Only the Zambezi River flows are seen as available for new allocation, and much of Botswana's future development is predicated on the North-South Carriers of water, bringing water from the Zambezi tributaries upriver, to the Eastern side of Botswana (Khama 2011). The co-location of the ZAMCOM secretariat with MMEWR in Gaborone in May 2011 was seen as an indication of that importance. The first coordinator of ZAMCOM was at pains to point out that ZAMCOM was not as yet, in May 2011⁶⁰, a binding allocative process water commission. The future allocation of Zambezi water to Botswana⁶¹ was crucial to agricultural development plans in the NE of Botswana, particularly the Zambezi Integrated Agricultural Development Project (ZIADP) in the Pandamatenga area (KI CGP2). The claim of water engineers that it would reduce the flow of the Zambezi by less than 1% has led to assumed endorsement by the Parties in 2013. If there were no objections, it was deemed by GOB to have the green light under the SADC Water Protocol of

⁵⁸ This followed a successful international NGO campaign against GOB proposals to utilise the Okavango water for industrial use (Thomas 2001) Greenpeace was said to be the key opposition NGO by the then Director of the DWA, Moremi Sekwale (ibid;118).

⁵⁹ Reported as agreed by Minister Mokaila on 29th March 2013 available at : <http://www.mmegi.bw/index.php?sid=1&aid=203&dir=2013/>

⁶⁰ In March 2013, the status remained the same as May 2011

⁶¹ Botswana is requesting 495 Mm³ each year

2003 (KI IA7). However this was a process outside the absolute power of GOB (Lankford 2013).

While the RBOs are set within the IWRM paradigm (see Chapter Two), they have been criticised:

'I am not a fan of the river basin organisations, notably LIMCOM and ORASECOM. They manage to promote donors and minority environmental voices at the expense of long term influence on what happens in the basins because they marginalise the national decision-makers. They also drain the national administrations of competent people by offering donor salaries. But that's my own jaundiced view - although empirically, far more has been achieved on WRM in non-RBO settings' (KI WESA 2, July 2012).

The meetings of the transboundary water commissions (TBWC) are frequent but decisions on water allocation are slow. It has been suggested that the TBWCs can have 'negative effects' (Muller 2011:159):

'First, they weaken national WRM capabilities as some of the better staff are lured out of service by donor-subsidised salaries in the TBWCs. Second, they weaken political oversight over water management and strengthen the hand of unrepresentative interest groups. Thus environmental groups are enthusiastic for RBO. In addition the establishment of these organisations provides donor countries with an easy channel of influence for both political and commercial purposes' (ibid: 159).

The participants and funders in the international processes are sanguine about the outcomes of these processes (KI IA 1-8). TBWC funders could help smaller nations in negotiations with basin hegemonic powers where they occur. The

research on the working of ORASECOM suggests that, for Namibia, the TBWC funders have been helpful (Kiston 2012). No formal allocation of water has been made to Botswana from the ORASECOM negotiations.

The launch of six SADC Infrastructure Master Plans in 2013, by the then Botswana High Commissioner Nick Pyle, included plans for water and meteorology (SADC 2012a; SADC 2012b). The planning had been financed by DFID across the SADC area and could impact favourably on Botswana at ORASECOM and unfavourably at OKACOM. There was a bid by Botswana for water from the Orange –Senqu River, the Vaal-Gamayara water supply for villages in SW Botswana (ibid:106, Project GP-9). However it was noted to be subject to SA approval. The Botswana instigated project on the Limpopo River was to analyse pollution from SA farmers (ibid:91, Project GP-1)

The Researcher reflects on the hydro-mission and private sector drive behind the planning, and the absence of any project finance proposals for national WRM and universal access for WSS at the country level, in the case of this thesis, for Botswana.

5.8 Progress in Delivery of WRM and WSS in Botswana 1966-2009

WRM in Botswana was limited and its absence heavily criticised (CAR 2005). The Botswana branch of the Global Water Partnership (GWP) pressed for UNEP funding for a Botswana IWRM plan in 2002 and this was granted in 2009 (see Chapter Seven). Otherwise, as has been shown above, the provision of water was on the basis of ‘predict and provide’. This was through nearly free groundwater for mining and agriculture and heavily subsidised unrestricted (outside drought periods) surface and groundwater for wholesale provision of raw water for ultimate domestic and industrial use (ibid).

The progress on WSS was different. At independence in 1966, the availability of potable water to the individual Motswana was recorded as above 35% and improved sanitation at above 15%. But records were poor and this may have been overstated. By 2009 and before the reforms, these figures were asserted

to have risen to 97% for potable water and 84% for improved sanitation (UNDP 2009). Therefore it could have been said that there was no need to change the institutional arrangements. This could have been considered a major success, particularly relative to other SSA countries (Stampino 2012). But the figures for access have been queried as being exaggeratedly high in both the case of potable water as well as for improved sanitation. The figures particularly “ignore the problems of access for the poor and access in rural areas” where Department of Water Affairs (DWA) and District Councils (DC) had the responsibility for WSS (KI WEN 1 and see Chapter Nine). The figures given in the Government Water Statistics of 2008 from the Census of 2001 were that the proportion of population that received piped/tapped water, whether from a private connection or a communal tap, was 87.01%. A comparison between cities/towns and villages (urban and rural) showed that 99.5% of the population in cities/towns in that year got piped or tapped water while in villages the proportion was 84.1% (GOB 2009:9). The compilation of figures from WHO/UNICEF 2010 (Tables 2.2 and 2.3) shows the gap in 2006 between the total coverage of improved drinking-water sources (IDWS) and house connections. This was bridged by other provisions, primarily through the supply from standpipes. 99.7% of urban areas had access to IDWS but only 81.2% had house connections. In the rural areas, there was 91.4% access to IWS but only 34.4% had house connections. The figures also mask levels of inconsistency of delivery. The WUC areas of delivery increasingly gave good performance but the intermittent provision in the villages by DWA and DCs was heavily criticised by key informants in 2010/11.

The water borne sanitation services (WBSS), while being extended from the towns to larger villages under DC management in the period 1990-2006 (Figure 2), were often not taken up by choice by the citizens due to the cost of the connection and subsequent services. The continued use of Pit Latrines inappropriately located above water courses and aquifers has lead to large scale pollution of key aquifers (KIs 2010-11). While 83% in urban areas had access to improved sanitation, the figure dropped to 51% in the rural areas (Table 2.3). In both cases, a number of connections were not completed and

used (Botswana Demographic Survey 2006). The figures show that, despite the good performance of DWA in the non WUC provided large villages; there remains a gap in the full provision of WSS.

A major Consumer Satisfaction Survey 2009⁶², carried out on behalf of WUC, did not show low performance levels by DWA in the areas which were soon to migrate to WUC (Briggs 2010:6). The survey covered existing areas served by WUC, soon to migrate areas (such as Mochudi) and recently migrated areas such as Tlokweng and Mogoditshane. In the latter areas, satisfaction was less. This was blamed on poor communication in the handover, but a WUC KI also said “there had been political opposition whipped up against the transfer from DWA to WUC” (KI WUCO 4).

5.9 National Water Master Plan (NWMP) 1992

The initial internal driving force for the development of the National Water Master Plan (NWMP) was from within the water professional elite, as a response to the water needs of Botswana increasing, with the rise in population and living standards 1966-1990 (GOB 1992). The NWMP was based on a long-term hydro-engineering perspective of predict and provide, and recommended that the additional water needs be met by additional dams, development of well fields and through the construction of the North-South Water Carrier (NSC) I. The latter was completed in 2005 and was seen as providing for the long term needs of South East Botswana, the main population and industrial centres, by moving water from the North East higher rainfall areas to the South. It is subject to significant but undisclosed leakage according to WUC sources, reducing its efficacy. Major villages were progressively given access to NSC I during the

⁶² The Consumer Satisfaction Survey is conducted annually but is a private WUC in house document intended to pin point low performance levels. In the case of the survey in 2009, across all the main centres in Botswana, most of which were then run by DWA and not WUC, the results were very good. No survey was carried out for the rural area where WSS performance at that time was being performed by the District Councils. The Gaborone and Francistown results for Private and Business consumers were the lowest, thought by the surveyors to be due to the “much higher expectations of service delivery than other areas”(Briggs 2010:6)

period of fieldwork. There were major problems of leakage and pump failure in the NSC I (KI WEN 5) with water shortages in the Gaborone area in 2013.



Photograph 5.2 Inauguration of work on N-S Carrier II, Palapye May 2013

A NSC II was initiated in May 2013, shown in Photograph 5.2, for completion by November 2014. It had been envisaged in 2007 that NSC II would be paid for by CIC Energy PLC, the proposed developers of the Mmamabula coalfield (Colman 2010). The failure of CIC Energy to get a Private Power Provider (PPP) contract from ESKOM, South Africa led to the withdrawal of their interest. Financing of the P1.6Bn. fell upon the GOB. The Director of DWA in disclosing this⁶³ at the inauguration also spoke of a NSC III in the next ten years. 'All potential coal and other mining needs for water were being planned to be met in this way by 2035, as was 76% of the forecast consumer needs of Greater

⁶³ Dr.Obakeng Palapye; English translation of the speech made available to the Researcher

Gaborone'. At the Inauguration, attended by the Researcher, no figures for water flows were disclosed.

The NWMP (GOB 1992) pointed out that Botswana depended on groundwater for 80% of water needs at that time and had the lowest per capita storage capacity in Southern Africa. It proposed three new major dams namely: Dikatlhong, Thune and Lotsane, with capacities of 400M m³, 90M m³ and 40M m³, respectively, constructed in order to alleviate water shortage for domestic and industrial consumption. The three dams were completed in 2011-2013 and in the case of Dikatlhong to provide water for irrigation purposes⁶⁴. Table 5.1 shows all the retention dams in Botswana and Figure 5.4 shows the location of the dams. Table 5.1 demonstrates the post independence hydro-mission (1966-93) and then the outcome of the second phase hydro-mission (2005-2013) set in train by the NWMP (GOB 1992). The initial phase largely concentrated on surface water from the South from the tributaries of the Limpopo River. The second phase saw the switch to the utilisation of flows from the North. However in all cases evaporation levels led to the need in each year to await the annual rains to fill the dams.

⁶⁴Primarily to the Zambezi Integrated Agricultural Development Project (ZIADP) in the Pandamatenga area in the NNE of Botswana.

Name of Dam	Year Constructed	Capacity (Mm ³)	River Course	Location	District
Gaborone	1966	144.00	Notwane	Gaborone	South East
Nnywane	1970	2.30	Nnywane	Lobatse	South East
Shashe	1970	88.10	Shashe	Mooke	North East
Molatedi ⁶⁵	1986	201.00	Marico/Limpopo	Zeerust (RSA)	West (RSA)
Bokaa	1993	18.82	Notwane /Metsimotlhabe	Bokaa	Kgatleng
Letsibogo	1997	100.00	Motloutse	Mmadinare	Central
Ntimbale	2005	26.50	Tati	Tutume	North East
Lotsane	2011	42,30	Lotsane	Maunatlala	Central
Dikgatlhong	2012	400.00	Notloutse	Robelela	Central
Thune	2013	90.00	Thune	Bobonong	Central
Mosetse	In construction	31.70	Mosetse	Mosetse	Central

Table 5.1 Major retention dams for surface water in Botswana

Source: after Grynberg 2013:3

⁶⁵ In SA supplying water to top up the Gaborone Dam under the LIMCOM allocation of 10% of the Limpopo River Basin shared by SA and Botswana

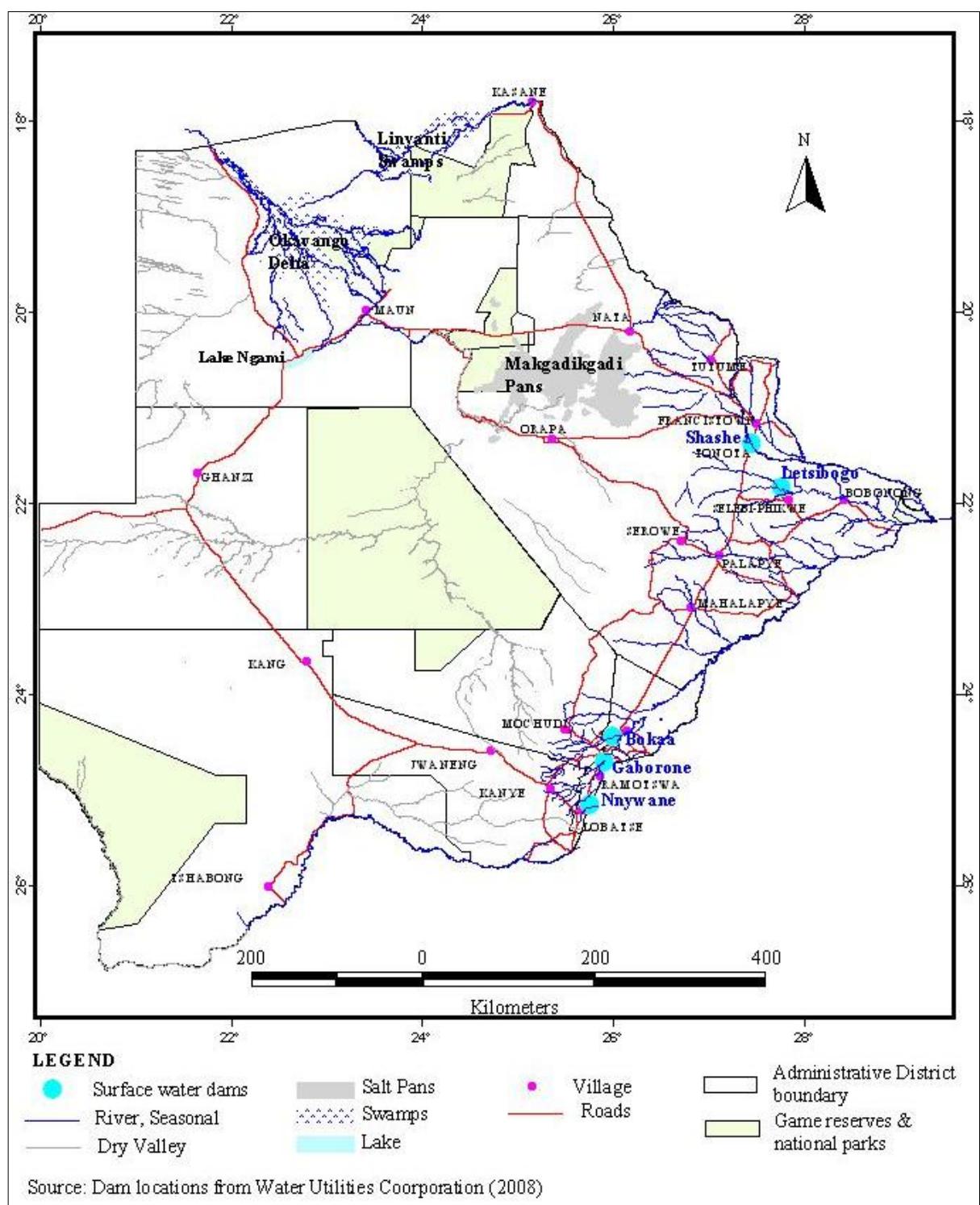


Figure 5.4 Location of Dams (surface water sources) in Botswana

	Estimated demands ($10^6\text{m}^3/\text{a}$) in the year		
Category	1990	2000	2020
Settlements	34	69	168
Mining and Energy	23	33	59
Livestock	35	45	45
Irrigation and Forestry	19	29	46
Wildlife	6	6	6
TOTAL	117	182	324

Table 5.2 Forecast water demand as set out by the NWMP (GOB 1992)

Table 5.2 shows the forecast water demand that led to the rationale of a 'predict and provide' plan of NWMP (GOB 1992). It was a guesstimate as other than the flows measured by the DWA for settlements and energy, the other categories were estimates (KII 2010). It was used to justify the dam building indicated above.

Tables 5.3 and 5.4 are not comparable to Table 5.2 but are the Botswana Water Accounts for 2006 prepared by the Ministry of Finance and Development Planning (MFADP) and again are largely estimates with the exception of the information from the DWA and WUC. It should be noted that the Water Accounts that were to be produced by the MFADP in 2011 have still not been published by 2014. It is difficult to draw conclusions from the data put forward in Tables 5.3 and 5.4; it could be seen as a reassurance to the elite coalition running Botswana that all was known and under control. There was no need to

query the status quo only to provide more dams and North South Carriers (NSC).

User category	Year			
	1992	1996	2000	2003
Agriculture	72.9	70.6	76.0	63.4
Mining	12.8	14.4	24.1	26.8
Manufacturing	3.9	2.1	4.0	5.1
Water + electricity	0.0	0.8	0.5	0.7
Construction	0.0	0.4	0.4	0.4
Trade	0.2	0.7	1.0	1.2
Hotels and restaurants	0.2	0.5	0.8	0.8
Transport + communication	0.0	0.2	0.2	0.3
Insurance, banking, business	0.0	0.5	0.7	0.8
Social and personal services	0.0	1.2	1.7	2.4
Government	8.7	8.8	11.1	11.5
Household use	36.1	41.1	48.1	56.9
WUC private sector	7.7	0.0	0.0	0.0
Grand Total	142.3	141.3	168.6	170.3

Table 5.3 Actual water use by economic sector (Mm³) 1992-2003

Source: Botswana Water Accounts Report GOB 2006b:32

The low levels of demand for water for electricity generation (and the linked coal mining for Marupule A power station) correctly measured from MMEWR statistics reflect the then dependence in 2006 of Botswana on electricity supplied under the Southern African Power Pool (SAPP) from ESKOM. This came to an abrupt end in 2009 with notice being given by the South African government. The additional water needs for energy production at Marupule B and C power stations will be a key to future WDM after 2013 when they come

on stream (Colman 2010). Coal mining for Morupule A led to water usage of 664Mm³ in 2010 (MMEWR Statistics). For their future additional water needs, the Morupule power stations and colliery are linked by pipeline to the NSC I and in 2014 to NSC II.

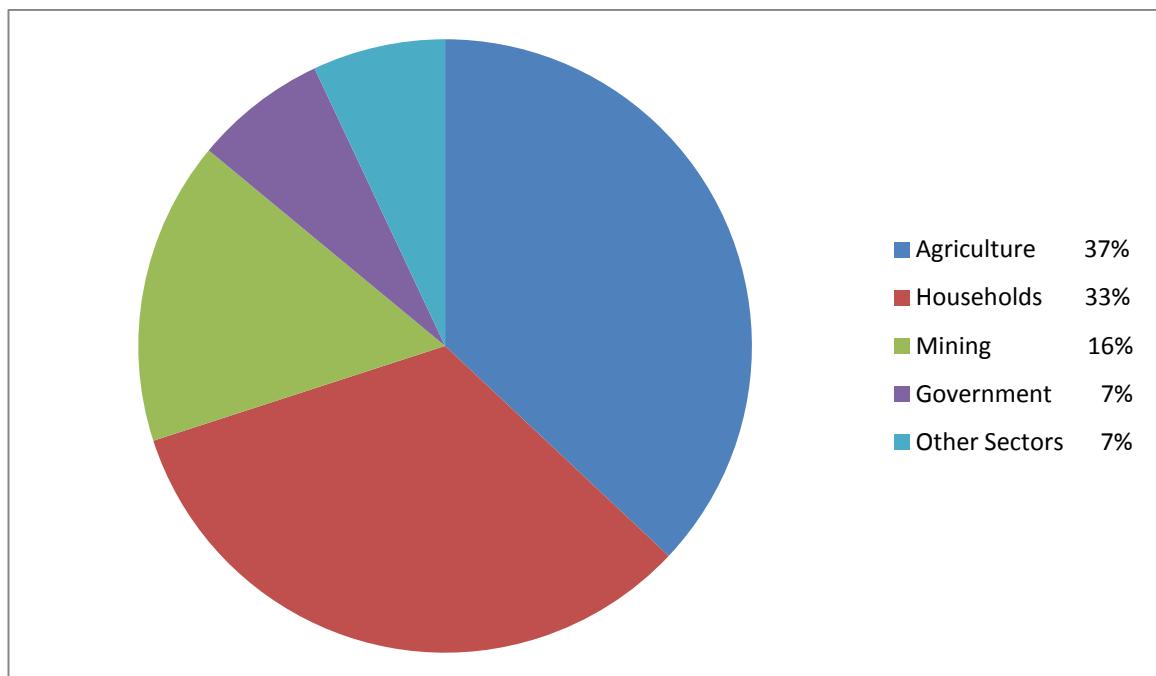


Table 5.4 Proportion of water use by sector 2003

Source: Botswana Water Accounts Report, GOB 2006b:32

The assessment of water use by the self providers in mining could be contested. The dewatering required by mining and the high usage of water rights from WAB in the use of groundwater in the mining process was 'of concern' (Rahm 2006:178). The statistics from the mining industry were self supplied and do not correlate with the GOB water accounts 'In 2006, the total national water use was 88.3 Mm³/ yr with DEBSWANA operations accounting for 25.6% or a total of 22.6 Mm³/ yr' (Brook 2009:1). The figures for the extraction of water, for de-watering, are in addition. By 2009, there was a clear concern even in the mining industry that water needed to be conserved and this was accepted and acted on by DEBSWANA (*ibid*, KI I 1)⁶⁶.

⁶⁶ In 2013, the company set in train the 'Orapa Hypersaline Water Investigation Conceptual Study' for desalination of wellfield brine that could supply over 6Mn³ of treated water to the



Photograph 5.3 Moropule B Power Station 2013

The view by MFADP (Table 5.4) was of the pre-eminence of agricultural use of water not supplied by MMEWR/WUC (at 37%) which demonstrates the consensus for the two-fold supply system (from MoA and MMEWR) for water in Botswana. There are “almost no checks on the self providers of water for cattle from their own/syndicate boreholes” (KI WEN5).

‘The confluence of political and economic decision-making power in the service of diamonds and cattle wealth ensures that resource use and policy reflects narrow interests and tends therefore towards preservation of status quo. Failure to fully implement the legal structure and low enforcement rates allow powerful forces within the country to use the system [on water] to their own, often short-term, advantage’ (Rahm 2006:178).

Orapa mine (out of the total DEBSWANA demand throughout Botswana of 20Mn³). Details from the Executive Summary provided by KI I:1 in May 2013

After the initial payment of BP60⁶⁷ to the Water Apportionment Board for the abstraction license, no further charges were made and the license was in perpetuity. There was an incentive to maximise the use of free groundwater and minimise the purchase of charged for WUC water (Grynberg 2013, 2012). There was no incentive to introduce WDM or water recycling or, in the case of mining companies, dry technologies.

The NWMP (SMEC 1992) acknowledged the lack of control over all providers and users of water and for the first time recommended a new Water Act and the establishment of a Water Resources Council (WRC) to serve as an overall coordinating body in the water sector and to take over the functions of the Water Apportionment Board. It would provide a strong statistical base for planning WRM. But these recommendations were never acted on. Academic commentary was critical of this lack of action:

‘The stated goal [of the NWMP] is to work toward Integrated Water Resources Management (IWRM) in both policy and practice. However, policy measures have had limited impact on de facto practice. It is our view that a number of constraints—cultural, power, political, managerial—combine to hinder efforts toward sustainable forms of water resources use. If IWRM is to be realized in the country, these constraints must be overcome. This, however, is no small task’ (Swatuk 2004:1357)

The Global Water Partnership (GWP)/Botswana Water Partnership (BWP) for Botswana was set up in 2002 ‘under the auspices of GWP-SA’ but has limited itself to ‘address[ing] identified gaps in IWRM, which were seen as drought planning and developing IWRM awareness in national interventions’ (Earle 2008:10). This limited role was perceived to need to be expanded (*ibid*).

⁶⁷ Approximately £6 in 2010/11

By 2006, academic concerns were even stronger on the lack of progress on a WRM plan for Botswana:

‘A sustainable water use resource management plan must stretch several decades into the future to assure the availability of adequate supplies of water to future generations while not compromising the ability of the current generation to reasonable rates of economic development. Yet thinking about sustainability is present in Botswana water policy mostly only in rhetoric’ (Rahm 2006:157).

The Botswana National Water Master Plan Review (NWMPR) was consulted on from 2002 onwards, and was agreed and published in 2006 (GOBc). This review sought to address the criticism of the then advocacy coalition based around the concept of ‘predict and provide’.and it produced a water atlas and WRM that could sustain Botswana. It was driven by the then Director of Water Affairs who in 2010 became the Permanent Secretary of MMEWR. The NWMPR (2006) forms the basis for a new advocacy coalition around WRM in a water restricted world. The GOB engaged the World Bank (WB) in 2008, to propose a way forward. They initiated a series of reports to critique and signal a way forward on the NWMPR 2006. These reports form the intellectual and hydrological base for action to replace the pre-2009 advocacy coalition and will be analysed in Chapter Seven.

5.10 Local Government (LG) and DWA coordination on WSS before 2009

There is only anecdotal evidence on the performance of LG and DWA on WSS, but a series of workshops were held on issues including WSS at councils across Botswana during 2003-9 (BALA 2009). The section on Kgatleng District Council (KDC), echoed elsewhere in the documentation for other councils, pointed out that ‘poor institutional coordination was a serious problem facing the public corporations such as the DWA, BPC, KLB and the town and planning committee [of the KDC]’ (BALA 2009:64). The strong perception was that there

was no shared responsibility for good governance between them. The workshop observed there was 'policy confusion between these institutions' (ibid). The BALA President observed that "many times, different institutions in districts did not closely work with each other and hardly knows what the others are doing". This resulted 'in conflict between policies and projects that are meant for the benefit of the same people' (BALA 2009:56). This lack of coordination is further explored in Chapters Six and Eight

5.11 South Africa and Namibia Comparisons on WRM and WSS

The water sharing of the Orange-Senqu and Limpopo River systems for WRM has been explored in Section 5.7 and the need for Botswana to get on with her neighbours (Maupin 2013). The position on the provision of WSS in South Africa and Namibia was of good services in the white urban enclaves and very little provision elsewhere to either the black townships or rural areas, beyond the self provision by farmers and extractive industries. The post-Apartheid independence of South Africa and Namibia in the 1990s provided an independent benchmark to the Botswana institutional reviews of WSS. In the case of South Africa, Article 27 of the South African Constitution states that everyone has the right to sufficient water and that the state must ensure, through reasonable legislation, the realization of this right. (FAO 2012). This was in the South Africa Water Act (1998) and codified a free basic water policy (2001) with the entitlement to a free basic allowance of 25 litres per person per day. By 2010 the access figures for SA were 92.4% to clean water and 72.2% to improved sanitation (SAIRR 2010). The comparison to provision in Botswana will be further explored in Chapter Nine.

Both South Africa and Namibia established, after post-Apartheid independence, a decentralised model of delivery with direct responsibility for WSS, for households, being placed squarely on the shoulders of Local Government institutions (Namibia Local Government Act 1992 and 2008, and the South Africa Water Services Act 1997). This was within the arrangement of River

Basin Agencies for raw water provision, on which local government, existing riparian rights owners and water user associations sat.

‘The State was responsible for bulk supply but delegated its authority to major water boards and the actual sale and delivery of water was left to local government. The glaring deficiency of course was the poor delivery of water [to] black rural communities and the mushrooming squatter camps’ (Johnson 2010:103).

The policy framework of WRM/IWRM was established under their Ministries of Water Affairs and Forestry, respectively, through the South Africa Water Act 1998 and Namibia Water Resources Act 2004 (FAO 2012). However, in both cases there was no immediate (or later) removal of riparian rights from the existing owners, largely white farmers, and International and national resource extraction companies.

The recent critique of WSS in South Africa notes the lack of clear accountability between the Local Government Ministry (Department of Cooperative Governance and Traditional Affairs (DCGTA)) and the Department of Water Affairs (DWA). KIs from SA commented on the widespread dissatisfaction with a decentralized model of WSS delivery (SAHRC 2014). The post May 2011 Election decision to move responsibility for Sanitation away from the DWA to the Department of Human Settlements (DOHS) makes the lines of responsibility less clear and they remain so(lbid) The ‘diffuse’ lines of responsibility between district and local government are seen as a concern (AMCOW⁶⁸ 2011:14). This tension between central and local government delivery of services in Botswana, South Africa and Namibia is further explored in Chapter Eight and Appendix Five.

⁶⁸ The AMCOW country reports on SAA miss out only three SSA countries: Gabon, Namibia and Botswana

WRM in South Africa has been criticised as inadequate with little control over users, domestic or otherwise, leading to forecasts of over 105% use of renewable water sources and a coming water crisis (Turton 2013, 2012). 60% of water use in South Africa is for farming, with exhortations coming from the South Africa Government to reduce this by 15% by 2015⁶⁹. But the primacy of the 'property clause', giving continuing unfettered water rights to farmers, was not challenged in the post Apartheid constitution and undermines water allocation reform (Movik 2012:135). The concern about acid mine drainage further impacting on South Africa water reserves has led to clear requirements on mining companies to carry out remediation. The pricing of water by RANDWATER in SA in 2010/11 for supply to mining companies was at ZAR 6.8Mn³ far higher than the highest prices charged by WUC to miners of P5.7Mn³ (Grynberg 2012:39). The pricing of water for all users in Botswana is explored in Chapter Nine.

5.12 Discussion of key issues around both the AC of 1966 onwards and the nascent AC evident from 2009

The deeply held core beliefs of the Batswana on water

In Section 5.4, the FG data demonstrates the need to consider the WRM reforms after Independence, against the deeply held views of Batswana on the origins of water, and particularly the centrality of God in this process, and, in the past, the role of the rainmaker within Tswana society. This belief was sustained by the universal male experience in the past of living at the cattle post depending on rainfall for fodder...and access to water to live (Head 1969).

The post 1966 AC policy structures

Figure 5.1 demonstrates the complexity of the WSS governance network structure in Botswana. The central government elite moved forward its agenda,

⁶⁹ Farmers Weekly 26th April 2013:33

in this case on WSS delivery, away from the tribal authorities, but there were delays and reappraisals in agreeing the policies. The need to gain approval from this network between 1966 and 1972 for legislation and, until 1990, for dilution of tribal powers over land and therefore water resources, shows the depth of the need to build advocacy coalitions before change can be completed within the Botswana decision making process. This chapter has also reviewed evidence of competition between ministries, and between the government as a whole and local institutions. The resolution of this tension is the subject of Chapter Eight.

The AC open secret: the shadow water allocation process in rural areas

A tension between MEWR and MoA on ultimate responsibility for water resources and allocation was recognised. There is a Batswana view that every citizen is a farmer having a right to land and water for crops and cattle, and the MoA defends that position. But this stance conflicts with the official strict structure of limited water rights from the WAB, run from MMEWR. This is at the root of the perceived fault line in the pre-2009 WRM settlement. As will be seen in Chapter Seven (in the projected reforms) and Eight and Nine (in the potential outcomes on the ground), this secretive shadow allocative process was a key reason for the need for water reforms and has led to the proposal for the replacement of WAB by an all powerful, strengthened WRC as the main vehicle for WRM, WSS and WDM in Botswana.

The acceptance of mining by the AC as an uncritical user of water

The dewatering required by mining and the high usage of water rights from WAB in the use of groundwater in the mining process is of concern (Rahm 2006:178). By 2009, there was a clear anxiety that water needs to be conserved even in the mining industry and this was accepted by DEBSWANA (KI I 1). However, the nearly free provision of groundwater and under pricing of WUC supplied water did not provide the signals for the introduction of WDM by mining companies (Grynberg 2013, 2012).

The AC weakness: the insecurity of dependence on trans-boundary rivers

Over 75% of the surface water needs of Botswana come from shared water courses (UNDP 2006:210). Botswana has sought to become a water secure country based on water resources from within its political boundaries (Sitorus 2008). The NWMP (GOB 1992) sought solutions through hydro-engineering. The NWMPR (GOB 2006c) advocated WDM but implementation needed a new coalition of support and this is explored in the next Chapter.

The problem of the lack of strong water statistics

It could be said that water metrics are presented to support the AC that is in vogue (KICGCS). In Section 5.9, a range of estimates provided by GOB and DEBSWANA are presented. These provide a veneer of knowledge but underneath are based, in the agriculture and mining sectors, only on informed assessment, as very little borehole monitoring takes place. The assessment of groundwater is again incomplete (KI CGCS).

5.13 Summary

The AC on water before Independence was organised by the tribal administration, through the chiefs who had the perceived power of intervention with God to achieve the rains. The chiefs had powers over the allocation of land, and water which was used commensurately with the beliefs in water scarcity. After Independence, the Chiefs had decisions on riparian rights removed from them.

The post Independence (1966) AC on WRM and WSS led to the Parliament Acts of 1968-72 with the disparate allocation of responsibilities for delivery of WSS to WUC (4 large towns), DEBSWANA (2 towns), DWA (large villages) and local government (the remainder). The water borne sewerage systems provided by DWA and local government were limited, outside the towns, to the centre of

a small number of large villages. These were small systems and few connections had taken place by 2003 (GOB 2006c). The then AC on WRM was on a 'predict and provide' basis essentially meeting all demand. The WUC had the responsibility for raw water provision to piped water suppliers, and DWA built the dams and infrastructure for that raw water. 64% of that water was from groundwater, with no knowledge of the extent of the resource, and the remaining 36% was from surface water, of which 85% from trans-boundary rivers, with limited international water sharing agreements (GOB 2009a). But there was no wish to restrict the provision of water, despite this dependence on neighbouring country agreements. Consumption has leapt and keeps rising and could outstrip the water resources, provided by the NSC I and the solutions offered under the NWMP (GOB 1992). There was no incentive to reduce the consumption of groundwater in the post Independence world.

An AC between the political and economic decision makers (Rahm 2006) around WRM and WSS held together from 1966 to 2009, with a flurry of dams and the NSC II opening through to 2014, because of the long lead times on water infrastructure completion. But there had been increasing concerns expressed by the academic community. Institutional mechanisms have been seen as 'complex' and to hide the reality of a minimalist approach to WDM, through the dissipation of decision-making through a wide range of actors (Swatuk 2004:1362). Botswana's water sustainability is seen as 'fragile' (Rahm et al 2006:178). The statistical base for water planning has been seen as inadequate (*ibid*). The gradual acceptance of the accuracy of these academic judgements by the elite within Botswana led to the drivers of change for a new AC now explored in the next chapter, Chapter Six.

Chapter Six: What were the underlying drivers of water sector reform in Botswana in 2009-2011?

6.1 Chapter Overview and Background

This Chapter examines the extent to which potential drivers of change on Water Resource Management (WRM) and Water and Sanitation Services (WSS) can be identified and analysed under Advocacy Coalition Theory (ACT) (Sabatier and Jenkins-Smith 1993). The initial section covers the policy core beliefs about water scarcity, which have influenced the identifiable drivers of potential water reform and their proposals to resolve competing demands, which is addressed in the second section of this chapter.

The definition of water scarcity varies with the positionality of the data provider - see Section 2.2. Technical water experts support a biophysical definition of water scarcity as:

‘the point at which the aggregate impact of all users impinges on the supply or quality of water under prevailing institutional arrangements, to the extent that the demand [for water], by all sectors, including the environment, cannot be satisfied fully’
(UNWATER 2006:2).

However, the biophysical position of the amount of water in Botswana, particularly groundwater, is not known (KI DGS1)⁷⁰. Furthermore, the availability of water from its re-use is still being developed (GOB 2010:12). Because of this, opinions of water experts vary as to the level of water scarcity in Botswana. Furthermore, water scarcity can be seen as ‘socially produced’ (Bakker 2003:28). ‘[Increasing] awareness of scarcity is a signal not of absolute scarcity but of relative scarcity due to factors such as increasing pollution, population

⁷⁰ The WaterWorld assessment tool does not cover groundwater. No timescale has been given for version 3 to cover this gap (KI Mark Muliigan 7th February 2014)

density and water use per capita. Scarcity is dependent on the hydro-social, in addition to the hydrological cycle' (ibid). According to UNWATER (2006:2):

'Water scarcity is a relative concept. [It] can occur at any level of supply or demand. Scarcity may be a social construct (a product of affluence, expectations and customary behaviour) or the consequence of altered supply patterns stemming from climate change. Scarcity has various causes, most of which are capable of being remedied or alleviated. A society facing water scarcity usually has options. However, scarcity often has its roots in water shortage, and it is in the arid and semi-arid regions affected by droughts and wide climate variability, combined with population growth and economic development, that the problems of water scarcity are most acute'.

The policy core belief system contained at different levels within the concept of water scarcity in Botswana is analysed as an initial driver for change in WRM. The Batswana⁷¹ definitions of water scarcity are dependent on the context and nature of the Key Informant (KI), whether they are hydrologists and water experts and have a biophysical definition in their minds, or for other KI, where it may be more of a social construct related to their beliefs, and within that, their position in society. The Focus Group (FG) analysis provides a social construct of water scarcity by poor people in different ways from elite KIs. The results are used to examine whether a deep or consistent belief emerges from these rounded responses that could have contributed to the drivers of change for a new AC for WRM and WSS. Has the success of the GOB in planning for drought relief ⁷²(Munemo 2012) dulled an awareness of underlying biophysical water scarcity by enabling Batswana to adapt to changing climatic conditions? Section 6.2.2 seeks to explore external KI perspectives on water scarcity,

⁷¹ Citizens of Botswana

⁷² A wide range of universal subsidies are invoked with the GOB decision to declare a drought year viz. <http://www.gov.bw/en/News/GOVT-DECLARES-DROUGHT-RELIEF-MEASURES/> accessed 5th August 2013. Chapter Nine looks at the mechanisms put in place by GOB to protect the poor from droughts.

particularly from the World Bank (WB). Section 6.3 identifies and analyses drivers on perceptions of water scarcity. The United Nations Development Programme (UNDP) has put forward the proposal that 'much of water scarcity is policy induced' (2006:133). Are there international, regional, national and local levels of drivers of policy which cut across physical, religious, economic, political and social dimensions to provide support for a new coalition of actors for WRM in Botswana as suggested in Chapter Two (Cosgrove 2012:6)?

6.2 To what extent did national and international perceptions of water scarcity affect WRM decision making at all levels in Botswana in 2010-11?

Botswana is a country of regular droughts and, even in good rainfall years, hydrological water scarcity exists. The data over the last 200 years supports this view (Hulme 1996; Botswana Society 1979). This has led to external pressure not to develop a strong irrigated agricultural economy beyond the traditional borehole dependent cattle ranching (Section 2.2 and Section 9.2). One modelling study demonstrated a need for a 300% increase in water provision by 2075 because of population increase and increasing standards of living (Water Surveys 2008:17). It should be noted that the projections are made from a low baseline of water use and do not take account of water requirements for mineral extraction (*ibid*).

Botswana ranks second among the most water-scarce countries in Southern Africa -after Namibia (Figure 6.1 and Aquastat 2008). Botswana has a rainfall range of 250–650 mm (compared to 700–1200 mm for Zambia); average rainfall of 400 mm or 233 km³ (compared to 800 mm or 997 km³ for Angola); the highest potential evaporation range, together with that of Namibia, at 2600–3700 mm (compared to the lowest range of 1100–2000 mm in Tanzania); and the lowest surface runoff of 0.6 mm or 0.35 km³ (compared to regional highs of 104 mm or 130 km³ in Angola, and 275 mm or 220 km³ in Mozambique) (Toteng 2008:478).

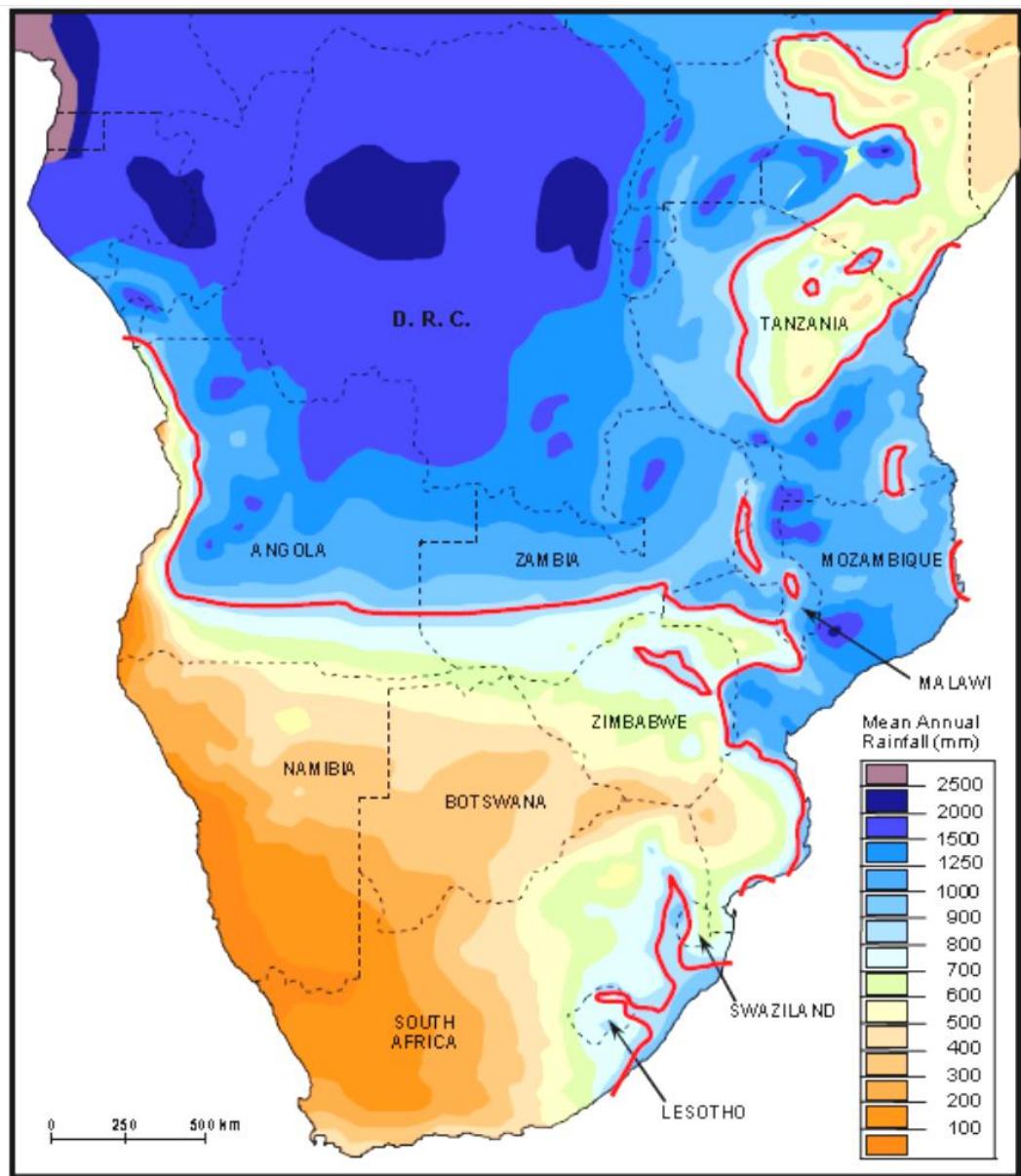


Figure 6.1 Mean annual precipitation in Southern Africa

Source: Turton et al 2006:2

A Batswana academic commented that Botswana is:

‘within a zone of a highly variable climate that is influenced by the global El Nino Southern Oscillation phenomenon.

Analysis of rainfall records from 29 stations in the country over 65 years shows that drought conditions of different severity occurred every 3 to 5 years. Initial assessments [of

the IPCC] indicate that climate change will increase further variability in rainfall over the central semi-arid land mass of Southern Africa covering mostly Botswana' (Dube 2003:147).

Projections propose a delay in the rainy season and potentially early cessation with a likelihood of more severe droughts (Shongwe 2009).

Figure 6.2 shows the spatial pattern of annual rainfall inside Botswana which ranges from 300mm to 700mm and is highest along the North-Eastern fringe, with the lowest levels to the Southwest in the savannah lands of the so-called Kalahari Desert. The country is ringed on three sides by the Orange, Limpopo, Zambezi and Okavango Rivers. The Zambezi tributary, the Chobe River provides an access point for the extraction of raw water for the North-South Carrier (NSC) pipelines for transmission to the South East of the country. The extremes of temperature range from a low winter temperature of below 0°C in June and July that rises fast to 40°C + in October. Very little rain comes in the winter months May-July with the majority of rainfall occurring between November and April.

The National Water Plan Review (NWPR) (SWEC 1991) saw water scarcity as primarily due to climate and being addressed by 'optimised capital investment' in the delivery of water to water scarce areas (GOB 2010:1.1). Recent construction of a SADC (Southern African Development Community) climate moisture index (CMI) estimates a value of 0.027 for Botswana (South Africa 0.075 and Namibia 0.125)⁷³, with high loss of surface water due to evaporation from the high temperatures. On the basis of water scarcity indices, Botswana is seen at 'Level One Adequate' (Arntzen et al 20003; 47) But this assumes that all surface water is available for domestic human consumption. It ignores ecological water requirements (e.g. for the maintenance of wetlands) and the fact that most surface water is shared with neighbouring countries.

⁷³ It utilises the total enviro-transpiration (TET) and precipitation (P) data for the period 1996-2012 (Malisawa 2012:1). The index points to the need for transfers of water from Angola (CMI 0.351) (*ibid*).

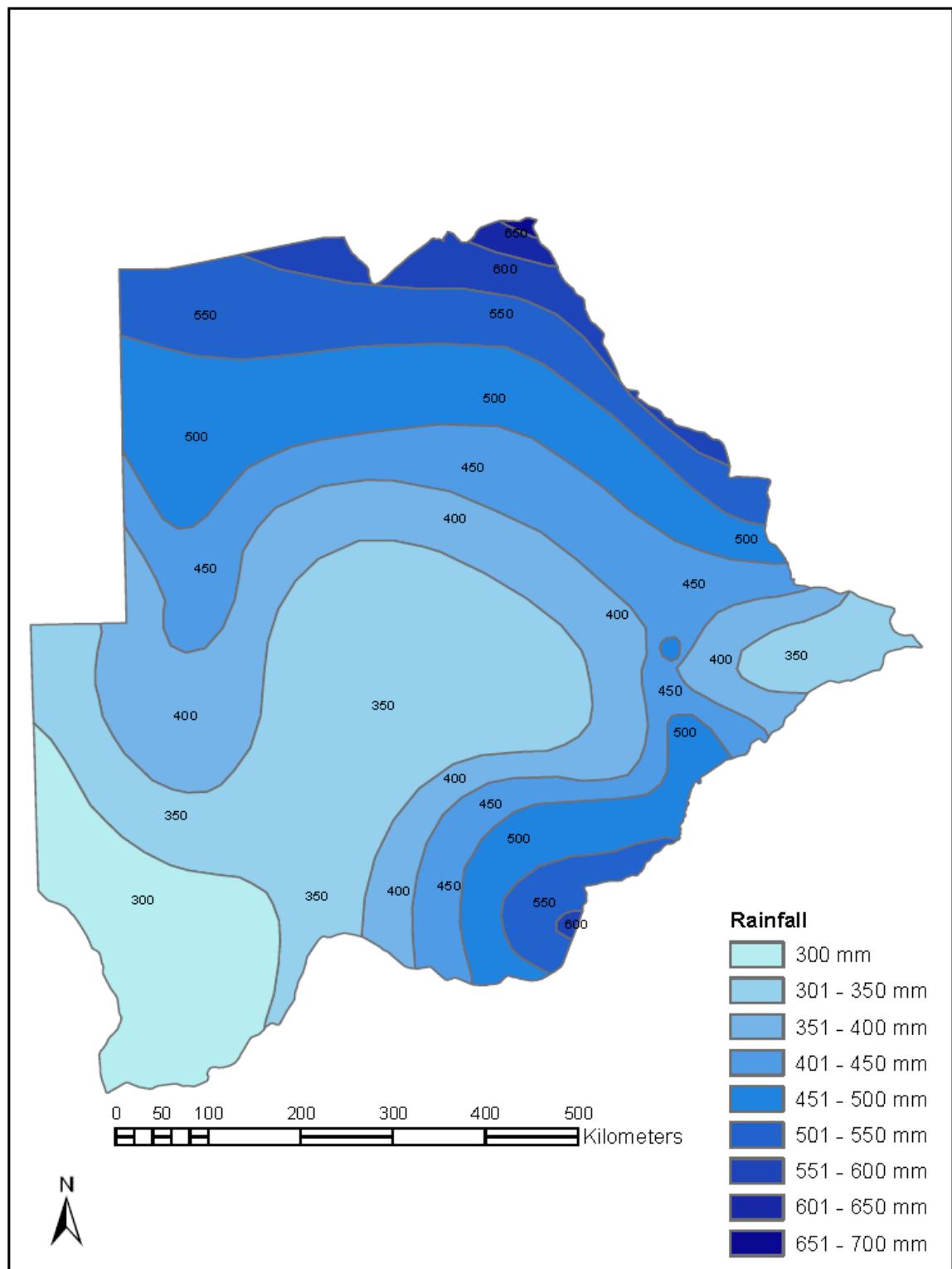


Figure 6.2 Annual rainfall isohyet map of Botswana (2001)

Source: GOB Department of Surveys and Mapping 2001

‘The restriction on the use of the water from the Okavango River by the signing of the RAMSAR convention by Botswana largely precludes the use of that water to ameliorate scarcity’ (KI CGCS 6)⁷⁴. ‘Despite the inadequacies in scarcity assessments, there is no doubt that [potable] water scarcity is increasing’ (Arntzen 2000:1).

It has been claimed that Botswana does ‘not have water stress other than the quality of water and problems of the dry season’ (Arntzen et al 2003:47), However, “Botswana’s total estimated underground water resources, broken down between potable, brackish but okay for cattle, brackish and finally, outright saline has not been [published]. [The] Makgadakgadi [salt pans] alone must have some of the largest saline resources in the entire [SADC] region but the cost of desalination make it prohibitively costly” (KI WEN 5 June 2012). It is said that the impact of consumption of potable water by cattle from the boreholes from ground water is low. ‘Current consumption levels by livestock do not threaten groundwater resources’ (Arntzen 2000:12), but there is no data to support this..It was estimated that ‘the average borehole extraction⁷⁵ amounts to only 13.6% of the estimated recharge’ (Oageng 1998:55). This appears to be conjecture.

The last major groundwater resources map was started in 1976 and published in 1987 (Von Hoyer 1989:101). It is this map which was used in the BGS survey of African groundwater (MacDonald et al 2012). The KI at the Department of Geological Surveys (DGS) opined that a “lot of it was guesswork”. He was concerned that “the mineral surveyors, authorised [by DGS to survey] and covering much of Botswana, did not have to provide information on groundwater so they did not” [give that information to the DGS] (KI CGCS 3). There is, in 2012, “less reliable knowledge about water in Botswana than a decade ago” (KI WEN 7 July 2012). The Gravity Recovery and Climate Experiment (GRACE) NASA satellite data on groundwater below Southern Africa was not used as a

⁷⁴ This Motswana view was queried by KI WEUK 2 pointing out the flexibility of water use arising from recent amendments to the RAMSAR Convention

⁷⁵ In NW Kgatleng District

data source (KI CGCS, June 2013). Groundwater recharge was ‘very minimal (<1mm/a) in a large part of central and SW Botswana with only 5-9mm/a recharge in the limited areas of the East and the Ghanzi area in the West’ (Mokokwe 2003:15). Central Botswana has good groundwater potential but based on fossil water that is not being recharged (*ibid*).

The most recent assessment of both surface water and aquifer potential in Botswana, through to 2035, was made in 2008 (Water Surveys 2008) and is shown in Figure 6.4. The water tower in the north east of Botswana is the forecast availability of water from the Shashe River filled dams which are planned to be fully operational by 2035. The large deficit in the southeast around Gaborone and Kgalagadi District is from forecast population growth and would still need to be met by water transfers from groundwater surplus areas of Botswana. But these sources of potable water could be insufficient, given that much of the water is thought to be “brackish” (KI WEN 5). The demand forecast does not take account of the water needs of the additional mineral extraction planned (see Section 2.2). The report concludes that Botswana will still need, for its security of water supply in 2035, a dedicated desalination plant at Walvis Bay, Namibia (Water Surveys 2008:39).

The concept of climate change, with its potential to increase water shortage, was internationalised through the UN Framework Convention on Climate Change (UNFCCC) and internalised to Botswana through ratification of the framework in 1994 by the Botswana Government. The Initial National Communication to the UNFCCC in 2001 provided projections of the impact of global climate change on Botswana (GOB 2001) and increasing water scarcity. The cycle of drought years, and the arising hydrological water scarcity, has been the stationary nature of the Botswana climate. But climate change could bring ‘the end of stationarity’ (Milly et al. 2008:573). This is explored further in Section 6.2.2.2.

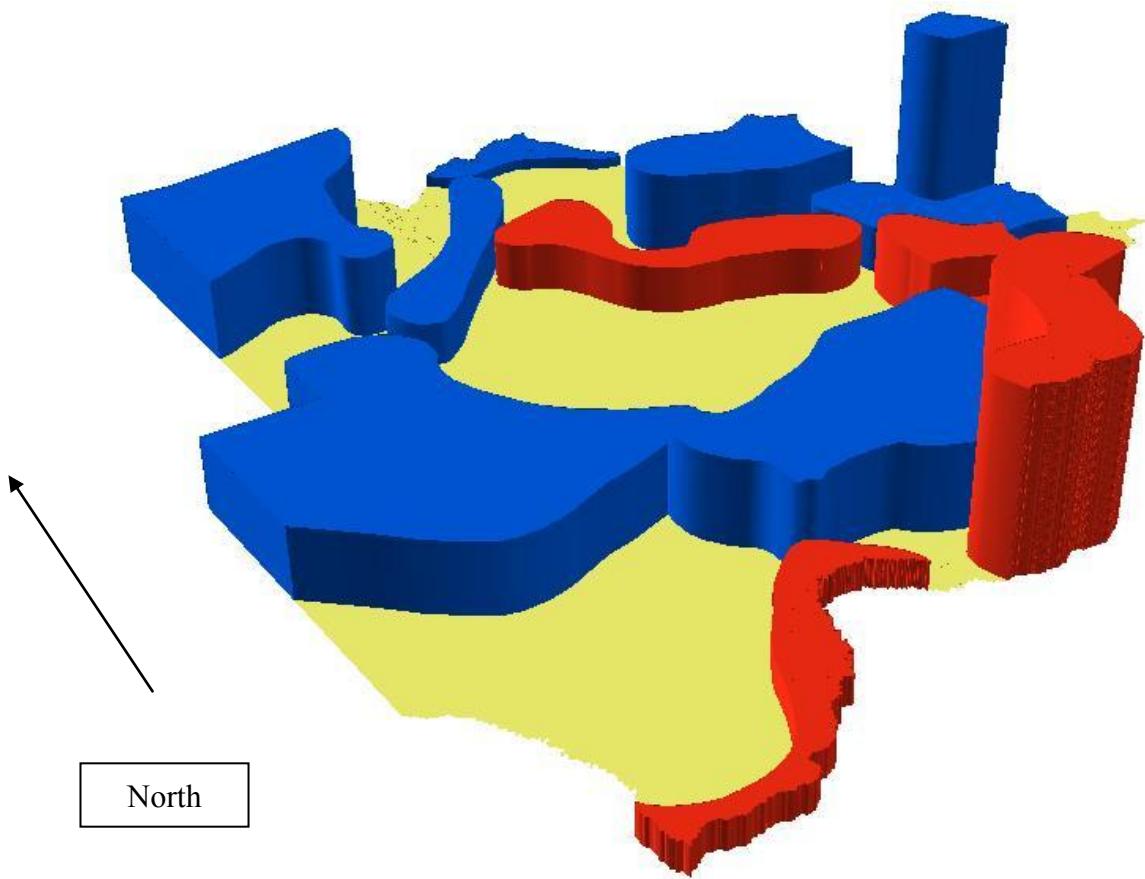


Figure 6.3 Water availability in Botswana: A 3D Representation of an assessment of the Surplus and Deficit in the Clusters of rivers and aquifers in Botswana by 2035 (Blue is surplus and Red is deficit)

Source: Water Surveys 2008:38

6.2.1 Analysis of deep core beliefs on water scarcity

Water scarcity is a deeply embedded core belief within the culture of Batswana, as expressed both through the indigenous people of the Basarwa and the incoming Tswana tribes of the 19th century: in the good years, there is low rainfall, and in the bad, there is drought. 'Rainfall has remained fairly constant for the last 1000 years' but constantly low (Tlou 1995:11). This struggle has been identified in the writings of Laurens van der Post (1961:26). The lifestyle of the Basarwa, seen as hunter-gatherers, has been said to have a low impact and sustainable WRM system that took account of the vagaries of rainfall and low

availability of surface water (Walker 2009). The Tswana tribes who came in large numbers in the nineteenth century had moved from the Karoo and Limpopo provinces of present day northern South Africa. Their lifestyle was one of accepting water scarcity. The European missionaries sought to bring what they perceived as superior WRM techniques. However, the Tswana, through their customs, their Chiefs and their rainmakers, saw the provision of rain, and thus potable water, as being in the hands of their ancestors. The data from the FGs (Section 6.2.2.2) demonstrates that the same feelings still exist about the symbiosis of natural and spiritual ecology in the provision of water (or not) by the ancestors and deity of the Batswana.

Borehole and dam construction started in the 1930s, driven by the need to overcome water scarcity so as to provide for the large cattle populations that had become the medium of both wealth and cultural tradition (Morton 2009; Schapera 1938a). Kgatleng District, the locus of this thesis, led the way on this form of WRM and were also early adopters of motorised boreholes from 1934 onwards (Schapera 1938a). The Boreholes Act of 1962 attempted to bring order to 'wild cat' drilling for water across Botswana, by requiring permission to be obtained for the boreholes, but this constraint was often ignored⁷⁶. The formation of the new government in 1966, with its aim of ending water scarcity (NDP1 1967), the Water Acts of 1968 and 1972 and the dams of the 1960s (for example, the Gaborone Dam in 1964), brought an end to the tribal self-coping mechanisms. The Government had taken over and promised to provide.

The population went up and so did the demands of the mining industry, and the cattle population went to 5 million. A major Symposium on Drought (Botswana Society 1979) attempted to provide the institutional memory of pre-hydropower days. Drought conditions, defined as a 'rain-induced shortage' (ibid: 39), continued to hit Botswana on the 7/10 year cycle identified from the records from the nineteenth century onwards (ibid; Hulme 1996).

⁷⁶ The WAB took on these powers after 1968 but has been largely ineffective (KII at MMEWR, WUC and DGS 2011).

From 1982 to 1987, Botswana endured a prolonged drought. It severely impacted agricultural production, and put over half the population at risk of starvation. Depletion of food stocks was greater than that experienced in the Ethiopian famine in 1984 (Mayersen 2011). However, Botswana 'avoided significant famine-related loss of life. This was principally due to a drought relief programme, which had been established in the previous decade' (Mayersen 2011:259). 1991/2 was a further major drought year (Hulme 1996). The next 15 years saw a continuation of the previous weather cycles across Southern Africa with further drought periods in 2004 and 2007 (Toteng 2008) and again in 2012-14. The response from household consumers only came after the Water Utilities Corporation (WUC) restrictions and tariff increases, and then subsequently, after these measures were removed, there was no change in behaviour (ibid). The political process in managing drought relief ⁷⁷ is seen to be successful (Munemo 2012).

However, this success has perhaps desensitised Batswana from the situation of water scarcity. Despite a pattern of recurrent drought and low rainfall, there is still ambivalence about the nature of water scarcity among the elite of Botswana (see next section). This could be seen either as national resilience against the forces of nature or an unwillingness to accept the constraints that water scarcity imposes on Batswana society.

6.2.2 National perceptions of water scarcity

Botswana's proposed Second Submission to the IPCC in 2009, entitled 'Climate Change Vulnerability and Adaptation Assessment of the Water Sector in Botswana'⁷⁸ remains an unsubmitted report (GOB 2009a) but was made available to the Researcher. It supports the need for post 2009 water reforms to

⁷⁷ This is covered further in Section 9.3.1.

⁷⁸ It was produced under the auspices of MEWT, the DNA for IPCCC in Botswana. No CDM project on energy or water has moved forward in Botswana. There have been proposals to transfer the DNA to MMEWR or the Office of the President (Colman 2010).

provide effective WDM and the need for more hydrological data on the impact of climate change on water. But the people of Botswana are not fully convinced. The data in this section has been gathered from KII, FGs and from a survey, to find out the perceptions of a range of Batswana on the concept of water scarcity⁷⁹ and of the potential support for a new Advocacy Coalition (AC).

6.2.2.1 Analysis of Key Informant Interviews⁸⁰

The range of opinions about water scarcity is significantly broad from KIs in Botswana (Table 6.1). At the local level (Local Government, *Kgosi*), there is a view that “water is scarce but God will provide”. The Botswana media opined that water scarcity exists now “because of the impact of climate change”, a view taken from an international media perception of water scarcity across the region. But other reporters made clear their views that “there has been a long history of droughts in Botswana” (FG of reporters at the Voice Newspaper, December 2010). A private sector view, as represented by De Beers (50% owner of DEBSWANA), is reported in December 2011 to be that:

‘Botswana is already classified as a water-stressed country. Experts from the Intergovernmental Panel on Climate Change (IPCC) have made stark predictions about Botswana: temperatures are set to rise by an average of 2°C by 2030 across the country while average rainfall is set to decline by up to 10-15% due to greenhouse gas emissions. This will greatly impact the agricultural sector, which employs nearly 30% of the population’ (De Beers 2011:2).

Views of the private sector, civil servants and water experts are more nuanced saying that so far “there is no water scarcity in Botswana, only operational

⁷⁹ The positionality of those surveyed needs to be taken into account. Outside the views from water experts, the self definition expressed would be one that is socially constructed from the viewpoint of the informant (UNWATER 2006:2).

⁸⁰ Beside each informant group description is the number of respondents.

difficulties and a lack of planning" (Private Sector water users). They see water scarcity as a challenge that can be met through hydro-engineering. The same group of KIs agreed that there is "insufficient knowledge about the state of groundwater resources to enable any biophysical support for the presumption of water scarcity". The non-expert informants when questioned were at a loss to explain the lack⁸¹ of rainwater harvesting in Botswana. When pressed, a common view was that rainwater harvesting was promoted by the Colonial Government and by INGO and was seen as "something that Batswana did when they were poor in the past"⁸² (Media). The Botswana Integrated Water Resource Management – Water Efficiency (BIWRM-WE) policies of 2010 (outlined later in this Chapter in Section 6.3.2.2.3) reintroduced the concept as part of the water reforms. Even though KIs from the Media asked "Why has the Government not done more to alert us about water recycling, given the future lack of potable water?", it was a common response generally that "water recycling is not something we do in Botswana" (CSO)⁸³.

⁸¹ Building regulations that would require guttering and water harvesting from all new building were proposed in 2007 financed by DANIDA but had still not entered into law by 2013 (KI WEN 6)

⁸² A strong tradition of rainwater harvesting had been carried out pre-Independence and was supported by individuals such as Vernon Gibberd and groups like Intermediate Technology until 1981 (Pacey 1986:94 Figure 4.5)

⁸³ The WRM reforms target a 96% reuse of water by 2030 (NWP 2010:13).

Key Informants:	Private Sector (2)	Civil Service (6)	CSO (5)	Local Govt (4)	<i>Kgosi</i> (3)	Water experts (7)	Media (2)	Average (29)
Perception of water scarcity (out of 7)	4	5	5	6	7	4	6	5

Table 6.1 The responses of KI when asked “Is there water scarcity in Botswana?”

Source: KII September 2010-July 2011 (Likert Scale where 1 is disagree and 7 is agree)

6.2.2.2 Focus Group (FG) Analysis of the perception of water scarcity⁸⁴

This section analyses the data gathered from the six FGs covering the Gaborone City Council area (GCC) and Kgatleng District (KD). FG participants saw the scarcity of water as largely coming from the perceived inadequacy of the physical infrastructure to provide what the politicians had promised, which was WSS for all at any volume. None of the FGs raised the concept of climate change when addressing the reasons for water scarcity.

Old Naledi (FGON) is a Gaborone township within one mile of the Gaborone Dam which most residents can see from their windows, and was the last area in Gaborone to wholly depend on standpipes and pit latrines. It was subject to major water and sanitation services (WSS) infrastructure works going on in 2010/13 at the same time as the FG took place. The FGON largely blamed water scarcity on Chinese contractors, who, on a Botswana Government financed hydro-mission project, were digging up, by mistake, existing water

⁸⁴ The FG locations, contexts and coding details are explained more fully in Section 4.3

pipes:

“These days it's worse. It runs out so frequently and sometimes when you wake up, you find there is nothing. Sometimes people go to work without a bath.”(FGON1)

“The issue of water running out is caused by the developments that are currently taking place. It is the Chinese who cause water shortages. Since they started working here, they have been breaking pipes causing shortage.” (FGON2)

There was also a wider appreciation of water scarcity;

“There are some villages [that] do not have any developments taking place but still experience water shortages and they can go for days without water” (FGON3)

In Broadhurst (FGB), a Self Help Housing Association (SHAA) area in the north of Gaborone, the scarcity of water is perceived as being because of the increasing population pressure on water resources:

“It's true, water is scarce. There are times when water is scarce, like now it's been heard that water is scarce because the township is growing. That causes water to be scarce” (FGB 1).

The position in the rural areas was seen as worse than in the city:

“So we are saying here it is getting better than in the rural areas because in the rural areas water is scarce more than the limit” (FGB1).

“It's true what these gentlemen are saying about water being scarce. Even in town, water is scarce but the shortage of water can't be as much as in the rural areas, because in the rural area you find that people can go for days without any water. Like I am from Barolong farms, we went there for holidays on the 22nd [December] and came back on the 8th January. We were brought back by the thirst. There

wasn't any water. We would even go for 2 days without cooling because of [lack of] water" (FGB2).

Ultimately the scarcity is seen as caused by lack of rain filling the dams but nevertheless, the government would provide:

"I am under the impression that when water is scarce like this, it's because in the [Gaborone] dam, there is a shortage because there is no rain. That's what I was thinking." (FGB3)

Mochudi (FGM), the capital of Kgalagadi District, was supplied in the past by the perceived more consistent DWA (Department of Water Affairs) provider. Here, scarcity is identified by supplier breakdown, not from climate change:

"Mokgatla [people of the Bagatla tribe], there is no water. These our children are dying of hunger. They are dying of thirst. The cause of this lack of water is usually a burst pipe, but we get consulted later" (FGM1).

"Yes, there is a shortage of water. We can go for 2 weeks, 3 weeks without drinking and we would just be sitting not knowing why water was cut. And then we are told a pipe has burst and we don't know what to do with the children. We really suffer when it comes to water" (FGM2).

"Yes Kgabo. Yes Rra. We are suffering in this village. The first people who were giving us water, Water Affairs [DWA], were giving us water nicely without any problems. But since the ones that replaced them came in [WUC], there are only problems" (FGM3).

At Olifants Drift (FGOD), a fishing village by the River Limpopo, 180 km from Mochudi, there was no lack of water, since it could always be pumped from the river. But due to issues on water rights, the GOB provided water from boreholes away from the river. The residents' commentary was therefore about borehole provided water:

“We only lack water when the pump attendant is not around, or when the engine is dead, that is when we lack water.” (FGOD 1)

“We don't have a shortage of water in this village. What is there is that this water makes us sick. It makes our stomachs sick” (FGOD2).

In Artesia (FGA), the village on the main trunk road to the North, again water scarcity is a concept related to DWA or WUC management ability:

“Water, sometimes is weak when it comes out maybe in the morning. But a little later it will be coming out again. We don't know what makes it like that, but it happens when there is no electricity which means the borehole uses electricity” (FGA1).

“It is scarce mostly on the days when it's busy in the village when there is a lot of people like on weekends and holidays when people have come from places like Gaborone. I think the WUC is the cause because first there were Water Affairs [DWA] and there was no shortage of water.”(FGA2).

So the dominant perception appears to be driven by the ability of the water supplier to maintain supply. The hydro-mission concept of unlimited supply at the turn of the tap underpins this perception. The concerns about climate change and the need for water demand management appear to be of a lower order.

The areas more linked with the rural migratory poor, in Old Naledi and in Matebeleng, felt more concerned about the long term scarcity of water. Their views appear to reflect the deep beliefs historically contained within Botswana society (see Section 6.2.2). The people of Old Naledi (FGON) interviewed were, in part, temporary visitors, utilizing the low cost rentable property there. As such they were more linked to rural village life, to a greater extent than the more settled communities in KD. They saw water abundance and scarcity as coming from the intervention of God.

“We believe God is the one who brings water. Only God can cause

rain to fall. If there was no rain for a long time, even Gaborone dam would dry up" (FGON1).

"Sometimes it is about culture. A village like Radisele is a very good example. They can go for days without water and when you ask the elders they say that the ancestors are unhappy and that a certain ritual [needs] to be performed to appease them" (FGON2).

This was also true of the poor of Matebeleng (FGM), a peri-urban village providing largely unskilled labour to Gaborone (Kgatleng District Plan 2002). It had not received reliable supplies of water, except from the perceived untreated sewage water in the River Notwane⁸⁵. Here, the concept of water scarcity is sharper:

"There is much shortage of water in Botswana. That's why sometimes we are asked to conserve water so that we can save the little that we have. Even dams sometimes don't have water because there is shortage of water" (FGM1).

"There is a severe shortage of water in Botswana. We really suffer to get water" (FGM2).

"Water is scarce. Water is scarce and there is awareness that water should be used with care. Sometimes there is a situation whereby boreholes dry up and there is need for water to be preserved" (FGM3).

"Yes, water is scarce in Botswana. Water is the human being; it is a human's food. When there is no water we would all die. So, we are dying people, help us" (FGM4)

Only occasionally was the view expressed as to what individuals could do about

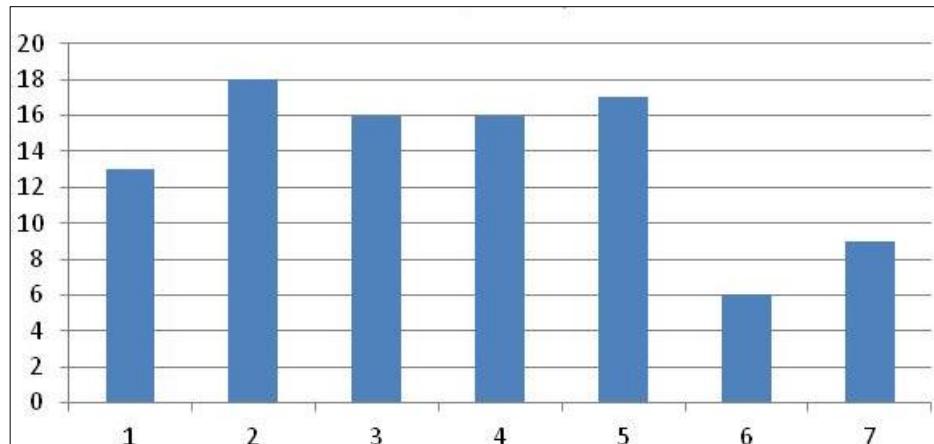
⁸⁵ WUC took over responsibility for the GCC sewage works in March 2011. No warnings were ever given not to extract from the River Notwane and it was used by horticulture farms in the Glen Valley, Oodi and Matebeleng areas. WUC immediately put in place higher standards of treatment of the effluent prior to release into the River Notwane. In May 2012, WUC was ordered by the GOB under government directive to take over all sanitation responsibilities from local councils. This was subsequently delayed to October 2012.

the situation:

“When I was growing up, at our farm, we used *raseboa* (sort of tank with a tap). We had 2 of them. We'd fetch water from the stream and fill them. We would then drink from the stream until it dries then we would turn to *raseboa*. I think people should do the same or buy tanks so that, when it rains, they can collect and store water” (FGON 4).

6.2.2.3 Survey analysis of perceptions of water scarcity

A quantitative survey was undertaken in Mochudi in June 2011 by interviewing shoppers leaving a supermarket. These respondents by nature of the sampling location were unlikely to be poor in income, as it is located in a middle class district. Their views are tabulated in Table 6.2 and then analysed by age in Table 6.2.1, by sex in Table 6.2.2, and by earnings levels per month in Table 6.2.3 and Chi Squared tests are summarised in Appendix Three.

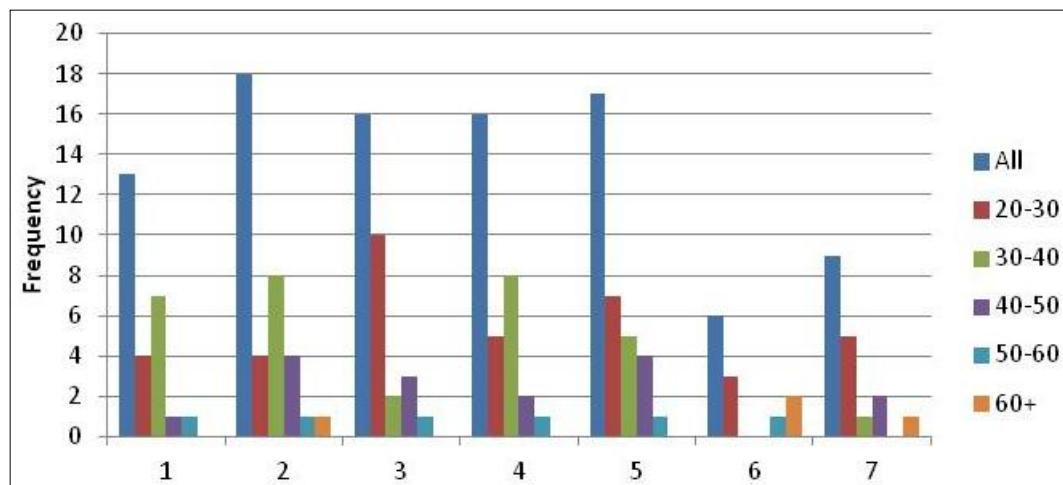


x axis = number of respondents y axis= 1 no scarcity to 7 very scarce

Table 6.2 Is there a scarcity of water in Botswana?

Source: Data obtained from 99 respondents by Researcher at Mochudi supermarket, June 2011 for 6.2,1,2,3 and 4

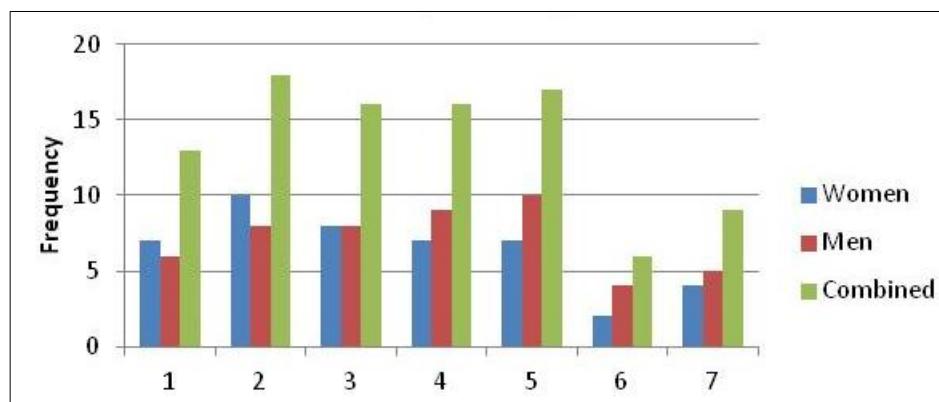
Again, as with the views of the KI and the focus groups of the poor, the middle class of Mochudi have a range of opinion as to whether water is scarce. There is no majority of view, either by sex, age or income, as to whether water scarcity exists, but there is an overall weighting towards a concept of a low water scarcity as can be seen in Table 6.2.



Range of responses: 1 no scarcity to 7 very scarce

Table 6.2.1 Is there a scarcity of water by age range?

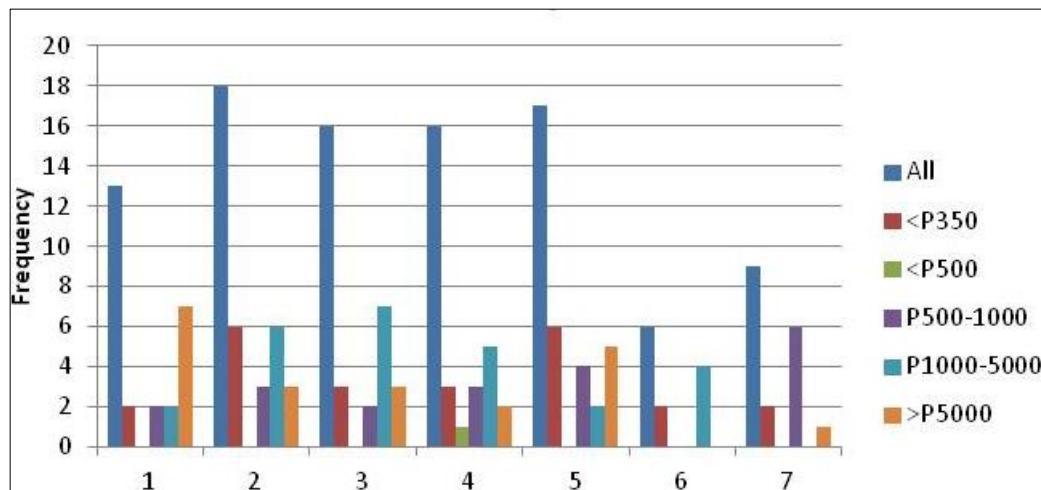
While the Chi Squared Test shows the relationship as not significant, the hard data shows stronger support for the range scarce to very scarce (5-7) among the over 40 year olds at 42% as opposed to 30% for the under 40s's.



Range of responses to 1 no scarcity to 7 very scarce

Table 6.2.2 Is there a scarcity of water by sex?

The Chi Squared Test shows a low relationship (at 0.95275) which is surprising given the concept within the water reform literature of the greater importance of water to women than men as expressed in the Dublin Principles (1992). This may reflect the higher absolute levels of WSS in both urban and rural areas in Botswana compared to other developing countries.

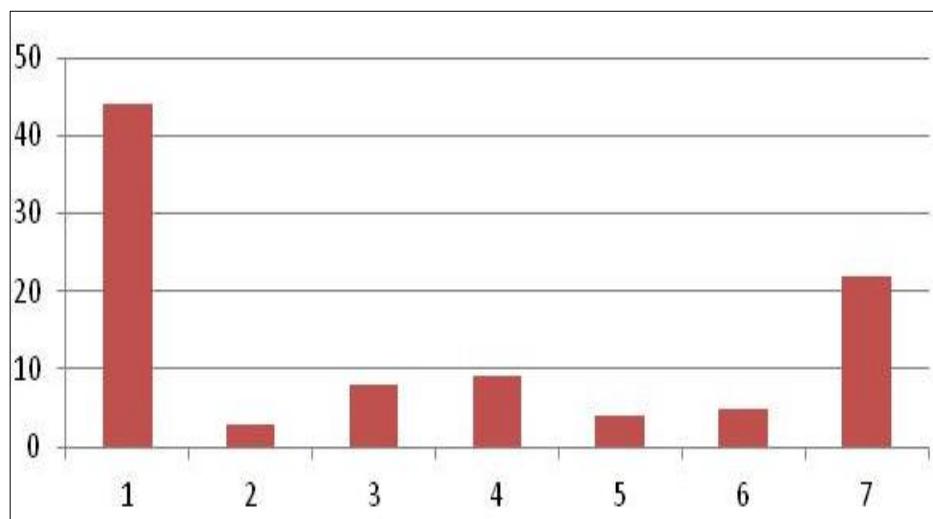


Range of responses to 1 no scarcity to 7 very scarce

Table 6.2.3 Is there a scarcity of water by earnings levels?

The Chi Squared Test of earnings related to scarcity showed a high significance at 0.038525 to within 95% confidence. Water had been provided to the citizens of Kgatleng District by the Department of Water Affairs (DWA) and now the

Water Utilities Corporation (WUC). Other than the inconvenience caused by the occasional bursting of pipes and the subsequent temporary cutting off of the water supply, there had been little to constrain their use of what they saw as unlimited supply. There was no general perception of scarcity that might have influenced user behaviour.



Range of responses from 1 disagree to 7 strongly agree

Table 6.2.4 Respondents' answers to the question: How acceptable is recycled drinking water in Botswana?

This may have influenced the attitude to the urgency of the need to recycle water for drinking. The response to the survey questions on water recycling was thus unsurprisingly weak. When questioned about water recycling, the respondents' awareness of water recycling was high at 65%, but the acceptability of recycled drinking water in Botswana was low, with over 40% seeing it as not acceptable at all (Table 6.2.4). At all the FGs, the respondents said "don't tell us if you are recycling". The GOB target for recycling is 96% by 2030 (GOB 2010:13). As of 2013, there is no recycling of drinking water in Botswana.

6.2.2.4 Botswana Society⁸⁶ views, May 2012

The Botswana Society, representing both the Batswana and expatriate elite dealing with natural resources in Botswana, has had a number of meetings and reports about water scarcity and on the available hydrological data on Botswana since its inception in 1966. A meeting of 30th May 2012 debated the potential for future water scarcity in Botswana, led by a University of Botswana (UB) researcher. Over 50 KI were present. It was the first meeting on water scarcity since the inception of the water reforms in 2009 and brought together a wide variety of KI. The academic viewpoint from UB was of impending long-term water scarcity:

“Given the lack of a comprehensive water supply policy and the ravages of climate change among other factors, the country will be very thirsty by 2015. If predictions are correct, Botswana will likely be among the first nations to feel the water crunch. With no perennial rivers under its full control (save the tail-end of the Okavango), a drought-prone environment, and dam evaporation rates accelerating with global warming, Botswana has perilously few water resources to meet ordinary demand and support economic growth. The time we have, to secure delivery, eliminate wastage, and curtail use, is running out” (KI UB 5).

“To avert the disaster, the stakeholders [must] give special attention to future culture change and instil a national mind set of conservation. The government seem reluctant to penalize key employers and there are no policies to monitor water use. Are the nation’s existing water resources considered valuable enough to preserve? Can Botswana sustain, for example, its cattle industry, when it is estimated that it takes 20,000 litres of water to produce a kilogram of meat as opposed to 1,200 litres to produce a kg of grain?” (KI UB 5).

⁸⁶ A Civil Society organisation dating from the 1960s debating and publishing its proceedings each year

But it was asserted by KI from the Ministry of Mining, Energy and Water Resources (MMEWR)/DWA at the meeting that “everything the researcher [had] said was lacking, was covered in the new [water] policy” (KI CGCS 6).

6.2.3 International perceptions of water scarcity in Botswana

The academic analysis of hydrological levels of water in Botswana of the last 200 years has established a stationary pattern of low rainfall and periodic droughts (Hulme 1996). This has led to advice from non-Botswana water specialists on the impact of this periodic water scarcity on Batswana life and how it can be dealt with. The new movement of international advice on long-term water scarcity has come from the climate change predictions reviewed within the work of the IPCC (Christensen 2007). This section reviews the data that revises the previous drought database and forecasts higher levels of hydrological water scarcity.

6.2.3.1 Analysis of core policy beliefs

There is an international perception of the probability that water scarcity is getting worse. For Southern Africa, most climate models suggest drying (Conway et al 2009). The IPCC academic analysis, based on Global Change Models (GCM), comparing the period 2080-2099 to 1980-1999, suggests, for the later period, an increase in temperatures (compared to the global annual mean temperatures) of 3.1°C for summer warming and 3.4°C for winter warming (Christensen et al 2007).

The HADCM3 GCM, using the IPCC SRES A2 Scenario, predicts a hotter (Figure 6.5 a) and drier (b) Southern Africa by 2050 (Scholes & Biggs (2004:4 quoted in Turton 2012:3). This scenario has ‘as yet largely unknown implications for groundwater recharge’ (ibid: 3). This is supported by the SADC report (Hulme 1996) which had outlined the need to amend WRM practices to

take account of likely increased climate variability (Dube⁸⁷ 2003:152-4)⁸⁸.

Pauline Dube, a Motswana climate scientist and reviewer for the IPCC report, carried out an assessment of the Southern Africa (SnA) condition on water resources in 2003 (Dube 2003:152-4). She believed that SnA could reach the limits of water availability by 2030 under existing climate conditions.

A decrease in surface water could undermine the North-South carrier project. A shortage of water would increase competition for the use of water between the different parts of Botswana, as well as between the countries involved in the transboundary water commissions (TBWC). The lack of water could directly affect all development plans in Southern Africa and it was recommended that SADC water protocols be strengthened, and focus on a formal metric analysis of both surface water and groundwater (Hulme 1996). For the region, there was a need for WDM refined methods, pricing, water allocation and consumption, and questioning of the policy of large government water subsidies.

Environmental impact assessments for new economic proposals, it was felt, should take account of the effect of climate change on water in the region (Dube 2003). Alongside these conclusions are those seeing increased wind speed from climate change, which has been modelled to potentially show an extension of the dune system of the lower Kalahari to extend North to cover the whole of the Kalahari leading to total loss of vegetation and fodder for cattle feed (Thomas 2005)⁸⁹.

⁸⁷ P Dube was a member of the IPCC panel of reviewers 2007-12

⁸⁸ The Southern Africa Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL) was established in Namibia in April 2012 to increase local capacity for research into the impact of climate change and thus potential water scarcity on Botswana. The opening was attended by Ministers from Angola, Namibia, South Africa, Zambia and Germany.... and by Botswana, by its resident High Commissioner in Windhoek. This representation at the inauguration supports the Researcher's perception of the low ranking of the work within the Batswana elite.

⁸⁹ The so far one-off event of a 90 km wind blowing off the roof of the Gaborone airport building on March 1st 2013 has brought the monitoring of wind speeds above the currently-thought maximum of 40 km, into question. Botswana has always been seen as a country where wind speeds are too low to allow for renewable energy coming from wind turbines.

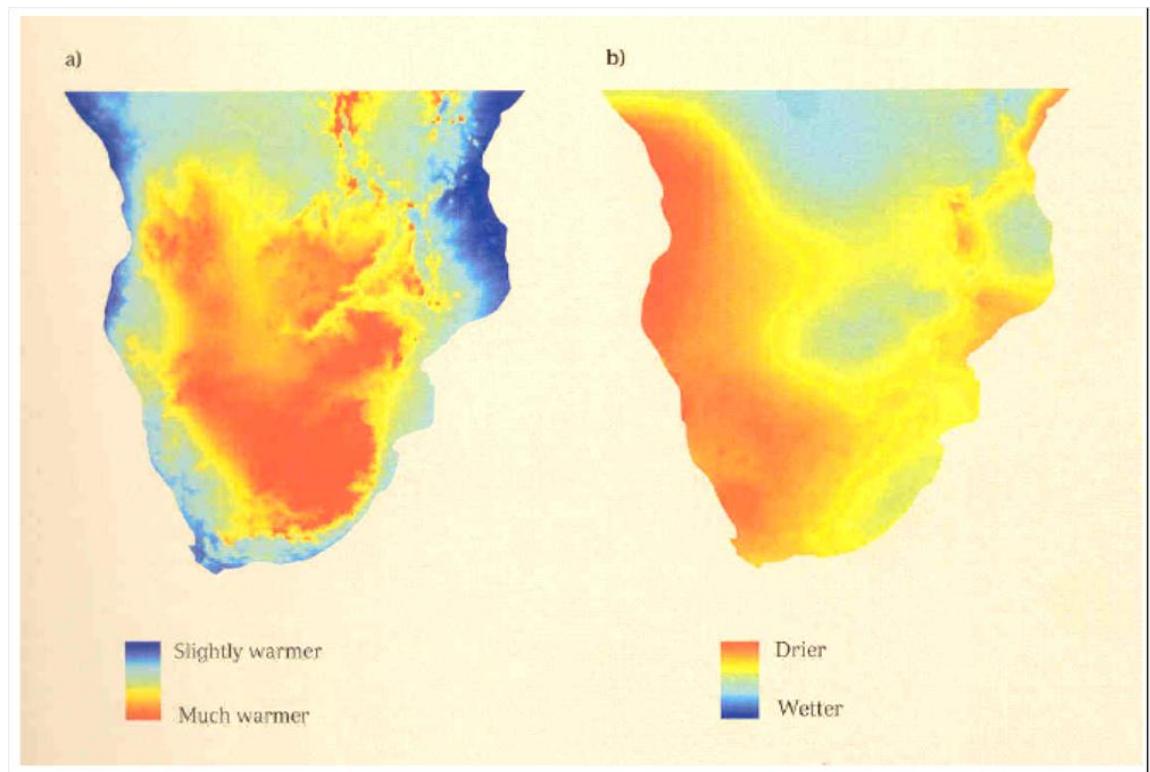


Figure 6.4 Projected climate change to 2050, from the HADCM3 Global Climate Change Model using the IPCC SRES A2 Scenario

Source: Turton 2012:3

6.2.3.2 The World Bank Analysis

The World Bank (WB)⁹⁰ was employed by the GOB in 2008 and subsequently (2008-11), to review the National Water Management Plan Review (NWMPR) (GOB 2006c) and to recommend a way forward (covered in Chapter Seven). This was followed in 2009 by the WB report on climate variability in Botswana (WB 2010). This WB Report was completed in 2010 for the Ministry of the

⁹⁰ The WB has become active in Botswana since its engagement in providing a stand-by loan of \$US 500 M in 2008 following the world banking crisis and the reduction in sales of diamonds by Debswana (GOB Budget report 2008). The GOB, after many prudent years of non deficit budgeting, has since 2008, set deficit budgets, spending more than it raises in taxes and other income. It has become dependent to some extent on outside financing, albeit at a low level, from the Bretton Woods institutions (GOB Budget report 2012). The WB endorsement of the Morupule B 600 MGW power station in 2010 (see Colman 2010) has meant that the failure of the inauguration of the power station in 2013 has led to WB pressure for a full investigation. This could be a factor in the delay to late 2013 in debating the final water policy given the capacity restraints within MMDWR (see Section 7.2)

Environment, Wildlife and Tourism (MEWT) which is the Designated National Authority (DNA) for Botswana for the UNFCCC. It did not involve the MMEWR which is responsible for the proposed water reforms. It has remained a Draft Report only and as such is not an official WB/GOB document. It updated the analysis contained within the Initial Communication from Botswana to the UNFCCC (GOB 2001) and set out an assessment of the water scarcity in Botswana and the potentially worsening situation. The report provides an external view of water scarcity and the need for WDM. The WB provided a forecast of the underlying variability in Botswana that could result from climate change. Their models showed that there is likely to be an increase in the frequency and severity of droughts and storms in Western and Northern Botswana while, in the South-East, rainfall is likely to decrease but there may be more flooding. They proposed that there was likely to be increased droughts, and that the already low groundwater recharge would decline. The WB believed there was greater consensus on the impact of climate change on Botswana compared to that arising from modelling that they have done elsewhere (WB 2010:5). They stated that this would have a number of impacts both direct and indirect: without adaptation, there could be adverse effects on subsistence and commercial agriculture and the drop in groundwater recharge would affect groundwater resources and vegetation, affecting both land productivity and ecosystem services (ibid). The lower surface water runoff would reduce already low levels of water held by dams and could badly affect areas such as the Okavango Delta. Therefore the WB suggested there was a need to increase investment in water infrastructure, particularly additional storage volume and to review the existing national and water policies (ibid). They were further concerned that infrastructure design standards needed to be examined to ensure that they could cope with the potential increased bursts of rainfall⁹¹. This analysis was supported by the WB report of November 2012 which inter alia repeated their view of consensus around lower rainfall in Southern Africa from the higher temperatures resulting from climate change (WB 2012a:37). These

⁹¹ The internal WB presentation of the report is available as a webcast of February 4th 2011 at <http://water.worldbank.org/events/water-days-climate-change-and-adaptation> accessed 1st March 2013.

warnings from the World Bank have underpinned the informational position of advocacy coalition ‘secondary beliefs’ on water scarcity and the need to allocate water wisely (Sabatier and Jenkin-Smith 1993)).

The WB report gave a steer to MEWT in its lead role in appointing staff to the Botswana Government delegations who have assiduously attended the UNFCCC Committee of the Parties (COP) meetings, including Durban in 2011 and Doha in 2012. The attempts by the African Ministers Committee on Water (AMCOW) to get adaptation to water scarcity as a key outcome of the 2011 and 2012 COP meetings were not successful, despite the WB report and many other efforts. The Minister for MMEWR represents Botswana, not the Minister for MEWT, on the AMCOW. Elsewhere in Africa, water ministers similarly were not represented on the country delegations to negotiate at the COP meetings.

Nevertheless, in September 2011, SADC water ministers instructed the SADC Secretariat to push for the inclusion of water as a standalone agenda item under the UNFCCC negotiation and at the Durban COP meeting (December 2011). Their position was that ‘water is a specific agenda item on climate change debate, because water is an engine and catalyst for socioeconomic development and is linked to the GDP in most of our countries where GDP is increasing by three percent where there is more water, and less than one percent where there is less’ (Phera Ramoeli reported by IPS 30th November 2011). “Adaptation is the main priority”, South Africa’s Minister of Water and Environmental Affairs, Edna Molewa said and she called for comprehensive and integrated actions to tackle the impact of climate change on precious water resource (IPS 30th November 2011).

The Botswana MEWT delegation had a different view. Among its leaders was David Lessolle, a former very senior civil servant at MEWT and one of the authors of the first Botswana Submission to the UNFCCC (GOB 2001). He is reported as saying that:

“There is need to see water as a broad issue before putting it up as a major agenda item for the UNFCCC. For something to become major

agenda, it has to benefit me as well. As a negotiating partner I must see something in it, for example, in the case of agriculture I can sell you technology, you get more food and become climate resilient and therefore it's a win-win but for water no, why should I do the job that your government should be doing. There [is] plenty of water but it [is] being wasted and [is] not included in development planning. Hence, until such a time that water was seen as broad issue and people were ready to talk about water technologies, they should not be pushing it on the UNFCCC agenda" (IPS 30th November 2011).

This opinion on the perception of water scarcity was placed on the record as the GOB view at the Durban COP. It is at the heart of what appears to be a tension in attempting to establish a new Government driven WRM paradigm, a new advocacy coalition. With a population of 2,038,228 in Botswana (2011 Census), is there a new way forward that can command support? The appointment in October 2012 of the President's brother as the new Minister for MEWT, leading at UNFCCC meetings, could be a sign of change. The Permanent Secretary at MEWT, from January 2013, Neil Fitt, wishes to take a stronger line on water scarcity (KII May 2013). Will water scarcity now be seen as a priority at the UNFCCC 20th COP in Paris in 2015 with the increasing knowledge of the likely impact of climate change on Botswana?

6.2.4 Summary

The earliest climate records of Botswana demonstrate a wide range of rainfall (Tlou 1995:9). Over the last 150 years, there is data of a cyclical pattern of drought in the region (Hulme 1996; Tyson 1978). The national culture has taken account of this from both the Basarwa indigenous peoples and the incoming Tswana tribes. The post independence paradigm of supply-side management lessened this culture which had co-evolved with water scarcity. The international agencies and academic support for the concept of increased water scarcity arising from climate change was portrayed in the IPCC/UNFCCC and WB Reports.

The perception of water scarcity seen in the tribal rainmaking rites of the Tswana has been overtaken, as described in Chapter Five, by a hydro-mission to provide WSS through the arms of Local Government in the rural areas, by the DWA in the urban areas and by WUC in the cities. The perception of the elite (from KII), the poor (from FGs) and the middle class (interviewed outside a Mochudi supermarket) is that, whilst water may sometimes be scarce, the government will, or at least should, provide. The national and local elites and the poor appear to be unconvinced of a need for urgent change, even though there may be increased water scarcity. The hydrological data of water scarcity appears to be questioned by the elite KI, and the increasing demands of an ever wealthier society could be seen as turning a deaf ear to international perspectives. So why were the changes in WRM proposed? The next section looks at the processes that since 2009 have potentially brought forward a new AC on water management onto the agenda.

6.3 What processes have contributed to the potential for change? What placed water reform on the agenda?

6.3.1 Background

This section sets out a tentative map of the Botswana WRM reform processes in 2010/11. The situation in Botswana had been described as 'complex' (Swatuk 2004:1). The data used here includes a conceptual mapping of Botswana stakeholders associated with IWRM and the water sector reform processes⁹². Further data sources were KIs from the Ministries, local government, Chiefs, civil society, private sector and the media. The semi-structured interviews were carried out during September 2010 to June 2011 and followed up with KII in April-May 2013.

⁹² This data was collected at a FG at a Global Water Partnership Botswana (GWPB) meeting, financed by UNDP/GEF, in Maun in October 2010.

6.3.2 International processes and drivers

The processes of the four SADC-supported water commissions (ORASECOM, LIMCOM, OKACOM and ZIMCOM⁹³) are fundamental to the water agenda of Botswana. The negotiators are ostensibly Heads of Government, given the international treaty status of these commissions. The detailed negotiations on allocations are carried out by senior civil servants. The work of the four commissions has been mainly funded by international development organisations, primarily GIZ⁹⁴ and DFID but also the WB with Global Environmental Facility (GEF) funding. The funders' emphasis on IWRM principles, for example, involving wider groupings of actors beyond the ministers and civil servants, is contested (GWP 2000). KIs noted that the concept of full stakeholder consultation (to include women) is asserted by SADC but given the numbers (seven countries were negotiating within ZAMCOM in 2012), stakeholder involvement is largely tokenistic (Earle 2008; SADC 2007). The lacuna is understood, and studies took place for LIMCOM (Mushari 2005) and ORASECOM (SADC 2009), but the range of actors was still restricted in the consultations with the strong predominance of government representatives at pan SADC review events. This can be seen from the analysis of participants at the SADC Water Dialogue in June 2011 (Table 6.3).

⁹³ See Section 5.7

⁹⁴ Germany funded a SADC EURO 10M fund for WSS in December 2012 details available at http://www.sadc.int/files/6613/5783/5076/Press_Release_signing_Water_Fund_Agreement_final_version.pdf

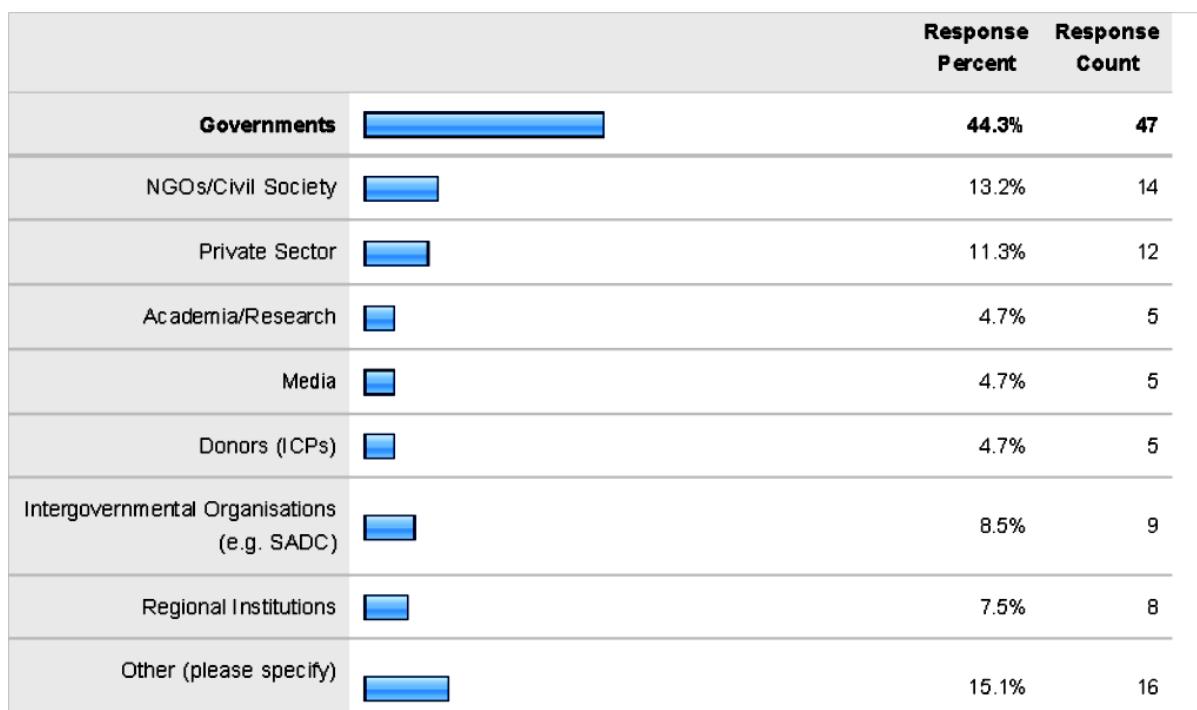


Table 6.3 The range of groups of actors at the SADC Water Dialogue, June 2011

Source: SADC Water Division Internal Survey of all Participants June 2011
[RHC=number of participants LHC= the % arising from the RHC]

No major funding from International Development Organizations (IDOs) appeared to be channeled to the GOB or to water NGOs in Botswana, beyond the TBWC funding and the IWRM-WE projects (see Section 6.3.2.3). The original high levels of International Donor Organizations' (IDO) funding for the development of Botswana dropped in the 1990s to under 10% of the recurring GOB budget and then to zero (except for help for the HIV/AIDS pandemic) (Masire 2006:153). The financial influence of IDOs on Botswana's national water policies since then has therefore been low. The EU assistance for WSS in Botswana in direct budget support 2001-10 was Euros 3.3 M out of a total allocation to WSS across SSA of Euros 1.01Bn (EU 2012, Appendix One). The Water Utilities Corporation (WUC) commercial bond for P150M (US \$ 10M) was funded by the European Investment Bank. The roll-over of the payment in 2010 was an important endorsement of the WSS reforms (KI WUC4). Involvement of the Swedish International Water Institute (SIWI) in these processes was through

the GOB hiring that institution to advise them on the reforms then in progress. But the involvement of the EU office in the water reforms was negligible.

However the importance of the WB credit line to Botswana (WB 2010) for general use by the GOB to cover the budget shortfall in 2009-11 must not be underestimated⁹⁵, although it was largely unused (Bank of Botswana 2011). It may have given the WB leverage⁹⁶ to encourage the water reforms. The GOB paid the WB as consultants on the water reforms and the privatization of water was excluded from the remit (GOB 2008) although the WB was seen as pursuing an agenda which included privatization (Marobela 2012:103). The lending from the WB for power, transport and HIV/AIDS outcomes has increased (Table 6.4).

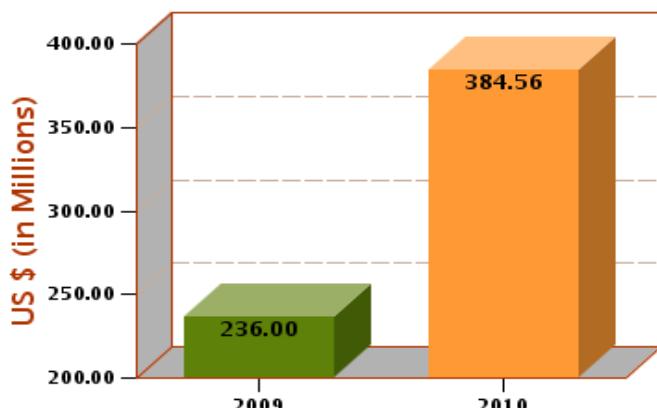


Table 6.4 Lending by volume by the World Bank to Botswana

Source: WB Country Report 2012

The Botswana involvement in the Africa wide AMCOW appears to have been low key. The Researcher took part in a multi- stakeholder meeting for two days during the Cape Town World Water Event in March 2011. While the then Minister for MMEWR, the Hon P.Kekekilwe MP, was present for the overall event, neither he, nor any Botswana civil servant, attended the concurrent AMCOW meeting. The meeting prepared the AMCOW position for the World

⁹⁵ GOB 2010 External debt to GDP: 11.5% Total external debt (current US\$) 2010: \$1,709m 2005: \$447m 2000: \$453m 1995: \$717m Source WB 2012,88

⁹⁶ See footnote 93

Water Forum in Marseilles held in March 2012. There was no evidence of Botswana involvement in the negotiations. However, this may be because much of the work of AMCOW was to develop a case for ODA for WSS in each country and Botswana as a middle income country did not qualify for such ODA. Its dependence on ODA decreased almost totally in the 1990s, but, from 2009, the previously strong economy needed loans and became influenced by WB policies. Overall, the GOB tends not to get involved with AMCOW deliberations with their emphasis on aid requests, not loans, for WSS. The Researcher reflects that the GOB often does not respond to international requests for water data leading to further isolation from the SSA discourse on issues of water scarcity.

6.3.3 National Processes and Drivers for a new AC

1) National Development Plans (NDP) from 1966 onwards

The NDPs were intended to establish measurable goals for the development of Botswana, including on WSS. They were set after Independence (1966), initially for five year, then rolling ten year cycles (Masire 2006:151). They have been the key process for resolving national demands for water:

'At the beginning, priority for spending on social and physical infrastructure was adopted.... We knew that without water supplies...we could not establish enterprises that would employ people productively. Our people have told us that they wanted clean water, educational opportunities and access to healthcare for themselves and their families. Therefore we responded directly to people's desires and also provided the basis for further investment and employment' (Masire 2006:149).

Furthermore, former President Masire, has outlined the process of establishing WRM and WSS goals:

'The formulation of a National Development Plan (NDP) involved a complex process of consultation with each Ministry and within the

economic committee of the Cabinet. There was ultimately a decision in Cabinet and the Plan was submitted to the National Assembly for public debate, possible amendment and ultimately approval. Our planning has been a very public process...We felt, when one used national resources, people should know that everybody received what they deserved and that the interests of the nation were served.... We made use of experts to help us understand things we thought we needed to know, and those experts came from where ever we could find the best people and best ideas whether within Botswana or outside the country. It simply seemed to us to be the logical way to proceed if we were to be both democratic and effective. The extent of consultation made planning a very time-consuming process' (Masire 2006:152).

In response to post independence droughts, the GOB successfully built a range of drought relief institutions in the period 1982 -1990. These were normalised within the NDP process from NDP 7 (1991-1997) onwards, by a 'secure incumbent' political class, utilising this coalition building process (Manemo 2012:157). In this way water scarcity, in the extreme of drought, was onwards managed through a process of 'standing relief programmes... insulate[d] from immediate political manipulation' (Ibid: 176).

The Water Apportionment Board (WAB) established under the Water Act (1968) was the institutional mechanism, within each NDP for the allocation of water. But it appears that the key influence on the allocation was outside the Cabinet and National assembly process. It is said that there was a coalition of interested politicians, bureaucrats and cattle owners (Hilstrom 2012), which decided on the allocation of water, and that this coalition viewpoint held from 1966 to 2008. This could be seen as a policy-making process for WRM and WSS within an advocacy coalition of interests (Sabatier and Jenkin-Smith 1993). No real restrictions were placed on the use of water and the delivery mechanisms were seen as complicated, ineffective and inefficient (KI CGCS2). In 2008, it was commented that 'there is no official water conservation policy in Botswana that

has been adopted by parliament' (Toteng 2008:475). The latest NDP10 for the years 2009-2016 supports the implementation of the NWMP (SMEC 2006) and was finalised in February 2010 (GOB 2010c). It is entitled 'Accelerating the achievements of Vision 2016 through NDP 10'.

2) Vision 2016 (V2016) from 1997 to 2016

Vision 2016 (GOB 1997) is a target-setting rights-based document⁹⁷. It came from a nationally led initiative, but was rooted in a localised participatory exercise. It is based on a 50 years from Independence development plan (1966-2016). While it could be seen as an attempt by President Masire (1981-1997) to stamp his vision on Botswana as his legacy after standing down, the participatory network of informants across Botswana in the setting of Vision 2016 gives it a much wider acceptance.

The vision on water (Box 6.1) states that:

'Botswana faces a challenge to establish the sustainable level of withdrawal from the country's water resources for domestic, industrial and personal needs. The nation will need to address the challenge to develop appropriate technologies for improving water supply for isolated communities' (GOB 1997: 20)

⁹⁷ The initial drive came from the friendship between the leaders of Botswana and Malaysia. The Malaysia Vision 2020 included a specific Water Vision (Government of Malaysia 2000) which is a combination of both a participatory Vision and IWRM. The Vision for WSS was incorporated in the Eighth Malaysian Plan (2001-2005) and the Third Outline Perspective Plan (2001-2010). It has led to very high levels of WRM and WSS in Malaysia.

The V2016 initiative has been followed elsewhere in SSA: Mauritius Vision 2020, Uganda Vision 2035, Tanzania Development Vision 2025, Agenda 2025 Mozambique, National Development Strategy 2022 Swaziland, Vision 2020 Lesotho, Vision 2030 Namibia, Cameroon Vision 2035, Seychelles 2020.

Box 6.1 The V2016 Plan for Water 1997

'The National Water Master Plan [1992] points out that there is an urgent need to give attention to the use and conservation of water in Botswana. It is essential to harness the scarce water resources to ensure an adequate supply of safe drinking water for all citizens. Botswana must develop a national water development and distribution strategy that will make water affordable and accessible to all including those who live in small and remote settlements.

Water must be used as efficiently as possible, for example by the adoption of technologies such as drip feed irrigation. More dams must be constructed wherever feasible and the water made available to the local communities. All Botswana must be encouraged to make full use of rainwater through water harvesting techniques from rooftops and by collecting surface run-off. The recharge of boreholes must be monitored.

Botswana must play a full part in negotiating international agreements concerned with water usage and storage at regional level provide a buffer against localised drought'

Source: Vision 2016 GOB 1997:40

The Vision covers all aspects of Botswana life including the goal that, by 2016, Botswana will have eradicated absolute poverty (GOB 1997:8). The extent to which the drivers of the water reform process proposed to recognise and incorporate poverty reduction objectives within the plans and implementation will be examined in Chapter Nine.

A V2016 Council of Batswana stakeholders was set up in 1997 to push the agenda. Subsequent Presidents Mogae (1998-2008) and Ian Khama (2008 onwards) have endorsed the Vision and held annual meetings to review progress. After 2009, the National Vision added an annual District level focus. The V 2016 meetings in September 2011 were held in Kgatleng District (KD), a chosen area for fieldwork. Despite their differences over the constitution (see Chapter Eight), all present, the Vice President, the Paramount Chief, MPs and District Councillors and other stakeholders, shared a joint platform and recommitted themselves to the targets of V 2016, including those on WRM and

WSS⁹⁸. The 2014 review, ahead of the elections, is being carried out under an EU grant by a non-Batswana, as is the setting of the Vision 2030 by Professor Porter of Harvard University, around the creation of sustainable jobs. But both new documents will quickly come to understand the constraints of water on the development of Botswana (Grynberg 2012).

3) The national process of agreement of a Botswana Integrated Water Resource Management –Water Efficiency (BIWRM-WE) plan 2009-2012

This Plan incorporated both a national IWRM plan and particular projects for water efficiency; it suited the Global Environment Facility (GEF) bidding process to wrap the two bids as one. The successful bid had arisen from the increasingly strident academic critique of water allocation processes (Toteng 2008:475; Rahm 2006). Nearly half the member countries of AMCOW have executed national plans for IWRM in line with the Africa Water Vision for 2025 (AMCOW 2012). In 2012, 18 countries had IWRM plans, compared to a study in 2008 in which only five of the 16 countries that responded to the survey had IWRM plans or were in the process of developing them (*ibid*). IWRM plans were completed in Zambia and in Malawi in 2008. South Africa and Namibia⁹⁹ followed in 2010 and 2012 respectively.

An application for funding was made by the Global Water Partnership Botswana (GWPB), led by the Kalahari Conservation Society (KCS), to UNDP/GEF in 2004, finally becoming successful in 2008 and operational in 2009. On 16 June 2009, the project was launched in Gaborone by the DWA and KCS in partnership with UNDP (the funder) and the GWPB (Box 6.2). BIWRM-WE differed from the NDP and Vision 2016 processes in requiring an overview and acceptance by an external actor, UNDP. Otherwise it mirrored the NDPs and V2016 and worked alongside the GOB generated water reform consultation process. It had specific foci around water loss and inefficiency. It pioneered

⁹⁸ The 2012 meetings, on the same basis, were in Robelela village, near Selebi-Phikwe and in 2013 at Tshane in Kgalagadi District.

⁹⁹ The Namibian IWRM was announced via <http://nepadwatercoe.org/namibia-new-water-plan-for-water>

work in schools and government offices to reduce water loss. It brought forward a vision for Ngamiland wastewater to protect the Okavango River and conformed to the Dublin Prescriptive IWRM principles (Figure 2.1). There were instantly recognisable synergies and overlap between the WSRP and the IWRM-W E (Box 6.2). The KCS and the Project Management Unit (PMU) at DWA were ‘urged to work closely together’ (GWPSA 2010:22).

Box 6.2 Launch of BIWRM-WE, June 2009

The then Deputy Permanent Secretary [promoted to Permanent Secretary for MMEWR in October 2010] for DWA MMEWR, Mr Boikobo Paya, highlighted in his speech the need to align the project with the 10 priorities in NDP 10 for Botswana. These included “network rehabilitation for the rural and major villages’ water supply, water conservation technologies, water conservation projects in schools and the water sector restructuring project (WSRP)”. On the latter, Mr Paya pointed out that he was motivated by the “concern expressed at the multiplicity of institutions involved in the management of water resources”. He said “there was no clear accountability for institutions involved in the water resource management functions and those in service delivery”.

Source: GWPSA 2010:22

A scoping report¹⁰⁰ to outline the then current state of water knowledge and structures was prepared by Professor Jaap Arntzen and his consultancy CAR, and was received in May 2010. In October 2010, the BIWRM-WE stakeholders, chosen by the Botswana GWP, and the PMU of MMEWR met to indentify a way forward. The Researcher was invited to take part in the three day workshop in Maun¹⁰¹, which led to the data collection shown in Appendix Three, and the resultant mapping in Table 6.5 and Figure 6.5.

¹⁰⁰ Available at <http://www.iwrmbotswana.com/Uploads/IWRM%20National%20Scoping%20Study.pdf> accessed 27th July 2012

¹⁰¹ The full report of this workshop is at http://www.iwrmbotswana.com/Uploads/Report_IWRM_Retreat_Maun.pdf, accessed 27th July 2012. Table 5.5 is contained within this report as was required under the terms of participation in the workshop. The group led by the Researcher separated from the rest of the participants for this data collection.

Stakeholder / stakeholder group	How strong is the <u>influence</u> (their decisions and actions) (H/M/L)	How strong is their <u>interest</u> in IWRM (H/M/L)	Comments at the time, from the 7 Batswana participants, to explain the rating
OKACOM	H	H	Since we are looking at the issue of trans-boundary rivers, they can influence
ORASECOM	H	H	Same as above
LIMCOM	H	H	Same as above
ZAMCOM	H	H	Same as above
GWP / Waternet	L	H	They cannot influence country's decisions
NGOs (National)	M	H	They are limited by the funds they have
NGOs (International)	M	M	Survival International (a right to water for everyone)
SADC	M	H	They respect the sovereignty of countries
UNDP/GEF	H	H	Co-funder of BIWRM-WE. Interested in seeing projects completed accordingly
UB / Research	L	H	The uptake of the research results is

Table 6.5

Institutions			not guaranteed.
M of Agriculture	L	H	Low economic input
MMEWR	H	H	High Economic Input
MEWT	H	H	Because of DEA and DWMPC
MFDP	H	H	Every development is dependent on water
MLG	L	H	Water Sector Reform taking water supply from LAs.
Ministry of Lands and Housing	M	L	They allocate the surface rights
Department of Women Affairs	M	L	Interests are on labour and social equity
African Development Bank	M	M	Funding organization with interest in water project
Ministry of Education	L	L	Has potential to be high influence in terms of spreading knowledge but currently ineffective. High end user
Media	H	L	Reaches a greater population than other outlets; however interests vary
Mining Companies	H	L	High end users. Subject to govt regulations hence low influence. Operations greatly depends on availability

Table 6.5

Botswana Power Corporation	H	L	High end users. Subject to govt regulations hence low influence. Operations greatly depends on availability
Private Sector	H	L	High end users. Subject to govt regulations hence low influence. Operations greatly depends on availability
UN Water	L	H	Not active in Botswana

Table 6.5 Analysis of participants' responses when asked to rank the 'importance of various Groups in achieving a dynamic plan for a Botswana IWRM-WE'. Maun October 7th 2010

It is interesting to note that the FG placed the river basin commissions (TNBC) first in their minds both as key players and as having great influence on a Botswana IWRM. This contrasts with KIs, interviewed separately from the workshop, who saw the same commissions as weak in influence. The weakness of the NGO and UN sector was agreed, with the exception of UNDP/GEF (but this view may have been influenced by the fact that UNDP/GEF funded the workshop and the whole project). The research institutions such as University of Botswana were seen as having low influence. The Ministries (MMEWR, MEWT, MLH and MFDP) were all seen as key players, except for the MoA which was categorised as having low influence. The researcher reflects that this was surprising given the strong position of the MoA ministers in the Cabinet on the water reforms. The Ministry of Local Government (MLG) was rated as high interest but low influence, with water delivery responsibilities taken away from them. The MLH was erroneously seen as allocating water rights through the allocation by Land Boards of land rights.

It was felt that the Department of Women's Affairs would have a low interest in the BIWRM as they were more interested in 'social equity'. This seemed to reflect an urban middle class view of the participants, not in tune with Principle Three of the Dublin Principles (see Chapter Two). A rich discussion was had on the role of the Ministry of Education, rated as low in both interest and influence. It was felt that teachers and thus the pupils would be able to understand the need for a BIWRM-WE plan and could convince the country to press ahead with implementation. Schools were also seen as high end users of water and the water efficiency (WE) work would be directed towards them.

The mining companies, the national Parastatal Botswana Power Corporation (BPC) and the private sector were all seen as having low interest but high influence. It was agreed that the main action for the BIWRM-WE team should be to concentrate on these players. The BIWRM-WE meetings observed by the researcher in fieldwork followed this through.

Key to Figure 6.5 (following page):

1 = OKACOM	13 = MEWT
2 = ORASECOM	14 = MFDP
3 = LIMCOM	15 = MLG
4 = ZAMCOM	16 = M of Lands and Housing
5 = GWP/Waternet	17 = Dept of Women's Affairs
6 = NGOs (National)	18 = African Development Bank
7 = NGOs (International)	19 = M of Education
8 = SADC	20 = Media
9 = UNDP/GEF	21 = Mining Companies
10 = UB/Research Institutions	22 = BPC
11 = M of Agriculture	23 = Private Sector
12 = MMEWR	24 = UN Water

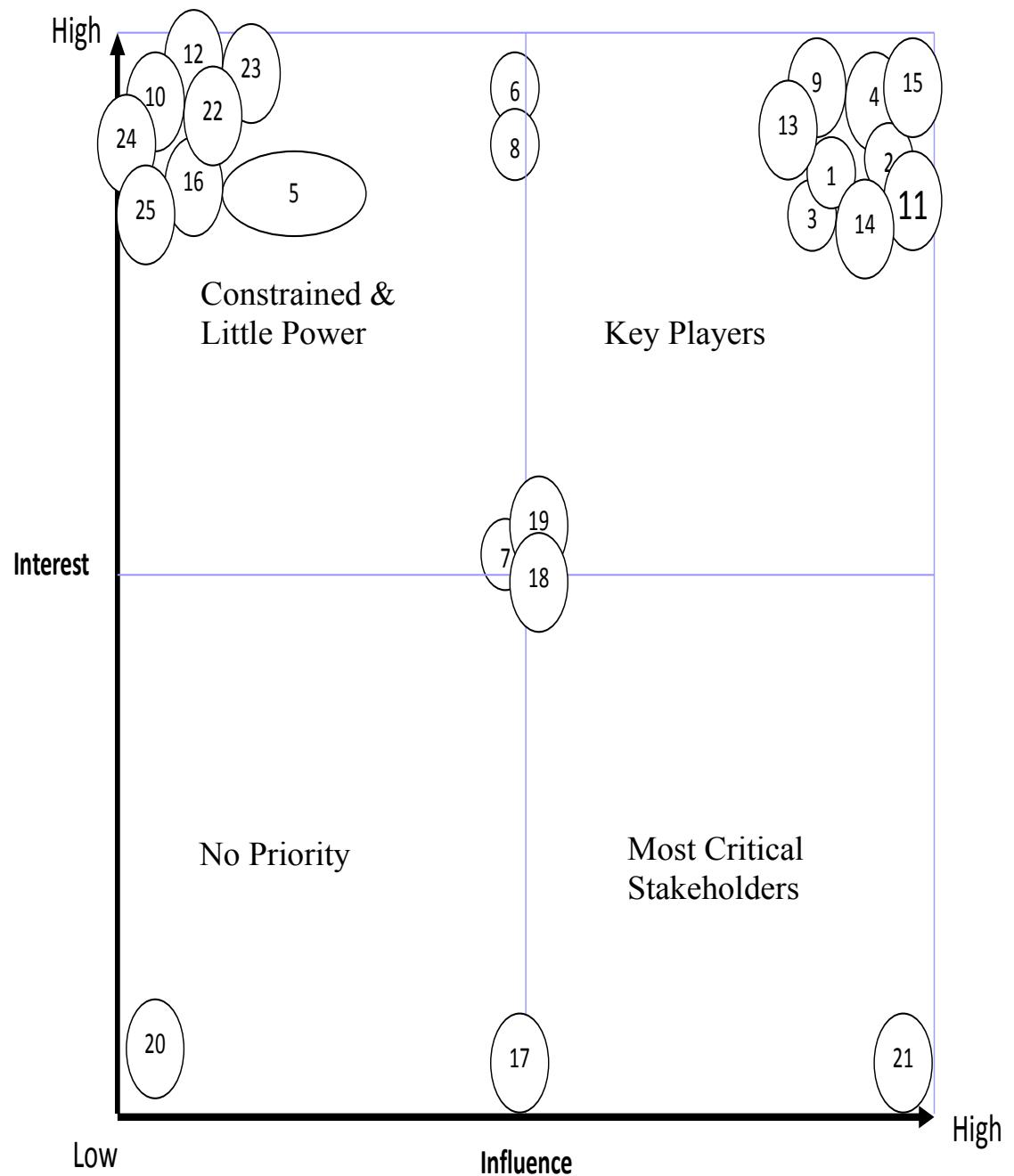


Figure 6.5 The Resultant Mapping of the players in BIWRM-WE from the data in Table 6.5

Key Informant Interviews on BIWRM –WE

Key informants	Private Sector (2)	Civil Service (6)	CSO (3)	Local Govt (5)	Kgosi (3)	Water Experts (7)	Media (2)	Mean
Awareness of IWRM-WE process	5.5	6.5	5	1	0	5	2	4
Stakeholder role in IWRM-WE process	3.5	6	5	1.5	0	0	0	2

Table 6.6 Summary of KI views on BIWRM-WE collected by the Researcher September 2010-July 2011 (expressed on a Likert Scale where 0 is Low and 7 is high)

Knowledge by local government representatives, the tribal administration and the media, about the Botswana IWRM-WE was very low in 2011 (Table 6.6). Only the civil servants (who were the main attendees at the Maun workshop) knew of its existence and even the water experts did not know they were meant to be key stakeholders in the process.

4) The range of actors moving towards a new national consensus on WRM/WDM 2009-14

The National Development Plans from 1966, the Vision 2016 from 1997 and now the BIWRM-WE process from 2009 provide a framework for change, to give Botswana sustainable WRM and universal WSS. This section seeks to bring forward the key players that used this framework to drive forward a consensus view of change to a new Advocacy Coalition based on limited natural

resources, of hydrological water scarcity arising from climate change. The potential drivers of change are now analysed:

Water experts advising the Government

Botswana has prided itself since Independence in appointing experts on the basis of merit so as to 'retain an efficient administration' (Masire 2006:39 and 98). Water policy was 'one of the areas where it was important for experts – hydrologists, engineers, economists –and us politicians- to understand one another as we reviewed our options and made decisions on major projects' (ibid:173). The Botswana civil service slowly localised over the following 30 years as citizens replaced expatriate experts only on merit. This initial decision to underpin the Government with trained expertise was seen as one reason for the success of Botswana. 'In a democracy, positions should be secured on merit' (Masire 2006:40).

A group of well qualified KI water experts advising the government were interviewed continually by the Researcher. They were involved in adapting and revising the new WRM policy as new information on the policy outcomes became known. The then Head of Water Affairs in MMEWR in 2002 set out the parameters for what became the National Water Plan Review (GOB 2006c). He, as the Permanent Secretary at MMEWR from 2010, sees himself as a driving force for the change.

Parliamentary Pressure

There was a change in the appreciation of the potential impact of climate change on water scarcity. The National Assembly of Botswana decided in November 2010 to establish permanent committees on 'Climate Change' and separately on 'Environment and Natural Resources'. The Committees met in Gaborone in April 2011 under the auspices of the Association of European Parliamentarians with Africa (AWEPA) and the International Institute for Environment and Development (IIED) and the UK Government. The meeting

was attended by the Researcher. The Chair of the Climate Change Committee, Hon W.Mmolotsi MP, said:

“Climate change has the potential to reverse much of the gains we have made so far in the country and in the region, in terms of food security, water security, economic development and poverty eradication.... Subsistence rain-fed agriculture as is the case in Botswana is more sensitive to climate variability than irrigated agriculture which is supported by water storage systems and management of available water resources. We are tasked with providing oversight on climate change policies and laws and advancing mainstream climate change issues in every aspect of human environment interaction”.

The Researcher saw a movement among Parliamentarians, during his fieldwork period (2010-13), to support the need for the WDM reforms. The National Assembly sent a delegation to the Rio+ 20 conference in 2012 and agreed to the setting up of a GLOBE¹⁰² Botswana group.

Opposition Parties

KIs from the opposition parties¹⁰³ supported the need for water reforms¹⁰⁴ (KI CGP 3, 4). Their power base was primarily in the urban areas, not in rural areas. ‘Opposition strength [came] from government employees, urban residents and a number of disaffected ethnic groups’ (Picard 1987:148). The rural areas, supporters of the BDP Government Party, were perceived as being concerned at the potentially adverse impact of the water reforms:

¹⁰² GLOBE = Global Legislators Organisation for a Balanced Environment, a worldwide parliamentary grouping on Climate Change and WDM

¹⁰³ During the period of fieldwork September 2010–July 2011; but in March 2013, the opposition parties saw media concern about the WSS progress and made it a political issue (Mmegi 22nd March 2013)

¹⁰⁴ The 2008 GE manifesto for BAM and the BCP “A Nation at the Crossroads”:21,23

'In spite of the general lack of rural support for the opposition parties, the BDP political elites have been more concerned with rural challenges to their positionthan with an urban-based opposition¹⁰⁵. It is for that reason the government has turned to the District administrative apparatus to monitor opposition activities in the rural areas' (Picard 1987:148).

District Commissioners (DC)

The District Commissioner, as the arm of central government, chaired the water review committees in each District set up by DWA after Independence (KI CGCS 6) and the District Development Committees which brought together the views of Village Development Committees (see Chapter Five). They saw the poor level of WSS and had to field the complaints as the eyes and ears of the President and the Cabinet. 'The district bureaucracy in Botswana has not changed since independence. Political elites inherited a political system based for the best part of the century on the principles of indirect rule and political mediation vis-a-vis traditional [and elected local] authorities' (Picard 1987:149). It 'is deemed essential [that WSS for the poor are available] if the Botswana social and economic elites pursue a strategy of economic growth based on mineral exploitation and commercial cattle ranching' (ibid). The DC for Gaborone, in 2011 was appointed to be DC for Kgatleng District as a promotion to give her a direct role, away from the Capital, in reporting to the centre on the water reforms outside the capital.

Trade Unions

The water reforms proposed in 2009 envisaged and delivered major job cuts in excess of 4,000¹⁰⁶ in DWA and local authorities, but there was broad support for the reforms among the trade unions, with the expansion in recruitment to WUC.

¹⁰⁵ The opposition to the BDP faded in 2012: Africa Confidential 53,96,9

¹⁰⁶ This is out of a total civil service of only 100,000 i.e. 4% of the workforce

The almost total civil servants' strike of April to June 2011 was not about the job losses from the water reforms but about the perceived need for a general standard of living increase¹⁰⁷ with initial support from the South Africa Trade Union movement... The strike was called off after eight weeks in June 2011 by the TU leaders, with only a 3% across the board increase in pay agreed (against an initial demands for 30% lowered to 14%).

Civil Society

The role of the umbrella grouping of the Botswana Council of Non-Governmental Organisations (BOCONGO) in the WRM processes has been weak. As will be shown in Chapter Seven, BOCONGO were engaged with the WB/GOB on the consultative process on water reforms. However, beyond the two main environmental NGOs, the KCS and Somaraleng, there was little engagement. The leading women's rights group, Emang Basadi, had little involvement and, even after discussions with the Researcher, did not see how they should have a role. A broader human rights group, Ditswanelo, had a primary interest on the water rights of the Basarwa alone (see Section 9.2.1).

The Churches

The main NGOs concerned to tackle the underlying scarcity of water and lack of coherence on pre-2009 WDM were the churches. They followed the deep beliefs of the Batswana in terms of the spiritual nature of water and its provision by God. The church leaders preached on the sacred nature of water to all Batswana (Tsuangeng 2010). They said prayers for rain and "blessed the buckets of water brought to the Cathedral on Maundy Thursday" (KI RM 1). The

¹⁰⁷The legal requirement of the Government to meet with the trade unions to discuss the sharing of the national cake was codified by meetings with BFTU. The breakaway from BFTU of the Federation of Public Sector Trade Unions, forming BOFEPUSO in February 2011, led to the breaking of the national consensus. As the majority of the employed in Botswana work in the public sector (with over 5000 in water related work at DWA and in Local Government), BOFEPUSO leaders felt they should lead the BFTU but other Trade Union (TU) officials did not agree. No formal negotiations therefore took place between the Government and BOFEPUSO and the latter called their members out on strike in April 2011, ultimately indefinitely.

Botswana Council of Churches (BCC) lobbied the President on behalf of the San and their right to access to a borehole in the CKGR (see Section 9.2). The Pew Centre survey of African beliefs show 69% adherence of the population to Christianity in Botswana¹⁰⁸.

The BCC, mainly offshoots of the European based churches, joined in May 2011, in a unifying Covenant with the Southern African Evangelical Churches and a grouping of locally founded Batswana churches. Ostensibly this was to enable an approach to be made to the EU for funding for joint projects. But it did enable common approaches to be made to social problems, including that of the provision of water. This was seen as both a spiritual issue but also a social issue with the need to have 'free' standpipes in church grounds in each village¹⁰⁹. The BCC stated in May 2011 that they would provide the alternative to the closure of open standpipes in the villages, if their village wanted this safety net¹¹⁰.

Botswana Association of Local Government (BALA)

BALA and the BCC had the same President 2009-13, Cllr the Rev Mpho Muruakngoma, a BDP member and Deputy Chair of Kgatleng District (from 2012). Water reform was continually on the agenda for their meetings, and supported. This was despite the proposed loss of responsibility to WUC. But it was understood that the previous situation was not sustainable (KI LGP4).

BALA was one of fifteen SSA countries Local Government Associations (LGA) surveyed on WSS progress in 2011-12 under a United Cities and Local

¹⁰⁸ In the 2011 Survey, Botswana had one of the lowest figures for Christian participation across SSA

¹⁰⁹ Discussed at the Botswana Council of Churches meeting on 10th May 2011, with the Researcher present

¹¹⁰ This had not been implemented by May 2013 but was seen then as urgent to review (KI LGP4) It may also reflect the move to keep prepaid standpipes had lessened the impact of the changes.

Government Association of Africa (UCLGA) WSS initiative¹¹¹. Meetings took place regularly between BALA and its sponsoring ministry, the MLG on WSS, but it was the MLG that represented BALA at the water process discussions. The Commonwealth Local Government Forum (CLGF) meeting in Windhoek in November 2010, attended by the Researcher, was on the delegated powers to local government institutions, including WSS, across Southern Africa. The Botswana delegation was again dominated by the MLG. The tension between local government institutions and the MLG on WSS is further pursued in Chapter Eight.

Tripartite Meetings of Government, Private sector and Trade Unions

Decision making on a new water AC used the vision of Seretse Khama which was for the development of Botswana by consultation and agreement within a big tent inside which he brought together the key actors (Masire 2006). Discussion took place at the twice yearly formal High Level Consultative Committee (HLCC) meetings (and additional ad hoc meetings) of the President and Cabinet, the Botswana Confederation of Commerce, Industry and Manpower (BOCCIM), and the Botswana Federation of Trade Unions (BFTU). The water reforms came to the tripartite meetings in 2010 and were agreed in principle. BOCCIM were fully consulted on the detail of the reforms in March 2011 and supported them.

¹¹¹ Cllr the Rev Mpho Muruakngoma was President of UCLGA 2010-11, representing local government at the AU level. UCLGA and ICLEI – Local Governments for Sustainability – Africa were partners in the European Commission (EC) funded project 'Local Initiatives in Promotion of the Attainment of Water and Sanitation Millennium Development Goals'. The project took place in 15 countries within Sub-Saharan Africa: Benin, Botswana, Burkina Faso, Cameroon, Côte d'Ivoire, Gambia, Ghana, Malawi, Mali, Namibia, Rwanda, South Africa, Uganda, Zambia and Zimbabwe. The main aim of the project was to ensure that the role of local authorities in the delivery of the water and sanitation MDGs is recognized and to enhance the capacity of local authorities to fulfil that role through sharing of knowledge and innovative practices.

Summary

These groups of players, water experts, the back bench parliamentarians of all parties, the district commissioners, the trade unionists, the civil society primarily represented by the churches, and local government leaders all moved their beliefs in the 2010-12 period in favour of a new advocacy coalition for water reform. The 'big tent' approach of Seretse Khama helped that process.

6.3.4 Competing demands for scarce water within the government

As has been seen in Section 5.6, the MMEWR covered competing needs for water - human needs through the Department for Water Affairs (DWA), energy needs through the ownership and direction of the Botswana Power Corporation and mining needs for water rights through the Departments of Mines and Geological Surveys. The Water Apportionment Board (WAB) under the chairmanship of the Permanent Secretary of MMEWR allocated water rights, including those applied for by the Water Utilities Corporation (WUC).

The other water engaged Ministries dealt with agriculture including livestock (Ministry of Agriculture-MOA) and the tourism and ecosystems needs (Ministry of the Environment Wildlife and Tourism - MEWT) but those Ministries are supposed to go to the WAB and MMEWR for their water rights. Sanitation delivery came under the MLG, until 2011/12, but was overviewed with permits for location and type of sanitation being decided by MEWT. These arrangements are more fully described in Chapter Five with diagrams of the relationships. Cross government processes brought together competing demands and, outside MMEWR, competing ministries before the water reforms. The competition for water based economic operations was such that water was free (after abstraction costs) to mining companies (MMEWR) (20% of water usage) and agricultural boreholes (44% of water usage) (MoA) (Grynberg and Sekakela 2013) (Figure 5.3).

Key Informants	Private Sector (2)	Civil Service (6)	CSO (4)	Local Govt (5)	Kgosi (3)	Water Experts (7)	Media (2)	Mean Average (29)
Priority for Water – Mining	7	7	6	6	5	7	6	6
Priority for Water – Energy	7	7	6	6	5	7	6	6
Priority for Water – Cattle ranching	6	7	6	6	7	4	6	6
Priority for Water – Agriculture (irrigated)	5	6	6	6	4	4	7	5.5
Priority for Water - Tourism	5	6	6	5	4	4	6	6
Ecosystem	5	6	7	6	7	6	6	6

Table 6.7 KI Summary of priorities for Water Sept 2010 –July 2011 (based on Likert Scale of 0= no priority and 7 = highest priority)

Table 6.7 points to the lack of prioritisation of water allocation in Botswana among the KIs. They gave the highest priority for water equally to mining, energy and for cattle ranching, except the latter case, where water

experts disagreed.¹¹² Tourism and Ecosystem needs were slightly lower. Overall there is a low conception of the need to prioritise to take account of the likely scarcity of water. There was a lack of understanding from the KIs about the fact that 80% of the water came from aquifers (before the operation of the NSCs?) such that groundwater use would be unsustainable if all these competing priorities were met. 'There needs to be an education process' (KI CGCS 6).

6.3.5 What brought the agenda forward? The role of the President

Water Ministers and the Cabinet as a whole recognised that this situation could not continue and authorised the National Water Management Plan Review (NWMR) (GOB 2006d), which led to the water reforms 2009-13.'New mechanisms are needed to ensure the principles of efficiency and equity are met' (GOB, 2010a:7).The policy processes on water reforms and actors working within these processes had gone on since 1992 (NWMP) and 1997 (V2016), 2004 (BIWRM-WE) and 2006 (NWMR). So what could be seen as the catalyst to drive the water reforms? It has been suggested that the succession of President S E Ian Khama to leader of the BDP in the NA in 2008 and his election as President in 2009, 'brought theory into action' (KI CGCS6).

There had been criticism of the strong position of the President within the Westminster model of democracy set out in the constitution (Good 2010). It undoubtedly gave power to the President, but it was weak in that he holds power only while he commands a majority within the National Assembly. The President of Botswana is one of the few Commonwealth leaders in SSA not to have his own personal mandate for his position. If he loses a vote of confidence, a General Election must be called (KI CGP5). His power is limited to two periods of five years and he has to get the support of a majority of the MPs in the NA at those five yearly elections. This he did in 2009 by a large

¹¹² The SA view of water allocation is 'domestic, industrial and mining users get 97% assurance of water supply, irrigation 91% assurance' (SA DWA view expressed in Farmers Weekly 14th March 2008:27)

majority. His approval rating according to a Gallup survey was 81% in 2011 as opposed to the approval rating for the government as a whole of 73%¹¹³.

The President S E Ian Khama, after his election in 2009, decided to act on the WRM/WSS reform plans of the NWMPR (SMEC 2006), worked through by the team at the DWA and ready for implementation (KI CGCS6). His previous career before politics was different from the civil service elite background of former Presidents Masire and Mogae. He was son of the founding President and had been inducted by him as Paramount Chief of the Bangwato in 1979¹¹⁴. However, his whole career was in the Botswana Defence Force. There, over 10% of the army was committed to wildlife and ecosystem protection (Smith 2010:1). His selection as Vice President was controversial, as, at that time, he had no experience outside the Army, where he was Chief of the Defence Staff (Good 2010). He admired the water recycling policies of the Israeli government and visited the country to inspect water facilities (Gilmont 2013a). KIs remarked that he invited Israeli technicians to Botswana to work in the Glen Valley treated sewage effluent watered farming area alongside the main Gaborone barracks.

He has interests in conservation, particularly defending the RAMSAR status of the River Okavango and its Delta. He was, from 2009, a Member of the Board of the US based INGO Conservation International (CI). That organisation supported the concept of IWRM and hosted the Alliance for Global Water Adaptation. In March 2012, he endorsed the WB initiative on Wealth Accounting and Valuation of Ecosystem Services (WAVES) (Box 6.3). He organised the CI Summit for Sustainability in Africa on May 24-25, 2012, leading to the Gaborone Declaration¹¹⁵, which endorsed the WAVES work. “Besides the prospect of an improved appreciation of the true market values of our unique set of resources,

¹¹³ The Botswana Gallup Survey was conducted from the 15-29 October 2011, through face to face interviews in Setswana and English with a scientific sample of 1000. The survey, according to Gallup has a potential plus or minus error of 3.9%.

¹¹⁴ President Ian Khama announced that, when he steps down as President, he would resume the Paramount Chieftaincy (The Monitor 30th April 2012:1)

¹¹⁵ Summit Website: <http://www.conservation.org/ssa>

green accounting can provide a better framework for meeting specific challenges, such as the pricing of scarce water resources" (KI M3)¹¹⁶. WAVES has been driven by the Ministry of Finance and Development Planning, putting water policy at the centre of the NDP process.

Given this proposed commitment to WAVES, it is assumed that the President is supporting the new policy for a demand-constrained management of water resources of Botswana. He owns no cattle but endorses the concept of every Motswana being independent and that involves the widespread ownership of cattle even down to the poorest in the community. He has said that any WRM reforms must allow access to water for the poor (Khama 2008). This commitment is further explored in Chapter Nine.

The delivery of WSS had remained unchanged since the Water Act of 1972 and had been seen as successful in the high levels of access to WSS, particularly among a peer group of developing countries (UNDP 2009). After his inauguration as President, Ian Khama received the analysis contained in Tables 2.2 and 2.3 and decided that Botswana, despite the success so far, could do better (KI CGCS 6 May 2013). While the overall figure for improved sanitation shows a rise to 62% of the population having access, the split between urban and rural is stark with 75% in urban areas and 41% in rural areas (UNICEF/WHO 2012:40). The figures for open defecation were still at 38% in 2010 in rural areas. The vulnerability of the aquifers to 'improperly managed' sanitation practices was known (Mokokwe 2003:20) with the closure of the Ramotswa aquifer for this reason (Kholoma 2011). Was it time to change the way sanitation was delivered in Botswana and to protect the aquifers?

¹¹⁶Progress was reported in April 2013 at a seminar in Washington D.C in a presentation available at <https://wavespartnership.org/waves/sites/waves/files/images/Bot%20WAVES%20Botswana%20Presentation%20April%209,%202013.pdf>. But a contrary view from a KI: "there has been no water accounting to date within the DWA" (KI WEN 5 2013).

Box 6.3 The wealth accounting and valuation of ecosystem services (WAVES) approach to water in Botswana

WAVES initially targeted the valuation of the Okavango water system. It reiterated the need for “more efficient use of scarce water resources, which underpin all economic activities” (3).

It stated ‘Botswana faces severe water constraints that, if not properly managed, threaten to hold back economic growth and development. At least two of the major strategies for economic diversification—expanded mining, especially of coal, and irrigated agriculture—are water intensive, and it is not clear that there is sufficient water in the right places to support all these activities, as well as a growing population. Botswana has introduced significant water sector reforms, *privatizing water supply under full-cost recovery with uncertain impacts on access to water by the poor*’ [Researcher’s italicising]¹(8).

‘Recognizing that careful water management is essential to support growth and diversification, the main new mandate of the Department of Water Affairs is integrated water resources management (IWRM). Economic assessment of water use and supply, and improved water efficiency are major goals of IWRM, and water accounting can provide a tool to support these goals. That includes coordination of sectoral activities, careful assessment of the economic tradeoffs among competing users, and incentives for water efficiency is needed to ensure that water is used most efficiently to support economic growth’ (8).

Source: The Wealth Accounting and Valuation of Ecosystem Services (WAVES)
Priority Policy Objectives Report (GOB 2012a)

The statistics for drinking water sources showed further concern with a 96% access figure (urban 99% and rural 92%) masking lower figures for access to piped water. The statistics could be seen to show that reforms in the delivery mechanism of WSS were needed. A further driver was the increasingly understood unacceptable level of unaccounted for or lost potable water. This had been assessed at over 46% due to a combination of poor infrastructure, up to 50 years old, and uncharged-for water often from free standpipes (UNDP-PE 2012; Kholoma 2011)¹¹⁷. The increase in water borne sanitation without infrastructure would only make this worse (Kholoma 2011: 3). As a former military leader, Ian Khama could be seen to set out an agenda for MMEWR and

¹¹⁷ WUC believed the figure in 2013 was still at 29%, Mmegi 22 March 2013 (30) 44: “The gospel according to WUC”

WUC to make the challenging switch described in the next chapter. His re-election campaign for 2014 is the backdrop to this thesis. A stance on WRM and WSS policy could jeopardise the re-election of a BDP majority if the policies prove unpopular and unsupported by a broad base of MPs and the electorate as a whole. Therefore, an AC of support, based on perceptions of water scarcity, including the drivers for change referred to earlier, would have to be built to ensure acceptance by the country of the change.

6.4 Discussion of the Key Issues in Chapter Six around the deep core beliefs and policy core beliefs supporting a new AC on water reform

Batswana understanding of water scarcity within the Botswana economy

The hydro-mission, supply side approach to water scarcity since Independence had brought about a low level of appreciation of the long term constraint that water scarcity would impose on the development of Botswana. A national debate on the impact of less water and the need for WDM needed to take place. The FG members and KIs did not fully accept what water experts, international and local, were telling them. The drivers for change came together to try to overcome this apathy. The Kgosi (tribal leaders), from their knowledge of the past, recognised the need for action.

The role of Vision 2016 to press for change

V 2016 has been an important mechanism alongside the National Development Plans for focusing attention on change, particularly during the fieldwork 2010-13. As 2016 draws near, however, there is concern from the Batswana elite that criticism would come from the media and opposition politicians, where backsliding against the targets on water and sanitation, among others, set within a political economy framework, was perceived to have occurred. It was likely that the President may wish to see a new advocacy coalition around targets, seen through a lens of political ecology, including WRM and based on the WAVES analysis, to be put in place to provide a longer term vision for the

Botswana water sector. But this may be in opposition to the expansion of mineral extraction and the royalties arising needed to fund long term development (Grynberg 2013). The new Vision 2030 could contain tensions over WRM.

The deep core beliefs of the Churches

The main NGOs in Botswana are the churches. They underpin the WRM and WSS reforms based on respectively, deep beliefs in water values in religion and the support of the poor who could be affected by the changes (see Chapter Nine). They are the watchdogs in Botswana, as shown by their intervention in the issue of the right to water of the Basarwa (Section 9.2).

The position of the President in support of the new AC in 2009, at the same time, seeking re-election in 2014

If the President and the needed BDP majority in the National Assembly want to be re-elected in 2014, he and the BDP would have to take account of the potential unpopularity of any WRM and WSS changes outlined in the following Chapter. Therefore, even given the ecological credentials of the President in support of WDM, there may be a delay for reasons of political expediency.

6.5 Summary

The concerns about water scarcity laid out by international and local water experts set out earlier in this chapter (Section 6.2) placed water reform on the agenda. The post independence coalition drive for modernisation (as shown in Chapter Five), with a demand side hydro-mission basis of thought and action, and, as a result, for the unlimited provision of potable water, had diminished that belief, and re-education on hydrological water scarcity was needed. The processes in the period 1990-2009, through the NWMP (GOB 1992) and NWMMP (GOB 2006c) were led by the political and bureaucratic elites to drive a concept of change, towards a constrained demand-led mission in a water

constrained world, as shown in Section 6.3. The NDPs and Vision 2016 provided the processes on potential water allocation and drought relief (Munemo 2012). The key drivers and policy brokers were the politicians and civil service who had driven the great achievements on access to WSS in the immediate post independence years. Now in 2009 they saw themselves as leading again. A tension could be perceived between the Central Government's driven policy process of WRM and WSS reforms from the NDPs and Vision 2016, and a BIWRM-WE, an externally UN funded process. This latter process was both competition to and a constraint on the water reforms being rolled out in the four years 2009-13 by the Government. The role of President S K Ian Khama, in terms of his power and ecological commitment, appears to be the most significant driver for change. He is said to have brought the WRM and WSS reforms forward. But the democratic need to get re-election in 2014 for his party and himself at the General Election could slow the project. The new coalition could not deliver on the WRM policy solely through the President and his immediate circle: there had to be a broad-base support for the new strategy and this could delay its implementation.

Chapter Six has examined the extent to which there is evidence of a possible new Advocacy Coalition (AC) being formed, of academics and experts and then Batswana groups of actors who could be seen as providing the underpinning of new policy core beliefs, which can be changed by evidence and can lead to coalition formation (Sabatier and Jenkins-Smith 1993). The next Chapter seeks to demonstrate the strengthening of the AC through the working out of detailed secondary beliefs, more narrow and subject to change over time, leading to fine tuning of reforms on an empirical basis (*ibid*) by examining the WRM and WSS reform policies of 2009-13.

Chapter Seven: What were the proposed WRM and WSS reforms during 2009-2013 and how did they evolve during the process?

7.1 Chapter overview

The previous chapter pointed to why and how a possible new Advocacy Coalition (AC) of academics and experts, then Batswana groups of actors, could form with their actions underpinned by deep core beliefs. In this Chapter, the new policy core beliefs which have changed through evidence of current and future water scarcity, have led to new policies through the working out of secondary beliefs, more narrow and subject to change over time, leading to fine tuning of reforms on an empirical basis on Water Resource Management (WRM) and the delivery of Water and Sanitation Services (WSS) (Sabatier and Jenkins-Smith 1993). The initial policy (GOB 2010a) is reviewed, together with the process of consultation and how the proposed reforms evolved to the final policy (GOB 2012d) which was sent to the NA in December 2012 and is due to be debated in 2014

7.2 The draft National Water Policy (GOB 2010a)

The planned centralisation of all WRM and WSS responsibilities within the Ministry of Mining, Energy and Water Resources (MMEWR), through the proposed Water Resources Council (WRC) and the Water Utilities Corporation (WUC), can be traced to the National Water Management Plan (NWMP) (GOB 1992), confirmed in the National Water Management Plan Review (NWMPR) (GOB 2006), worked through in World Bank (WB) papers of 2008-10 and partially carried out from 2009 onwards. The Government of Botswana (GOB) had sought the advice of the WB in 2008 on choices for the WSS delivery and the GOB approved Option (3) (KI CGCS 6) as outlined in Table 7.1 below. This shows the alternatives originally put forward in the NWMPR (GOB 2006c). Chapter Five has described the range of players, WUC in the large towns, Department of Water Affairs (DWA) in the large villages and 18 local councils delivering disparate services everywhere else. The final recommendation by the

WB was based on the need for increased accountability, to enable the public to know who was responsible for their own delivery of WSS, and through centralisation¹¹⁸ with a single provider, a lower cost of provision. The WB view was that Option Three would deliver these objectives by WUC becoming vertically integrated and responsible for bulk water, water supply and sewerage, and reuse of water throughout Botswana.

The possibility of the privatisation of WSS was considered by the GOB and their WB advisors but was ruled out (KI CGCS 4). This was said to be because of the perception that the size of the WSS market in Botswana and its potential for private sector interest was very low, given the high levels of investment needed (ibid). Both outright sale and 10 year licensing were rejected. This was despite the Mbombela/Nelspruit City model¹¹⁹ of 10 year licensing of WSS, espoused by the WB, being seen as successful in neighbouring Limpopo Province of South Africa (SA) (KI IA5). It should be noted that the GOB has actively sought to privatise its parastatal organisations (KI CGCS 4). The decision not to privatise WSS provision in 2010 was not done on ideological grounds but on the basis of potential lack of interest (ibid). It was not ruled out by GOB for the future, as could be seen in the Wealth Accounting and Valuation of Ecosystem Services (WAVES) statement of March 2012 (see Box 6.3).

All water resources and the WRM function continue under State ownership, as in the UK (KI CGCS 6).

With the adoption of Option Three, the Department of Water Affairs (DWA) was to be left with an advisory role to the independent Water Resource Council (WRC) on water rights and joint responsibility with the WRC on waste discharge. Coordination lies at Ministerial level with DWA, WUC and WRC (successor to WAB), all residing within the MMEWR (KI IA 5) (Figure 7.1). The

¹¹⁸ As has been seen in Chapter Two, Section 2.2.3, the selection of centralisation under a single water utility is a contested concept for accountability.

¹¹⁹ Nelspruit (SA) renewed the license to the private sector for a further 10 years in 2010 because of the successful operation of the franchise.

Local Government Ministry (MLG) and Local Authorities and MEWT were left with an undefined watchdog role.

Options	Town	Villages	Rural	Reduce Costs	Accountable	Final Decision
(1) Unchanged	WUC	DWA	Local Govt	NO	NO	Must Change
(2) Two Parastatals	WUC	WUC	New Additional Parastatal	Maybe but less than Option Three	YES	More Costly
(3) One Parastatal	WUC	WUC	WUC	YES	YES	YES

Table 7.1 Options for delivery of water and sanitation in 2008

Source: Researcher's Discussions with KI, 2010-12. Water-borne sanitation was moved from the District Councils (MLG) to WUC in March 2011

The broad conclusions of the NWMMPR (GOB 2006c) were put up on the GOB MMEWR website in 2009 for open engagement with the public, on the principles of the WRC on WRM and choice of WUC as the single national distributor of WSS (Figure 7.1). The WB led the consultation process (2008-9) on the initial conclusions including two meetings with the Botswana NGO coalition (BOONGO). Very few NGOs came to the meetings. The subject was not seen as important by the wider NGO universe. Emang Basadi, the main women's NGO in Botswana was invited to both meetings but did not go as the director "felt it was not an issue on which [she] should engage" (KI NGON4).

The Kalahari Conservation Society (KCS), already working on the Botswana Integrated Water Resource Management –Water Efficiency (BIWRM-WE) plan, was agreed as the lead NGO by the Botswana Council of NGOs (BOCONGO) (KI NGON1).

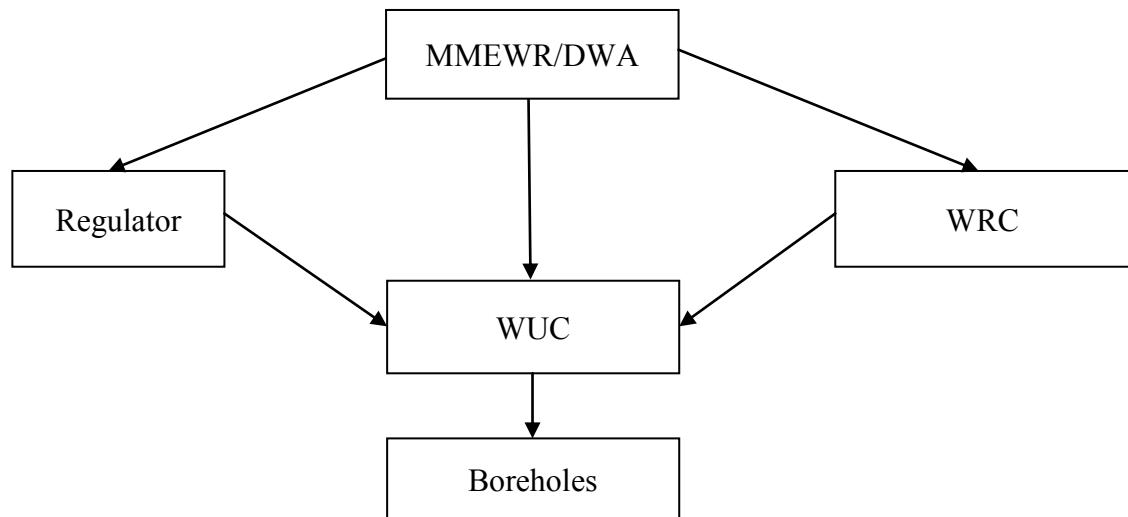


Figure 7.1 The proposed responsibilities for water and water borne sanitation delivery when reforms are completed in 2014 (Option 3 in Table 7.1)

Source: KI IA5, October 2010

The decision of the GOB, expressed in a Cabinet memorandum of the 3rd June 2009¹²⁰, was ‘for a 5 year period for implementation with the following timelines of a WUC takeover of sewerage services, water supply and bulk water delivery for the entire country by April 2014 and all legal and institutional framework for the sector to be in place by 2013’. It was not brought to the National Assembly for debate, let alone a vote; no politician demanded it be so and this points to the strong coalition of support for this major change in the delivery of WSS.

¹²⁰ P/S MMEWR B.K.Paya quotation in a presentation to the National Assembly 2nd December 2010 attended by the Researcher.

The WB, acting as a paid agent of the Botswana Government, worked through the detail of the implementation of the full policy between September and November 2010 at meetings in Gaborone, many of which the Researcher attended. The allocation of responsibilities within a new regulatory framework for WRM was agreed by the GOB as consisting of:

- 1) Water Rights - a new Water Resources Council (WRC) to replace WAB,
- 2) Waste Discharge – WRC/DWA and
- 3) Tariff and Customer Care – a new Water Regulator

The WB made final presentations to ministers and senior civil servants (and the Researcher) in early September 2010. From September 15th to 17th, the WB team then presented to 40+ representatives of the ministries and stakeholders affected by the changes. The Draft Water Policy was approved by Cabinet in early October 2010 and was then issued for consultation outside government (GOB 2010a). But the WSS reforms went ahead without waiting for consultation, having the general support of the AC outlined in Chapter Six.

7.2.1 Policy principles agreed by the AC

The document (GOB 2010a) proposes three essential guiding and overarching principles: equity, efficiency and sustainability, and its key features are presented in Box 7.1. These policy principles set a very high bar for the water reforms. They reflect the theoretical norms for IWRM and the Dublin Principles as outlined in Chapter Two, which could be seen to represent 'external system events' affecting the creation of a new Botswana subsystem from other external subsystems for an new Advocacy Coalition (Weible et al.2008).

The Researcher will return to these principles to show the extent to which they are being applied in the initial implementation of the water reforms later in this Chapter (on efficiency and stakeholder involvement) and in Chapter Eight (dealing with accountability) and Chapter Nine (dealing with issues of equity).

Box 7.1 Principles of the draft Water Policy (GOB 2010a) (italics by the Researcher)**Equity:**

'All water belongs to the State and is held in trust on behalf of the people of Botswana. There should be equitable access to water and no authorisation for its use should be in perpetuity. Water resources shall be managed in an integrated manner to meet the needs of present and future generations. Management shall be through participatory approaches involving users, planners and policymakers at all levels. Access to water will be given in the following order of priority:

- 1) the basic requirements required for human consumption,
- 2) the environment to ensure sustainable foundations for supporting the national interests, and
- 3) agriculture and livestock, commercial and industrial applications. *Gender and social equity in accessing water resources will be ensured and in particular women shall be empowered to participate fully in issues and decisions relating to sustainable development and management of water resources'* (GOB 2010a:4)

Efficiency:

'All people in Botswana are responsible for the proper use and protection of the country's scarce and valuable water resources. Existing usage will be monitored and analysed to identify wasteful practices and their impact. Water has an economic value which must be recognised and reflected in its cost to users [who] must ensure the wise use of water and support the development and application of technology to improve efficiency. Given the limited water resources available, regulatory functions and service delivery responsibilities will be separated to improve the efficiency of both'

Sustainability:

'Freshwater is a finite and vulnerable resource which is essential to sustain life, development and the environment. Long-term development and prosperity are dependent upon sustainable application and recognition of the shared nature of the nation's limited resources. Water is one of the nation's most important environmental assets. Provided the basic requirements for human consumption are met, the environment and ecosystem requirements will receive priority when planning and allocating water among competing uses and users. Water should be managed at the lowest appropriate level through a participatory approach with planning, management and use based on integrated catchment management approaches that encourage conjunctive use including technical, financial, legal, public awareness and education inputs and outputs, as well as improvements in management at all levels . The precautionary principle shall be adopted with water conservation measures and practices used to promote environmental sustainability, economic efficiency and social equity.'

7.2.2 The basic policy proposal (GOB 2010a)

The water resources situation in Botswana, set out in the policy, is described in Section 2.3.1. The policy proposal added to that analysis, in identifying the availability of treated wastewater, which 'remains under-utilised, despite the National Master Plan for Sanitation and Wastewater (NMPSW) (GOB 2003) and is estimated to be 0.03km³ annually'(GOB 2010:6). It reflects the new AC view of water scarcity needing the utilisation of all potential water resources. The new policy targeted the virtually complete reuse and recycling of treated wastewater by the year 2030, but outlined the fact that access to sanitation, and sanitation infrastructure was lagging, especially in rural areas where it was considered only 30% of the population were covered (KI NGON 6).

The policy therefore proposed:

'the consolidation of all water and wastewater operations under the WUC, the establishment of the Water Resources Council (WRC) to manage the country's water resources organisation.... and the establishment of an independent Regulator for water and sanitation services. These decisions are intended to clarify roles, responsibilities and accountability throughout the water sector' (GOB 2010a:9).

The WRC 'will be an autonomous entity' supported by the Ministry of Mining, Energy and Water Resources (MMEWR)/ DWA. It would:

'....allocate water resources among users, monitor water resources and develop water related policies. Through the separation of service delivery activities, the [WRC] will ensure independence and equity in the sustainable allocation of water resources' (ibid: 9).

Furthermore it would for the first time establish baseline water metrics for water for Botswana leading to the publication of a 'water atlas' on which all could agree (KI WB1).

The DWA was to ‘act as a secretary to the WRC and to provide technical expertise’ (*ibid*). Membership of the WRC was to be stakeholder based without the built in civil service majority of the Water Apportionment Board (WAB). The chairman would not be the Permanent Secretary from MMEWR as with the WAB, but an independent individual, not working in the Government. There would be positions held on the WRC for representatives of CSOs and academia (WB briefing of September 2010). There was a strong view put forward that all water extracted and consumed in Botswana must come under the new water rights regime of the WRC. All water utilised, it was proposed, should be metered, measured and appropriately charged for, at the wholesale level, whether to the WUC, who would then subsequently supply, at a charge, individual consumers, or to any self provider, utilising boreholes, be they mining companies, industrial companies or cattle ranches. The potential impact of this latter proposed policy of charges on the poor, utilising syndicate boreholes, is explored in Chapter Nine.

The MMEWR/DWA had a strategic role to ensure that there were sufficient surface water resources and continued to have responsibility for dams and major water infrastructure projects. It was to lead on ‘international cooperation’ in negotiating water allocation from and through the Trans-Boundary River Commissions (TBRCs). The MMEWR was to review the policy ‘at least every seven years’. While this gives an overarching policy role to DWA, it proposed a shrinking of the numbers both regionally and in the main Head Office near Old Naledi, in Gaborone. There, 2 out of 3 floors of the DWA offices were vacated by 2011, the result of which is shown in photograph 7.1. “The restructured DWA establishment will reduce from 2,099 to 450 employees while the Local Authorities (LA) establishment for WSS will reduce from 1,818 to zero” (KI CGCS 6). This was confirmed as having taken place in a speech in October 2012 by the then Vice President and former Minister of the MMEWR¹²¹.

¹²¹ Mmegi 5 October 2012 (29)148



Photograph 7.1 DWA office clearing (March 2011)

Having set out the new institutional framework, the policy put forward the objectives and strategies for the WRC to balance the needs of water for 'Growth, Conservation, Environment and Tourism, Agriculture (irrigation, farmlands and livestock), Mining and Industry, and for Energy' (GOB 2010a:10-16). Given the then 'current toothlessness' of the WAB in allocating demands for water rights (KI WUC 2), this policy set out a major change in power over WRM and WSS in the Botswana economy.

7.3 The Delivery of Water Supply and Sanitation (GOB 2010a:12)

The Water Utilities Corporation (WUC) was established under the Water Utilities Corporation Act of 1970 (see Chapter Five). The WUC reports directly to the Minister of MMEWR and not through DWA or the Permanent Secretary of MMEWR. Under the terms of the Act, WUC can be appointed to provide water

in any area of Botswana as declared under a Waterworks Area Order: therefore, there was no need to pass new legislation to allow for the WUC expansion. The WUC Act also specified financial principles and methods of charging water to ensure that WUC runs on a commercial basis and that the cost of water supply services is recovered (GOB 2010a:9). The expansion of WUC under these commercial principles led to the charging of water being planned to come into effect throughout Botswana.

WUC management were proud of their success in delivering high quality water and sanitation services (WSS) efficiently in the areas they operated from 1970 onwards with what they saw as a European standard of performance (KI WUCO 1-5). This view was supported by all the KI politicians and civil servants. Thus, the AC in 2009 embraced both WUC and the Government, but there were forebodings by WUC senior management as to whether the financial and capacity resources would be made available (KI WUCO 4 and 5). Consumers, while appreciating the efficiency of WUC operations, were concerned that they would now have to pay water charges (KI BR 1-5).

Enthusiasm within the DWA and within Local Government (LG) to collect water charges from individual consumers at the village level had been uneven in the past, leading to significant backlogs in the collection of outstanding debts (Table 8.2). One of the drivers for the water reforms was to ensure that water was paid for within the existing tariff structures and “there are no freeloaders” (KI IA4). At the WB briefings in September 2010, there was a strong presumption in favour of the ending of subsidies on domestic use of water and the implementation of progressive full cost recovery. Chapter Nine, in looking at the pro-poor policy behind the proposed reforms, will explore the potential impact of all consumers having to pay WUC for their personal consumption of water.

‘As WUC takes over operations, it plans to grow its staffing level¹²², [before the reforms] from 850 employees, providing only water services in the six urban centres [sic], to about 3,763 employees, providing water and wastewater services in every village throughout the country. The WUC will grow from 80,000 water connections to 270,000 connections’ (GOB 2010a:1).

The consolidation of all water and sanitation services (WSS) under WUC meant ‘all’. In the past, WUC was limited to water services in the main towns with some additional commercial contractual arrangements. Now, all WSS in Botswana whether for agriculture, industry, energy plants and mining, all, in the future, were proposed to go through WUC. This is graphically presented in Photograph 7.2. Considerable discussions took place with DEBSWANA Plc who made it clear they had no problem with the policy (KI I1). However, they would insist on an insurance policy to cover them if WUC failed to provide the water they were currently accessing through their own boreholes. Only borehole syndicates and very small settlements (below 250) were to be left to themselves to provide, and even there, the WRC would monitor meter usage and could charge for water used.

¹²² WUC did not have to takeover staff from DWA and District Councils (MLG) who had the guarantee of redeployment in their existing Ministries, but “it becomes more and more difficult” (KI CGCS 5). However by October 2012, 1,730 so redeployed had been given early exit from the civil service, amounting to allegations of ‘brain drain’ from the Botswana Civil Service (<http://www.sundaystandard.info/article.php?NewsID=14068&GroupID=1>)



Photograph 7.2 Winning entry in WUC school painting competition (Nov 2010)

Prior to the reforms of 2009-2013, the provision of sanitation services came under the Ministry of Local Government (MLG) for delivery and was overviewed by the Ministry of the Environment, Wildlife and Tourism (MEWT) for regulatory purposes. The decisions of MEWT in authorising the planning of the location of pit latrines were regarded with concern by the DWA/WAB and MMEWR as a whole (KI CGCS 2). The new authority of the WRC was envisaged to override MEWT in the protection of aquifers from pollution from inappropriate placing of pit latrines and slurry ponds. The large Ramotswa aquifer south of Gaborone, polluted by pit latrines in the 1980s, was only just recovering in 2011 (KI WEN5). Its reopening in 2013 required a new treatment plant. There was grave concern that rights given by MEWT for pit latrines in Ghanzi, if implemented, would pollute the Ghanzi aquifer (KI CGCS 6). The handing over to WUC of the existing water borne sewerage plants by the MLG /local authorities took place in March 2011. The WUC had no expertise in sanitation. Expertise was immediately hired from South Africa and gradually the quality of the discharge

from the plants improved (KI WUC 1). The implementation of Chinese built sewerage infrastructure for Gaborone came on-line in late 2012 with difficulties in implementing the new reticulation, with blockages of lines a frequent occurrence (KI WEN 5). The policy of 96% recycling of sewage water for human consumption by 2030 in line with National Master Plans¹²³ (GOB 2010a:13) was not greeted with enthusiasm by FG members¹²⁴. Due to an oversight in the drafting of the Bill, and to the irritation of MMEWR and WUC senior management, the legislation passed in 2010 to enable the transfer of sanitation responsibilities to WUC, and did not authorize WUC to charge additionally for sanitation services (KI WUCO 1). Recouping of cost could only be based on the additional amount of water used and thus added to water bills (KI CGCS 5).

In May 2012, the responsibility for pit latrine location and emptying was moved by the GOB directive from local councils and the MLG to WUC. The implementation was delayed in Gaborone to 2013 because of the backlog of emptying latrines by GCC and the inherited lack of management and equipment to enable WUC to easily take over (KI WEN 5, December 2012). The WB had recommended in 2010 that the pit latrine service be privatised and this was consulted on between MMEWR and the Botswana Association of Local Authorities (BALA) in 2013 and subsequently came into operation within a national tariff scheme but with village based licensed contractors (KI CGCS 6 May 2013).

The WUC inheritance from DWA and District Councils (DC)

The WUC took over a WSS infrastructure that was up to 50 years old and of poor quality. Connections to the water mains had often been allowed to be done by individual consumers with no supervision and with resulting high leakage rates. Very little investment had been made since the initial installation of water mains and, in the rush to take over from the DWA and district councils, no prior

¹²³ It had been suggested that 80% of the wastewater was not being used at all (Hambira 2007)

¹²⁴ This would equate to Windhoek practice but was a high benchmark internationally (Lazarova 2013)

planning of capital investment needs was done in any detail. In the circumstances the water and sanitation reforms could not be seen as delivering an immediate improvement in WSS over the previous levels of provision. In April 2012, Hon P Kedikilwe, now Vice President and then Minister for the MMEWR, reported to the National Assembly (NA) that “WUC [has] inherited old and incapacitated water supply infrastructure in most areas. These old pipes ...are of low class and this, coupled with poor workmanship, result in frequent bursts leading to interruption in water supply” (KI CGP 6). “This is one of the biggest challenges of the reforms, as there is a need to upgrade all such infrastructure” (ibid). “In the majority of areas taken over by the corporation, the billing was not done and the registration of new customers in these areas was low” (ibid). The WUC had inherited a debt of P76million [£8M] from the former water authorities:

“It had inherited 27 different tariffs which were applicable to the various water authorities. The Corporation spent at least P100million [£10M] annually on wastewater services that currently yields no revenue. The WUC made an unprecedented loss of about P260million this year [2012], which was projected to continue. Some of the villages taken over had water losses in excess of 40 per cent due to low class pipes used in the distribution network”¹²⁵ (ibid).

The delivery of WSS in Botswana was thus not immediately improved by the reforms, but without them, the level of delivery of WSS would have continued to decline.

¹²⁵ Parliamentary session 2nd April 2012

7.4 The role of the Regulator

The draft Water Policy stated that:

‘A Water Regulator will ensure financial sustainability across the water sector, reducing wastage by facilitating the streamlining of operations, determining revenue requirements to inform regular tariff adjustments. When reviewing revenue requirements, the Regulator shall take account of government guidance on service objectives, direct subsidy and cross subsidy, informed by affordability considerations. The Regulator would also oversee the compliance of service standards, (so as) to ensure efficiency and protect consumer rights’ (GOB 2010a:10).

The Government of Botswana (GOB) decided to combine the regulatory functions of the power industry with that of WSS to form a Botswana Energy and Water Regulatory Authority (BEWRA). The consultancy Mott McDonald (MM) was engaged in September 2010 to propose, without constraint, the detail of the new Regulator; they reported in February 2011 and the final report was accepted in May 2011 by MMEWR (Mott McDonald 2011, GOB 2011b) and seen by the Researcher. The WUC, under its 1968 articles of association, was required to maximise profit for its shareholders, the GOB, unless otherwise directed. The powers of the newly proposed BEWRA were perceived by GOB and MMEWR as providing the countervailing power to WUC, to ensure poverty reduction objectives were embedded in the water reforms (see Chapter Nine). The regulator was strongly welcomed by senior WUC management who saw it as “potentially free of GOB political constraints on tariff increases needed to provide investment funds and a convenient scapegoat for the WUC” (KI WUCO 4).

The MM proposed framework for WSS regulation is shown in Figure 7.2. This proposed a Botswana Environment Authority (BEA) as an alternative to the Water Resources Council (WRC) and as such was the backdrop to the dialogue

that took place across GOB ministries in 2011/2. The BEA, also titled the WRC, is shown within MEWT. The alternative proposed in the Water Policy (GOB 2010a) was for the role of the water resources' champion to be under MMEWR as the champion of the economic uses of water rather than at MEWT with its key role in the protection of water for the ecosystem, but this latter use of water was not covered in the proposed remit of the water regulator. The water quality monitoring role of the Botswana Bureau of Standards (BSS) (under the Ministry of Trade and Industry (MTI)) is not mentioned in the draft water policy (GOB 2010a), but is here. This came to the fore in 2013 with concerns expressed about the quality of drinking water across Botswana and the lack of transparency in providing the information¹²⁶. The details of the Mott McDonald report were not consulted on outside the civil service and WUC. The final report went to Cabinet in May 2011 for agreement. As with the decision to go ahead with the reorganisation of the delivery of WSS, here again the AC feels strong enough not to seek support from outside the coalition.

The delay in bringing forward legislation for BEWRA appears to be related to problems Botswana has had with its energy suppliers in 2013/14, in bringing online the Morupule B power station, proposed provider of 80% of Botswana's electricity needs. The BEWRA Bill was planned to go to the NA in early 2014¹²⁷ and is expected to be 'functionally' operational by June 2014.¹²⁸ However, with the Election due in October, it is unlikely to go ahead until after this. Control on the pricing of water, in the short term, will remain with the politicians of the ruling party and then, as with electricity pricing, move to the independent regulator (KI CGCS 6).

¹²⁶ Statement from MMEWR <http://www.gov.bw/en/News/Gaborone-water-is-safe> challenged by Sunday Standard 4th March "Death by water" by Sonny Serate

¹²⁷ Announced in the NA on 4th March 2013 by the Minister for MMEWR.

¹²⁸ http://www.wds.worldbank.org/external/default/WDSCContentServer/WDSP/AFR/2012/07/18/B677C8396C04B0B885257A3F00488D7A1_0/Rendered/PDF/ISR0Disclosabl018201201342617148163.pdf October 2012. The delays on Morupule B have been reported to the NA in March 2013 with a new operational date of June then December 2013.

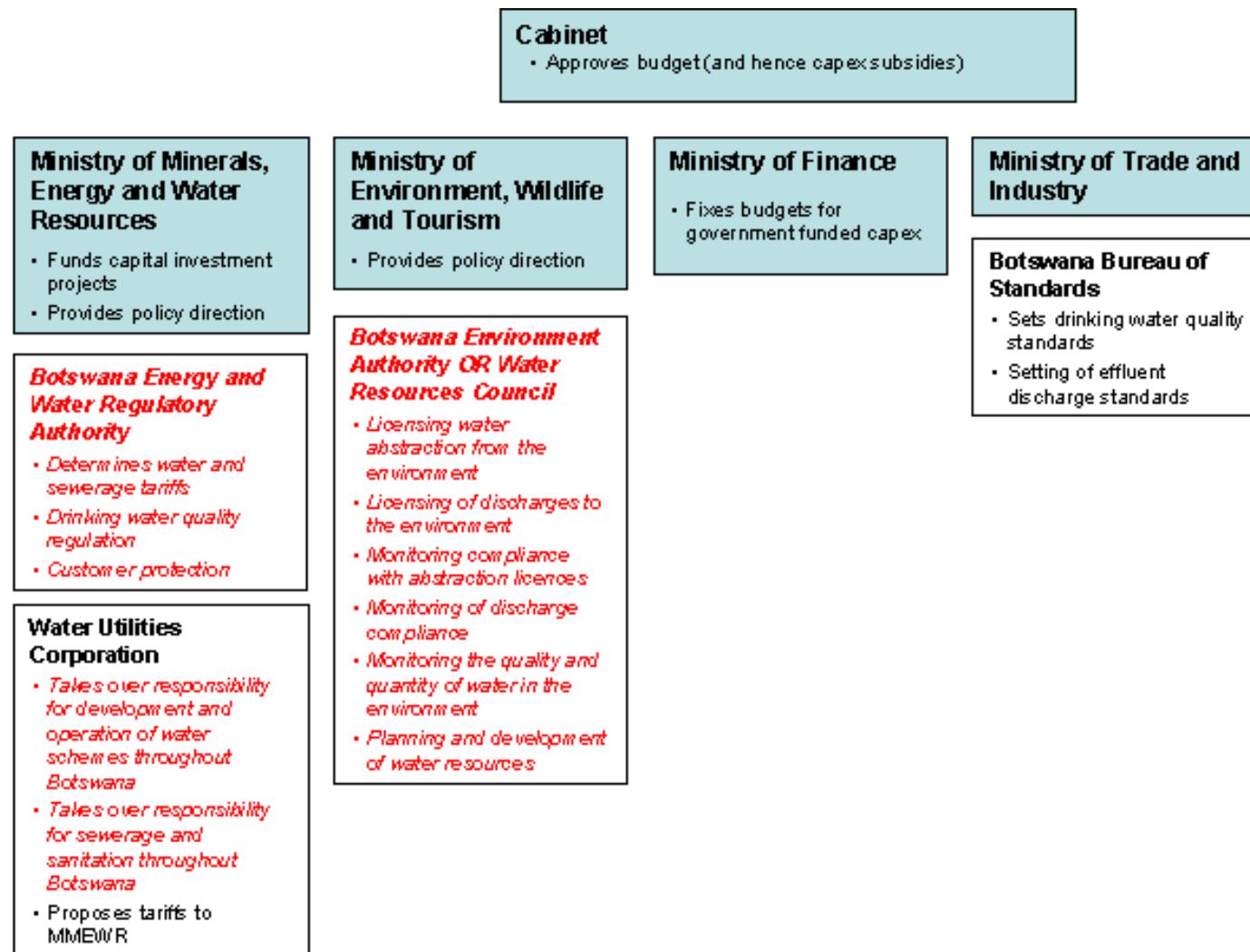


Figure 7.2

The proposed WSS regulatory structure from Mott McDonald consultants report (February 2011)

Source: GOB

2011b:19

7.5 The process of the stakeholder meetings

Consultations were organised by the GOB through stakeholder meetings to act as a feedback mechanism for both the 'on the ground' delivery of WSS and also the projected changes to WRM. The draft water policy paper (GOB 2010a) claimed in October 2010 that the Government and WUC:

'have consulted extensively in the period 2008-9 as part of the water reform process with numerous meetings taking place in District Councils and *Kgotlas*.... as well as with academics, business representatives and representatives of civil society and NGOs. These consultations then facilitated the formation of the many provisions of this policy' (GOB 2010a:10).

The Researcher found little evidence of these 2008-9 meetings held by either the MMEWR or WB.

While consultations did subsequently take place after October 2010, the depth and width of the representative groups was narrow. The invitation list was very broad but very few of those invited came. This was especially true of CSOs. The National Water Policy stated its adherence to the Dublin Principles with its commitment to 'a participatory approach including involving users, planners and policymakers at all levels... women play a central part of the provision, management and safeguarding of water' (GOB 2010:8). However, if CSOs, including those representing women, are invited and do not come, it is hard to criticise the body (MMEWR/DWA/WUC) which does the inviting¹²⁹.

¹²⁹ The presentation to the National Assembly on 2nd December 2010 by the Water Reform Unit (WRU) (slide 16) spoke of 'effective stakeholder participation ensured through Water User Forums'. In the period of fieldwork and the writing of this thesis, these forums had not been formed.

7.5.1 External stakeholders meetings

Meetings took place in the form of a road show with each section of the Draft Policy being introduced by a specialist from the DWA or WUC or the Ministry concerned. This meant that the mining section was explained by a mining specialist, the environment by a MEWT official, and so forth, so as to present a single agreed face to the public on the policy. Questions asked at the meetings were noted for a final meeting in Kasane (Section 7.6).

The external stakeholder meetings, normally in Gaborone, were:

Local Government - October 2010 (LGSM)
BOCONGO - November 2010 (BOSM)
House of Chiefs - November 2010 (HCSM)
National Assembly - December 2010 (NASM)
Farmers (in Ghanzi) - December 2010 (FSM)
Private Sector/Botswana Confederation of Commerce, Industry and
Manpower (BOCCIM) - March 2011 (PSSM)
Miners (in Selebi-Phikwe) - June 2011 (MSM)

Absent from the arranged meeting schedule was the involvement of Trade Unions and the media. The continual touring of ministers and officials to the village *Kgotla* was seen as a series of open meetings to consult and inform the electorate on the detail of the policy. All could come, including the Trade Unions and the media, and the latter certainly did. But at the *Kgotla* meetings attended by the Researcher, there was only mention of WUC taking over WSS and no mention of the new WDM powers of the WRC. The WUC change was accepted on the basis that 'WUC can only be better than the existing provider' (the Molepole *Kgotla* meeting, November 2010). Social media was not used despite the rapidly rising numbers with internet access (KI WUC 4). Information on the WUC website was often not available due to web reconstruction during the period of the fieldwork. Large advertisements were taken out in the newspapers outlining the changes but chiefly to advise the DWA/Local Government WSS

users that a new contract had to be taken out with WUC at the handover point to enable the continuity of supply¹³⁰.

7.5.2 Internal stakeholder meetings

The MMEWR-led civil service Standing Committee on the water reforms met at least fortnightly to smooth over any inter-ministerial difficulties but despite this, the position on the ground was often different. The difficulty of individual WUC District operational units obtaining the transfer of LG assets such as water bowsers or tankers is noted in Chapter Eight. The DWA and WUC held ‘Lessons Learnt’ meetings after each phase of the takeover, of all levels involved in the delivery changeover. The relevant Trade Unions were fully involved, but no water consumers were invited to give their views. The October 2010 changeover in Kgatleng District (from DWA and Kgatleng District Council (KDC) to WUC) was attended by the Researcher, as was the follow-up ‘Lessons Learnt’ meeting in April 2011. Full 360 degree feedback was allowed and action points taken up to avoid mistakes going forward. An example was the review of the policy for the replacement of ‘pumpers’¹³¹ by a ‘flying’ car-borne official covering many villages, which was seen as not working. The resolution agreed was of a new category of village based official, who would multi-task, not only looking after the boreholes but doing additionally needed tasks, such as providing all WUC outreach in the village, including ensuring bills were issued and paid (if not registered destitute¹³²) and a credible disconnection threat if they were not.

¹³⁰ Despite this advertising campaign, a road show and letters to households, many users did not sign the new WUC contracts, but were not disconnected, leading to billing problems which continued through 2013 (see Chapter Nine)

¹³¹ Men employed to run the boreholes and water supplies in small villages

¹³² See Chapter Nine for definition and explanation

7.5.3 WUC/Trade Union meetings

The original extension of the WUC delivery of WSS beyond its 1968 Act designated areas had involved a negotiation in 2009 between the Government, WUC and the National Amalgamated Local, Central Government and Parastatal Workers Union (NALCGPWU), the WUC Trade Union. The agreement was a win-win for union members: all those who transferred from DWA and LG to WUC, as it expanded into the new areas, would have a pay increase of approximately 20%. Those who did not, were guaranteed a continued alternative job in their existing Ministry. The Trade Unions and the WUC met at a senior level very regularly and harmoniously (KI WUC 4). The Researcher noted the wide range of additional WUC allowances, including relocation, travelling, medical costs and training.

7.5.4 KI knowledge of the proposed reforms

There were high levels of knowledge about the WRM and WSS reforms among KIs interviewed (Table 7.2). The exceptions were the media who surprisingly (given the widespread advertising of the reforms in the newspapers) did not fully understand the reforms and felt that they had not been consulted. All KIs felt the reforms would be good or very good for Botswana. The water experts had the view that they had not been fully consulted and this view was shared to a lesser extent by CSOs.

Key Informants:	Private Sector (2)	Civil Service (6)	CSO (4)	Local Govt (5)	Kgosi (3)	Water experts (7)	Media (2)	Mean Average (29)
1.Understanding of WRM Reforms (^ low to high)	7	7	6	6	6	6	3.5	6
2.WRM Reforms are good for Botswana (^ disagree to agree)	7	7	6	7	7	6	6	6
3.Consulted on WRM Reform proposals (^ not to fully)	7	7	5	7	7	3.5	4	6

(based on a Likert Scale 1-7 ^)

Table 7.2 KI summary of views on the knowledge of GOB WRM reforms, Sept 2010-July 2011

7.6 The questions and answers from/to the stakeholders: Kasane (June 2011)

A meeting in Kasane (19 -22 June 2011, attended by the Researcher) was arranged to enable a core group of civil servants across the relevant ministries, MMEWR (including WUC), MEWT, MLG, MOA, Ministry of Finance and Development Planning (MOFADP), Ministry of Lands and Housing (MOLAH) and Ministry of Presidential Affairs and Public Administration (MPAPA), together

with the representative of the Kalahari Conservation Society (KCS) to meet. It was to review and evaluate the responses to the draft policy document from the stakeholder meetings listed in Section 7.5.1. The coding of the stakeholder groups is noted in the footnote¹³³. A recording was made of a sample of questions from each stakeholder group (italicised) and the agreed responses of the review group which was subsequently passed back to the various stakeholder groups. The views of the review group, after considerable discussion, were then summarised by the Head of the Water Reform Unit. The following sections cover the stakeholder questions (shown in bold italics, with attribution to the stakeholder meeting) and the response the group agreed on. The meeting discussed each question in turn and in depth. The words quoted below are those agreed by those present and provided by the review group to the Researcher at the end of the meeting.

7.6.1 The organisation of the WRC and WUC

- a) The LGSM requested ***Local Government to be on the WRC by right*** as 'councils were the first political point of contact for consumers of WSS'. It was agreed that BALA should compete to have one of the two slots earmarked for NGOs on the WRC. But in addition the WRC would have district administrative structures at district council centres, feeding into the National WRC.
- b) The FSM (see footnote 66) requested ***special representation on the WRC***. This was not agreed as the Permanent Secretary of the MOA was already designated a member. The PSSM (see footnote 66) wanted

¹³³ Local Government, October 2010 (LGSM),
BOCONGO, November 2010 (BOSM),
House of Chiefs, November 2010 (HCSM),
National Assembly, December 2010 (NASM),
Farmers (Ghanzi), December 2010 (FSM),
Private Sector/ BOCCIM, March 2011 (PSSM)
Mining, June 2011 (MSM)

BOCCIM to be represented on the WRC. This was not agreed. It was agreed that the CSOs from the BOCONGO should elect their own two members of the WRC and 'it is for all CSOs in Botswana to compete for the representation'.

c) ***The independence of the WRC remains a concern of all stakeholders.*** This was to be protected by being enshrined in the enabling Act of Parliament. The reporting through the MMEWR Minister (who is "the custodian of the nation's water" (KI CGCS1) was asserted to be conforming to international best practice. **Funding for WRC** would be a separate parliamentary vote. District locations of the WRC should align themselves to those of the DWA so as to get synergy.

There was concern that all power for WSS delivery was to be vested in WUC. **What was the wisdom of vesting all responsibility on one authority, were other service delivery options such as outsourcing considered?** (PSSM) Yes, various service delivery options were explored including private sector participation and were subjected to scrutiny through public consultations. The option to have a public enterprise responsible for service delivery was decided by public consensus and presented to be the most appropriate for the country. In any case, "it is envisaged that other players will in future be allowed to participate in the water provision" (KI CGCS 1)¹³⁴.

7.6.2 The issue of equity and poverty eradication

The issue of equity was raised through the following questions and responses: firstly, ***one of the guiding principles should be that water is a basic human right*** (BOSM – see footnote 66). The view of the group was that the Government shall provide water to all citizens, but the Government was of the view that water users should be charged a fee commensurate with the cost of its provision. The Government has other structures to cater for the less

¹³⁴ This is contrary to both the content of the Draft Water Policy and what was said at the stakeholder meetings.

privileged so they are able to have water for domestic use. They went on, the issue of water as a basic human right is well understood internationally but countries defer on the implementation of this. Some countries such as South Africa prescribe a certain volume of water per month which is provided for free to every individual. As for Botswana, an increasing block tariff structure is proposed which, due to scarcity of water in the country, encourages conservation by charging incrementally more for water as the customer uses more. As to the indigent and poor, Government will provide for their water through existing structures such as destitute programs¹³⁵. The proposed tariffs are aimed at ensuring that every Motswana has access to water. The Government in 2010 subsidises about 40% of the operation and maintenance costs of water supply (GOB 2010).

There was concern that poverty eradication could be undermined by the new proposed policies. ***There is a need for reconciliation policy with the current economic schemes aimed at poverty eradication. Are these schemes running counter to the water policy?*** (LGSM) The response was that: It is usually sufficient that a policy statement provides for the linkage of water and poverty eradication. The details would usually be captured in the regulations or subordinate legislation. The issues of improved access to water for example will enable implementation of social economic activities such as backyard gardens which are in themselves part of the poverty eradication initiatives.

Would the water tariffs go up?¹³⁶ The group answered that: the Cabinet directive that approved the water sector reform mandated that existing tariffs charged by local authorities or by DWA should remain the same until such time that a comprehensive national study of water tariff is completed. But ***the consolidation of all water service provision to WUC raises issues of affordability - how can a commodity be affordable if it is provided by one***

¹³⁵ This is explored further in Chapter Nine

¹³⁶ Standardised VAT was placed on water at 10% in each area that WUC took over from DWA/Local Councils but the inherited tariff varied by area. A general increase of 10% was announced for May 2013, the first increase since 2004, The WUC original 1968 areas had increases of 20% imposed in May 2012.

entity? (LGSM) This was answered as: the issue of affordability is of genuine concern and one should note that the consolidation does not necessarily mean a rise in prices. With consolidation one gets to enjoy economies of scale in works, procurement and support services which tend to reduce operating costs and hence the reduction in tariff. Further to this, it is envisaged that an independent regulator will be established to look at the issue of tariffs to ensure that not only are they affordable but they are also high enough to keep WUC sustainable. Instead of disconnection for non payment, **shouldn't other strategies such as restrictors** [South Africa policy in Cape Province] **be used to ensure that people still have some access to water?** (LGSM) But the decision of the group was that: the disconnection policy will continue for non-payment, as those who cannot afford to pay are catered for through government schemes for the destitute.

7.6.3 Water demand management (WDM)

There was encouragement from stakeholders to press on with WDM. It was asked: **Can it be made compulsory that future buildings and houses be fitted with water conserving devices?** (LGSM, PSSM) and the group confirmed that: all building codes will be amended to incorporate mandatory standards of water conserving devices. There was pressure on speeding up the reuse of water: **what are the problems with the reuse of wastewater, why can't we scale up these pilot projects (such as Glen Valley) countrywide?** (FSM) The response from the group was that: the lack of infrastructure is hampering the scale up; there are very few wastewater treatment plants countrywide and as such there is not enough treated effluent. Plans are there to use most of the treated effluent.

7.6.4 Impact of the proposed water policy on farmers

The questions raised were in two main categories, the proposed payment for water and concern that the new policy did not explicitly take account of climate change. On the former point, the FSM, HCSM and NASM (see footnote 66) all

wanted to know **why an individual who has used their own resources to drill a borehole should have to pay for his water**. The response was that: all water belongs to the state and as such private use for water, barring domestic consumption, deprives others the right to use the water in question. Abstraction fees provide an economic incentive for users to use water resources as efficiently as possible. The revenue obtained will also boost the public treasury of which funding for WRM is derived. Again there was the question, **is the water levy going to be charged on large farmers who are watering the livestock from the river?** (FSM) This was answered by: in future, water right payments will be required as with groundwater and these will be annual instead of the current system of a one off payment. It is proposed that those extracting beyond certain threshold volume will be charged a volumetric tariff while those below this threshold may have to pay annual charges tied to their water rights.

Concerns about climate change led to questions such as: **Botswana is a water scarce country. What initiatives (are) the Ministry doing to come up with both breed of cattle and crops that are more water efficient?** (FSM) Continuous research to get the right animal breeds and crop varieties for the specific conditions of the locality is carried out. **The Ministry needs to come up with a strategy to deal with the effects of climate change as it affects food production?** (FSM) There is mainstreaming of the climate change issues on the policy. Further research will be carried out. **Government should encourage the 'debushing' of farms in order to promote a rise in the underground water levels** (FSM). It is not encouraged¹³⁷.

7.6.5 Impact of the proposed water policy on Mining and Industry

Given the importance of mining in the Botswana economy, the questions arising from the MSM (see footnote 66) were surprisingly limited, but started with: **will charging the mines extraction fees for using their own boreholes**

¹³⁷ Discussion at the meeting came to the conclusion that there was more likelihood of water retention in the soil and aquifer recharge through scrubland remaining rather than 'debushing' to expose the sandy soil leading to potential fast erosion

overburden them? (MSM) There is an obligation to provide infrastructure to enhance economic activity and as such mines will be catered for under this dispensation. **Most of the mines' operations do not necessarily need the dewatering water and have to pump it out. Charging them for the said water amounts to double taxation** (FSM). Dewatered water¹³⁸ can be used by the mines. **Will WUC be able to meet water supply service expectation for large-scale customers such as Orapa mines and others?** (MSM) It is agreed that [the WUC] will need to up their capacity for customer expectations especially for large users such as the mines. Already WUC is supplying water to all mines in the country except DEBSWANA mines. There is therefore no reason to believe that WUC could have a problem with supplying water.... [to] DEBSWANA. Questions by those outside the mining industry were more hostile and the response stronger: **Mining operations are synonymous with huge usage and wastage of water resources. Will the policy be in a position to help curb some of these wastages?** (LGSM) Yes, full accounting of all mine water will be carried out and charges for consumption will be levied. Repeated wasteful behaviour will be penalised through fines and possibly revoking of the water right.

Summary

The Kasane review group responses to the questions raised in this section from the stakeholder meetings did not come easily. For each response there was informed argument and a final negotiated agreement. The three day process away from Gaborone with no mobile phones was intensive and built a high level of support for the reforms.... an AC of experts establishing their secondary beliefs based on their specialist knowledge (Weible 2008). Only the representatives of the MoA were reticent on agreement when the section on farmers (Section 7.6.4) was negotiated, but finally concurred.

¹³⁸ Before mining can take place, water if present in the mine shaft, has to be removed to the surface and is left to evaporate in ponds. The impact of this on Botswana's ground water reserves has been the subject of NGO investigation. DEBSWANA has moved in 2013 to minimise its potable water use in its mines with use of desalinated water (KI 1). New mining operations for coal and other minerals will lead to dewatering of the mines and a policy on reuse of the dewatered water has not yet been tabled by GOB.

7.7 The Tabled National Water Policy, December 2012

Major delays inside cabinet

The water delivery reforms, through the extension of WUC responsibility for WSS throughout the country, went ahead unchanged from that laid out in the draft policy put forward (GOB 2010a). However, the water policy related to the introduction of the WRC to replace the WAB, and the water regulator legislation did not go ahead as planned. The timetable originally presented to the National Assembly in December 2010 envisaged “the approval of the draft National Water and Waste Water Policy by the end of the July 2011 Parliament sitting” (KI CGCS 5). This was “delayed by the Cabinet in May 2012 asking for more consultation, particularly about charging for extraction” (KI WEN 7).

The President authorised the water reform process during 2009 -12. A media report said in August 2012 that:

‘by micro-managing the country by means of whims, President Khama has disabled the Government of Botswana. The President may mean well, or he believes he does. However, his inter-meddling style of leadership has put the fear of God into the heads of senior civil servants, the wretched lot of whom now hesitate to take decisions on even the most mundane of matters. The result is that Batswana are literally helpless unless the President personally attends to the problem. Needless to say, this is untenable’

Source: MMEGI 7TH August 2012

But, despite Presidential approval, the agreement of the policy was still blocked in Cabinet. In August 2012, the Hon P Kekkilwe, seen as outside the Khama faction¹³⁹, was appointed as Vice President as well as remaining the Minister for

¹³⁹ Africa Confidential (53) 96: 9 6th August 2012

MMEWR, the sponsoring ministry for the water reforms. In October 2012 he relinquished his ministerial post at MMEWR to be succeeded by the Hon Mukaila, formerly Minister at MEWT, where his successor was the brother of the President, the Hon Tshekedi Khama. The MEWT Permanent Secretary was changed in January 2013 to Neil Fitt, close to the President and previously Director of the Agriculture Hub at MoA, and thus key to the water reforms there. These cabinet and civil service moves during August 2012-January 2013 appear to the Researcher in part to remove the potential blocks on the water policy from MEWT and from MoA, and to be in support of an advocacy coalition for WDM.

The Changes

A final water policy was tabled¹⁴⁰ in the Vote Office of the NA in December 2012 and circulated to all MPs, but debate in the NA was postponed to 2014. While the bulk of the draft policy survived the infighting in Cabinet, there were important changes:

- a) The independence of the WRC (renamed the Water Resource Board). This had been proposed to be separate from MMEWR but now became institutionally unchanged from the WAB (GOB 2012d:12).
- b) The ability to charge, through the WRC, mining companies or borehole syndicates /large agricultural users of groundwater for their volumetric groundwater use. Instead 'graduated flat abstraction fees shall be assessed for commercial, industrial, agricultural and other uses of water' (ibid: 17) But metering of all water abstractions would take place.

¹⁴⁰ All new bills and policy documents for approval by the NA go first to a Committee of the whole NA where they are introduced by the Minister concerned. In the case of the National Water Policy document, this did not happen in December 2012 as the minister was not available. No reason was given. The introduction was postponed to late 2013 (KI CGCS 6 May 2013).

- c) The removal of the absolute right to withdraw water rights. Licenses would instead be issued for a defined period which shall be subject to renewal. Renewal of the licenses 'should not be unduly denied'(ibid:4)
- d) The ability of WRC/WUC to charge the MoA for agricultural water supply to clusters of *malapa*. The original concept of irrigation being available for all year round crop cultivation has gone. The MoA has retained its prime role in the provision of water for agriculture and livestock farming.

In two long interviews held with the Researcher in May 2013, a senior Civil Servant in MMEWR, a prime mover of the new water policies, sought to de-emphasise the impact of these changes on the WRM policy as a whole. He felt on a) that to keep the new WRB chaired by the Permanent Secretary (PS) would give it a good start and enable a stronger WRM implementation than if it had been chaired and run independently. On the conflicts of interest there would now be on restricting allocation of water for WRM reasons to certain water users such as mining companies under the control of MMEWR, he felt it would be easier for the PS to broker a solution.

On b) he suggested that the key WRM tool of water metering of all boreholes had been accepted by Cabinet which gave the WRB under him the ability to charge a fee that was commensurate with usage and the potential damage to the aquifer being utilised.

He thought in the case of c) that the replacement of the words in the draft text that 'no authorisation for its [water] use shall be in perpetuity' with 'authorisation for a defined period' was much better to keep license holders in check. But he agreed that the legal meaning of a renewal of license 'not being unduly denied' would need to emphasise the need to protect fossil groundwater.

On d) it was suggested that it could evolve over time. The decision in March 2013 to allow cattle and crop cultivation at the *malapa* would lead to demand for

lapa boreholes to be less than 5 km apart (the current law). The only answer would be for clusters of *malapa* around one borehole, provided either by MoA or ultimately by WUC.

He felt that the Researcher, by concentrating on these four changes, was ignoring the success, after very long discussions in Cabinet, in achieving a strong WRM policy with teeth for Botswana. The policy had widespread support in the country following the consultations 2010-11. The final report of the BIRWM-WE would also be published in time to support the NA debates (see below). Cabinet had agreed a five year programme of tariff increases to eliminate the subsidy on water, with continuing protection for the poor through a steep stepped tariff. Within three weeks, the initial tariff change to a two tier national tariff was announced by the GOB and WUC (see Section 9.4.1.4 and Appendix Five). He further said there was agreement from the Botswana Association of Local Authorities (BALA) for pit latrine emptying to be handed over to local private contractors under paid for licenses with a national tariff. He felt there was an impetus for change.

In support of the WSS changes, he reiterated the great difficulties the WUC management had had with inheriting very poor infrastructure. The completion of the final transfer of areas to WUC in the North of Botswana had gone smoothly and WUC could now get on with the upgrade of WSS across all Botswana, rural and urban at the same high standards.

The acceptance by the NA of the final water policy with its austerity message of water scarcity and the need for WRM was not a foregone conclusion. But the period from the end of the main fieldwork in July 2011 had seen less rainfall. 2012/13, and 2013/14 were designated¹⁴¹ drought years by the GOB and this

¹⁴¹ The GOB announcement for 2013/14 was on 23rd July 2013 (<http://www.gov.bw/en/News/GOVT-DECLARES-DROUGHT-RELIEF-MEASURES/>). The view of KI was that this was done to enable the release of funding to traditional BDP supporters, rather than strictly justified by rainfall levels. These were at Gaborone July- June 09/10- 792mm; 10/11- 632mm; 11/12- 403mm; 12/13- 511mm. "Botswana never has a total national drought- even in the mid '60s, Ghanzi and Northern Kgalagadi had only a small deviation from their long

allowed the MoA to give additional support to farmers. The WUC brought in water restrictions on potable water in November 2012 and these were continued throughout 2013 with a blast of publicity in May 2013. The enforced rationing of water across the SE of Botswana during March- September 2013, due to the need for the maintenance of the North-South Carrier 1(NSCI), gave a sense of real concern. The glitzy inauguration of the NSCI in May 2013, the largest civil engineering project ever in Botswana at BP 1.6 billion, was neither attended by the President of Botswana nor the Permanent Secretary of MMEWR. There was a concerted effort to impress on Batswana the severity of the water situation.

7.8 The outcomes of the Botswana Integrated Water Resource Management–Water Efficiency (BIWRM-WE) process (April 2012–December 2013)

In Section 6.3.3, part 3, the BIWRM-WE process is described and in Table 6.5 the views of both the Water Reform Unit (WRU) of MMEWR and the Botswana Global Water Partnership (GWP) are analysed. The process continued from October 2010 to the completion of the field work in July 2011 but was always in the background, never in the foreground, for the water reform process as a whole. In a presentation¹⁴² made in April 2012, Mike Romaano, of the Kalahari Conservation Society (KCS) and coordinator of BIWRM-WE, claimed the BIWRM-WE process had drafted the National Water and Waste Water Policy in 2010, based on IWRM principles. The presentation is summarised in Box 7.2.

term seasonal norm. There are two distinct types of drought- arable and livestock. Arable is much more common. If sprouting crops go two weeks without rain in late February, for example, they are stunted. If they go three weeks they are wasted and only suitable as forage for cattle. The livestock drought varies depending on the extent of overgrazing to start with. On freehold farms with good paddocking, all the farmer really has to do is increase the rotation speed amongst the paddocks. His fail safe option is to de-stock, either by sales to the BMC (not popular since the cattle are lean by that time) or by moving the stock to a part of the country that is not so hard hit—Ghanzi farmers send cattle to the Molopo farms and Barolong farms; Tuli Block farmers do similar things” (KI WEN 5 July 2013). The Researcher reflects that, while this reaction may be true for commercial farmers, the possibility of small farmers to be able to do the same adaptation to drought is limited. Drought must hit the poor - and thus more vulnerable - farmer.

¹⁴² Available at <http://iwork.net/iw-projects/2864/newsletters/iwrn-we-achievements-best-practices-and-challenges>, accessed 27th July 2012

Box 7.2 The BIWRM-WE 2009-12 claimed outcomes

- Establishment of the Water Resources Council which will facilitate the implementation of the IWRM-WE plan
- Prioritisation and implementation of activities identified in the National Action Plan for the Okavango Basin
- Increased awareness and capacity of national and regional stakeholders (government, private sector and members of the public) to engage in the IWRM (planning and implementation) process through regional knowledge management initiatives
- Build capacity and increase awareness on IWRM in collaboration with SIWI and CapNet
- Put in place guidelines to facilitate IWRM implementation at local level and transboundary level
- Liquid Waste Management Guidelines for the country and the Okavango River Basin addressing pollution issues
- Demonstration Project: Water conservation through conjunctive use of Grey-water Re-use and harvested rainwater in schools within Botswana: A Pilot Case for IWRM and WE Plan Implementation.
- Uptake of the demonstration technologies encouraging esp. by the private sector e.g hotels (use of recycled water), DEBSWANA (storm water harvesting) and schools (rainwater harvesting)

Source: KCS Coordinator, 2012

The BIWRM-WE Plan was finally written up by CAR and jointly published by the GOB and UNDP and launched in December 2013 (DWA 2013). However, a number of the outcomes detailed in Box 7.2, derived from the Water Policy review process described in this Chapter, and not from the BIWRM-WE process, which was instigated after the outline of the reforms was decided in the WB review of the NWMR (GOBc 2006). Mike Romaano confirmed this and noted: “the lack of uptake of the IWRM concept and its implementation by other stakeholders, that is, agriculture, land authorities, and the Ministry of Foreign Affairs”. There was overlapping with “threats posed by the Water Sector Review initiatives as the environment [for the reforms] was continuously changing and [from this] the difficulty of synchronising national and trans-boundary initiatives as a lot is happening at basin level, but not at the same time” (ibid). He further noted the “delays in the disbursements of funds by the UN agency/ UNDP”. The Researcher witnessed the effect of these delays in holding up work on the water efficiency demonstration projects and in the Okavango Basin work. This delay

was not due to the local representatives of UNDP but came from UN New York bureaucracy. It meant the work went in fits and starts according to the disbursement patterns. Ideally, the Researcher reflects that IWRM national plans may be improved by being locally driven with full disbursement of ODA made on time against an agreed schedule. But the sign off should be from local stakeholders and not a UN New York based control system. The process that started in 2004 with the original application for funds by the GWP Botswana, took until 2010 to get started and, while welcomed by the water expert elite, was always seen as an outside overlay on the water reforms that were driven by a Botswana WRM and WSS agenda. However, where it endorsed that agenda, it was used in 2013-4 to provide an international and third party support in the political drive for acceptance of the GOB water reforms (KI CGCS 6)

7.9 Discussion of Key Issues in understanding the secondary beliefs within the Advocacy Coalition (AC) policy formation

The lack of interest of civil society in stakeholder engagement on the Water Policy reforms in Botswana in response to the Government initiatives (October 2010 - June 2011)

The drivers of change for WRM/WSS have not come from civil society. Section 2.3 records the perceived weakness of Botswana civil society, in part due to lack of external international donor funding for CSOs, with the near cessation of ODA since the 1990s¹⁴³. Other than the Churches, they were not among the drivers for change noted in Chapter Six. Their interest in the reforms was low as shown by the Researcher's interviews with CSO KIs. Consultation meetings were called but very few CSOs decided to attend to put forward their views. The exception is the role of the KCS advocating for water for the ecosystem and who were paid as the secretariat of the UNDP/GEF externally funded BIWRM-WE.

¹⁴³ The exception is CSOs dealing with HIV/AIDS where USAID funding has been significant.

The low level of co-operatives in Botswana is notable¹⁴⁴. The absence of any Water User Association (WUA) cooperatives was therefore in tune with this. The exception was that of the borehole syndicates¹⁴⁵; elite wealthy cattle owners, seen as sustaining the cultural Botswana icon of the cow (see Section 9.2).

The support for changes in employment with cuts in the DWA and LA and increased employment in WUC demonstrating support for the new AC from the Trade Unions

The increase in WUC employment from 850 to 3763 (planned) was against a net loss of over 1000 jobs in the water industry as a whole. The WUC recruitment was on the basis of merit, with the full support of the Trade Unions. While a 20% average pay increase for new recruits helped gain support for the change, it remained a remarkable public service management success in recruiting on merit, a cadre of trained and educated Batswana in what was until recently a very poor developing country.

The problems of updating the post independence legacy of WSS infrastructure as a set back to the new AC

The WUC took over a WSS infrastructure that was up to 50 years old and of poor quality. Connections to the water mains had often been allowed to be done by individual consumers with no supervision and with resulting high leakage rates. Very little investment had been made since the initial installation of water mains and, in the rush to take over from the DWA and district councils, no prior planning of capital investment needs was done in any detail. In the circumstances the water and sanitation reforms could not be seen as delivering an immediate improvement in WSS over the previous provision.

¹⁴⁴ This was recognised by GOB with legislation in support of co-operatives in 2013

¹⁴⁵ Borehole syndicates are not defined as co-operatives within the Botswana legal system and are thus not allowed to operate within the co-operative financial mechanisms. This is explored in Section 9.5

Botswana Integrated Water Resource Management (BIWRM-WE) process concentrating on Water Efficiency in support of the new AC

This process should have started in 2004 but awaited external UNDP funding until 2010 and thus started after the MMEWR driven WRM reforms. As such it had a weak impact. The donor emphasis on TBWCs and, at the lowest level, WUA involvement did not chime with the centralising National vision of the water reforms.

The setbacks to the AC and the compromise in Cabinet

The WSS reform process continued unabated 2009-13 and was completed. The water reforms review elite, shown in their views on WRM at the Kasane meeting, were uncompromising in staying with the original reforms. But, despite the view of the President being all powerful and able to force through his policies, it was notable that there was a delay of nearly three years on agreeing the final policy on WRM. Cabinet democracy was real, over the case of water sector reform process, in Botswana in 2011-14. The compromise on groundwater charging, but with mandatory monitoring of usage, could be seen as a stepped approach to WRM.

7.10 Chapter Summary

This Chapter has examined the nature of the WRM and WSS reforms. These are proposed to originate from a new AC led by the President described in Chapter Six. The water reforms were proposed to be based on equity, efficiency and sustainability and were worked through in detail in a stakeholder process of consultation and finally negotiations in Cabinet. The strength of that consultation and the nature of the coalition are explored in Chapters Eight and Nine. Chapter Eight explores the changes from the viewpoints of traditional and local government institutions. Chapter Nine looks at the policy choices and actions from the water reforms that could impact on the poor in Botswana.

Chapter Eight: What are the outcomes of the reform process in terms of institutional responsibility for WRM and WSS?

8.1 Introduction

This Chapter seeks to understand the changes in the delivery of Water Resource Management (WRM) and Water and Sanitation Services (WSS) in the post Independence Advocacy Coalition (AC) and then in the new AC which could be perceived to have driven the water reforms since 2009. It examines the interplay between traditional and modern governmental structures (Section 8.2), and local authorities and central government and other institutions (Section 8.3), in the delivery of WRM and WSS in Botswana. It closes with an analysis of views from Batswana on these changes, particularly the centralising of power under the Water Utilities Corporation (WUC) on WSS from 2009. The data sources are described in Appendix Three (E)

8.2 How have the traditional forms of government reacted to the change in their authority over land and water brought about by the elected government in Botswana?

8.2.1 Traditional authority structures for water management

The pre-Independence AC was based around the tribal structure for the Tswana (as noted in Section 2.3.) which has always been centralised around the Chief and his¹⁴⁶ family who, subject to the overriding final power of the people expressed through the *kgotla*, had power over water and sanitation management. After the 1885 declaration of UK protection, the “tribal authorities were allowed [to have] maximum independence in their tribal areas to maintain the rule of law and order” (CS 2011:19). The traditional elite were left in control. In its 1965 Independence Election Manifesto, the Botswana Democratic Party (BDP) committed itself to a ‘gradual but sure evolution of a national state in

¹⁴⁶ Since Independence in 1966, the position of chief has been filled in three cases by women

Bechuanaland, to which tribal groups will, while they remain in existence, take a secondary place. This is an unavoidable development; an evolutionary law to which we must yield to survive or resist and disappear as a people' (Parsons 1984:43).

The AC of interests represented by the power of the chiefs thus clashed with the new AC of interests represented by those elected to power. 'The traditional elite and the new elite represented two contrasting world views – one traditional-authoritarian and the other Christian-liberal tending towards a democratic system of government. These [world views] were evident in the Advisory Council [in 1965] which had brought the modern and traditional elites together as advisers to [the outgoing Colonial] Government' (Sebubudu and Molutsi 2011:13)

8.2.2 The post independence interplay – governance in parallel

The post independence (post 1966), AC structure which controlled WRM and WSS (Figure 5.1), shows the retention of both the tribal institutions and the colonial institution of the DC, overlaid by the then newly elected institutions of local members of the new NA and the new local authorities. There was what has been called a 'parallel or dual political system with both hereditary chiefs and elected officials' (Durham 1999:193).

At the national level, the establishment of the House of Chiefs as a second chamber within the constitution alongside the elected NA brought together the traditional and modern in delivering legislation for the new state of Botswana. But as the second President of Botswana in his autobiography makes clear again and again, he and the founding President HE Seretse Khama, did not see the Chiefs as having legislative powers (Masire 2005). The extinguishing of tribal power of land allocation in the passing of the Tribal Land Act (1968) and subsequent legislation in 1992, did not engage in the issue of riparian rights under the land. This was covered in the Water Act (1968) which formally took

away the responsibilities of the individual Chiefs on water rights and handed them to the national Water Apportionment Board (WAB).

A similar constitutional settlement on the traditional and modern forms of government, impinging on the provision of WSS, was reached in the post apartheid constitutions of South Africa¹⁴⁷ and Namibia, in the 1990s, building on the experience of Botswana. However neither country had embedded, in their consultative mechanisms, the concept of *kgotla* based, chief led, village meetings for traditional patterns of bottom-up participation in change.

At the local authority (LA) level in Botswana, the power of the Chief remained high, often based on the Chief's persona and the deference to the Chief expressed by the elected LA members. Sandy Grant, as a commentator on the interplay in Kgatleng District and Tribal Adminitstration(TA), is quoted as saying in 1981 that the LA 'cannot function adequately if the Chief Linchwe II opposes it; Linchwe's power has been steadily increasing since Independence when in theory he has been losing it' (Grant, quoted in Tordoff 1988:196). The Chiefs' influence remained high over both District Council provision of WSS and also through his powers of adjudication over land disputes and therefore borehole allocation and borehole policy (Key Informant (KI) TAC 1). The resilience of the institution, as measured in the Afrobarometer survey of 2008-9 remains high (Logan 2013: 363 Figure 4)

¹⁴⁷ The Traditional Courts Bill in South Africa sought to replicate the Botswana system of customary courts. It was tabled in the South Africa parliament in 2008 and was to be operational from 2013. However, it has been subject to challenge as unconstitutional by civil rights groups who believe it does not allow equal rights to women. It also differs from the Botswana position in not allowing the option to try legal cases in either customary or mainstream courts (reported in IPS 28th May 2012 "South Africa Traditional Courts Bill impairs the rights of 12 million rural women")

8.2.3 What happened following the implementation of the new post-2009 AC?

As has been explained in Section 7.5, the changes to the delivery of WSS were not formally reported, prior to their introduction in 2009, or subsequently, to the House of Chiefs for comment. In November 2010 a presentation of the full water reforms, including those for WRM, was made to the House of Chiefs and in December 2010 to the all party caucus of the National Assembly (NA) (at which the Researcher was present).

But the proposed changes were explained from 2009, *kgotla* by *kgotla*, across Botswana, by both Ministers and senior civil servants (Photograph 8.1). Each settlement has a *kgotla* (neutral meeting place, the location of the TA) and the *kgotla* meetings are advertised well ahead and open to all. The meetings were moved when requested to evenings and weekends to enable working people to attend after work (KI TAC1). The high level of understanding of the reforms was registered both in Table 7.2 of KIs and in the understanding by the Focus Groups (FGs) analysed later in this Chapter. The Kgatleng District *Kgotla* meetings at Olifants Drift in December 2010 and at Artesia in June 2011 were both addressed by the then Minister for Mining, Energy and Water Resources (MMEWR) the Hon. P. Kekilwe MP. Questions were answered at length by the Minister and the WUC representatives. “The TA organises *kgotla* meetings for the WUC and [Government] Ministers to explain the WSS changes. WUC uses the headmen in each area as the conduit for information and complaints” (KI TAC 1).

This intensive *kgotla* by *kgotla* explanation of the reforms and need for Water Demand Management (WDM) was a move by the central government elite to ensure the traditional elite embraced the reforms and, it could be argued, were embraced within an advocacy coalition for change. The traditional leadership role remains. The role of the rainmaker may have vanished but “the *Kgosi* (tribal leader at all levels) still announces the commencement of the ploughing season

in the kgotla, not waiting for the coming of rain but when it is coming. It is normally in November or early December" (KI TAC1).

While there was no major disagreement but rather an embrace of the water reforms, there was a break in 2010-11 in the coalition of the traditional and elected government over the reduced role of the Chiefs over land, and thus water, since the 1966 independence settlement. This came from the *Kgosi* of the BaKgatla, traditional rulers of the Kgatleng tribal area and thus Kgatleng District¹⁴⁸. *Kgosi* Linchwe II¹⁴⁹ died in 2009 and his son Kgafela, a human rights lawyer, succeeded to the throne and was endorsed by the President of Botswana.

However, the new *Kgosi*, advised by among others, Unity Dow, a High Court Judge, decided to challenge the diminished role of the Chief and he refused to act as Chief and receive salary as such. The Chief up until Independence had the main responsibility for WRM and WSS in Kgatleng District. "The court case instigated by *Kgosi* Kgafela in Sept 2011 [sought] to negate that Independence Constitution and return all power, including that over land and water, to the Chiefs" (KI TAC 1). He sought to get support country wide from all the Chiefs during the period September 2010 to March 2012. Prior to independence, the *Kgosi* allocated land and water rights in his area. *Kgosi* Kgafela of the Bakgatla further challenged the Government in 2011 over its power on land allocation through the Land Boards which at independence (1966) took over land allocation from the Chiefs. The WAB subsequently took over water rights allocation in 1968. But, without ownership of the land, no water rights could be issued. The Land Board was thus the vital first step to gaining water rights. *Kgosi* Kgafela (as with all Chiefs) was entitled to be an ex officio member of both the KDLB and KDC but with no voting powers. "The tribal administration

¹⁴⁸ He further ruled the Bakgatla in SA where 320,000 tribal members lived around Moruleng in the Moses Kotane Local Municipality (MKLM) in NW SA (Hamilton 2012)

¹⁴⁹ Linchwe II was in opposition to the BDP at independence and campaigned against the removal of Chiefly power. The opposition party, the Botswana National Front (BNF), was launched in Mochudi in 1965. (Picard 1987:156)

has to sign off all allocations for land going to the KDLB for decision but has no veto" (KI LBCS 1).



Photograph 8.1 The Mochudi *Kgotla* in operation, May 2011

"I [the Subchief in Mochudi] discuss (as does *Kgosi Kgafela*) cases with the Land Board Secretary, but I do not have a veto. The proposals (from the GOB to have *bogosi* (chiefs) as observers, not voting, on Land Boards, are not accepted by *Kgosi Kgafela* as he felt he should have a veto, as the Independence Constitution is not legal, as there was no consultation with the Chiefs, before its adoption" (KI TAC 1).

The *bogosi* were not represented on, or consulted by, the KDLB after December 2011, as all the chiefs and subchiefs appointed by *Kgosi Kgafela*, had been stripped by the GOB of official recognition as a result of his challenge to the Constitution. In May 2012, the KDLB removed Bakgatla from land at Mmamashia in Kgatleng District on the basis that they were occupying the land

unlawfully. The Bakgatla concerned said they had been allocated the land pre-independence by Chief Linchwe II and, if the *Bogosi* had been consulted, the Land Board would have known that. *Kgosi Kgafela* is quoted as stating “The government does not have power over Bakgatla land. We should chase them [the Land Board officers] out of Kgatleng. You [the Bakgatla] should unite and approach the Land Board as a united front; else it will take all the land and allocate it to foreigners¹⁵⁰” (Botswana Gazette, 24th May 2012:1). In April 2013, at a Bokaa (KD) *kgotla* meeting, the President moved to ameliorate the tension and is reported in the Daily News, as stating that ‘Tribes should have first call on land allocated by LB in each TA’. However, water rights remained under the national WAB.

A senior Chief commented in 2011 that “the main current [post the water reforms of 2009] role [of the Chiefs] is to adjudicate on cases that arise on borehole syndicate disputes where members of syndicates seek a settlement” (KI TAC 1). The *Kgosi Kgafela* has large land holdings in the NW of the KDC area where he has cattle ranches. He sought to expropriate additional land in the NE of the District for a proposed game reserve “to bring work for the Bakgatla through ranching and tourism” (ibid). This would have resulted in a number of residents losing their lands, and water rights to 13 boreholes allocated to them by the KDLB, and this expropriation was opposed at *Kgotla* meetings¹⁵¹. This issue is further pursued in Chapter Nine, looking at the actual and possible impact of the water reforms on cattle post water provision.

Kgosi Kgafela’s case to the National Courts for the overturning of the Botswana constitution, made concurrently on the legal basis that there had been no chiefly agreement at the loss of their powers under the post Independence Constitution, was finally dismissed in March 2012. Unity Dow withdrew her support for the case in early 2011 (KI J1). The *Kgosi* decided in December 2011

¹⁵⁰ In April 2013, President Khama announced a change in Bokaa, Kgatleng District: ‘ a majority of plots will be allocated to native residents of a particular area’ Daily News April 26th 2013:1

¹⁵¹ According to the Sub Chief (KI TAC 1), “only 3 boreholes but there may be more due to the fencing”

not to receive Government Ministers at the Mochudi *Kgotla* or any other *kgotla* in Kgatleng District. The GOB stripped the *Kgosi* of his GOB designation as the Bakgatla chief and asked the Bakgatla to choose another Chief, but they still have not done so by 2013.

Despite the boycott of meetings by the Bakgatla Chief and Subchiefs, the Kgatleng area *kgotlas* continued to disseminate information on, among other things, the progress of the water reforms. These *kgotla* meetings were run by the TA functionaries under the Ministry of Local Government (MLG) but the meetings seemed to be genuine and kept the Kgatleng Batswana stakeholders consulted on the progress of the WSS reforms

8.2.4 How does Botswana society expressed in the KI views perceive the 2009 water reform changes on the importance of traditional leaders?

1) KI views of the 2009 water reforms and their impact on the role of traditional leaders

Overall there is very little difference in KI views before and after the reforms. The position of the private sector (particularly the mining sector) and the water experts is that the traditional forms of government remain key to ensuring that water concerns are dealt with. It is insufficient to simply obtain the water rights from the WAB and ignore the role of the chiefs and the importance of customary law. “All land used by DEBSWANA was previously tribal land and is leased for periods of 25 years. Compensation is given to the Land Boards and the TA and that is continuing into the future. DEBSWANA would meet with the Chief in conjunction with the Land Board when applying to prospect in order to gain their agreement” (KI I.1). Where the industry is based in the city, the link is not there, as in the case of Kgalagadi Breweries which negotiates direct with the WUC for its water needs (KI I.3).

The *kgosi* KIs see a continuing important role, despite the changes. As one respondent explains, for example, “the Chief and the TA organise *kgotla*

meetings for the WUC/Ministers to explain WSS changes. WUC uses the headmen in each area as the conduit for information and complaints" (KI TAC 1). As such, the main interface to consult with local stakeholders remains with the traditional form of government¹⁵².

At a FG held for newspaper reporters¹⁵³, there was some irritation expressed at this communication strategy. They felt that the use of the chiefs and the *kgotlas* was anachronistic and should be abandoned "We do not go the the *kgotlas*.... only old people and those not working go. None of us attend the five *kgotlas* in Gabs where we live. We should be consulted through our cell phones as we get holiday safety measures that way already". But the owner of the main national weekly newspaper disagreed. "The meetings at the *kgotlas* are advertised ahead and are now held in the late afternoon and at weekends to enable those working to go to make their views known. The local *kgotla* is where you go to take up issues which are dealt with at the village level" (KI M 1). The government media spokesman makes the point that "at the *kgotla*, rich and poor have easy access to those involved in the water reforms. The President and the senior ministers spend many weekends at the village *kgotlas*, with the local chiefs and headmen, listening to everyone and dealing with their concerns".

Local Government also had to engage with the *kgotla* system, which is non-political¹⁵⁴ and open to all to obtain redress. The lower overall ranking in Table 8.1 by local government KI of the importance of traditional forms of government may come from the irritation of the constraints imposed by the perceived need for consultation through the *kgotla*.

¹⁵² The high opinion among Batswana on the continued importance of traditional *kgosi* alongside a commitment to democracy in Botswana was confirmed by a 2013 Afrobarometer survey available at

http://www.afrobarometer.org/files/documents/press_release/bot_r5_pr10.pdf accessed 17th May 2013

¹⁵³ This was held at the offices of the largest (by circulation) newspaper in Botswana 'The Voice' 4th December 2010

¹⁵⁴ The *kgotla* area is not used at elections for political campaigning to get elected to "modern" local and central government. A separate area has been designated for political campaigning in each village since Independence in 1966 known as the 'freedom square'. Chiefs and Headmen are required under the constitution to be non-political.

Key Informants:	Private Sector (2)	Civil Service (6)	CSO (4)	Local Govt (5)	Kgosi (3)	Water experts (7)	Media (2)	Mean (29)
Importance of Role of Customary Law/Chiefs: Pre-reform	6	4	5	4	7	6	5	5
Importance of Role of Customary Law/Chiefs: Post-reform	6	4	4	3.5	7	6	5	5

Likert scale of 0-7 is used where 0 is no importance and 7 is very important

Table 8.1 KI Views on the importance of customary law and the role of Chiefs on WRM and WSS in Botswana before and after the 2009 changes.

Source: KII interviews September 2010-July 2011

The Researcher accompanied the then Chairman of Kgatleng District Council (KDC), Cllr Stephen Makhura to a *kgotla* meeting at Olifants Drift hosted by the Subchief and the Headmen of the village in March 2011 (Photographs 8.2 and 8.3). The four hour meeting (0800-1200) was opened by and run by the Subchief, the senior representative of the TA in the village. The Chair of the Village Development Committee¹⁵⁵ (VDC) spoke first, followed by a large number of the villagers. The Chairman of KDC had all his senior heads of department with him to answer the questions. The Researcher reflects on the

¹⁵⁵ This was a lady. Until Independence the rights of women to speak at *kgotla* meetings were very restricted and it was expected that men only could speak. It is still normal at *kgotla* meetings for women to speak after men have been called. However, female speakers were in no sense constrained and were given a full hearing.

high level of accountability and the extent to the AC of change on WSS was accepted at this and the other *kgotla* meetings he attended.



Photograph 8.2 Interior view of the debate on WSS reforms at the Olifants Drift *Kgotla* (March 2011)

The lower rating of importance given by civil servants to the role of chiefs (Table 8.1) may again reflect the requirement by the GOB for civil servants to utilise the chiefs and the *kgotla* system to explain and resolve issues with consumers, on the working out of the water reforms. The researcher recorded that the WUC representative was summoned to appear at the Mochudi *Kgotla* on a number of occasions to answer for the WUC performance. If there was a need to restrict the provision of water to allow repairs to the water lines, it was to the *kgotla* that the WUC representative had to go. When the Government Minister or senior civil servant went to speak on the WSS reforms at the *kgotla*, the local WUC officials provided the briefing sheets to the Minister and were on hand at the *kgotla* for the follow up¹⁵⁶. The media saw the interplay between the GOB and the Chiefs on the water reforms being resolved in the *kgotla*. The national GOB owned media, the Daily News (with free delivery across Botswana) and

¹⁵⁶ This was seen at the Rasesa *Kgotla* meeting in March 2011

Botswana Radio and Television, featured *kgotla* meetings each day and night in the news broadcasts. The weather forecasts of rain or no rain were preceded each night by a commentary from the village *kgotla*, chosen that day by the President or Ministers, to urge the community led by the Chief to mitigate either the flood or drought conditions.



Photograph 8.3 The then Chairman of KDC addressing the Olifants Drift *kgotla* meeting (March 2011)

All the key informants spoke of the continued interplay of traditional and modern forms of government in providing at the most devolved level of responsibility within Botswana, a consultative mechanism on the water reforms and in doing so, provided a voice for the very poorest members of the community, both men and women. In the latter case, this was the key way to ensure that female

concerns on the water reforms in the village were heard and acted on¹⁵⁷. This consultative mechanism built on the continued deep underlying beliefs of the Batswana on the involvement of the chiefs in a matter as important as water. This could be seen as a building block towards a new advocacy coalition for the changes.

2) The FGs' views of the 2009 water reforms and their impact on the role of the traditional leaders

In Gaborone, the role of traditional rulers is diluted. The location of Gaborone was chosen as the capital in 1964 in part because the land was not claimed by any of the eight main Tswana tribes. It is thus neutral ground. The institutions of customary law are still available through the Court Presidents (CP) in each area of Gaborone but the CP is appointed from a range of tribal backgrounds. The CP for Old Naledi was a BaKgatla but this was secondary to his power as the appointed representative of the TA and thus the GOB. His female deputy was from Maun in the North. He had no responsibilities for dealing with WSS issues and the FG respondents concurred with this. They went direct to the WUC or GCC or through the councillors (GCC) or the local MP (NA). But the five *kgotlas* across Gaborone were still used as the consultative medium between the GOB, the WUC and the water users.

In Kgatleng District, the respondents still saw the traditional rulers as their mediators with the WUC, who had to come to the *kgotlas* and, in front of the Chief, had made promises: "There is nowhere else to go. We go there, where you heard Bakgatla telling you, we go. We cry to them. The first thing is that we have our leaders and when it becomes tough we say, Bakgatla, we have run out of water then they run to those who give us water and say, Bakgatla are thirsty and that is when they would give us water" (FGMO 2).

¹⁵⁷ The Dublin Principles require that women's views are taken account of in any changes on WRM and WSS and this is committed to in the draft water policy (GOB 2010a)

Summary

There was a constraint on the power of central government experts over the WRM and WSS reforms by the continued consultative power of the traditional leaders. This was largely unwritten in the Constitution but was real on the ground. The statutory courts may be the medium for action by the WUC on miscreant users of WSS. However, the customary law exercised through the TA, was still recognised in its traditional arbitration role on land ownership and water rights, particularly in the individual land rights of the *masimo* (farmlands) and in common lands of the *maruka* (common grazing areas) (KI I.1)

8.3 What has been the response of local government to the change in their powers on WSS ? How was the centralising of power on WSS becoming accepted in Botswana?

8.3.1 South African approaches to decentralisation to local government for WSS

The problems of WSS delivery by local government (LG) in South Africa were cited by a number of policy makers as a reason for Botswana to move towards centralisation of WSS functions (SAHCR 2014). The so-called 'toilet' local elections in South Africa (SA) in May 2011, (repeated again in the General Election of 2014), focused on the failure of WSS delivery by local government, with the centralised water ministry providing, as proposed in Botswana, the WRM functions. There has been questioning of the permanence of the advances being made. It is reported that 'about two thirds of rural water projects in South Africa are currently not working. As fast as new projects are being launched, established projects are reported to be breaking down' (Johnson 2010:104). The critique is that as 'a water- shortage [sic] country, the [South Africa] government had hopelessly mismanaged its inheritance of dams, pipelines, pumps and treatment facilities. No less than 43% of the dams „, were unsafe and required urgent care. Immediate intervention was needed at 30% of all municipal wastewater treatment plants to prevent further outbreaks of

waterborne diseases such as typhoid' (ibid: 480). The South African government claimed ahead of the 2014 Election that 'an additional 176 million litres of drinkable water day was available for South Africans to consume, thetough new or expanded water treatment plants that were completed'¹⁵⁸ Could the SA problem on the WSS delivery be the delivery mechanism itself?

ICLEI /LoGo IWRM Survey 2008

The International Council for Local Environmental Initiatives (ICLEI) organised the Local Government (LoGo) water project between 2005 and 2008. It explored the use of IWRM at the local level in Southern Africa (ICLEI 2008). ICLEI recognised that that there were 'various institutional levels within the water governance framework. These [were] organised according to administrative and hydrological boundaries. They include international organisations such as SADC, RBO commissions at the trans-boundary river basin level, national and provincial government departments at the country level and catchment councils or agencies. These institutions are responsible for the development of policy, legislation and institutional framework within which Integrated Water Resource Management (IWRM) is undertaken. *Local government is seldom represented at these levels and does not have a direct mandate for water resource management* [researcher's emphasis] (ICLEI 1:13). The ICLEI research goes on to espouse a twin track approach for IWRM at the local level and then beyond this (Figure 8.1).

The ICLEI report pointed out the then current (2008) failure of South Africa[n] local government to collect the water arrears, amounting in 2007 to R 28.5 Bn. (ICLEI 2008 1:18). It cited a loss of 29% of the water supplied but not charged for, in 62 municipalities in South Africa (ibid 1:5) and the sewerage problems of local authorities in KwaZulu Natal province (ibid 1:19). But it also pointed out a success story in Durban/ Ethekwini on sewage treatment.¹⁵⁹.

¹⁵⁸ PICC advertisement in Cape Times March 14th 2014,11

¹⁵⁹ This subsequently led to the WUC seeing Durban as the exemplar on sewerage treatment

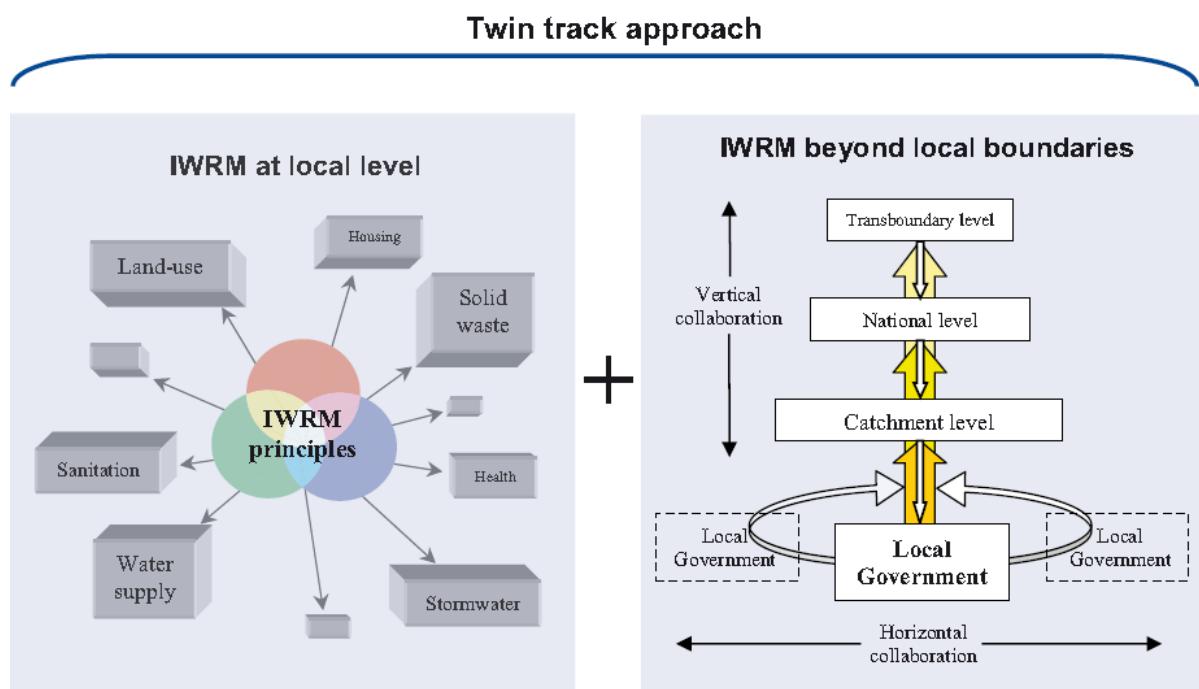


Figure 8.1 IWRM from the point of view of the local level of government.

Source: ICLEI LoGo Report 2008 1:13

The ICLEI/LoGo project worked in Botswana with Selebi-Phikwe Town Council and the Serowe/ Palapye Sub-District, utilising the Kalahari Conservation Society (KCS) knowledge on IWRM. The work provided a context for the Botswana Integrated Water Resource Management-Water Efficiency (BIWRM-WE) initiative in 2009 again organised by KCS. The reason given for the choice of locations was the river system flowing through both Botswana towns, albeit ephemeral, ending in the Limpopo River. The position of the towns in the large powerful Central District, home of the first and fourth (and current) President of the Republic, may also have played its part. It is noticeable that the major Botswana perennial river system that flows into the Limpopo is the River Notwane, flowing through Gaborone and Kgalagadi District. It was not covered in the data collection in this project.

The records of the ICLEI/LoGo research held at KCS in Gaborone into the two studies in Botswana are sparse, but they do record the enthusiasm of local government officials, seen as central to the delivery of WSS in their areas. The

respondents were not representative of the elected politicians or of senior civil servants for the areas. They were instead the senior Town Planner from Selebi-Phikwe Town Council and the District Officer, Lands for the Serowe-Palapye Sub-district. It could be said that ICLEI under-resourced the collection of the Botswana data. The subsequent BALA survey in 2010 showed that Central District and the two towns examined had not followed through on a local IWRM plan (KI LGCS 3).

8.3.2 Engagement in Botswana by elected LAs, the Department of Water Affairs (DWA) and the WUC on WSS before the 2009 Reforms

The engagement on WSS, before 2009, of elected local authorities with central government, could be seen as complex and almost baffling, but in its richness it could be seen as a democratic outcome which was both resilient and robust (Swatuk 2008). However it appeared that there was a lack of clear accountability for WSS. The Botswana Association of Local Authorities (BALA) formed an institutional forum for local authorities, both politicians and civil servants, to be represented to central government but the views were filtered through the sponsoring central government Ministry of Local Government (MLG).

Further weakening of local accountability came from the nature of the central government run Unified Local Government Service (ULGS) which was and is centrally recruited, and staff allocated on merit throughout Botswana. It has been said 'most of those who wield power in the Districts belong to the same [GOB] politico-bureaucratic elite group sharing similar values, interests and objectives. Whether they are civil servants of the District administration, or either elected or appointed members of the LA – the Councils, the Land Boards or the TA – while a relevant question - is less important than their association with a powerful [GOB] socio-economic elite' (Wynn Reilly quoted in Picard 1987:197). The observations during fieldwork support that view of an elite centrally controlled civil service with allegiance to the national Government through the ULGS.

A) Country wide views on WSS 1966-2009

Section 5.4 has explained that, post independence, local government had the role of delivering WSS to areas outside the towns and major villages. Local supply of untreated water was provided by the MMEWR/DWA and the WUC. The local authority was able to augment these supplies by drilling their own boreholes. Standpipes to provide unlimited free water were erected, after Independence, progressively across Botswana in all villages, enabling the 97% achievement of access to water with only very rural dwellers unable to access potable water (UNICEF/WHO 2012). The latter, designated remote area dwellers (RAD), who were often from the minority tribes such as the Basarwa, were supplied by LA water ‘bowsers’ (water tankers) as “they were seen as uneconomic to be supplied in any other way” (KI LGP 3). The MLG reimbursed local authorities for the costs of the standpipes and the water. Individuals took water not only for their personal needs but also their livestock in the village, and used donkey carts loaded with filled water containers for transport to the lands and the cattle posts. Local entrepreneurs also filled up at the standpipes and sold the water on. Fieldwork observations found the wider role of water entrepreneurs on the numerous visits to the environs of the Gaborone Dam where large tankers were continually filling up from the Dam or its feeder streams. But it is possible that, unlike elsewhere in SSA, there has been free water available for nearly all Batswana through the standpipe system

Sanitation was overwhelmingly ¹⁶⁰ self provided pit latrines (SPPL) in *malapa* or at the *kgotla* by the TA. The planning agreement for location was agreed by the LA, together with the local arm of the Department of Waste Management (DWM/ MEWT). Despite the potential impact of their siting, potentially polluting the aquifers, there was no clearance mechanism at either local or national level with DWA/MMEWR. Examples of this given to the Researcher were the closure

¹⁶⁰ Water borne sewerage systems were available in limited areas of the towns and larger villages but because of cost were not often taken up: “It is their choice” (KI CGCS1)

after pollution by SPPLs of the Ramotswa aquifer SE of Gaborone¹⁶¹ and problems in the Ghanzi area (KI CGCS 3). The RAMSAR designation of the Okavango River Delta, campaigned for by Ministry of the Environment, Wildlife and Tourism (MEWT), has led to problems in the agreement between central government and local government on the provision of WSS.¹⁶²

The recurrent droughts led to water demand controls over household and livelihood use. The controls, laid down by central government, were imposed locally through the local government structures. The village voice was seen to be expressed post independence through the establishment of Village Development Committees (VDC). While the committees met at the *kgotla* in each village, they had a stakeholder membership, encompassing both the traditional headmen representing the tribal organisation and elected/appointees of the political parties represented at the District Council. It has a role in identifying the candidates for free water, electricity and housing under the Destitute legislation of 2002 (see Chapter Nine). However it is unclear how successful VDCs have been in delivering grassroots bottom up participatory responsive planning of the District Development Plan (DDP) (and within that of WSS) (Mokwena 2009:25). But the concept of the VDC has the ‘potential’ to deliver this (*ibid*). Concern was expressed by Minister Masisi in January 2013 on the lack of public accountability¹⁶³ of VDCs for their decisions and their projects but other voices called on VDCs to “stand up for the villages”¹⁶⁴. The VDCs, however flawed, do represent the poor, and the water users in the small villages had no separate voice. The WUC local representative would go to the

¹⁶¹ This was closed in the 1990s but partially reopened in August 2012 when the nitrate levels had fallen to acceptable drinking water levels (Botswana Daily News 3rd April 2012). It was fully reopened in 2014 with a dedicated treatment plant.

¹⁶² The extent to which water can be extracted from the Okavango Delta and the treated sewage water be put back into the Delta is in question. There has been a problem in the costs of the proposed water treatment plant in Maun inherited by MMEWR/WUC from the centrally driven tender process (KI GCS1).

¹⁶³ <http://www.dailynews.gov.bw/news-details.php?nid=375>

¹⁶⁴ <http://www.dailynews.gov.bw/news-details.php?nid=402>

local *kgotla* to meet both the sub-chief and the VDC to explain the actions of the WUC and to seek approval. The FG data used in this thesis came through the participation of the VDC in five of six FG areas.

In the DWA water administered areas in the large villages (such as Mochudi), there had been a Water Consultative Committee in each village, established since Independence, to ensure there could be discussions on water allocations and water reforms. Unfortunately, while the DWA and BALA both agree that this semi-formal structure existed, there were no records available to the Researcher as to what was discussed and what actions took place. When the WUC took over, it did not inherit strong local accountable water consumer committees either at the local or national level. As a result, no new WUAs were set up. WUC asserted “we can deal with that when we have got the situation under control” (KI WUCO 4). Still, in 2014, no WUA had been recognised by the WUC anywhere in Botswana.

B) Gaborone City Council (GCC) WSS 1966-2009

Potable water had been supplied by the WUC (and by its predecessor parastatal Gaborone Water Works) since the founding of the City in 1964. The establishment of the WUC in 1968, extended in 1970, codified an existing centrally delivered water service. Untreated water was provided by DWA/MMEWR initially via the Gaborone Dam (opened in 1964) and from the 1990s utilising other dams and the North–South Carrier (NSC) pipeline.

Responsibility for sanitation was that of the locally elected city council (GCC) under the regulatory eye of the MLG and DWM/MEWT. The new city was planned to have water-borne sanitation in all government buildings and the more expensive accommodation areas, but otherwise by individually paid for VIP pit latrines laid out in accordance with the planning department of GCC. There had been a growing perception after 2000 that there was corruption, particularly concerning ‘open tenders for the collection of water-borne waste through council-based vacuum tankers’ (Maundeni 2004: 28).

Piped potable water and water borne sewerage became available from the beginning to the 'Village' and 'Central' districts in Gaborone to serve the then new government functions. Water came from the Notwane River into the Gaborone Dam, augmented by Molatedi Dam water from South Africa as shown in Table 5.1. The treated effluent from the Gaborone sewage works was discharged in the continuation of the Notwane River flowing North into Kgatleng District and ultimately into the Limpopo River.

The WSS distribution showed a 'rich-poor feature [in] the early new capital' (Maundeni 2004:15). 'The policy of denying urban-based services such as home connected clean water [and] centralised sewerage systems to the poor areas marked differential local democracy within Gaborone in the colonial and early years of independence. Upgrading is now on and it's a painful exercise – plot owners are now legally required to connect water to their houses and standpipes have been disconnected; upgrading Old Naledi is leading to the relocation of some people who have lived there for many years' (ibid: 14). These changes are explored further in FG reports from Old Naledi (FGON) and Broadhurst (FGB) in Sections 8.3.1 and 8.3.2.

Consultation with Stakeholders in the GCC area before 2009

There were no formal arrangements for discussion with the WUC by users of WSS beyond the occasional breakfast meeting with larger users to explore their future needs (KI WUC 4). The Urban Development Committees (UDCs), the equivalent of the VDC structure in rural areas, were not consulted by the WUC. The role of the DC in mediating the response to WSS concerns to central government was diminished by the immediacy of the central government institutions residing in GCC area and seeing their right to decide over the heads of local institutions. The same diminution of consultative status to the WUC or to the GCC is repeated by civil society in Gaborone, which has 'very little interaction with the GCC councillors. [The BOONGO members] hardly ever attend council meetings and [had] never attended meetings of the UDC' (Maundeni 2004:36). It is likely that there was no attempt by the WUC to

engage with women or a CSO representing women. Emang Basadi¹⁶⁵, at their meeting with the Researcher, had no concept that they should be consulted.

C) Kgatleng District Council (KDC) WSS 1966-2009

Potable water was reticulated in Mochudi by the DWA/MMEWR and elsewhere in the KD by the LA. Standpipes were erected in each area to provide free unlimited water and it is on this basis that the high levels of access to water in Kgatleng District (and Botswana) have been achieved. This same potable water was loaded into drums and conveyed by donkey carts to the *masimos* or *moraka*.

The collection of water charges for that provided by KDC was the responsibility of KDC. While the charges were low (see Chapter Nine), the collection levels were also low (Table 8.1). This is stated to be because there was no incentive for KDC (or any other LAs) to collect the monies. The amounts were seen small and costly to collect. It is further alleged that the politicians, in their wish to be elected, did not press for the collection to be made from individuals or organisations potentially supporting their Party (KI M2).

Allocations of land by the Kgatleng District Land Board (KDLB), with the often challenged right to erect a house, did not take account of existing water reticulation lines. The KDC in authorising the reticulation of the water to the land, allowed the owner of the land to do their own connection (KI KDLB1). Latterly the KDC took monies from individuals who wanted KDC to do the connections, but then, having not done the work, repaid the money after a number of years (KI M2).

Delivery of sanitation in KDC was chiefly through pit latrines emptied by the KDC. As part of a development focus under District Development Plan 5, water-borne sanitation was made available by the DWA in central Mochudi. This

¹⁶⁵ The main Gender CSO in Botswana

involved the upgrading of Mochudi Water Works and the project was completed in 1999 by the DWA. It was handed over to the MLG and then delegated to KDC to administer, reticulate and charge fees for both connection and usage. This was extended from 2003 with the construction of secondary and tertiary sewerage lines and eight pumping stations (KDC 2002:14). The main users of this facility were public bodies such as district administration offices, schools and hospitals. There were very few private households connected. “It is their choice” commented a senior DWA WRU civil servant; “we do not force them to connect” (KI CGCS1).

The discharge of effluent from Gaborone Sewage Works from the GCC area was of great concern to KDC but no action was taken by the regulatory authority of the DWM/MMEWT¹⁶⁶. The perception of participants in the KD FG in 2004 was that ‘Gaborone City has constructed its dam in such a way that water flowing within the city, with its industrial pollutants, flows out into Notwane River, flowing into the Kgatleng District, providing polluted water and endangering the livestock industry in the district’ (BALA 2009:51). There was seen to be a direct confrontation between the politics of environmental planning for Gaborone City and its recipient, passive KDC neighbours. Official documents confirm that ‘the River villages are faced with poor water quality problems. Residents complain about the taste of water’ (ibid: 51). However ‘the water quality had been within WHO guidelines on potable water standards’ (ibid: 51).

Consultation with KDC Stakeholders by DWA and KDC before 2009

The decisions on WSS reticulation came down from the DWA and upwards from the VDC review to the District Commissioner (DC). The latter, in the District Development Committee (DDC), similarly reviewed progress on WSS at regular meetings of herself¹⁶⁷, the Chair of KDC (and Chief Executive), the Chair of KDLB and the Bakgatla Chief. The DWA met with the DDC on a regular

¹⁶⁶ This view had academic support (Mladenov 2005)

¹⁶⁷ The DC of Gaborone was a lady who moved in January 2011 to Kgatleng District as DC. She provided a critique to central government on the WUC progress on the water reforms.

basis normally monthly to discuss any concerns about the delivery of WSS in KDC. No Water User Associations (WUA) existed and this forum was the only one for discussion of wider agricultural, livestock or mining needs. The proposals for the Mmanabula coalfield and its needs for water were discussed at these meetings (see Colman2010)..

The dysfunctionality of the institutions that should have planned and reviewed the delivery of WSS in KD was recognised. 'Poor institutional coordination was a serious problem facing the public corporations such as the DWA, the KDLB and the (KDC) Town Planning Committee. The strong perception is that there is no shared responsibility for good governance between them (and) there was policy confusion between these institutions' (BALA 2009).

8.3.3 The Local Government response to the 2009+ AC Reforms

A) Countrywide

The position of local government is not entrenched in the Botswana constitution. It is the creature of subsidiary legislation (Commonwealth Secretariat 2011:51). While the GOB had expressed interest in decentralisation, and, in the case of WSS, before 2009 had done so, it was not codified in the Constitution, as the normal way forward for the delivery of services in Botswana (ibid: 52).

Decentralisation reforms were proposed in the Report on the Second Presidential Commission on the Local Government Structure in Botswana (2001), known as the Venson-Moitoi report. In the government's formal response in 2003, it 'rejected almost all of the recommendations that would have enhanced the authority and autonomy of the councils' (Poteete 2010:7).

Since his election in 2008, HE S K Ian Khama has placed the emphasis of Vision 2016 on better delivery of services (as shown in Chapter Six) in his prime role in pressing for the WRM and WSS reforms. He sees local government as inefficient (KI M2). Recent changes since then, involving recentralisation, besides the phased takeover of responsibility for WSS by the WUC, of

responsibility for primary health clinics from the councils to the MoH, the transfer of resource royalties related to tourism from the councils to the MEWT in 2008-2009 and the ‘planned transfer of responsibility for the education department to the Ministry of Education and Skills Development’ (Poteete 2010:9). Responsibility for the Self Help Housing Agency (SHAA) was moved from local councils to the Ministry of Housing in May 2012 (Botswana Gazette 9th May 2012). The progressive removal of WSS responsibilities could be seen as a part of a wider pattern of dealing with what was seen as the underperformance of local government¹⁶⁸.

The WSS changes arising from the NWMP and the NWMPR were imposed on LG (KI LGP1). The stakeholders’ meeting to inform¹⁶⁹ LG took place in Maun in October 2010. The process of the takeover of the villages’ supply by the WUC, from DWA and local councils, had commenced in 2009. At the Maun meeting, only LG officials were invited and there were no elected councillors present. This was explained by the Water Reform Unit (WRU) in that DWA/MMEWR ministers and civil servants had and would address council meetings in each area and that then the local politicians could ask their questions and get answers.

The BALA was asked to engage in a review of the provision of WSS across Africa¹⁷⁰. The BALA Finance Director, Mr Stephan Pheko, conducted surveys of Botswana LA views of WSS delivery in October 2010. But the GOB had little interest in the surveys as the decision had already been taken to irrevocably handover all WSS to the WUC in 2009, and the GOB had secured the support of civil servants both at the centre and at local government level for the WSS

¹⁶⁸ Centralisation of WSS to the WUC was proposed in the NWMPR (SMEC 2006) and fully pre-planned 2007-10. It could have been the catalyst for the other moves which appeared to have happened with almost no pre-planning such as the removal of health clinics from local government control in 2010 (KI M2).

¹⁶⁹ Officially to consult but the GOB presentation was “an information giving event” (KI LGCS 3). Points raised however did get aired at the Kasane Meeting of June 2011.

¹⁷⁰ This was part of a Pan-African survey organised by UCLGA and published in January 2011 and is available for Botswana, Namibia and SA in Appendix Five

changes. The building of the new advocacy coalition for change was made over a long period of consultation within the civil service, since the publication of the NWPR (SMEC 2006), before it was rolled out.

The outstanding uncollected debt owed to BALA member authorities was to be passed as a 'dowry' to WUC at the handover points (KI WB1). However, there is a view that much of this debt would never have been collected. In one year alone, 2009, the uncollected amount was BP20 million (Table 8.2). The KDC shortfall on collection was over 30 % (*ibid*). In addition, the billed totals in Table 8.2 from LAs were seen as low, compared to the amounts of water supplied by the WUC to LAs in 2009 (KI WUC1). Arrears going back many years had been left uncollected, because, it was said by councillors, "we do not have the money to employ debt collectors" (KI LGP 3). Compensation for payments already made for bulk water in the past by the MLG to the WUC was not agreed (KI BALA1).

There appeared to be a view of central government that these debts would not be fully recovered by LG and it was better to leave the outstanding debts to be recovered through the WUC accounts department. To emphasise that there had been a change to a central government parastatal, at the point of takeover, all residents in the area had to sign new contracts with the WUC to enable the continuation of WSS previously provided by either DWA or BALA members. All consumers, except destitutes, were expected to pay.

District Councils	M. PULA, 2008/2009 Actual collected	M. PULA, 2008/2009 Total billed to customers
Central	15.5	24.8
Chobe	0.3	0.5
Ghanzi	0.8	1.3
Kgalagadi	1.5	2.4
Kgatleng	1.4	2.2
Kweneng	3.9	6.2
Ngami	2.7	4.3
NE	2.3	3.7
SE	0.7	1.1
Southern	4.0	6.4
Total	33.1	53.0

Source: GOB 2010b: 5

Table 8.2 Water Bills 2008/9 Collected (Actual) and Billed (Potential)

B) Gaborone City Council (GCC) after the 2009 reforms

The WUC was the existing provider of potable water prior to 2009 WRM changes. The policies of the WUC in the GCC area appear to have been adopted elsewhere. This included a lack of systematic consultation with consumers, beyond an occasional meeting with large consumers (KI WUCO 4). There does not appear to be any criticism by consumers of a neglect of consultation in the GCC area. GCC officers met with the WUC on an informal

basis but there were no formal meetings, either privately or to which the public were invited.

The policies of the WUC in closing standpipes and pushing for house connections had been pursued for many years. Only the oldest part of Gaborone, Old Naledi, the location of the original labour camp for the building of Gaborone, remained almost wholly dependent on standpipes in 2010. The upgrading of WSS in Old Naledi 2010-13 is the backdrop to FGON in section 8.3.4..The policy of GCC to not pay WUC bills for the very poor or 'destitute'¹⁷¹, is explored further in Section 9.3.1.

The transfer of responsibility for water borne sewerage services from GCC to the WUC took place in March 2011. This was greeted with relief from the councillors (KI LGP 2). The sewerage system was considered to need upgrading. The contentious issue of payment for WSS connections for new building sites to the North of Gaborone were no longer of concern to councillors. At the Council meetings, the Researcher attended after the handover, the councillors now complained about the lack of action by the WUC to deal with matters that had been their (GCC) responsibility during the forty years before.

In February 2012, the GOB gave all responsibility for self provided pit latrine (SPPL) permits and emptying to the WUC with no notice. The WUC asked that GCC continue with the emptying of SPPL and all other pit latrines until 2013. The GCC had a backlog of collecting sewage from pit latrines around the city. It was reported that the 'GCC has a total of five vacuum tankers, but only two are functional while the rest are reported to be broken down. Pit latrines were full beyond capacity, leaving the public with no choice but to dump toilet waste illegally on the river bank and in the bushes'.¹⁷² The GCC Town Clerk (Technical Services), Lebuile Israel, is reported as saying disingenuously that

¹⁷¹ As defined in GOB 2002

¹⁷² Botswana Gazette 28th June 2012

“the WUC seemed not ready as the backlog has not been solved. The government asked the GCC to help the corporation from June until October [2012] while it gets ready to fully take over”.

The GCC was controlled from 2009 to 2012 by the Government Party, the BDP, and supported the changes on WSS delivery. From 2012 the GCC was controlled by opposition parties and then called on all Councils to resist the takeover of sewerage services by central government through the WUC.

“We [GCC] are challenged by the continuous directives we receive from central government. Such directives undermine the core principles of democracy as they are done without our consent. Water Utilities’ response to emergencies is very disturbing; the city is no longer habitable as we have sewerage drains spilling for over two to three days with no response. Ladies and gentlemen, how do we plan in such circumstances? The end result is loss of confidence in us by the community we represent. This kind of governance needs to be condemned”

Mayor of Gaborone, Cllr Haskins Nkaigwa
(Mmegi 4th July 2012)

But the Researcher heard councillors of all parties on the GCC, prior to the handover, wish for such a transfer of responsibility for sanitation to take place because of their inability to cope.

C) KDC response after the 2009 reforms

The KDC performance as a Council has been seen by observers in different ways. A 2004 KDC based workshop, held to enable stakeholders to critique the council, expressed concern on its performance (BALA 2009:49-67). In March 2011, KDC received the award for best performing council in Botswana for both 2009 and 2010 (out of 16 District Councils in Botswana). But the central government decision had already been made to remove all responsibility for

WSS from KDC. This had been put forward on the MMEWR website in 2009, for KD water responsibilities to be handed to the WUC in phase three on October 1st 2010. The then Minister for MMEWR, the Hon Kedikilwe MP addressed the Mochudi Kgotla in September 2010 (Olifants Drift in November 2010 and Morwa in May 2011). The MPs for Kgatleng East and West were formally briefed in December 2010 (see Section 7.5.1.). Following these meetings, the outcome was unchanged; national government policies of WSS were to be imposed on KD with no exceptions.

The WUC took over responsibility for water delivery in October 2010, water borne sewerage in March 2011 and pit latrines in January 2013. At the October 2010 water handover, the DWA and KDC and the national TU representatives were present along with the Researcher. No central government representatives were there, nor any KDC elected councillors or MPs. The KDC was represented by the Deputy Chief Executive.¹⁷³

A decision of central government to take away the outstanding money balances for water supplied before the handover (but paid for by KDC) was contentious. KDC had asked the MLG/GOB for compensation but there was none. In view of the low collection rates and subsequent need for write-offs by the WUC as uncollectable, this decision appears understandable (Table 8.2). But the problem at takeover was the lack of a common accounting system between the WUC and the KDC, to charge the water users, many of whom had never been pressed to pay before (KI WUCO 5). As is seen in the next Section, the concern of users after the takeover and the signing of new contracts with the WUC was how to pay. By June 2011 the WUC billing system was working in the KDC area but the bills that should have gone out regularly did not, and the balances became significant. The WUC management had to get involved in detailed user by user payment plans. The information on water users inherited from DWA and KDC did not include all users. WUC KD was involved, for the first few months, in mapping exactly who was receiving water supplies. A number of users'

¹⁷³ From May 2011, WUC GM for Kanye, Southern Province

houses were unoccupied much of the time, but still consuming significant water levels. This led to challenges over the size of the resultant water bills.

Government institutions and even commercial banks had to be chased to ensure payment of bills with threats of disconnection. Each WUC KD monthly management meeting had a list of significant non payers to be chased for payment. The poor planning of a single national billing system with the use of SAP dogged the WUC takeovers across Botswana until mid 2012. The fact that many consumers were receiving bills for the first time, and the wish by the WUC to cut off water supplies for non payment did not lead to a harmonious first 12 months of the takeover. The impact of this on the poor of KD, and Botswana as a whole, is explored in Chapter Nine.

The WUC took over the water borne sewerage responsibilities in March 2011 and all other sewerage from January 2012. The KDC had done minimal maintenance since the installation of the sewerage system by DWA/MMEWR in 2003. Beyond the government institutions in Mochudi, very few connections to private users had gone ahead. But the GOB, in its national legislation allowing the WUC to take over sewerage, had not empowered the WUC to charge for sewerage connections or use. Therefore beyond ensuring that the effluent disposal was at the now imposed central government standards of the MEWT, little expansion took place. As in the GCC area, collection from overflowing pit latrine sewage pits had been slow when it had been under the KDC control¹⁷⁴ and continued to be so.

The backlog of applications for water connections had been lengthened by KDC not going ahead with connections to their supply for the previous two years before the takeover in October 2010. The connections that had been allowed to be made were by consumers using their own piping and equipment. The WUC for KD thus inherited a non-standard, badly leaking household water supply¹⁷⁵.

¹⁷⁴ Cllr Mooketsi, then KDC Chairman, stated, 'The effluent removal service by KDC has not been satisfactory due to the persistent breakdown of our service vehicles and ...we have a long backlog to clear': Address to KDC Council 26th November 2012:16

¹⁷⁵ In a speech to the NA in March 2012, Hon P H Kedikilwe MP stated that 40% of the water was lost because of this previous policy.

Many houses with DIY connections were a long way from the existing lines (BALA 2009:64). The national policy was laid down that only WUC would now do the connections and charge for them. The changes took responsibility for WSS from KDC. The Researcher notes in discussions with KIs that there was no bitterness at the ending of that responsibility; KDC stood back to let the WUC KD go ahead with the central government remit. The WUC KD reported to council meetings¹⁷⁶ and the KDDC under the DC, and as such, KDC councillors, the researcher observed, were pleased to be able to handover the responsibility for WSS to the WUC and now to be able to criticise a central government parastatal instead.

8.3.4 The view from central government (and its agent the WUC) of local government performance on the delivery of WSS in the new AC post 2009 world

A) Countrywide

Central government appeared to be driven by a view of incompetence in LG in delivering WSS. This driving force for the removal of local power has been explored in Chapter Six. But the central body chosen for WSS delivery was not the DWA but the WUC. The use of the WUC as the agent of central government was observed by the researcher as not universally welcomed, particularly within the DWA/MMEWR. The WUC senior management had had a successful period of delivering profits to GOB, its sole shareholder, and receiving in return cash bonuses over and above their base salaries (WUC Annual Reports 2000-2008). This rankled with senior civil servants in MMEWR who did not receive such bonuses for performance (KI CGCS 6). The WUC reported to the Minister in charge of MMEWR and not to the DWA or senior civil servants in MMEWR. The joint working on the reforms, across the Gaborone ministries and with the WUC, creating the WRU, sought to deal with this jealousy. But it did mean that, if things needed to be sorted using the senior civil servants' clout, there was a

¹⁷⁶ The Researcher attended meetings of KDC and interviewed both the Chair and Vice Chair of the Council and senior officers.

reluctance to get involved. Thus the contestation over the transfer of assets from DCs to the WUC, which should have been resolved between the MLG and DWA/MMEWR through the WRU meetings, did not take place in the case of the WUC KD and KDC (KI WUCO 1 and 5).

The transfer of responsibilities for all other sanitation from local government to WUC took place in May 2012 –January 2013 by government decree of February 2012 and charges for emptying of pit latrines could be levied by the WUC or their agents¹⁷⁷. In May 2013, after consultation with, and agreement from, Council Chairmen and Chief Executives, MMEWR proposed to Cabinet the outsourcing of pit latrine emptying to the private sector providers, as proposed in the original WB report of September 2010. The view of BALA officials was that, despite the consultation, the Council Chairmen would strongly oppose' this privatisation on principle' (KI LGCS 3), despite the 'long backlog' WUC inherited.

B) GCC

The movement of responsibility for water borne sewerage services from GCC to the WUC took place in March 2011. Existing GCC sewerage staff transferred to the WUC, and they set about clearing the site and machinery. At that time, significant numbers of foetuses and dead new born babies were cleared from the sumps. It is perceived that the flushing away of such through water borne sewerage provided the anonymity that other forms of disposal would not (KI LGP2). A South African based consultancy was brought in immediately to review the performance of the Gaborone sewage works which were upgraded to the effluent discharge standards set by the MEWT. The machinery at the sewage works had been installed and upgraded in the 2000s. GCC at that time were pleased to handover the responsibility for sewerage to the WUC (KI LGP2). GCC had set a policy that all pit latrines should be phased out and

¹⁷⁷ The transfer of responsibilities from MLG and MEWT to WUC reporting to the Minister of the MMEWR in 2012 contrasts with the South Africa Government transfer from DWAF to DEAT in 2005 (Godfrey 2007:2)

replaced by water borne sewerage by the end of 2011. The work in Old Naledi, utilising Chinese Government contractors, was intended to complete this vision at the end of 2012 (FCON and KI LGP2).

C) KDC¹⁷⁸

The WUC office in Mochudi previously had been the DWA office for the provision of services to Mochudi only. KDC had delivered all WSS services outside Mochudi from their local government offices also in Mochudi but on a different site. Very few KDC staff transferred to the WUC KD (formerly DWA) administration. The key WUC management were appointed on merit by the national WUC recruitment team, from applicants both local to Kgatleng area but also from across Botswana. There was an instance of a water engineer turning up in Mochudi at the handover in October 2010 instead of a different location 400 miles away. The increase of up to 20% in wages and the wide range of special allowances paid by the WUC, compared to that of the previous water deliverers, encouraged the process (KI WUCO 3).

The WUC inherited poor infrastructure, which had been badly maintained. Much of it dated back 50 years with little maintenance having been done in the meantime. Standpipes in the main villages had already started to be closed as per the National policy of DWA/MMEWR. There was a battle as to who should pay for the water being used from the remaining standpipes, KDC saying “this cost now had to be met from the WUC resources” (KI LGP3). KDC finally accepted responsibility in 2011 along with the long contested costs of destitute WSS fees (see Chapter Nine).

The handover of WSS equipment and vehicles proved particularly contentious, with KDC holding back for themselves, the machinery that could be justified as

¹⁷⁸ The Researcher attended the monthly management meetings of the senior WUC team based in Mochudi from October 2010 to June 2011. This section reflects the access to data obtained in those meetings

useable for continuing responsibilities for water tankering¹⁷⁹ or ‘bowsing’ functions of the KDC and in one case, for use to fight fires. What was transferred was that which did not work, even vehicles with no wheels that still remained on the KDC inventory. A particular problem for WUC KD was the lack of transfer of a functioning water tanker/bowser so they could deliver water to areas when there was a halt to piped supplies. KDC retained the responsibility of supplying Remote Area Dwellers (RAD)¹⁸⁰ with water, and to provide cover for the existing fire engine. Despite appeals through to MMEWR and thence to MLG, KDC stood firm and the WUC KD had to tow water tankers with inoperable engines to the point of needed water supply. In one case, it was reported that a transferred water tanker had no wheels.

8.3.5 How does Botswana society through KIs perceive the changes since 2009, with WSS now not being delivered by local government, but by a central government parastatal?

This analysis draws from data provided from FGs, KIs and surveys to enable tentative conclusions to be drawn on how Botswana society perceives the changes.

A) Public Surveys

1) The WUC Surveys (2009 and 2012)

There have been very few surveys done of the views of Botswana society on their attitude to the WSS changes around them. WUC carried out limited surveys in 2009¹⁸¹ and again in 2012¹⁸². These surveys showed considerable

¹⁷⁹ This residual responsibility was confirmed in the Local Government Act 2012 (Statutory Instrument No 6 of 2013) Schedule 1 section 5 “to provide public water outside an area for which a water authority [WUC] has been appointed by law “ section 4 to set user fees for “sanitation services”

¹⁸⁰ Remote Area Dwellers who were often minority tribes including the Basarwa

¹⁸¹ Briggs 2010

¹⁸² WUC 2012. The study was conducted between the 19th March and 13th April 2012 and included face-to-face quantitative research involving 250 commercial entities and 2,252

support for the performance of the WUC (and in 2009 for the then existing non WUC supplier of DWA) across the country, but, in many areas, the respondents to the survey were less than five in number and were often commercial customers (KI WUCO2). The 2012 survey was more broadly based and gave wide support for the WUC performance after the takeovers: the thesis uses data from the surveys where it is helpful in answering the research questions.

2) The Vision 2016 Survey (2010)

The Vision 2016 (see Section 6.3.3.2) survey of August 2010, after the start of the water reforms in 2009, was gathered from the responses of 1,200 households (Vision 2016 2010:11) and it is intended to be an annual survey leading up to 2016. The survey is wide-ranging, covering all aspects of the seven pillars of Vision 2016 (1997). In the survey, in Pillar 3: A Compassionate, Just and Caring Nation, 'government was perceived to be doing well [on WSS]. 78% of the respondents were of the opinion that government is doing a good job in the provision of water, while only 20% were of a contrary opinion' (ibid 2010:23)¹⁸³. In other areas of service delivery, there are much lower satisfaction levels with Central Government (54%) and even lower for Local Government at 45%. The high WSS results indicate a higher level of satisfaction compared to other governmental institutions. The comparative surveys for 2011, 2012 and 2013 are not yet available so the researcher cannot vouch for a continuation of the 2010 levels of satisfaction.

domestic customers. Furthermore 30 In-depth interviews were conducted with key stakeholders. The survey is not published but the Researcher was given privileged access.

¹⁸³ 'Most of the age groups interviewed were consistently in the upper 70% in this response, except for the two older [age] cohorts, which are higher being in the 80%. For the rest of the cohorts, the results are as follows: under 19 (76%), 20-29 (77%), 30-39 (77%), 40-49 (73%), 50-59 (82%), and over 60 (87%)' (Vision 2016 2010:24).

3) The Institute for Democracy in Africa (IDASA) Index (2012)

The IDASA 2012 Democracy Index¹⁸⁴ gives a more critical rating to current WSS provision (IDASA 2012:87). By this date, the WUC takeover of stages 1-4 had been implemented. The rating of four out of ten was given denoting a rating of inadequate¹⁸⁵. This rating was to the following questions:

Q 84 “How effective are the basic necessities of life guaranteed, including clean, adequate and reasonably accessible water?” 4/10 (Inadequate)¹⁸⁶

Q 93 “Are public goods, (examples; water provision; local services such as waste collection), equally available to citizens and communities at similar levels of efficiency and competence?” 4/10 (Inadequate)

Yet Q 97 “To what extent do citizens feel that they are receiving equal access to public resources regardless of their social grouping?” received a score of 8/10 (Excellent)

The IDASA Index appears to the researcher to be driven by the concepts of the lack of human rights to WSS in the Botswana Constitution¹⁸⁷. It takes no account of the GOB (2011a) Court of Appeal Judgement. This will be explored further in Chapter Nine which addresses the issue of poverty reduction and the water reforms.

¹⁸⁴ The index is formed by nine Batswana authors' opinions on each section, tempered by a validation workshop meeting in 2011

¹⁸⁵ The IDASA 2012 Democracy Index is based on an authors' scoring system between 1 to 10, using the following guide: 1-4, inadequate or falling short of the democratic ideal, 5 stable but insufficient, 6 stable and adequate, 7 improving and 8-10 excellent, and as close to the democratic ideal as possible. The rating overall for Botswana was 6.

¹⁸⁶ In each case, out of 100 questions

¹⁸⁷ This was confirmed in a discussion with one of the Batswana authors NGON 3 after the report was published

B) Original Data Collection

The key informant interviews (KII) support a more positive view than that of IDASA, but the FGs drawn from poorer members of Botswana society provide a more nuanced view. The survey at a Mochudi supermarket provides a middle class and positive view of the reforms. The data is augmented by individual ethnographic interviews in Mochudi and Matebeleng¹⁸⁸. The data collection methodology has been covered in Chapter Three and the detail is laid out in Appendix Three. Table 8.3 shows a data summary of KI views obtained by the Researcher.

1) KI Views on the importance of LG on water reforms pre and post the reforms

The rating by KIs from Local Government on their assessment of the importance of Local Government on water governance remains high (6.5 to 4.5) despite the removal of direct responsibility for WSS delivery. This could be seen as endorsing the role of Local Government in holding the WUC to account. Civil Servants and CSOs maintain a high view of local government post the WSS reforms but the private sector less so. This is reflected in the FG responses below.

¹⁸⁸ A 99 year old Bakgatla (KI BR 7) with a knowledge of the changes in WSS in Kgatleng since 1910 and a Matebeleng grandmother and entrepreneur (KI BR 3) who has built a series of water tanks for rainwater harvesting to self irrigate her backyard garden

Key Informants:	Private Sector (2)	Civil Service (6)	CSO (4)	Local Govt (5)	Kgosi (3)	Water experts (7)	Media (2)	Mean (29)
Importance of Role of Local Govt: Pre-reform	5.5	6.5	6.5	6.5	4.5	6	6	6.5
Importance of Role of Local Govt: Post-reform	3.5	5	5.5	4.5	3.5	4	5	4.5

Likert Scale: where 0 is no importance and 7 is high importance

Table 8.3 KI views on the importance of Local Government to the Water reforms before and after 2009

2) The responses from the Focus Groups¹⁸⁹

The responses of the FGs to the changes in responsibilities from local to central government are summarised where there was a clear view expressed by the group:

The FGs believed that, with the changes, the Government and the WUC should realize their responsibility for there always to be enough water:

“The government should make sure we have water. It is straight forward like that. Even if God causes rain, government is

¹⁸⁹ The coding for the focus groups used in this section are: FGA (Focus Group Artesia, Kgatleng District); FGB (Focus Group in Broadhurst, Gaborone); FGM (Focus Group Matebeleng, Kgatleng District); FGMO (Focus Group Mochudi: Tsukududu ward, Kgatleng District); FGOD (Focus Group Olifants Drift, Kgatleng District); and FGON (Focus Group in Old Naledi, Gaborone). The different voices are identified by numbering where appropriate.

responsible. Government talks to WUC to give us water, because there was rainfall to start with and dams were built to collect it. God brings but when it falls down, the government through WUC gets it to us so that we can be helped" (FGON 2).

"Water is made by God...it is made by WUC. If it wasn't for WUC or Water Affairs digging or when the dam is dry... that means WUC is the one...even when God has made water...but it's the one that ensures that... actually.... to make water... because when we talk of water we talk about pipe supply. That water is scarce, we are talking about the distribution of water" (FGB 1).

"So, in actual fact when we talk about what makes water, we say it is WUC because if we say it's God... God yes, we know he makes everything that's present because he makes rain fall. But what we are talking about and wanting to work for us, is WUC because it is the one that supplies water; makes sure there is no shortage... it is the one that brings water, because if we don't make sure WUC supplies pipes, if we talk about God, it would just be the dam and we would be referring to the dam only" (FGB 2).

"God is supposed to bring water to the ground, right? Yes, then WUC get it from the ground and give to us to drink, right? Yes, so the council should make sure that WUC give us enough water and they should tell us in time that there is a broken pipe. They shouldn't just sit there when there is a shortage" (FGM 1).

"It's the company that is helping us now, WUC. I think it's the one that ensures that we have water because it is the one that took the power from Water Affairs. What I mean is that this company is the one that is holding us in matters of water" (FGA 1).

"Water Utilities is the one that can give enough water. Water Affairs used to ensure that we have enough. WUC should also tell us in time when water is not going to be available. They never tell us" (FGA 2).

Their view of the takeover by WUC from LG was a questioning of the benefits of the change:

“When Water Affairs was leaving us, a meeting was called at the *kgotla* - it was the Paramount Chief's meeting - and we were told that the company which was giving us water before was leaving, and WUC was coming in. Yes *Rra*, its true what the lady just said. They had called us to the *kgotla*. Yes we were all called to the *kgotla*. Yes, they called us all” (FGM1-5).

“I say WUC should shape up. They have just come in. They came in end of last year. So I say they should fix things so that they are like Water Affairs. Water Affairs also, had their own problems, these ones we haven't been that long with them but we are already complaining. So we say they should shape up so that we can see how it goes and compare it to the other and see how it goes. I have asked people who have dealt with WUC in other areas and they said it was nice. I asked how so and they said it was nice because we would never pay a lot of money, so I was shocked when I had to pay a lot of money. So I got that man again and asked him, you told me that WUC is nice but I have paid a lot of money, you were not telling the truth. He laughed and said, no, but this company is good” (FGM 4).

“WUC, their bills are really high. When you go there you find that the money is high. It's not the same as we used to pay Water Affairs. With Water Affairs we used to pay around 45, P30, 30 something. Now it's 100 and 300 with Water Utilities. We really don't want Water Utilities” (FGM 1)¹⁹⁰.

¹⁹⁰ P100 = £1. There has been no increase in water charges beyond the 10%VAT charge subsidized by the WUC by GOB directive in June 2011 from the lowest tier of usage of water. But in the past, the DWA and KDC had not always sent bills or required payment.

But billing was a problem with the perceived inefficiency of WUC:

“Rra, WUC bills, ever since they came in, don't come in time. What we see is that they read after 3 months. I asked one lady which month she was reading for and she told me she was reading for January. I am talking about something that happened in March. So these are the challenges we come across” (FGM 2)

“Yes. I say those WUC people should come here and explain to us. When they took over we had paid the council but in these bills of theirs, there is money which they say is for the council. So they should come and explain to us why we are paying the council even though we finished paying them. They should come” (FGOD 1)

A majority of FGs respondents still felt that the local councillor would be the person that they would go to, to get redress

This was particularly true in Gaborone where WUC had always been in charge of water supplies:

“He is the one elected to be sent because he works with the council. He [the councilor] knows who is responsible for toilets and sewage. It's still council” (FGON 1).

“I agree with her because the people we go to are the councilors and MPs. They are the ones we tell problems of things like water and toilets, they are the ones we are supposed to tell about the problems” (FGB 1).

“The councillor is the one who goes to WUC, he goes to everything that... we voted for him to be our eyes and our parent” (FGB 3).

In the KDC, where WUC had taken over in 2010, the parastatal was seen as accountable, regrettably:

“Even if their name [WUC] beats my tongue, we will only go to them because they told us that we were no longer going to be

dealing with the council but with them. So whatever is lacking we should cry to them. Even if they are killing us, there is nowhere else to go but to them" (FGOD 1).

But the VDC also had a role in the villages where it formed a stakeholder group in its own right¹⁹¹: "When there is a problem with water, you complain to the water company called WUC. In the village, when there is a problem, you go straight to the VDC" (FGA 1).

3) The Response from the Survey of WSS users outside a Mochudi supermarket in June 2011¹⁹²

The 99 interviewees (n axis in the Figures 8.2-8.6) were interviewed over three mornings on leaving the supermarket in Kgatleng District, the area in which four of the Focus Groups took place. The respondents were by nature of their visit to the supermarket not in the lowest income quartile, although with a broad range of income levels (see Chapter Four, File Five)¹⁹³.

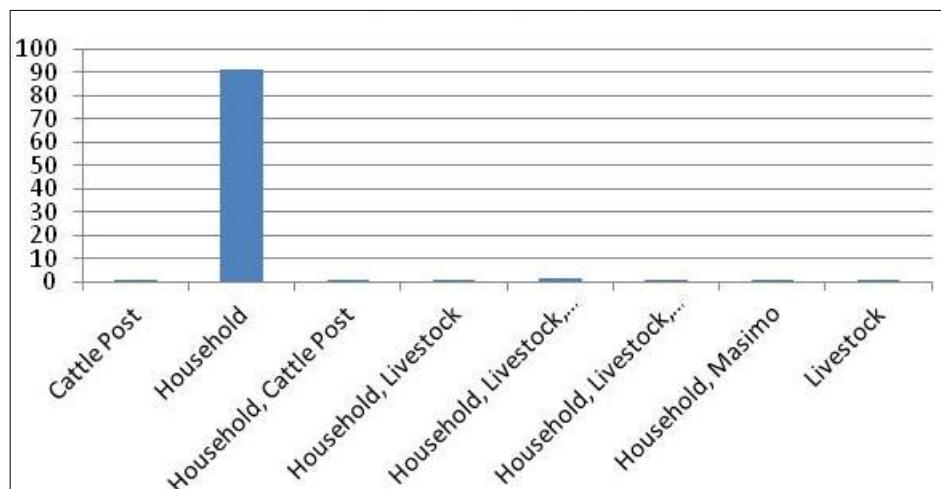


Figure 8.2 How do you use the water?

¹⁹¹See Section 6.3.3.4

¹⁹²The questionnaire is in Appendix Three

¹⁹³In all survey figures, n=99, x axis is frequency and y axis is the alternative responses to the question.

Figure 8.2 reflects consumers polled in an urban village outside the traditional water users for the masimo and cattle post. 90% were mainly household users.

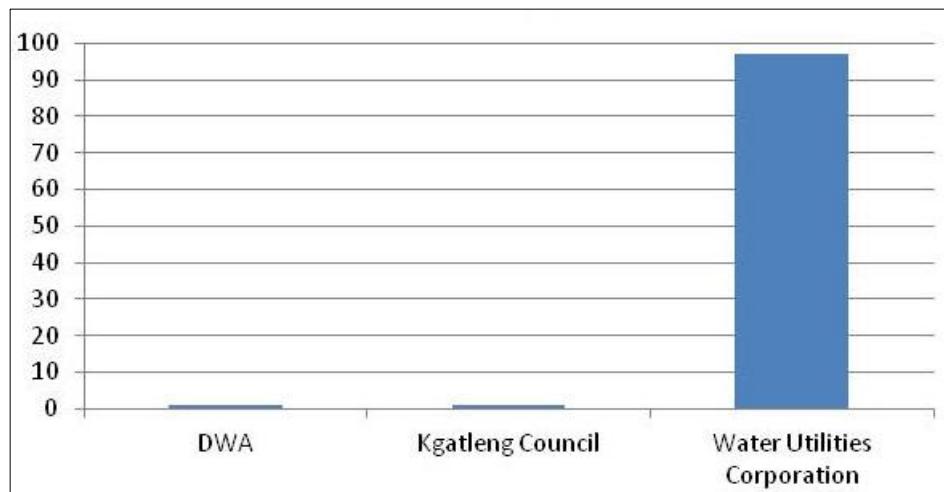
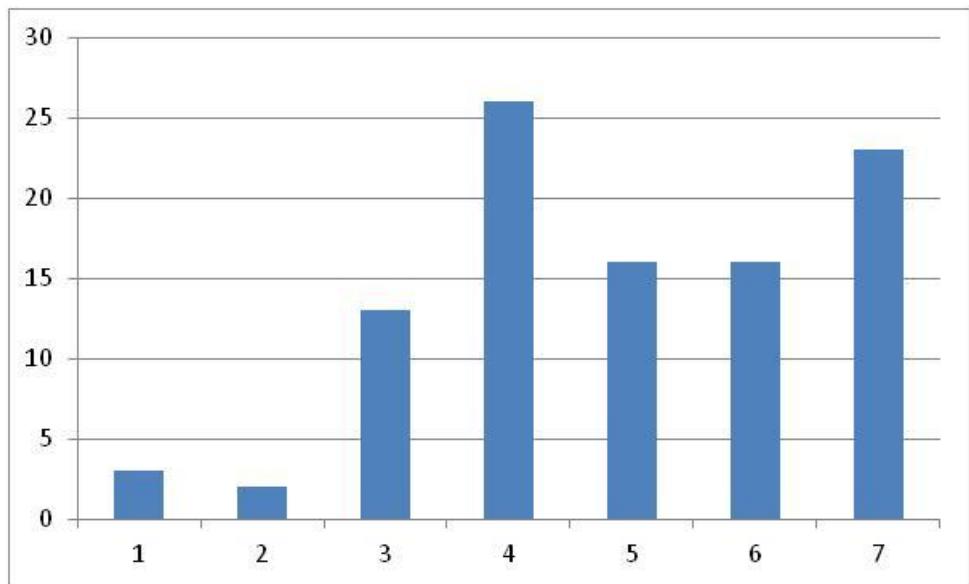


Figure 8.3 Who is your current supplier?

All the respondents would have had to move from their previous supplier to the WUC, be it DWA in Mochudi or KDC outside Mochudi. Over 95% recognised that the WUC was now their new supplier. However only 30% of those interviewed thought the change had been for the good. Given the chaotic nature of the takeover by the WUC from October 2010 and the need to move to a new billing system, it is surprising that the approval rating was actually this high¹⁹⁴. The changes required every water user to go to the WUC office to sign a new contract: it is unknown how many had had a contract with the DWA or KDC. When asked about the continuity of supply, the respondents believed there had been a significant improvement (Figure 8.4) despite the difficulties experienced by the WUC mechanics to get equipment from KDC (see above). The overall level of satisfaction remained high.

¹⁹⁴ The 2012 WUC survey detail for Kgaleng District shows over 70% support for the change.



Likert Scale: 1= Better, 7=Worse

Figure 8.4 Has there been an improvement in the continuity of supply in the last 12 months?

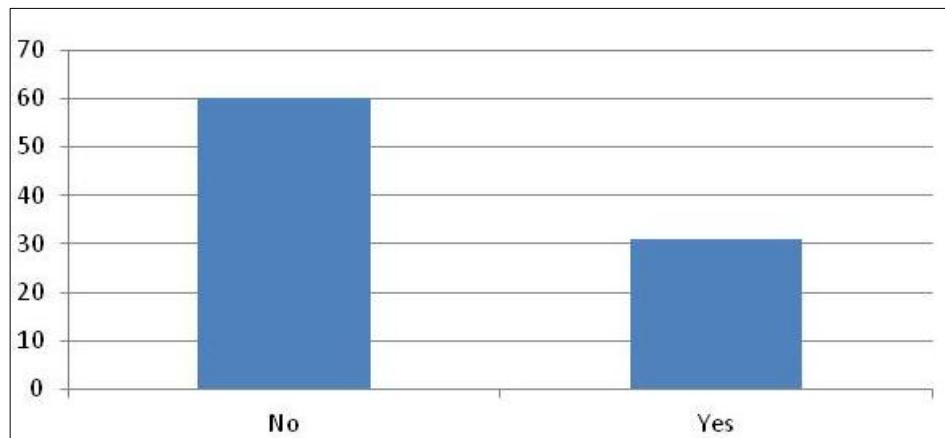
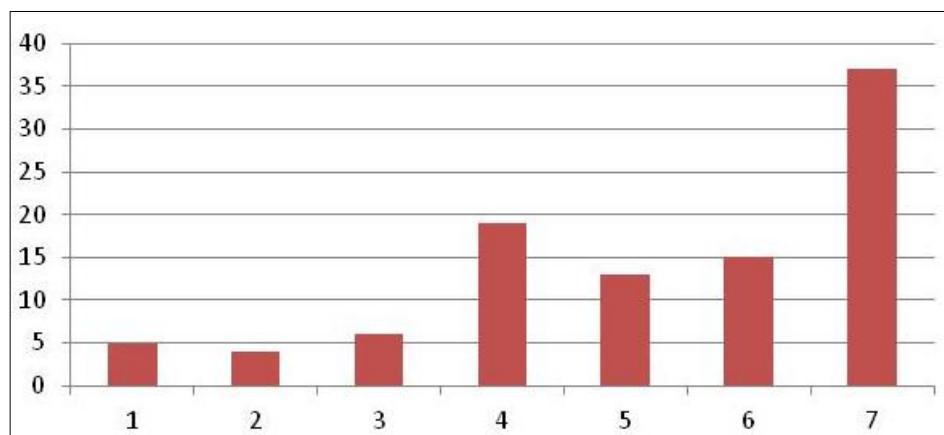


Figure 8.5 In your view, has the water quality improved over the last 12 months?

The perceived quality of water also remains high, with 30% recognising an improvement (Figures 8.5 and 8.6).



Likert Scale: 1= very poor, 7=very good

Figure 8.6 What is your current view of water quality

The Researcher reflects on the monthly meetings of the WUC KD team struggling to deal with very old and inadequate equipment, waiting for chemical supplies to come through from SA suppliers. The WUC team worked most weekends and often late to keep the quality and quantity of water high and flowing. By 2013, some problems still remained with a lack of chlorinators and poor quality of water complained of at the river villages¹⁹⁵. The diarrhoea outbreaks, from before WUC took over, were used to beat WUC in the newspapers in March 2013¹⁹⁶. The Botswana Bureau of Standards (BOBS) water standards for potable water (BOS 32:2009), for bottled water (BOS 143:2011) and, unusually, standards for irrigation (BOS 463:2011) and water for livestock and poultry (BOS 365:2010) were brought in and enforced by the MOH as part of the water reforms (NDP 10 2009:235¹⁹⁷).

Conclusions on the change in WSS delivery

The national surveys, KII's and Mochudi survey showed some support for the changes. The FGs were concerned about the movement away from local accountability to a national provider. The WUC/GOB still needed to convince them that the reforms are good for them.

¹⁹⁵ State of the KDC Address March 2013

¹⁹⁶ Sunday Standard March 3rd 2013:

¹⁹⁷ 20% compliance in 2008, planned to go to 100% by 2016

8.4 Key issues arising in this chapter related to a new agreed AC

There appears to be a permanent accommodation between the chiefs and the GOB not only on land and water rights, but on the primacy of elected institutions. The 2011 challenges to the central government observed in Kgatleng District failed, but this could leave a 'local-central gap' (Picard 1987:14). 'Traditional leaders still control the local judiciary and the flow of information to the people' (ibid). The deep beliefs on land and water felt by the Chiefs pre Independence still have influence over the elected GOB .

The removal of formal accountability from tribal and local institutions to a central government parastatal has not been replaced by accountability mechanisms beyond the tribal and local government meetings. The *kgotlas* have been used to consult on the big changes and to cement the new AC on WSS. But there is a lack of a more systemic method of accountability such as water user associations and consumer consultative committees in each District to ensure that 'botho' (together we respect each other and sort out our differences) is the way forward on the detailed implementation of the WSS and WRM reforms. The village committees are weak as a counterpoint to a national Parastatal in resolving local access to water, required in gaing local agreement to the new AC (see Chapter Nine).

The UNDP/GEF financed BIWRM-WE, described and analysed in Chapters Six and Seven, in support of the new AC, did not challenge the GOB centralising water policy in that it did not envisage LG having a significant role in delivering IWRM in Botswana, unlike the situation in SA and Namibia. Figure 8.1 shows the ICLEI concept of IWRM at the local level and IWRM beyond local boundaries. But in Botswana the policy was for central government to take key decisions and for local government to act on those decisions. The delivery of WSS was not now seen as a role for LG. Centralisation of WSS (and other services) in Botswana flies in the face of WSS policies in South Africa.

The Local Government KI politicians in Botswana, as observed by the Researcher, were pleased to hand over their responsibility for WSS to the central GOB parastatal. The view from the *kgotlas* attended as part of the field work process, was that the WUC could not be worse than LG in supplying WSS. Despite the proclaimed achievement of 96% access to water (100% in Mochudi) (WHO/UNICEF JMP 2012) the supply to individual households beyond the public standpipes had been poor. WUC KD is a case study of operational change, to piped supply to the individual *lapas* (yards), from the public standpipes that had previously formed the standard of potable water supply in Botswana. It is doubtful that LG, given their performance prior to the changes, could have made this change more effectively than a central government parastatal. But LG now had a new role as the point of complaint against national institutions on WRM and WSS that previously had been delivered through local government locally and now holding WUC to account.

8.5 Summary

This Chapter has answered several key research questions. Institutional responsibility for the delivery of WSS has changed as set out in this chapter. It has considered how the traditional forms of government reacted to the change in their authority over land and water brought about by the elected government in Botswana and the interplay between the traditional and the modern governmental structures in these WRM reforms. It has been tense in Kgatleng District but ultimately the conflict was resolved. There, and elsewhere in Botswana, the key role of the traditional structures has been to both explain, and provide a conduit to smooth, the introduction of the changes brought about in the new AC.

The Chapter then moved on to consider the response of local government to the change in their powers on WSS. This also appeared to be resolved as local government accepted an observational role able to critique the performance of the WUC at local level. But it has been an uneasy changeover, with local government institutions not making it easy despite their previous poor

performance on WSS. But the researcher proposes that, from the analysis of the data, the centralising of power on WSS as set out in the new AC in 2009 had largely become accepted in Botswana.

The next Chapter, Chapter Nine, assesses the impact of the proposed policies and delivery of WSS on the poor of Botswana

Chapter Nine: What was the impact on the poor of the water reforms in the post Independence AC and the post 2009 AC?

9.1 Chapter overview and the context of poverty reduction in Botswana

This Chapter seeks to understand the context of whether and how a new advocacy Coalition (AC) on water reform recognised the poverty eradication objectives of the Botswana government. It looks at the recognition of the right to water, incentives to address poverty and economic inequalities through the lens of the availability of water in the post Independence AC and the extent to which these changed in a new post 2009 AC. The Chapter considers the impacts of the changes at the village, *masimo* (the lands) and *moraka* (the cattle post).

There is a deep-seated feeling within Tswana society that poverty should be addressed within the traditional family and the tribal value system (Shapera 1971; 1970; 1938 a and b; KI TAC 1, 2). The modern state of Botswana has sought to cover what it sees as the retreat of the responsibility of the family for its poorer members, in providing a safety net to both those permanently unable to earn their way out of poverty and those temporarily unable to do so (KI CGCS 1). This chapter provides analysis as to the success of the Water Resource Management (WRM) and the Water and Sanitation Services (WSS) reforms in continuing the provision of that safety net despite the withdrawal of free water previously available from stand pipes in the villages.

The Gini coefficient of cash income inequality in Botswana is high¹⁹⁸. Between 1980 and 1991, Botswana had 'the highest degree of [income] inequality in the world' (Maundeni 2003:99). However, there are other important factors in defining poverty in Botswana. The provision of universal public goods with universal free healthcare and near free education at primary, secondary and

¹⁹⁸ The mean estimated household income inequality (EHII) Gini Index Score is Botswana: 46.52, Namibia: 43.28 and South Africa: 43.35 (Nel 2008:158)

tertiary levels provide a safety net for all Batswana¹⁹⁹. The definition of poverty in Botswana without taking into account these public goods makes international measurement of poverty in Botswana flawed. Alongside this is the entitlement to free land²⁰⁰ for all Batswana allocated by the Land Board and the nearly free provision of agricultural inputs. The February 2012 poverty figures on a broader definition demonstrate a reduction to 21% of the population and on the MDG cash target of \$1.25 per day to fewer than 5% of the population. This compares to the latest SSA figure of 51% in 2005 with WB projections for SSA of this falling below 36% by 2015 (UN MDG Report 2011).

It could be said that few people in Botswana are very poor after taking account of the public goods available to all. A KI at the University of Botswana gave her opinion:

“poverty [is] exaggerated in Botswana. Batswana are resource rich but cash poor. The latter have land and often cattle which they do not sell or use. They also have the benefit of free health and free education. There are a range of grants for farming, which they do not take up. I would oppose an increase in income tax from the current maximum of 25% to 40% or 50% so as to pay for increased social transfers to the poor.” (KI UB 4)

However, the New Economics Foundation (NEF) Happy Planet 2012 rating²⁰¹ for Botswana is the lowest rated in the world, 151 out of 151. While the low life

¹⁹⁹ “The lack of Botswana tribal (both majority and minority) cultural and language education has not been addressed. Teaching after the age of 8 is only in English” (KI NGON 3)

²⁰⁰ “This may not be able to continue with the population increases” (KI LBCS 1)

²⁰¹ The data for average levels of well-being in each country are drawn from responses to the ladder of life question in the Gallup World Poll, which used samples of around 1000 individuals aged 15 or over in each of more than 150 countries. The question asks: *Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. Suppose we say that the top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to*

expectancy of 53.2 years is seen as arising from the continuing (but decreasing) HIV/AIDS epidemic, the survey rating by Gallop carried out in December 2010, on Batswana citizens' view of their experience of well being²⁰², defined as 'the possibility of upward mobility on the ladder of life', is one of the lowest in the world. It is possible that the GOB emphasis on self help to achieve poverty eradication may not be seen as easily achievable by the ordinary Motswana²⁰³. Perhaps the changes in the delivery of WSS outlined in Chapter Seven have contributed to this change of view, as they could be seen as challenging to those who see themselves as poor. The 2012 Afrobarometer survey²⁰⁴ does show increased satisfaction in the Botswana Government in improving the living standard of the poor up from 62% (2008) to 73% (2012) but only 10% of the rural respondents see their living standards as good compared to 27% of the urban respondents.

The right to water from boreholes has always been construed as a conditional right and it is not in the Botswana Constitution. The rights to drill for water by the Basarwa/San in the Central Kalahari Game Reserve (CKGR) (subject to WAB approval), has been accepted by the Government of Botswana (GOB) in not challenging the January 2011 Court Judgement (see Section 9.3.1 in this chapter).

However, water was not seen by KI and FG discussants as an unconditional free common good, and in this view, supported the new Advocacy Coalition (AC) view on the value of water and the moves towards cost recovery. The universal subsidy of water to all Batswana was questioned by the new AC supporters, as "the subsidy does not encourage WDM" (KI CGCS 1). "If water is so cheap,

the way you feel? Available at: <http://www.happyplanetindex.org/assets/happy-planet-index-report.pdf> accessed 12th June 2013

²⁰² SA 4.7; Namibia 4.9

²⁰³ While no research has been done on the wellbeing rating of the Bakgatla in Botswana, research has been carried out on the South African Bakgatla (Hamilton 2012) with slightly positive ratings of wellbeing.

²⁰⁴ Available at http://www.afrobarometer.org/files/documents/press_release/bot_r5_pr9.pdf accessed on 17th May 2013

what incentive is there to use it wisely?" (ibid) The alternative methods of protecting the poor are explored in this chapter.

9.2 The legal right to water in Botswana

There is no right to water written into the Botswana Constitution (see Chapter Five). This absence is ameliorated by the Water Act (1968) which provides comfort in Sections Six and Nine as noted below:

Section Six: 'The owner or occupier of any land may without a water right, sink or deepen any well or borehole thereon and abstract and use water there from for domestic purposes not exceeding such amounts per day, as may be prescribed in relation to the area where such well or borehole is situated, by the Minister after consultation with an advisory board [the WAB] established in pursuance of section 35 provided that this paragraph shall not authorise the sinking of a borehole within 236 meters of any other borehole other than a dry borehole' (Water Act 1968:6)

But the rights under Section Six of the Act were caveatted by Section Nine which states: 'Subject to the foregoing provisions, no person shall divert, dam, store, abstract, use water or discharge any effluent into public water or for any such purpose construct any works except in accordance with a water right [from the WAB] granted under this Act' (ibid: 9).

The rights of the citizen, and thus of the poor, to water were therefore restricted. No right to water existed beyond this until the High Court Judgement of January 2011.

9.2.1 The Basarwa right of access to water judgement, January 2011

This section reviews the history of recent events in the struggle for rights of access to water in the CKGR for the Naro speakers, referred to by the GOB as Basarwa but also known as Bushmen, who live in Namibia, South Africa and

Botswana. In Botswana, they have become spread in small pockets of population often working as cattle herders or 'boys' and are thought to be the main recipients of Remote Area Dwellers Programme (RADP) benefits, with the right to free water delivered in bowsers (water tankers).

The Ghanzi District in western Botswana was the most highly populated by Basarwa who were estimated at up to 5000 individuals²⁰⁵. Ghanzi WSS was taken over by the Water Utilities Corporation (WUC) in 2012. The World Bank (WB) (2010)²⁰⁶ research in villages surrounding Ghanzi Town showed that the Basarwa dominated households expressed a 'profound fear of the research [on potential water reforms], as being the precursor for [re]settlement and /or the loss of land'. But the majority of the population there said 'the Basarwa received privileged services from the government and that they [the non-Basarwa] were just as needy' (ibid: 3). Water was intermittent [from the standpipes], and connections to piped water supply were [seen as] unaffordable (ibid: 2).

The Central Kalahari Game Reserve (CKGR) position

The CKGR was established in 1961 under the Colonial Government. The Basarwa remained there, pursuing a life of hunter-gathering²⁰⁷ without water from boreholes other than intermittent streams being available, except in utilising the vegetation and indigenous plants (Walkman 2010). But after 1961, they increasingly lived in organised settlements in the CKGR, with the GOB supplying water in bowsers.

De Beers dug a borehole in 1986 at Mothomelo in the CKGR to provide local water for the prospecting staff. They allowed the Basarwa to utilise the

²⁰⁵ The Basarwa have refused to take part in any GOB census. The figure is a best estimate of Basarwa in Botswana given by Kls.

²⁰⁶ Ghanzi Household Interview Summary of April 2010 unpublished to which the researcher was given access.

²⁰⁷ The concept of the Basarwa only ever being hunter gatherers is contested through an exploration demonstrating a 'spectrum from extensive foraging to an intensive agro-pastoralism' (Wilmsen 1989:32). 'The appearance of isolation and the reality of dispossessed poverty are recent' (ibid:157)

borehole. De Beers withdrew subsequently from the CKGR. In 1990, the GOB decided to close the Basarwa settlements in the CKGR, withdrawing the water bowsers, and to relocate those living in the settlements to new 'impoverished' ones outside the CKGR (Good 2008:120)²⁰⁸. It also closed the Mothomelo borehole and no new boreholes were allowed. The Basarwa could continue hunter-gathering but with limited hunting licences and only the water they carried personally into the CKGR. Roy Sesana a self styled leader of the Basarwa in the CKGR took the GOB to court in 2002 to reopen, and to have full access, to the Mothomelo borehole (GOBb 2002). In a 2006 judgement (GOB 2006) the High Court declared the GOB had acted within their rights in withdrawing the right to use the borehole but also stated that the individual Basarwa suing in the 2002 case had the right to reside in the CKGR in the traditional manner (Morinville 2013). This was again appealed, funded by the US based International Non Government Organisation (INGO) Survival International (SI), who threatened to organise a world-wide boycott of Botswana diamonds, if the borehole was not reopened. The campaign was conjoined with concerns over USA water policies in the book 'Heart of Dryness' (Walker 2010).

There was very little support from KI across most areas of Botswana society for the Basarwa right to special treatment and access to water points/boreholes inside the CKGR. There was a strong belief by Batswana KI that SI wanted Batswana "to live according to a pre-conceived Western view of the primitive African" (KI M 1). But there was unease among prominent legal experts (KI J1) and religious leaders. The Botswana Council of Churches provided the President in November 2010 with a graphic, detailed picture of life for the few Basarwa, particularly women, who were sticking it out in the CKGR wilderness

²⁰⁸ The Researcher visited Khutsi village on the southern boundary of the CKGR on 5-6th February 2011 and interviewed a group of Basarwa. Khutsi village was expanded by the GOB with modern facilities and a game lodge. The group was very positive about the village and its facilities. There was no observable ill health or malnutrition. The villagers provided game wardens and admitted to poaching game. A Basarwa-run cultural centre to explain Basarwa traditions was planned. Water comes from a DWA borehole outside the CKGR. Solar driven small borehole water points for animals have been installed inside the CKGR by the KCS.

without water (KI LGP4). This may have influenced the stance of the GOB on the issue.

In 2011, a Botswana Appeal Court judgement (GOB 2011) proposed the right of all Basarwa to reutilise the Mothemelo borehole, or an alternative borehole (subject to the WAB agreement). Section Six of the Water Act (1968) was seen as superior to Section Nine in the right of Batswana to dig /utilise a well for household purposes (*ibid*:14). It could be argued that this judgment established in Botswana an overriding right of access to water for all Batswana²⁰⁹.

The 2003 United Nations Economic and Social Council on Rights (UNESCR) and 2010 United Nations General Assembly (UNGA) resolutions on the right to water were quoted in support of the decision of the Appeal Court judgement (GOB 2011:21.22.23). Justice Romodibedi said in his judgement that he 'approached the matter on the basis of fundamental principle whether a person has been subjected to inhuman or degrading treatment involves a value judgement. It is appropriate to stress that in the exercise of a value judgement, the Court is entitled to have regard to international consensus on the importance of access to water. Reference [he wrote] to two important documents will suffice':

- 1) 'On 20 January 2003 United Nations Committee on Economic Social and Cultural Rights submitted a report on what it termed substantive issues arising in the implementation of the International Covenant on Economic, Social and Cultural Rights.

In its introduction, it stated that water is a limited resource and a public good, fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realisation of other human rights.

²⁰⁹ This view was supported in May 2013 by KI CGCS 6 who felt the impact of Judgement had not been appreciated other than in GOB circles.

In paragraph 16 (d) of its report the committee said the following:

'Whereas the right to water applies to everyone, States' Parties should give special attention to those individuals and groups who have traditionally faced difficulties in exercising this right, including women and children, minority groups, indigenous peoples, refugees and asylum seekers, internally displaced persons, migrant workers, prisoners and detainees.'

In particular, States should take steps to ensure that indigenous peoples' access to water resources on their ancestral lands is protected from encroachment and unlawful pollution. The State should provide resources for indigenous peoples to design, deliver and control their access to water.'

- 2) In July 2010 the United Nations General Assembly (UNGA) recognised²¹⁰ the right to safe and clean drinking water as a fundamental human right that is essential for the full enjoyment of life and all human rights. Accordingly, the UNGA called upon states 'to ensure full transparency of planning and implementation process in the provision of safe drinking water and sanitation and the active, free and meaningful participation of the concerned local communities and relevant stakeholders' (GOB 2011:22-24).'

Botswana abstained from the UN votes on the right to water both in 2003 and in 2010. However the Botswana Appeal Court delivered its judgement on the right of access to water, based in part on these UN resolutions²¹¹. The GOB accepted the judgement of the Court and, by doing so, became the first country in the world to accept the right to water under UN resolutions, in this case for all Batswana. Thus the right to water, through Basarwa/San rights to water, could be considered to have entered Botswana Common Law.

²¹⁰ 122 in favour, none against but 41 abstentions including 18 EU countries

²¹¹ The right to water was reconfirmed in the UN RIO+20 final statement in June 2012

These Basarwa (San) rights to water in Botswana do not apply to the water rights of the San in Namibia and South Africa. The Declaration of San Rights made at the UN Permanent Forum on Indigenous Issues (UNPFII) on 7th May 2012 states 'In a world threatened by climate change, loss of biodiversity, water shortages and threats to food security for billions of people, we submit that our [San] land use systems should be protected and supported in the legislative and policy frameworks on our continent and beyond'²¹².

A three day Pitso (stakeholder meeting) for Basarwa²¹³ was held in June 2012 in Botswana in Diphuduhudu, a Remote Area Settlement Basarwa relocation village located at the eastern edge of the central Kgalagadi District. It was addressed by the President and Vice President with over 1000 RADP being bussed into a community of 300. This followed up on a Ghanzi District Pitso in October 2011 which, among other matters, required land boards to give priority on land allocation to RADP recipients. The GOB sought to address RADP (including the Basarwa) with affirmative action to deal with poverty eradication such as land rights that they saw as working elsewhere in Botswana. But land allocation without water rights is hollow and the 2011 Judgement provided the right to water.

The Institute for Democracy in Africa (IDASA) Democracy Index was published in 2012. It still rated Botswana as at level 4 'inadequate' in not having a right to water (IDASA 2012:86). When questioned why the rating had not changed, the

²¹² [The] recommendations [were]: Free, prior and informed consent should be observed in relation to the lands of the San, and their values of reciprocity and equitable sharing of resources should be embedded in policy; Southern African governments - in particular, Botswana, South Africa and Namibia - must be encouraged to hold proper continuous dialogue and consultation with the San on issues affecting their lands and livelihoods, especially in relation to development projects, extractive industries and the commercial farming sector; African Governments must honour the rights of the San as embodied in the UNDRIP, particularly as these relate to our lands" (Lee 2012)

²¹³ J. Ramsey (KI M3) "Affirmative Action in Diphuduhudu" Botswana Weekend Post 9/6/12:

representative of Ditshwanelo²¹⁴ as a KI on the IDASA panel said in April 2012 that:

“this [the acceptance of the Appeal Court ruling] is not sufficient in terms of safeguarding those gains and working for improvement. There is need for a fundamental shift in terms of how government sees and implements 'development' which is not premised on 'doing the right thing'. It is within this broader ideal or 'people-centred or sustainable development', that we tended to score our performance” (KI NGON 3)²¹⁵

The constitutional rights approach to water of civil rights commentators as expressed by IDASA authors, may obscure the real achievement of “what is seen by everyone as the right thing” (KI NGON 3) in the Botswana Supreme Court judgement on the rights of access to water by the Basarwa²¹⁶. There does not appear to be an appetite by the GOB to reopen the drafting of the Botswana constitution to clarify the right to water, particularly at the concurrent time of the challenge to the Independence constitution by Kgosi Kgafela (see Section 8.2). However, the judgment did provide a positive background within which to review the traditional and post-Independence approach to the right to water.

²¹⁴ This Botswana NGO fought for the rights to water for the Basarwa but objected to what was seen as heavy handed tactics by SI.

²¹⁵ The IDASA Namibia report similarly rates water provision on Namibia as inadequate but there, there has been no movement in rights for access to water.

²¹⁶ Movement of Basarwa from Ranyane in 2013 was the subject of an agreement between the GOB and residents represented by the Botswana HR NGO Ditshwanelo on 18th June 2013 lodged and commented on at the Botswana High Court. The NGO press release is at <http://www.ditshwanelo.org.bw/DITSHWANELO%20Press%20Statement%203%20on%20the%20Ranyane%20Case%2018%20june%202013.pdf>.

The GOB claim never to have ceased water supply to Ranyane(GOB Tautona Times Vol.11, No.19 C5) and never agreed to 'coercive removal'(see <http://www.dailynews.gov.bw/news-details.php?nid=4722> accessed 8th August 2013)

9.3 The pre-Independence approach to poverty reduction and the role of access to land and water

The Tswana traditional approach to poverty reduction through access to land and water has been within the structures of traditional tribal administered customary law (see Section 8.2 and Box 9.1). The infrastructure for water was built through 'the age regiment digging of communal wells and reservoirs under the direction of the Chief' (Schapera 1938a:196). The lack of surface water within Botswana arose from the lack of perennial rivers flowing through Botswana (see Section 2.3). Drinking water traditionally came from shallow dams, wells and, later, post-1930s, boreholes.

Box 9.1 Kgatleng District Water Provision pre Independence

'Wells are sunk for domestic use in the riverbed close to the village. Many wards have their own special part of the River [Notwane] in which they dig such wells. Outsiders wishing to make wells there must obtain their permission, failing which the chiefs must be asked for permission to dig somewhere else. Such wells are sometimes owned in common, by all the members of the ward, who contribute towards the cost and assist in sinking them; sometimes they are owned collectively by number of families together and sometimes well is owned by a single family. The owners of a well have sole control over it. They may allow friends to water from it for domestic purposes or to water cattle there; but no one else can use it without their permission. Water is not usually sold. During the dry season, when there is no standing water in the rivers, people rely mainly upon these wells which always kept locked up by the owners at this time to prevent them from being used without permission. All wells were formerly regarded as common property where anybody grazing his cattle in that area could water them. But it has gradually become the law that only the people digging the well are entitled to water the cattle there.'

Source: Schapera 1938a:211

The description in Box 9.1 of a largely egalitarian pro-poor approach for all to have access to water, belies a pre-colonial class structure of restricted access,

that has been seen as still overhanging water access rights under the water reforms (Good 2008:85).

9.3.1 The AC approach pre 2009 to access for the poor to water

Section 8.1 explained the changes in responsibility for land administration from the tribal leaders and headmen to a central government institution of Land Boards (LBs) and Local Authorities (LA) and the Water Allocation Board (WAB). The allocation of land and water rights before 1968 was in the gift of the chief and those closest to the royal family were most likely to receive land and water rights under that land, both in the ploughing lands and in the cattle post areas (Peters 1994). With Independence came the introduction of equality before the law including the allocation of land and water rights. The right to land for all tribesmen in the District²¹⁷ (1968) and then all citizens anywhere in Botswana (1990) gave an underpinning of support to the poor. The Tribal Land Integrated Management System (TLIMS) brought in progressively from 2005 codified those land rights that could not be taken away from a citizen unless no working of the land had taken place (UN HABITAT 2010).

However livelihoods, particularly in rural areas, have been difficult to sustain due to the recurrent droughts which led to a range of responses from the GOB as outlined in Box 9.2. The labour based payment programmes, *Ipelegeng* were adopted in the period 1982-1990 and institutionalized from NDP 7 in 1991 (Munemo 2012:37).

The post Independence AC enabled access to water for the poor outside the drought periods by supplying free water for all from standpipes and separately there was paid-for water supplied through connections to individual *lapa*. Each villager had access to water standpipes within no more than 500 metres walking distance (Photograph 9.1). For individual connections, the price of water

²¹⁷ The post-Independence District Council areas continued to follow the tribally designated areas set by the colonial government

covered only the operational cost. As cited by Arntzen (2000:8), 'the main features of rural water pricing in Botswana were:

- Partial cost recovery and high subsidies, as supply costs tend to be higher in rural areas than in urban areas;
- The water tariffs staggered with a low-subsidized unit price for low consumption (up to 5m³ /month /connection) and a higher unit price for higher consumption levels;
- The same price applies throughout rural Botswana, irrespective of the costs of water supply in a particular village'.



Photograph 9.1 Standpipes old and new (May 2013)

There was a view from all KIs that everyone abused the standpipe provision by not only using the free water for personal drinking and washing but also for their livestock, gardens and lands and for construction of buildings. This dual right to water (through the standpipes and individual connections) gave the opportunity for individual users to avoid paying for water at all (Arntzen 2000:10). The progressive removal of standpipes under a post 2009 AC was therefore seen by Key Informants (KIs) and Focus Group (FG) participants as shown in Section 9.4.2 as justified. The GOB considered that their social obligation to those who could not afford the water prices as being covered by the setting of a low tariff at the minimum household requirements. The tariff aimed at 33% recovery of the operating costs in smaller villages (ibid).

There has been a view that the lack of provision of water connections to *malapa* by the GOB in rural areas was a deliberate policy to encourage the rural population to move to the towns (Swatuk 2007). The field work for this proposition was carried out in Ngamiland which has been the last area to move to WUC control in 2013²¹⁸.

The cash definition of poverty²¹⁹ in Botswana at the time of Independence encompassed virtually the entire population as the national per capita income was \$50 per annum (WB 1966). The tribal structure continued to provide a safety net within extended families. The per capita income moved up to \$1000 per annum by 1980 (UNDP 2011) with the distribution of the royalty income from DEBSWANA through the provision of the public goods, including free healthcare and free education. However, Botswana had the ‘world’s third highest Gini coefficient ratio at 5.7 in 2003’ (ILO 2011:11). The ‘poor [quality] of the statistical basis for analysis’ (GOB 2003:13) was compounded by the range of over 100 poverty predictors chosen to provide the Poverty Map Results (GOB 2008:2). The WSS predictors chosen were households reliant on ‘piped indoors or outdoors to the yard, communal tap or borehole, as the main source of

²¹⁸ It is reported that WUC has agreed to keep standpipes in Maun, Molepolole and Mahalapye but operable only by prepaid tokens ‘as with electricity supply’ (Daily News 13th February 2013)

²¹⁹ WB purchasing power (PP) equivalent of US 1 per day was set in 1990

water', and for sanitation, reliant on 'flush toilets, ventilated improved pit latrine (VIPL), latrine or other types of toilet' (ibid: 26-7). It is on the basis of these very broad definitions that Botswana has been seen as achieving its high levels of access to potable water and improved sanitation. The poor, however, relied at best on the communal tap or borehole and for sanitation on latrines. The new water policy (GOB 2010a) was said to seek to move the provision of WSS for the poor to the higher standards of connection to the *lapa* with the option of flush toilets. But with the exception of the destitute, the poor would have to pay.

The decision was taken in 1980 to introduce a minimum entitlement scheme, which included free WSS, for the very poorest. 'The 1980 National Policy on Destitute Persons recognised that not every member of our society was able to provide for their own needs. The breakdown of the traditional extended family support system had also adversely affected our society's willingness to assist those less able to provide for themselves' (GOB 2002: Introduction). The definition of a destitute person in 1980 was very detailed²²⁰. This was judged in 2002 as needing to be changed after stakeholder consultation. It was widened to ensure it included the poor with up to four livestock units (ibid: 4) to take account of the Motswana concept of livestock as a cultural need even for the poor (KI). Often the poor in Botswana did not slaughter or sell their animals²²¹ so these were not seen as cash income. The revised definition of those considered 'destitute' under the 2002 revised policy gave exemption 'from payment²²² of publicly provided services. These include... *water charges*, services levy and electricity charges' (GOB 2002:8). The cost of this policy was met under the budgetary head of the Ministry of Local Government (MLG) and

²²⁰ It was defined as 'an individual who is without assets.... defined as cattle, other livestock, land, cash, cannot plough due to ill health, handicap, close family members cannot/will not assist him/her' (GOB 2002:4.1); 'and is physically or mentally incapable of working due to old age, physical or mental handicap' (ibid:4.2); 'or is a minor child or children whose parents has/have died or deserted the family, or is/are not supporting his/her family'(ibid:4.3); 'or is an individual who is rendered helpless due to a natural disaster or temporary hardship' (ibid:4.4). Thus defined, destitutes were entitled to a food ration 'designed to supply not less than 1,750 calories per adult per day, as per the WHO standards' (ibid: 2).

²²¹ The view of KI M1

the allocation of monies each year to each local authority took account of these costs. In the WUC areas of WSS provision, after 2002, bills continued to be sent to those classified as destitute. The view of the social workers spoken to by the researcher in the GCC area was that they gave a small cash component to destitutes to help them pay their water bills. When the official policy was pointed out by the Researcher, the social workers said the destitute persons they worked with could not read and they were not going to tell them their entitlements. In the Kgatleng District Council (KDC) area, (the location of four of the FGs) and other previously non WUC supplied areas, water bills had often not been sent out, not only not to the destitute but often to others outside the major villages (KI LGCS 3). The WUC bills for destitute use of WSS were initially resisted by the Councils responsible for their payment under the 2002 legislation.

The absolutist concept of no cash income in the 1980 legislation changed in 2002 to an income below BP 120²²³ per month or Pula 150 per month with dependant relatives (ibid: 4). Since 2002, a cash component has been paid in addition to the continued 'food basket' of 1,750 calories per adult per day. The cash entitlement was set in 2002 and remained unchanged in 2012 at BP 211.90 per month. This was seen in 2010 as 'unrealistic' (BIDPA 2010:38), 'it should have been revised to keep up with inflation' (ibid). But, despite the freeze on the cash component, the basket of free food each week²²⁴ and free services including free water and electricity, maintained a credible safety net.

The GOB makes clear that the 'destitute' advantages are 'targeted and conditional' (GOB 2002:6). 'Eligibility is through self identification or more

²²³ 10 Pula = approx £1.00 (2010-11)

²²⁴ The Researcher saw that the social workers on strike April to June 2012 came in each week to ensure the destitute could collect their food baskets from the community halls. In the 2013 UN Awards competition, the MLG "Smart Switch Food Coupon System, obtained second place worldwide under the category "Promoting Whole- of-Government Approaches in the Information Age."Smart Switch is an automated system for the provision of funds to beneficiaries of social safety net support, in this case food baskets, to pre-approved merchants, which combines the qualities of e-efficiency and accountability. The system has also now been adapted to provide banking services to some of the poorest of Batswana. Source:Tautona Times 13th June 2013

normally by nomination by household members or community leaders or a local organisation' (GOB 2002:6). The Village Development Committees (VDCs) have a particular role at village level to recommend to the District Council (DC) who are destitute and who do not qualify. The numbers of destitutes in Botswana remained low at 38,768 in 2009/10 (Table 9.1 and 9.2) with 1,726 in Kgaleng District. They do not include those in receipt of government pensions. However, a comparison of the 38,768 destitutes (2009/10) could be made with the 23,599 count of those with an income of less than WB PPP \$1.00 (BP 8)²²⁵ per day (2010/11) (Table 9.3 below). The April 2012 national figure for destitutes was reported to Parliament in March 2012 as 30,294 (Parliamentary Question 717), which was a significant reduction and was claimed to be based on the success of poverty eradication measures. However, it was suggested by opposition councillors that the number of destitutes allowed in each district was set by the MLG in the budget they allowed to each district council (KI LGP1), but this could not be substantiated by the Researcher.

Concern about the supposed fecklessness of the destitutes or would-be destitutes led to almost unanimity by both KI and FG participants that all should pay something for WSS. The very low numbers of the poor (destitutes), able to get free WSS, usually not more than 5%, were contrary to the overall view from the FGs that the destitutes were much higher as a proportion of the population. This seems to have led to less societal support for pro-poor policies on WSS than otherwise would have been expressed. This view echoed the official line of the GOB: 'There exists a fine line between providing destitute persons with a reasonable level of benefits that will motivate them to use their best efforts to escape the poverty trap on the one hand and reaching a level where those very same benefits serve as a disincentive to such persons making an effort to obtain a sustainable livelihood on the other hand. The extent of assistance and opportunities.... has been set to allow for some latitude before the disincentive level is reached. It is therefore important that the rights, responsibilities and

²²⁵ 1 USD = 8 BWP approx (2010-11)

obligations of family members receiving assistance are clearly understood by all stakeholders, including destitute persons' (GOB 2002:10).

In addition to the provision and payment by the MLG/DCs for free WSS for the destitute, was the free provision of WSS under the Remote Area Dwellers Programme (RADP). This was started in 1977 to replace the Bushmen Development Programme (Good 2008:120). By 2003, it involved 38,000 people, operating in 64 small settlements across Botswana including the northern areas of Kgatleng District. The 'inadequate destitute allowance and the small old age pension constituted the dominant source of income in most Basarwa Settlements' (ibid: 122). Water was free, either provided by standpipes from district council boreholes or provided regularly from water tankers. The RADP provision of WSS remained with the MLG/DC. There was some criticism of the perceived failure of the Basarwa in the settlements of being "unwilling to work in the wage economy and many of those who claim to be RAD are not" (KI UB 4).

Outside those defined as destitute and RAD, the poor who were employed were protected by minimum wage legislation. The GOB revised the minimum wage rates at intervals, for example in 2007 the minimum wage rates were adjusted by 6.0%, in 2008 by 7.1%, but were not adjusted in the years 2009, 2010 and 2011. This meant that over the period 2007-12, the average increase in minimum wage rates was 4.4%, substantially lower than inflation for which the average increase was 8.7 per cent. An increase of 9% in 2012²²⁶ was the first since 2008, with a further modest increase in 2013²²⁷ to a general rate of BP 4.50 per hour. The 2013 domestic service sector rate was set at the perceived low rate of BP 2.50 per hour (BP 2.35 in 2012). There was a view that "an increase in [that] minimum wage would lead to unemployment among domestic workers" (KI UB 4).

²²⁶ SI No. 36 of 2012 effective 3rd July 2012

²²⁷ SI No. 55 of 2013 effective 17th May 2013

The minimum wage in the agricultural sector, mainly employees at the cattle posts, rose to BP 500 per month (2013) from BP 445 (2012) and BP 420 (2008) per month. That acceleration may have been linked with the General Election in 2014 and the need for rural votes. By international comparison, a BP 500 minimum per month is BP16²²⁸ or \$2 per day; the Motswana argument would be that the additional non cash income of provided food and a share of the cows (and nationally available public goods) make for a significantly higher real income for those at the cattle post (Peters 1994).

²²⁸ Exchange rate P8.66 = \$1 quoted in Mmegi Vol.30 No81 5th June 2013 “Bittersweet outcomes as Pula swings high and low”

	2004/2005		2005/2006		2006/2007		2007/2008		2008/2009		2009/2010		2010/2011	
District	Perm	Temp												
Kgatleng	703	150	602	267	1271	175	679	283	1265	168	1726	266	1456	39
Gantsi	1709	772	1825	724	1587	831	1690	772	1591	830	1560	902	1149	195
North East	620	153	653	203	614	149	572	153	614	149	733	194	635	85
North West	3110	45	2948	17	2912	196	2943	54	2886	187	3457	366	2908	182
Southern	4485	560	4794	778	6641	841	5379	766	6641	841	7577	1014	4896	79
South East	940	0	885	8	0	0	806	4	774	0	880	67	659	10
Kweneng	7962	327	5586	267	6293	199	7361	154	6296	190	6444	271	4620	253
Kgalagadi	2049	44	1725	20	1486	1	1348	42	1486	1	1611	31	1529	12
Chobe	208	11	269	10	262	4	258	8	263	4	290	25	263	1
Central	12684	494	12814	652	12221	726	12743	786	12221	726	13026	1428	11392	650
TOTAL	34262	2545	31832	2486	34061	3122	33785	3022	34037	3096	37304	4563	29506	1506

Table 9.1 Destitute Numbers in Rural areas in Botswana 2004/5 to 2010/11

	2004/2005		2005/2006		2006/2007		2007/2008		2008/2009		2009/2010		2010/2011	
District	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
Gaborone	150	53	147	11	161	11	152	14	155	12	184	27	150	64
S/Phikwe	81	16	81	2	91	18	80	14	89	17	104	24	122	35
Francistown	346	11	494	318	476	36	235	161	469	31	682	130	420	16
Lobatse	140	3	157	11	158	16	162	10	159	14	185	45	140	9
Jwaneng	6	9	6	6	8	7	8	8	8	7	9	4	1	0
Sowa	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	723	93	885	348	894	88	637	207	880	81	1164	230	833	124

Table 9.2 Destitute Numbers for Urban areas in Botswana 2004/5 to 2010/11

Source: MLG 2012

9.3.2 The post 2009 AC on water reforms potential impact on poverty reduction

President Ian Khama, in his inaugural address in 2009, announced there was to be a policy shift from poverty alleviation to poverty eradication. The then Vice President Merafe said in April 2012:

“Owing to this policy shift, we have committed ourselves to taking on the challenge of poverty eradication head on. In essence, we will not rest until all (I mean all) Batswana are living dignified, sustainable lives out of poverty. The policy of the GOB is to encourage self help, based on the perceived advantages of being a Motswana. This includes open access to land both on an individual [ownership/title to allocated tribal land] and common land basis. It is [through] the use of that land, in the village, at the lands and at the cattle post for agriculture and livestock that poverty is to be tackled.”
(Tautona Times, April 2012).

In 2009, 96% of the food consumed in Botswana was imported, with rising prices causing the poor in urban areas to depend for their food on their rural relatives' agricultural production (Moseley 2012). The need to ensure food production in the peri-urban villages became a priority. The new post-2009 policy of poverty eradication was to be particularly from backyard agriculture, based on paid for water availability, as set out below in Box 9.3.

This was in addition to six existing programmes: 'Small Scale Horticulture Development, Expanding Opportunities through Rain-Fed Crop Production, Increasing Small Stock Production, Strengthening the Community Based Natural Management (CBNRM) Programme, Creating Employment Opportunities in Tourism Industry and Building Capacity for Small and Medium Citizen Businesses' (GOB 2003:15). The GOB plan was to develop income opportunities for the poor 'to strengthen their technical and operational

capacities [so as to] increase yields in their production, thereby helping to achieve food self sufficiency and to provide economically sustainable employment opportunities' (ibid: 14). However, the first four programmes depended on water and the Water Resource Management (WRM) reforms impinged on their success (Kethoilewe 2013). The phasing out of free water from the removed standpipes meant hard decisions by individuals who qualified as low earners for these water dependant programmes; they had to decide whether these programmes were viable after the water reforms.

In addition, temporary employment Drought/Flood Relief Programmes was recast as the *Ipelegeng*²²⁹ programmes providing workfare for those able bodied and not categorised as destitute. This, in 2011, paid BP 500 per month (from BP450 in 2010) and was budget limited. This meant the *Ipelegeng* income could only be accessed by the poor on a rotational basis. Observation in the field showed that the most evident workfare task was the removal²³⁰ of all grass cover from the surrounds of roads and *kgotlas*, leaving the public space in villages and on the roads, devoid of vegetation by choice and often not from the lack of rainfall. No use such as composting was made of the vegetation cleared²³¹.

Codification of the legislative framework on poverty eradication was published in 2012 (GOB 2012c). It was used to promote a series of business models for small community businesses. It stated the programme was for 'amongst others, registered destitute persons, potential destitute persons, those engaged in the *Ipelegeng* program, people with disability and other vulnerable groups. Other community members who are not included in these categories will be given technical advice' (GOB 2012c:8). The water needed for most of the business

²²⁹ The name given to the scheme is still '*Ipelegeng*' translatable as 'the people must carry themselves on their own backs' (Selolwane 2012:11)

²³⁰ The KIs made it clear that this was part of their culture, which meant that land around huts (*lapas*) should be clear of all vegetation. This culture did not help the expansion of income generating horticulture in back yard gardens (Box 9.3)

²³¹ The *Ipelegeng* programme of work was extended in 2012 to include *inter alia* desilting of [small] dams, strengthening of storm drains and VDC/WDC are to decide on the work in each area: Daily News No.81, May 2nd 2013;8

models was priced in the models at WUC Gaborone tariff levels and as such must have made the business models less attractive. There was no mention of the entitlement of the destitute to free water and connections. This is despite this 2012 document citing the 2002 Destitute Guidelines (GOB 2002a). The main poverty eradication initiative during the fieldwork was that for horticulture in backyard gardens to be sold at market days in each large village, launched in April 2011 at a market day attended by the President in central Gaborone. There was planning for organised purchasing of this produce by government departments such as schools and hospitals, and private food retailers and supermarket chains. But it depended on affordable, available²³² water.

Box 9.2 The Backyard Garden Initiative 2009-13 dependent on water

“Those beneficiaries identified for backyard gardens are connected with water and their plots are fenced” (NA PQ 717 of the 27th March 2012).

“Under Phase One, extended to 30 constituencies, 319 backyard projects have been completed 592 are under construction. Under Phase Two, 7000 backyard gardens will be rolled out to cover all constituencies starting this month. Out of these backyard gardens, many families will be able to put food on their tables on a daily basis. Many families will be able to generate income of about BP2,000 to BP5,000 a month from selling their produce, depending on crops planted.

Amongst the major milestones we [GOB] intend to achieve in the current financial year [2012-3] are the rollout projects to at least 1,200 families thus aiding approximately 4,800 Batswana to step out of poverty.”

Source: V-P Merafe, Daily News April 2012

The GOB position on poverty reduction in 2013

The GOB does not provide an annual statistical commentary. But the Budget report of February 2012 quoted the then newly released Botswana Core Welfare Indicators (Poverty) survey of 2009/10. This indicated that the national estimates for persons living below the internationally comparable measure of

²³² The water restrictions imposed by the GOB in October 2012 excluded backyard garden water use. See <http://www.mmegi.bw/index.php?sid=1&aid=383&dir=2012/October/Friday26>

US\$1 per day dropped from 23.4 to 6.5 percent from 2002/3 to 2009/10 (GOB Budget 2012: 2, 37; Table 9.2). The same survey showed the number of individuals falling below the Botswana Poverty Datum Line²³³ had declined from 30.6 percent of the population in 2002/03 to 20.7 per cent in 2009/10 (Box 9.3). Both surveys show the biggest drop in poverty taking place in the rural areas.

The Finance Minister saw this success in poverty eradication coming from the Integrated Support Programme for Arable Agriculture Development (ISPAAD), Livestock Management and Infrastructure Development (LIMID), *Ipelegeng* and other poverty eradication programmes. He said, “Since 2010/11 to date a total of BP19.7 million has been spent on LIMID and over the past four years, BP660 million has been spent on ISPAAD, while BP278 million was spent on *Ipelegeng* during the 2010/11 financial year”²³⁴ (*ibid*: 38).

However, fieldwork tends to show that livestock rearing and wider agricultural programmes were dependent on cheap or free water from standpipes in the villages. A key question is whether the charging policy for water will lead to increases in poverty in the rural areas by the next survey (due in 2018/19). The increase in poverty levels in urban areas noted in Box 9.3 may have resulted from the start of charging for water (for Stages One, Two and Three) and the GOB decision to insist on removal of income earning animals from the villages (such as Mochudi) in 2010.

²³³ The Poverty Datum Line was recalculated each year based on the then monetary value of a basket of commodities. In March 2013, it was estimated to be an average across Botswana of P486.75 per month but varied across seven regions, by age and by sex: on the latter point, ‘the total cost of clothes for an adult male is higher than that of a female’ Daily News No 76 April 24th 2013:2

²³⁴ 1 USD = 8 Pula (2010/11)

Strata	Total number of households	Total number of persons estimated	Number of households with persons below US\$1 a day	Number of persons below US\$1 a day	Proportion of persons below US\$1 a day (%)
2009/10 BCWIS					
Cities/Towns	132,362	368,807	4,361	12,022	3.3
Urban Villages	170,632	654,113	6,573	39,974	6.1
Rural Areas	218,333	778,486	12,665	64,391	8.3
National	521,327	1,801,406	23,599	116,388	6.5

2002/03 HIES					
Cities/Towns	109,556	369,812	3,449	18,699	5.1
Urban Villages	121,321	545,253	15,398	105,118	19.3
Rural Areas	163,395	717,857	41,850	258,915	36.1
National	394,272	1,632,922	60,696	382,733	23.4

Table 9.3 Proportion of persons living below PPP US\$1 a day (2002/3 and

2009/10)

Source: BIS 2012

Box 9.3 The 2009/10 Poverty Survey on the basis of the Poverty Datum Line (PDL)

There was a decline in the overall number of persons living below the PDL, from 499,467 in 2002/03 to 373,388 in 2009/10. The 2009/10 Botswana Core Welfare Indicators Survey (BCWIS) commonly known as the Poverty Survey, is based on a 12-month long survey which allows estimation of factors that are highly affected by seasons such as poverty and employment measures.

PDL was the cost of a basket of goods and services deemed to be necessary and adequate to meet basic needs for household members for food, clothing, personal items, household goods and services and shelter. Water was not part of the basket of goods as it was free from standpipes at the time of the survey.

Source: Statistics Botswana, at

<http://mmeqi.bw/index.php?sid=1&aid=1105&dir=2012/June/Friday15> accessed 12 June 2012

The GOB poverty eradication campaign appears to depend on all year round availability of water. The removal of the standpipes has ended that source of free water. The 50% subsidy on water since independence for all still remains and the tariff decisions and the access to boreholes policy will require careful calibration to ensure that the poor of Botswana, rich with their access to free land and the GOB help on annual inputs, do not slip back due to lack of affordable water. The urban backyard garden schemes are the main initiative in those areas. But again it depends on water availability and at a price affordable to the poor.

In 2012 tax rates on income in Botswana commenced at 5% on income above BP36, 000 pa (P3000 pm) and rose to a maximum of 25% on income above BP144, 000 pa²³⁵. The GNI per capita income was \$13640 pa (2010)²³⁶. The GINI index for Botswana remained above 6.0, if the right to public goods and land is ignored. The inequality of cash income in Botswana is reinforced by the

²³⁵ Available at http://www.burs.org.bw/phocadownload/Tax_Rates/2011tax%20rates.pdf accessed 20th September 2012

²³⁶ Available at <http://search.worldbank.org/all?qterm=botswana> accessed 20th September 2012

lower overall proportion of tax coming from income related tax (7.9%) compared to South Africa (16.0%) and Namibia (10.1%). The potentially regressive VAT (12%) and sales tax revenues are comparatively low. The income from the mineral taxes provides the alternative to the use of progressive personal taxation in Botswana. Personal taxation is thus comparatively low compared to Namibia and South Africa; redistribution from the rich to the poorer paid by tax credits was not in 2013 a policy of the GOB. The pro-poor policies for WSS, beyond continued free provision for destitutes and RAD, came from the tariff proposals.

9.4 Recognition of Poverty Reduction objectives through tariff policy by the drivers in the water reforms

The national water policy's (NWP) stated objective was to 'promote social equity in access to water supply and sanitation services with protection for the destitute and vulnerable' (GOB 2012:11 and 2010). The strategy for achieving this was to be 'the development and implementation of multi-tiered tariff structures, fees and mechanisms to ensure social equity and affordability, supported by the implementation of pro-poor strategies' (ibid). The result of this charging policy was to be monitored, looking at 'household expenditure on domestic water supplies to ensure affordability such that the maximum household expenditures [on water] account for less than 5% of household disposable income' (Ibid: 11). No data was available from the GOB in 2014 on whether it is below or above the 5% benchmark. However, the cost recovery policy proscribed by the WB (2010), which had an important role in the reform process, did not recognise poverty reduction objectives in their proposals for a new tariff policy.

9.4.1 The assessment of alternative pro-poor tariff policies for Botswana

9.4.1.1 The World Bank (WB) proposals for Botswana

Water Tariffs in Botswana had been largely stagnant over the period 2004-10. The Water Utilities Corporation (WUC) and both the Department of Water Affairs (DWA) and District Councils (DC) last raised tariffs in November 2003 and December 2004, respectively²³⁷. This tariff standstill was not claimed as a pro poor policy by the GOB. The WB, as part of their remit in 2009/10 to review the implementation of the National Water Master Plan Review (NWMR) (GOB 2006c), came forward with recommendations for the revision of the WUC tariff structures (GOB 2010b:11). This was based on an international comparison of tariffs which demonstrated the low level of Botswana tariffs both within SADC and internationally (Appendix Five).

The WB had two core scenarios: of A) a Baseline Scenario with no tariff increases and ever increasing annual deficits and B) a Solution Scenario with tariff increases. The latter was based on full cost recovery with a '20% increase in water tariff revenues and a new wastewater tariff, both to be effective 1 April 2011, and annual tariff adjustments after that to yield additional WUC revenues in line with the level of inflation. [On this basis] 'WUC can operate with annual surpluses, 100% annual debt service coverage, and maintain adequate cash reserves. It can finance BP1.4 billion of the total P15.5 billion projected 10-year capital budget – approximately BP100 million each year, adjusted for inflation' (GOB 2010b:2). The WB was very critical of the GOB policy on water subsidies (Box 9.4) and proposed the elimination of the subsidies. This depended on the adoption of the WB tariff proposals.

²³⁷ Report to the NA by B K Paya, 2nd December 2010

Box 9.4 The WB critique of water subsidies (2010)

'The GOB has been subsidizing the water and wastewater sector at increasingly large annual amounts, as most costs have increased at the general level of inflation or higher, while tariffs have not been increased for six years. The GOB directly subsidized the DWA, DCs and Urban Centers [sic] water and wastewater recurring operations by at least BP310 million in 2007/08 (the difference between total recurring actual expenditures and revenue collections), and funded 100% of their capital budget requirements plus a substantial portion of the NSC1 project. GOB received a BP50 million dividend from WUC in 2007/08, partially offsetting this subsidy. Under the reformed water and wastewater operations (Solution Scenario B), the GOB recurring subsidy is automatically eliminated as WUC takes over recurring budget expenditures from GOB – the majority of this subsidy has already been eliminated, effective 1 February 2010 when WUC completed its Phase Two takeover in addition to Phase One completed in May 2009. All of this subsidy will be eliminated effective 1 September 2014.'

Source: WB 2010b:2

This was not agreed to by the GOB, who opted for the Baseline Scenario and continued the six year freeze of the water tariffs at the level they were at in each district. No additional charge was allowed to be levied by WUC for sewerage, when they took over in March 2011. The only change was the imposition of VAT at 12% in newly taken over areas by WUC as it was a VAT levying utility. Despite this 'no increases beyond VAT' policy, Ministers were still berated for the non-existent increases in tariffs in the *kgotla* meetings the Researcher attended. But perhaps for some people, it was the first time they had been chased for any payment.

9.4.1.2 The potential embedded pro-poor role of the Water Regulator

Mott Macdonald (MM) was asked in 2009 to report on the need for an energy and water regulator, independent of government (see Chapter Seven). In their final approved report in 2011, MM proposed that the Botswana Energy and

Water Regulatory Authority (BEWRA) be required within the final legislation to 'ensure that the public supplier introduces or maintains a tariff category for the sale of electricity and/or water to domestic customers with low incomes or consuming small quantities - especially in rural areas' (Mott Macdonald 2011). 'Tariffs charged to this tariff category may be set below the costs of delivery to these customers. Assuming full cost reflective revenue requirements are being sought, this creates a need to make up the revenues from other sources.' The MM report commented that it is important for financial sustainability that 'the mechanisms for funding wider policy objectives [are] set out transparently in advance.'

Broadly, there were two options for a subsidised pro-poor tariff: cross subsidy from other consumers; or subsidies from the public purse. The formula proposed by MM 'can be adapted to form the basis of any central subsidy where the cost reflective price exceeds the final price Government wishes consumers to face, for example, rural connections' (MM 2011:122).

Block tariffs and, in particular, rising block tariffs (RBTs), are a type of tariff structure under which consumers face a per unit tariff that is less than the cost reflective tariff for low levels of consumption before switching to a tariff that is above the cost reflective tariff for higher levels of consumption. This is illustrated in Figure 9.1.

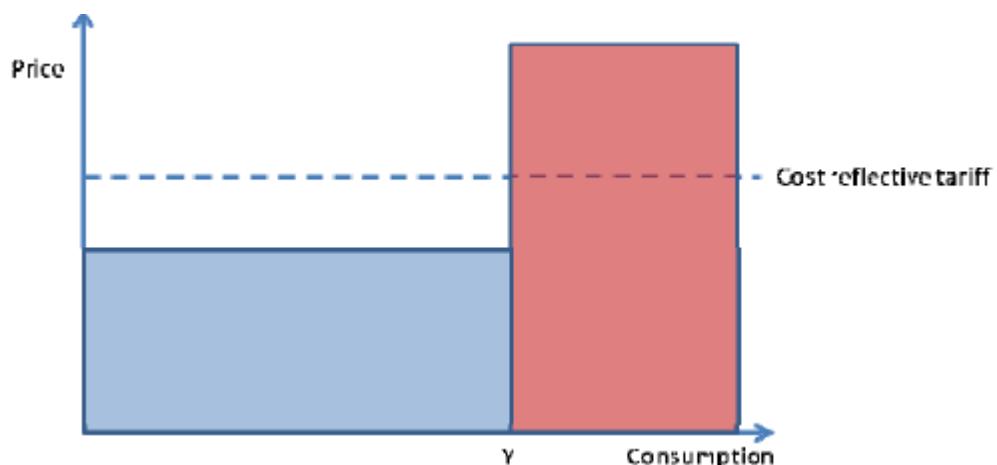


Figure 9.1 Rising block tariff

Source: GOB 2011b

If the total amount of revenue collected is to be cost reflective, then the revenue collected from the higher tariff above the cost reflective price must be sufficient to offset the shortfall in revenues from low volume consumers facing a tariff that is less than the cost reflective tariff.

The current WUC tariffs are RBTs to protect the poor. This was the policy set by the GOB at the inauguration of the WUC in 1968. The requirement was for WUC to operate commercially with full cost recovery, but the rising block tariff has since 1968 protected the poor where the WUC operated. Prior to BEWRA, tariffs were proposed by the WUC and the DWA to the MMEWR for review, with final approval at Cabinet level as took place with the June 2013 tariff changes.

The final 2011 report into the implementation of a BEWRA emphasised equity as being equality between the consumers of the WSS, with the economic function being taken account of. However, the MM report continues that 'at the end of the tariff setting process, tariffs have to be affordable. The ability of customers to pay for the energy/water they consume is an important consideration in maintaining the long-term financial viability of the utility. We have seen too often in countries of Central and Eastern Europe and the former Soviet Union that during the reform process, utility prices have increased so fast that in many instances they were no longer affordable, they were beyond customers' ability to pay and collection rates were very low, to the point that the utilities involved were technically bankrupt' (GOB 2011b:10). The new regulator is proposed to have the power to set prices to take account of the traditional pro-poor policies of both a rising block tariff and the continuation of government subsidies (KI CGCS 6).

9.4.1.3 The June 2013 Botswana 'national' tariff

In June 2013, the GOB Cabinet agreed the first stage towards a coordinated tariff for all Botswana WSS consumers to replace the eighteen different tariffs set by the previous eighteen different water authorities. The WUC pointed out that it meant some consumers were paying up to '300% higher tariffs for the

same consumption and quality of water'.²³⁸ But the so-called 'national' rates, while moving towards equalisation continued to vary, albeit less than before. Appendix Five shows the tariff structure that for the usage of 0-5 Mm³ the rate was to be BP1.50 where the previous rate was at or below BP1.50 and BP2.00 where the rate had been BP2.00 or higher. The tariffs were the same for domestic and business consumers. The changes overall appear to be a move towards cost recovery from the wealthier village consumers, previously supplied by local authorities and the DWA, with increases of up to 50%. But large users in the pre 2009 WUC areas also have increases above 50%

The increases in tariff of over 20% to government users such as ministries, schools and hospitals, signal a wish by the GOB to reduce the distorting water subsidy in the government system. This move coincides with the final report of the BIWRM-WE and implements its recommendations for water demand management in the public sector (DWA 2013).

The view of the MMEWR was that within a five year period there would be a standard tariff throughout Botswana to reflect full cost recovery (KI CGCS 6 May 2013).

9.4.1.4 Comparisons with South Africa and Namibia

Provision of free basic water in South Africa at 25L per person per day appears not to have resolved the issue of pro-poor provision of water in South Africa. Part of the difficulty of affordability was the much higher level of RBT above this level in South Africa, compared to Botswana (Appendix Five). But this has changed with the Botswana tariff increase of June 2013 (*ibid*). Outside the main centres in Namibia, collection rates were low (*ibid*). In Namibian towns such as Windhoek, Swakopmund and Walvis Bay, water tariffs sought full cost recovery to reflect the scarcity of water and the high costs of recycling. For the

²³⁸ WUC website http://www.wuc.bw/read_more.php?newsid=81 accessed 22nd May 2013

poor in both Namibia and South Africa, the RBT was seen as the way forward (Appendix Five).

9.4.1.5 The Botswana connection charges policy

Before 2009, a primary reason many households did not have water service was that no piped water distribution system was in place in their areas and streets. While the DWA and LG supplied villages and wards, except unrecognised settlements, the Land Board²³⁹ allocated plots where WSS lines did not reach. They also haphazardly allocated plots such that gates of the different residential units faced different directions and contributed to their inaccessibility. This exacerbated poor delivery of water and sewerage. But the Kgatleng Land Board (KLB) made a contrary observation to the effect that some allocated plots took so long to develop that the owners forgot the correct positioning of the house and gate. Other plot owners sent representatives who failed to guide them with fencing the plot and constructing the house. The other plot owners allegedly choose plots far away from services (KI KLB 1).

Where connection was possible, the high levels of the connection charges by WUC, DWA and the District Councils (DC) were seen as another reason. Prior to the reforms, this had been done under a self help basis with no control over the materials used. It was said by the WUC to be a reason for the high loss of water. WUC and DWA collected over BP5 million annually (2009) from connection charges, here they did all the work up to the prescribed standard; reliable information on DCs connection fee income if any was not available. The fee structure varied widely (Table 9.4).

²³⁹ Kgatleng Land Board (KLB) policies only were researched but the allegation was made by many Batswana interviewed. New policies on a land register with title were successfully trialled by KLB in 2011 for introduction across Botswana. This could enable clearer planning of new WSS pipes by WUC

BP Fee		Fee with Customer Labour
WUC	950	N/A
DWA	879	439
DCs		
Kweneng	700	375
WUC Supply	N/A	N/A
Malotwane	N/A	N/A
Central	845	422.5
Ghanzi	750	375
Kgalagadi	879	439
Kgatleng	919	479
NW	1,000	550
SE	650	439
Average	820	440

Table 9.4 WB analysis of connection fees in Botswana (2010)

Source: GOB 2010b:28

After 2009, connection fees were to be nationally set. A significant part of the water reforms was to extend water services to all areas and to all regardless of income by 2016. It was proposed that after services were widely available, it would then be possible to determine whether a lower connection fee was necessary to achieve universal coverage, including the poor. Until then, the WB recommended maintaining and standardizing the connection charge and that the WUC should continue to offer, and expand, instalment payment plans that

make connections affordable. It further recommended a house to house programme offering an instalment plan to households who had not yet connected to the system.

In April 2012 the GOB announced that 'WUC has been allocated BP362 million to solve the water reticulation crisis and the standard charge for water connection would be BP1500 for individuals who are 50 metres from the water supply. Anything beyond the 50 metres distance [would] be the BP1500 amount plus P27 every metre thereafter. Customers [would] also pay a standard BP250 for excavation and cost of material discounted at 15 per cent. The minimum charge for every standpipe connected at homes with water or no water [was] to be BP10. WUC will renew standpipes and install meter readings to stop those that are watering their livestock from standpipes' (Daily News 20th April 2012:1). This was not cost recovery, it was pro-poor but it did establish a national connection tariff for the first time. The WUC survey, taken before the new policy came into effect, found that respondents did not connect to the WUC because of delay by the WUC to connect (42.3%), connection costs (23.1%), unavailability of service in the area (5.8%), bills still owing (17.3%), low water pressure and land certificate delay (11.5%). Because of the reluctance to connect or inability to pay, in February 2013, the WUC decided to retain standpipes in Maun, Molelopole and Mahalapye only operable by prepaid tokens 'just the same as electricity meters'²⁴⁰. This was extended to throughout Botswana in April 2013.;'so every individual paid according to their usage'.²⁴¹ Disconnection by the WUC for failure to pay water bills was proposed by the WUC in the autumn of 2012, after a failure to get BP243M in arrears paid, much of it accrued from pre 2009 supplies never chased up by the predecessor bodies (LG and DWA) ; it threatened a 'massive disconnection' exercise (Mmegi 12 September 2012:29.136). But it appeared the problem was not payment by the poor but by the rich; 'some homes were inaccessible when people were away for various reasons such as screen walls, secured gates and vicious guard dogs, all which make it impossible for WUC workers to take

²⁴⁰ Daily News 14th February 2013

²⁴¹ Daily News 22nd April 2013

readings' (ibid). It led to a commentator stating 'where people or institutions fail to pay their (reasonable) bills in good time, they should be warned by name in the Daily News that if they fail to pay within a week, they will be cut off and advised that reconnection will take a minimum of three months to effect. That should do the trick' (Mmegi 18 September 2012:29.139). It would appear that even with the very large tariff subsidy applicable to all, there is still a concern in Batswana society to protect the wealthy from press exposure for non-payment of the still very low WSS bills.

By 2013, WUC decided that all water connections would be operable in the future only through prepaid water meters and tenders had been issued for supply to all WUC consumers (KI WUCO 4 May 2013). The success of prepaid electricity meters was seen as the driving force and given the widespread views that the WUC bills were wildly inaccurate; there was broad public support for the move when the researcher returned briefly for fieldwork in April/May 2013 (KIs LGP 4; M2; V2016 1; LGCS 3). The Researcher reflects that it was a new AC action that reflected WDM and fairness to ensure there no wealthy freeloaders and that the WUC could not claim back more than the water truly used. But consumers may feel that, after installation of the prepaid meters, there is a difference between the significance of the provision of electricity and that of water, because of the fundamental importance of water to life.

In late 2013, the decision was taken by GOB to retain some free for use standpipes, particularly in the last area to changeover in Maun, to ensure the poor had access to water.

9.4.2 Batswana views on pro-poor policy in WSS

Section 9.3 has shown how water policy has evolved in Botswana and the extent to which these changes have been pro-poor. In Section 9.4.1, we have looked at the alternative ways in which tariff policies on WSS can be pro-poor with examples cited from the WB, South Africa and Namibia and the current situation in Botswana. As in the previous chapters, perspectives are now

analysed from three Batswana sources: the KIs, the FGs and the Mochudi supermarket survey.

A) KI views on the right to water

Key Informants:	Private Sector (2)	Civil Service (6)	CSO (4)	Local Govt (5)	Kgosi (3)	Water experts (7)	Media (2)	Mean Average (29)
Is there a Legal/Moral right to water?	7	3.5	5	4	7	5	6	5

Likert Scale: 0 = no importance, 7 = high importance

Table 9.5 Data Summary of KI views on the legal or moral right to water for every Motswana

Table 9.5 lists the responses from KIs. The Private Sector and the Kgosi KIs gave maximum importance to the right to water, with the Media rating the right highly too. But civil servants and local government KIs rated the right much lower perhaps reflecting the concerns over cost from the potential unlimited off take of water. The CSO view (5) is lower than might be expected; although it was noted earlier there was no general campaign over the right to water. Among the CSOs only Ditshanwelo campaigned for the right of access of the Basarwa to water.

B) The view from the Focus groups in Botswana on the right to water²⁴²

There was little support for the idea of water being free. There was an overwhelming view that all should pay something, however poor, and the very poorest should be dealt with within the destitute entitlement:

“I say we can't have water for free, but government should realize that water is God's gift and not over charge” (FGON 1).

“The fact is; water shouldn't be drunk for free because it is the government resources” (FGB 1).

“I think we should pay a little something because WUC people spend a lot of money to bring us these developments we enjoy of water. We should pay bills” (FGM 1)

All the Batswana interviewed felt some payment should be made but at a low level:

“I think BP10 is OK because this water is not the Government's or WUC's. This water was given to us by Jesus, it was given to us by God and then we take it. But there are some cases you find that somebody is alone and would not be given water and therefore would end up begging from the neighbours” (FGM 2).

The concern about the ‘fecklessness of the destitute’ or would-be destitute led to almost unanimity by both KI and FG participants that all should pay something.

²⁴² The WUC 2012 National Survey data shows ‘no strong conviction that WUC water rates were unreasonable’. The study found that 53.9% commercial and 47.7% domestic respondents felt that the rates were reasonable for the services they received (WUC 2012). But equally there was no endorsement for a tariff increase.

‘There exists a fine line between providing destitute persons with a reasonable level of benefits that will motivate them to use their best efforts to escape the poverty trap on the one and reaching a level where those very same benefits serve as a disincentive to such persons making an effort to obtain a sustainable livelihood on the other hand. It is therefore important that the rights, responsibilities and obligations of family members receiving assistance are clearly understood by all stakeholders, including destitute persons’ (GOB 2002:10).

It seems that the very low actual numbers of the poor, designated ‘destitute’, (usually not more than 5% of the community in Table 9.1), are contrary to the overall views of both KI and FG participants that their number is much higher as a proportion of the population. This is perhaps influencing their views and contributing to a lower willingness to provide support for free or very low cost water.

C) The view from the Mochudi supermarket survey, June 2011

There appears to be a view that at least something should be paid for monthly consumption with a spread up to BP70+ per month (Figure 9.2). There was no view that water should be free; however, those with earnings at the higher levels (BP5, 000 per month) still saw water as a product which should be priced low (Figure 9.3).

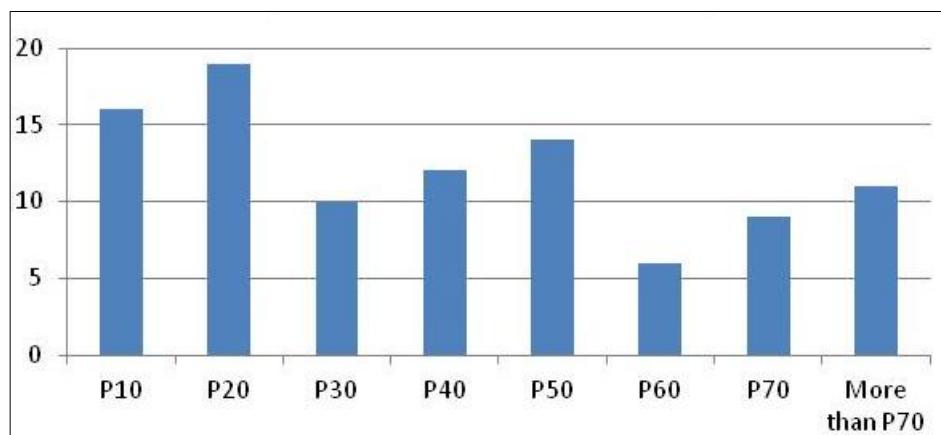


Figure 9.2 Survey Question: How much should each household pay for its water per month? (n=99 respondents)

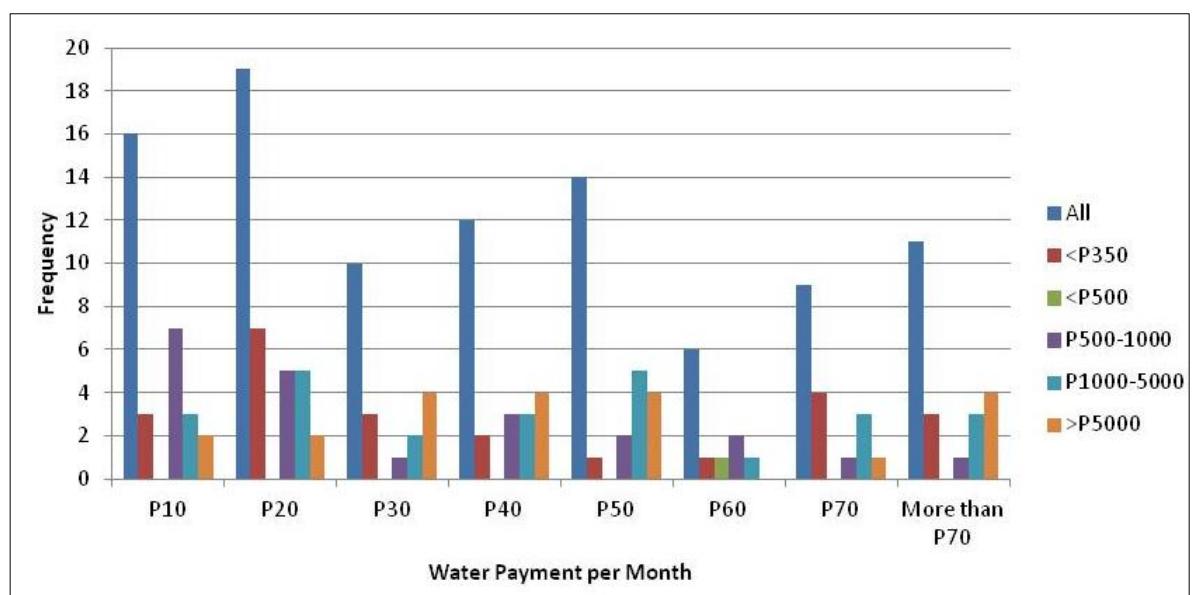


Figure 9.3 Survey Question: How much should each household pay for water each month? (with answers for each monthly income grouping of respondents) (n= 99)

Source: User Survey Mochudi, June 2011

Those surveyed not only thought the poor should pay, and 67% felt that the rich should not pay more for their water. The poorest surveyed and the richest felt this but the lower income earners (P500-P1000 pm) felt the rich should pay more. A Chi squared test shows there is a relationship between earnings and

how people perceive how much the rich should pay to 95% confidence (Appendix Three).

9.4.3 The GOB decision on pro-poor tariffs

From the start of the reforms in 2009, the GOB stated there would no increase in tariffs anywhere WUC took over, except the imposition of VAT at 12%. In May 2011, to attempt to demonstrate a pro-poor water tariff policy, the GOB told the WUC not to charge VAT on the first 5,000 litres of consumption per annum, while still requiring WUC to pay VAT on all their sales of water to the MFDP. In April 2012, MMEWR announced a 10% across the board increase in water tariffs as from May 2013.

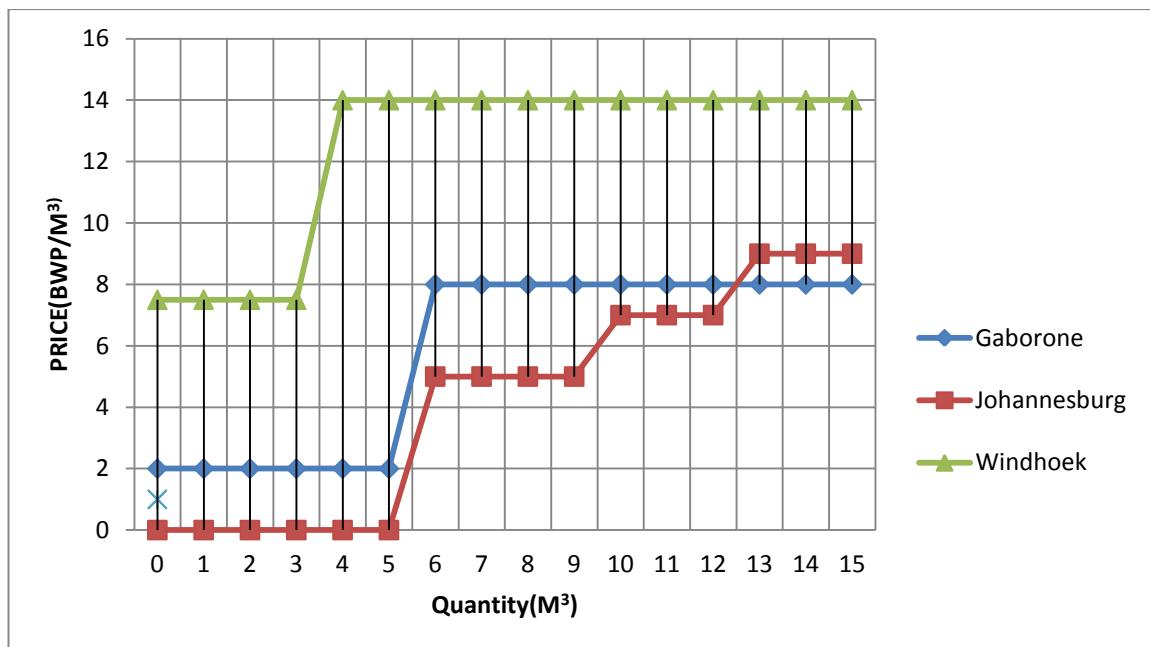


Figure 9.4 Increasing Block Tariffs in Southern Africa (2012/13)

Source: after Grynberg 2013:35 and WUC increases June 2013

In May 2012, the WUC increased tariffs by a further 12% on its original pre-2009 customers, chiefly in Gaborone and Francistown, without announcement, with cross subsidy for the poorest on the basis of the rising block tariff. The only

comment on this increase came in December 2012 and this was supportive, pointing out the protection of the poor and the fact that the WUC tariffs were still lower than surrounding countries²⁴³. At that time, this policy still left in place the different tariff levels that WUC inherited at the takeover and left the tariffs in the entire takeover areas unchanged. The tariff changes of June 2013 (Appendix Five) established two tariff levels for the 0-5m³ of P1.5 and P2.0 with a reduction in the Gaborone tariff down from P2.10 to P2.0 and Francistown down from P2.40 to P2.00. Conversely the similar rate for Mochudi went up from P1.75 to P2.00 and for Ghanzi from P0.90 to P1.50. However the WB recommendation for a single unified national tariff has not yet been followed (GOB 2010b:21).

Figure 9.4 shows how the pro-poor tariff policies compare between consumers in Gaborone, Johannesburg and Windhoek. While the Botswana capital water charges are initially higher than those for South Africa, they then fall below. The charges for Namibia's capital are far higher. Furthermore, the view was that in 2013 the Botswana water charges for the poor were lower than in both Namibia and Lesotho (Grynberg 2013:35).

9.5 To what extent could the proposed new WRM/WSS structures have addressed poverty and equity, in the main locations of Batswana life,, in the villages, at the lands or *masimo* and at the cattle posts or *moraka*?

The WRM/WSS policies have to be judged at the three points²⁴⁴ around which Botswana and Tswana social and economic life revolves. That life is based at

²⁴³ Mmegi, 14 December 2012 | Issue: Vol.29 No.188 at <http://www.mmegi.bw/index.php?sid=10&aid=64&dir=2012/December/Friday14>

²⁴⁴ The President announced at the BDP convention in March 2013 that in future livestock would be allowed to be kept at the *masimo*, so to help the poor not having to travel to the *moraka* (cattle post). It presages a significant change in Botswana culture. It would deal with problems over access to water for the poor from borehole syndicates and be an extended use to the water reform plans to pipe water from the villages to clusters of *masimo* (Mmegi 18th March 2013). This change will be discussed further later in this Chapter.

the village where they were born and lived as a child. Their relatives are still there. In the growing season the females of the family move to the *masimo* or lands allocated to them by the Kgosi and after 1966 by the Land Board (LB). The males of the family looked after the family cattle where they stood at the *moraka* in the common tribal grazing grounds, sometimes with access to a nearby borehole. This three part society within the development of Botswana has had a fourth element which was the urban home where the cash based jobs normally were located. But at all holidays, Batswana usually migrated back to the villages and the lands and each weekend, the men sought to visit the cattle. The poor were always represented in these traditional places, often paid a retainer by the richer town dweller. Did the WRM/WSS reforms help the poor in the three locations outside the city?

9.5.1 WSS changes in the villages

All had had free water in the villages. The standpipes had given free water to all since they were progressively installed after Independence, paid for out of the BP 500 M GOB subsidy in which all, rich and poor, shared. But WDM did not exist: "high levels of water wastage were associated with standpipes"²⁴⁵ (KI CGCS 5). By 1990, there were standpipes in each village within a certain distance of the traditional inner village *malapa* (yards). Outside this inner village, provision was low and donkey carts were used to transport the water. In the more remote areas of the village, bowsers/water tankers delivered water (and still do). A ban on the keeping of small livestock in the village was announced from the *kgotlas* in Kgatleng (and elsewhere in Botswana) in November 2010. This appeared to be connected to the phasing out of the standpipes, around which small livestock gathered for water.

²⁴⁵ Budgeted and paid for by DWA and LG from their central government grants. It was a cause of friction that when WUC took over, these budgets were not passed to WUC. The cost of access of destitutes to the remaining standpipes was reluctantly accepted by KDC and the other Councils.

FGs, all composed of poor individuals, expressed concern about the speed of the phasing out of the standpipes. This had been progressively happening in the cities and from 2009 in the villages and the rural areas.

One of the oldest and poorest urban villages in Gaborone is **Old Naledi** where the FG views were concerned about the impact of the closure of the standpipes on the poor:

“I say they should be closed only after the poor have been identified like this lady said earlier. Like, I don't have a tap at home. Everyone should have a tap before they are closed. Otherwise those without taps would suffer. They would have to go around the neighbours and will be charged even though they don't have any money.” (FGON 1)

“I don't want public standpipes to be closed. People just mentioned that people are not equal. If they are closed.... some will not manage to connect pipes to their homes. Where would they go? They would suffer. I think they should rather be improved, fenced so that they can be safe. I don't want them to be closed because it would bring suffering to some of us who can't afford to connect water to our yards.” (FGON 2)

“No, public standpipes shouldn't be closed because while some people are well off, others are not. People would suffer. They (standpipes) just need to be protected from vandalism so we can continue getting water and live. Without water we can't live, water is life.” (FGON 3)

Whilst this concern was felt by some, the majority saw advantages from the ultimate closure of the standpipes:

“I say they should be closed, but after people have connected their own taps. Those who can't afford will see the relevant people who can help them. These taps [standpipes] are not as safe as they

would be if they belonged to someone. Some people just wash their heads there because nobody can say this is my tap and you should stop doing that." (FGON 4)

"Some steal the copper which they sell leaving the taps dripping. But if it is somebody's property, they would make sure it is protected by looking after it and having an arrangement with tenants for the use of it. They should be closed because all the bad things that you can think of happen there." (FGON 5)

"Standpipes should always be clean, but sometimes you find children's poo there, you see. We just drink because there is nothing else we can do. So we end up cleaning and then fetch water because we don't have a choice. They should be closed, but after everybody has a tap in their yard." (FGON 6)

"I think she has cleaned the issue." (FGON 5)

"They should be closed but after a long time because some of us will take a long time before we can connect taps to our homes" (FGON 4).

"Yes, it's like that. I also want them to be closed after everyone has connected water to their homes" (FGON 6).

"I agree" (FGON 7).

Other views expressed were for the closure:

"I want them to be closed. People are very difficult. If a certain section was given a deadline by which to have connected, some would not meet it, not because they can't. I think they should be closed so that we can also be like other people in other areas where they have been closed. The poor have somebody responsible for them, but most people are not really that poor. It's just that when they are asked to do something, they do it in their own time even though government has decided. I say they should

be closed after everybody has been connected" (FGON 8).

"There are place like Extension 14 [suburb of Gaborone] where they were closed and most - let me say most of the [private] yards I have seen - there, have a standpipe but before, there were [public free] standpipes outside. That's why I say people are difficult. They will just relax knowing that there is a standpipe outside even though they can afford to water" (FGON 9).

"If it so happens that the government leaves standpipes for those who are not able, they should be given keys or something instead of just letting them be used by everyone. Otherwise I would just fetch from there to keep my bill low even though I have a tap at home" (FGON 10)²⁴⁶.

Broadhurst was originally a farming community, now subsumed within the northern areas of Gaborone City. It is an urban village of self help housing agency (SHAA) financed private housing often with further accommodation for rent in the yard, where the standpipes have already been closed. Here the opinion was that:

"The effect of the closed standpipes is felt by those without taps in their yards because they are suffering since the standpipes were closed. They ask for water from next door and sometimes they cross the tarred road to go and ask for water very far. But you hear people saying, "then I will charge you BP50 per month" not because they will pay the BP50 to WUC. Meaning that the one who is asking for the water is the one who will take care of the bill" (FGB 1).

"It's true since water was disconnected from the standpipes people have big problems. Some of us [are] without pipes.... which means you get from your neighbour, which means we need to contribute

²⁴⁶ In May 2013, the WSS to all properties in Old Naledi was complete but the Researcher observed the two remaining free standpipes on the edge of the community which had a numbers of users.

because if you don't, he won't understand you were not able. They charge from BP50 up. They look at the number of people living in your home, like me, I stay alone because the children have fled the drought to the village, but I pay BP50. But they promised that when the children come they will increase to BP70. So, these are the challenges we face since standpipes were closed" (FGB 2).

But again there was support for the closure, which appears to reflect basic differences in opinion between individuals in the group. Key factors mentioned included:

"No, I say standpipes should be closed. Like we were told, water was being wasted in the streets, even though we needed it. There are some evil kids who would open these standpipes. Every morning you would find water flowing very far from the tap" (FGB 3).

"But it's been expensive for we as Batswana. The fact is, they have been closed, but we were consulted. So those who were thought to be unable to connect are the ones government or WUC should have considered and have them pay in instalments. You see?" (FGB 4)

The standpipes were being closed as part of the water reforms in the four FG villages in Kgatleng District during the period of fieldwork. There too, were concerns that the WUC was not listening to the poor people:

"We are in Botswana, there is freedom of speech. I say WUC should read their constitution and change management. The DWA was better" (FGOD 1).

“Standpipes shouldn't be closed. We are not the same, we are not teeth²⁴⁷. Other people are not able to connect taps to their yards because they are poor especially that WUC is so expensive” (FGOD 2).

But in Mochudi and elsewhere, vandalising of the standpipes was seen as a reason to close them:

“Yes, there is no adult who can do that. It was the children and those who go out at night who were just being naughty without consideration for what adults want” (FGM 1)

“Standpipes, we want them to return because, like the ladies were saying, we are not equal. There are those who still haven't connected pipes to their yards and so they are really suffering. The problem is that children vandalise them. And also the children, especially those who go out at night, when you wake up you find that they have left their things there. I suppose they got disgusted, but we are asking for their (standpipes) return.” (FGM 2)

“I want to comment about the standpipes being vandalised. They were vandalised before they built shelters for them and it was mostly donkeys which broke them. After they were sheltered they were just OK. They are sheltered and nothing has happened to them.” (FGM 3)

“I am adding to what the lady here said, and I say she is telling the truth There are things that used to happen at the standpipes which are not good which maybe caused the government to close them.” (FGM 4)

“Like the lady was saying, you find some disgusting things put in

²⁴⁷ A Batswana concept that teeth are given to everyone equally.... but money is not distributed equally.

there. I also could go out and talk to someone and put bad things there. Such things were disgusting to us. There is a disease.... our children move around at night and do whatever.... and when that thing is removed you wouldn't know whose it is." (FGM 5)

The general feelings in Kgatleng District expressed at the FGs were that the standpipes were being vandalized and were a problem but there was concern that the water from the taps would not be affordable in the way the [free] standpipe water was. It was seen as a necessary but undesired change in the nature of village society. It was a move from collecting at a standpipe each day to a situation where, if they could afford it, water was available by a turn of the tap in the lapa. The interviewees were the poor remaining in the villages. They had had the time and accepted the labour involved in the collection of the water each day. What would replace the social elements of this?

The concerns expressed on the removal of standpipes are not only expressed by the poor. The survey of the richer individuals, outside the Mochudi supermarket confirmed that there was societal concern. While a small proportion of those surveyed used standpipes (20%), 60% of those asked believed free water standpipes should remain (Figure 9.5).

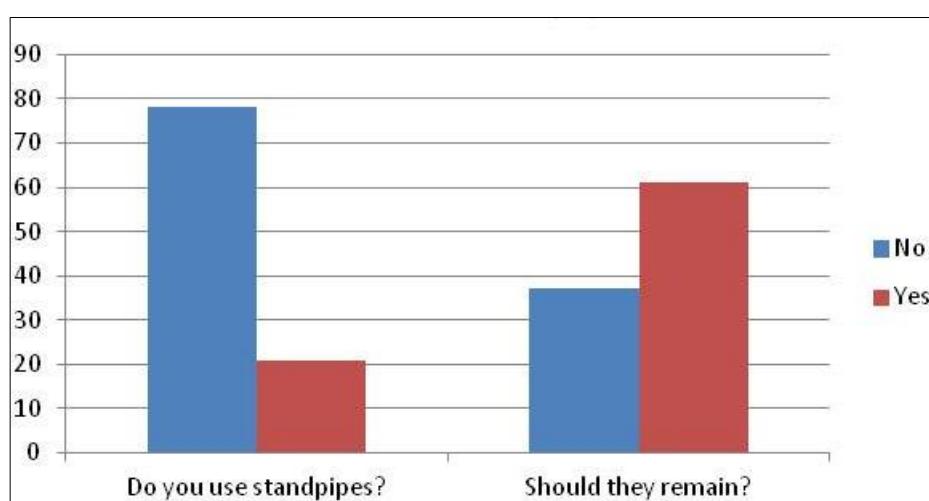


Figure 9.5 The use of standpipes from the Mochudi supermarket survey

Summary of the impact of the WSS reforms on the poor in the villages

The removal of the free water standpipes²⁴⁸ and the charging for water to all but the destitute (and often them too) could mean that the WRM/ WSS structures in the new AC do not address poverty and equity beyond the implementation of the stepped tariff. Tap sharing²⁴⁹ could be seen as a limited stopgap within the community, but the closure of standpipes was nearly completed in 2012²⁵⁰.

The decision was then made in 2013 to keep all remaining standpipes open but all would be only accessed by prepaid cards as part of the rollout of prepaid meters to all connections. By this time very few standpipes remained in the villages WUC had taken over during 2009-12. The final area of takeover, in 2013, Ngamiland, benefitted as more standpipes remained.

The richer KIs and FGs of the poor all felt that everyone (except the destitute) should pay something for their water in the villages but expressed concern at the phasing out of the standpipes before everyone had been connected to the water system.

9.5.2. WSS changes at the fields or ploughing lands (*masimo*)

All Batswana families and now individuals had the right to a *masimo*. Originally, it was allocated by the tribal chief to members of his tribe, but now was allocated by the District Land Board to whomsoever Batswana citizen applies, who can show some residency in the District concerned (Section 8.1). The core assumption of the traditional land tenure system is that there will be enough

²⁴⁸ 'Domestic users were first asked about their main source of water. The majority of the respondents' (97.4% [2193]) main source of water was household connections to WUC, 1.8% (40) used their neighbours' tap while only 0.8% (19) used standpipes' (WUC April 2012:44).

²⁴⁹ 'The phase out of standpipes has given birth to a new phenomenon of using or sharing neighbours' taps as a source of water. This trend is more visible in Francistown where standpipes have been phased out in many locations/ areas and where 32.5% of people use neighbours' taps' (WUC April 2012:45).

²⁵⁰ WUC Water Survey April 2012

land for all. This aspect of customary law [in allocating a right to land] provides a crucial link in making the traditional survival strategies compatible with those imposed by the modern state (Tiot 1995:60).

Before Independence, rainwater harvesting was practiced through the digging of shallow dams and wells (Section 5.2).

'Under Tswana customary law, open surface water was free to be used by anyone who wished. Where water was obtained through the expenditure of capital and labour as in the case of dam construction and well digging, people were able to keep that water for their own personal use. Once they had invested in the water source, they gained essentially private rights of the resource' (Tiot 1995:60).

Only those poor who were of the *morafe* who had established those rights could have access to the water by right.

Rights to drill a borehole for irrigation purposes and for human consumption can be given by the WAB on the *masimo*, if the nearest existing borehole is more than 236m away (Section 5.4). But the borehole cannot be used to water cattle (KI LB1) [until the announcement of the President in March 2013, see footnote 59].

The Waterpoint Survey of 1980 analysed the provision of water for the poor at the *masimo* since Independence (Fortmann 1981). Both rich and poor benefitted from the MoA-provided dams, haffir-dams, pans and seep wells (*ibid*: 57). However, these sources are all dependent on rainfall. The Botswana tradition of keeping cattle at the cattle post (with access to a borehole or other water source) separate from the lands used for growing crops has meant that the *masimo*, which includes the ploughable and cultivable lands, have been without potable water. Water has been provided outside high rainfall years and before the reforms, by the filling of containers, normally drums, at the standpipe

in the village and then transport by donkey cart to the *masimo*. This was fair for the poor, as everyone had the same access to the water. A new policy, that the donkey cart should be loaded up from paid for water connection in the *lapa* of a house in the village, presupposes affordable access to that water. The pre-Independence rainwater harvesting at the *masimo* largely ceased and the new policy does not yet encourage the poor to return to rainwater harvesting for their water needs at the *masimo*.

In Olifants Drift, the FG members bewailed:

“Like now, with the WUC you can't even take water to the *masimo*.

It's water you fetch with just a 20 litre container. I find it hard that we are being encouraged to plough while at the same time we are being made to strive for water. That means you can only bring one container for the *masimo*. This is where it becomes hard”

(FGOD1).

Botswana has little tradition of irrigation at the *masimo*. That land has been used for rain fed crops and if there is a drought, crops can fail, even alongside the Limpopo River because of a lack of licenses for abstraction. The Limpopo River Basin Commission (LIMCOM) irrigation agreements (see Section 5.6.) established under the apartheid hegemony of South Africa have not been set aside. Freehold farms in the small Tuli Block further north in Central Province are often leased by South African farmers. The land has a pre-Independence riparian rights for Limpopo water withdrawal, negotiated by the colonial government. This was augmented with free authorised borehole extraction. The farms here have the same soil conditions as those in the tribal lands but, with available water, they are growing up to 6 crops per annum²⁵¹. There is an incipient WUA of Tuli Block farmers, who lobby the MoA and DWA to ensure there is fair allocation of surface water from the Limpopo River. The use of

²⁵¹ The Researcher visited the Tuli Block farms in May and June 2011 and found 6 crop pa irrigated agriculture with exports abroad, particularly potatoes to Angola.

illegally²⁵² extracted Limpopo water by a mining company in June 2011 was halted after complaints by this grouping of irrigation based farmers.

The Pandamatenga proposals for irrigation in NE Botswana with water from the Shashe River (linked with infrastructure for the NSC 1, 2 and 3) could give Batswana farmers the chance of large scale irrigated farming. Only Batswana citizens can lease the land; there have been a large number of non Batswana (mainly South African) applicants. 'Poor farmers are encouraged to apply' (KI CGCS 9). The rain fed agricultural possibilities for sorghum, sunflowers and maize have already been proposed (Alemaw 2006).

The draft GOB policy (2010a) was to move to irrigated crops being able to be grown at all *masimo* all year round through the provision of non saline water by the WUC, either by piping from the nearest village, or new WUC boreholes with piping out to each group of *masimo*. The proposal in the reforms was to 'cluster' the individually owned lands or *masimo* around a WUC organised, all year round, water point. The *masimo* allocations were planned to be reconfigured by the Lands Board to bring together 8-10 plots around a central supply. The policy outlined in the National Water Policy (GOB 2010a) was for 'water [to be] available to support economic diversification, ensure food security and promote employment at the national and household levels'. The strategy amongst others is to ensure water for agriculture, livestock and farm lands [*masimo*] and to 'develop guidelines and regulations for facilitating the development of cluster farming groups, smallholder schemes, small-scale syndicated dam developments and cooperative well-field developments' (GOB 2010a:14).

This plan did appear ambitious and the irrigation of all the *masimo* in Botswana with Ministry of Agriculture (MoA) and WUC support would have led to the need for additional water resources. The final water policy (GOB 2012d) deleted the proposal, to ensure water for the commercial 'farmlands' as has been seen in Section 7.7. The review of 'national' integrated water related issues to

²⁵² This is the only example the researcher found of WAB action albeit not on levels of borehole extraction but from the LIMCOM Botswana allocation.

agriculture were restricted to existing GOB MoA schemes, thus restricting the remit of the new WRB. Further, there is no commitment by the MoA to provide general support through the final water policy (GOB 2012d) to the poor who might decide to cluster their land with other land owners. MoA emphasis is on the 'commercialisation' of existing successful farmers (GOB 2012d) rather than 'economic diversification' (GOB 2010a) which was GOB code for poverty eradication.

But the KIs are confident that WUC supported water supply, without MoA support, to the *masimo* poor could come from several sources:

- 1) Rainwater harvesting, and water conservation. The WRB propose a major expansion in subsidised tanks (JOJOS) for the poor with gathering systems.
- 2) Reuse of treated sewerage water from the various sewerage works close to the large villages (Section 7.1.9). The very high rate of refusal to use reclaimed water registered by both the FGs and the Mochudi survey made this option appear difficult to implement to allow use by the poor on their *masimo*. Commercial enterprise land users were unlikely to object if the reused water is subsidised. A trial at the Glen Valley farming area just north of the Gaborone sewage works showed it was possible. The WRM reforms aimed to recycle 96% of the water by 2030 (GOB 2012 Section 5.1.15). It was likely that the GOB will make it a priority to reuse the water to irrigate the *masimo* (KI CGCS 6)
- 3) Potable water from WUC sources for use at clusters of *masimos* all year round. It is the preferred option for the main drivers of the reforms in MMEWR.
- 4) But there will need to be careful choice of cluster layouts to ensure the lands chosen do not exclude the lands owned by the poor. A land registry trial, that was carried out in the Oodi area of Kgatleng District in 2009-11, has been proposed to be extended to the whole of Botswana.

Such registration of all land would help enable the poor to ensure their registered land is not excluded from any cluster irrigation. It would have a wider effect too in providing a registered potentially leasable asset.

The President announced at the BDP convention in March 2013 that in future livestock would be allowed to be kept at the *masimo*, so as to help the poor not to have to travel to the *moraka*. It presages a significant change in Botswana culture. It would deal with problems over access to water for the poor from borehole syndicates and be an extended use of the original (2010) water reform plans to pipe water from the villages to clusters of *masimo* (Mmegi 18th March 2013). But the work on clustering of 'commercialised' *masimo* was proceeding slowly under the MoA aegis but not for the poor.²⁵³

Summary of the impact of the potential WSS reforms on the poor at the *masimo*

The removal of the water standpipes in the villages that provided free non saline water that could be loaded up on the donkey carts for use at the *masimo* has been a blow to the poor. The replacement water policy proposed by the GOB in 2010 could have been revolutionary in allowing all year round irrigated agriculture to all, including the poor. But it was ambitious and was in 2013 only being trialled for 'commercial enterprises' (GOB 2012d). The commitment of MMEWR to this policy to help the poor at their *masimo* was seen by the Researcher as genuine and this commitment to continue the policy outside the final water policy proposal was real in May 2013. The decision announced in March 2013 of livestock being allowed at the *masimo* to utilise water from rainwater harvesting, reuse and, where affordable, the WUC, would be a considerable benefit for the poor.

²⁵³ The MoA in answering a NA PQ in March 2013 stated that only nine clusters had as then been established.

9.5.3 WSS changes at the cattle post (*moraka*)

The third location for the poor in Botswana has been living by right at the cattle post or *moraka* on the common lands. Boys were expected to spend significant periods at the *moraka* tending the family cattle. Living with the cattle at the *moraka* is part of the Motswana identity (Head 1969). There has been and still is a deep love affair between the Batswana and their cattle. Rich and poor love their cattle. It has been said that a 'high correlation exists between status within the civil service and the ownership of cattle' (Picard 1987:147).

'The nature of the state [was] closely intertwined with the country's cattle economy. The traditional response to shortage of grazing land has therefore always been to open [up] new grazing areas mostly westward into the Kalahari. As long as this could be done, communal ownership of land for use by individuals was ecologically sustainable. By 1966 there were an estimated 5,000 boreholes in the country, which rapidly grew to 8,000 in the late 1970s' (Tiot 1995:60)

However, the dependence by the GOB on wealthy syndicates or cooperatives to drill many of these boreholes led to 'gross inequalities in access both to the water and the land around the borehole' (Selolwane 2012:3; Swatuk 2010). The Waterpoint Survey of 1980 analysed the use of MoA publicly provided boreholes at the *moraka*. This showed that richer cattle owners benefitted more from the water than the poor, particularly in 'having the labour to take cattle to distant or back-up water points [in the event of the borehole running dry]' (Fortmann 1981:58). The expansion of boreholes for all after Independence and 'the increase in better veterinary support, led to a dramatic increase in the total number of cattle on land; from about one million at independence to almost three million ten years later. This increase coincided with the closing of the grazing frontier and has unavoidably exceeded the carrying capacity of the land (ibid). By 1991, the entire Eastern Kalahari has been covered by boreholes located less than five miles apart (KI WEN 5). The result was asserted to be

large-scale environmental degradation visibly measurable in the dramatic rise in overgrazed land from 2% of the country in 1975 to 25% in 1986 (*ibid*). The only escape from the tragedy of the commons²⁵⁴ was seen to be through public policies that ‘apply restraint to all and effectively protect the commons’ (Toit 1995:218-219).

That restraint came through the introduction of the tribal grazing land policy (TGLP), initiated in 1975 and widened in 1991, which ‘privatised communal resources’ (Good 2008:114). The 5 mile separation required between boreholes by the WAB meant that the distance from LA and MoA owned boreholes and privately owned syndicate boreholes would allow water source owners to gain *de facto* control over the common land grazing surrounding their wells (Peters 1994). *De jure* control followed with the advocacy of commercial ranching with ‘subsidies worth round 50% of the ranchers costs’ (Good 2008:72). ‘All people who possess boreholes in the [demarcated communal land] are automatically allocated ranches there. Minimum development for a ranch is a perimeter fence and a borehole’ (Newsletter MOLAH 2010 (1):17).

However, this policy was not seen as excluding the poor. The Minister of Lands and Housing (MOLAH) in a Ministry newsletter (2010) stated that a ranch was possible for the poor. ‘No, not at all, the fact is we need to see financial proof [of ability to finance the enterprise] but if someone is sponsored by some financial agencies like CEDA²⁵⁵, banks, etc , they should produce supporting documents and we can go ahead’ (*ibid*). In Kgatleng District, local politicians have opposed fencing off of the common lands: in 2011, only the Kgosi’s²⁵⁶ ranch in NW Kgatleng District was fenced off for use for stock breeding.

²⁵⁴ This assertion is contested both in Botswana and internationally: See Hardin 1991, 1968; Ostrom 1990; Abel and Blaikie 1989; Arntzen 1990; Muller 2012.

²⁵⁵ CEDA: Citizen Entrepreneurial Development Agency since 2001 offering soft loans for agribusiness to Batswana as part of a pro-poor policy

²⁵⁶ A proposition by the Kgosi Kgafela in 2011 for a fenced off commercial game ranch was blocked by borehole owners who would have to give up their rights. The poor would also have been excluded.

The degradation of the common lands is asserted by a water expert, and post independence senior civil servant, who commented in June 2012:

“The paradox for cattle post based cattle is that they have to trek so far to find grazing that they cannot do a round trip in day. Lots of sand veld cattle posts are so degraded for a radius of 4-5 km that even with very good rain, there are no seeds to germinate the perennial grasses, and winds do not deposit seeds from further out” (KI WEN 5).

There is also the issue of droughts and fall back water points:

“Any cattle owner worth his salt has to have a fall back strategy for drought purposes when his primary water point may either dry up completely or have such a reduced yield that it will not supply his herd. The resultant increased density of cattle around fewer water points can undo, especially during a drought period, any partial recovery of the grazing around that point” (KI WEN 5).

Not everyone who develops a borehole or other type of water point bothers to get a water right²⁵⁷.

“The mineral exploration companies drill hundreds of bores every year that often intersect an aquifer. It is not only exploration companies; so many kms of road have been built in Botswana in the last 20 years that many, many boreholes have been drilled to obtain water for construction. These often end up as pirate

²⁵⁷ The Researcher went to an isolated cattle post (CP) north of Artesia. It was alleged that there were a number of unauthorized boreholes within 5km of the borehole he saw. He asked the organizer (cattle boy) at the CP: “What would you say if the Government were to drill a borehole for the community?” “Good idea, but we once tried to ask for water from the government boreholes but they are refusing with them. There are government boreholes in this area? Yes they are quite many, but they are refusing with them” (KI BR11)

boreholes when the road is complete [or the companies withdraw]" (KI WEN 5).

There appears to be almost no knowledge of how many boreholes there are. Many may be abandoned but may be useable. The Researcher found at two *moraka* near Artesia arrangements had been made to sublease the use of a borehole, the costs of which was shared by a group of poorer Batswana, but these boreholes had not been known about by the LB; they were claimed to have been originally allocated prior to the introduction of the LB. There was a block on new land allocation for boreholes in KD by the KLB (2010- 2011) to enable a census of boreholes to take place. The results have not been published. The size of the herds were said to be decreasing because it was claimed to be less culturally important, especially given the President has no cattle (KI CGP5). But the poor need cattle to pay and receive the bride price²⁵⁸, to slaughter for weddings and funerals and in general to maintain their position as a Motswana. They can serve as cattle boys and be paid in part in calves and water access. They can use the tribal *morafe* connection to persuade the owner of the borehole to allow affordable access. But the progressive exclusion of the rights of the poor from the grazing lands and access to affordable water before the water reforms made a review of the water policy important.

The FG general view was that the GOB should provide new boreholes. Mochudi participants were united in this:

"There should be a water source drilled for the poor at the cattle posts, because there is nothing they can do for themselves. A borehole should be drilled for them and they are told, you poor people, here is your borehole, it should be used only by them, just like the lady said people with 5 cattle could come together and suffer with fuel only" (FGM 1).

²⁵⁸ Brideprice or *bogadi* in Setswana payable to the uncle of the bride before the marriage can go ahead. Currently it varies from two to twenty. This can be commuted into Pula but at least two cattle are physically exchanged.

“But the government should assist us with the engine and say there is a borehole, there is your area, and there is your cattle post. Right now we are just crying, we are being chased from the village” (FGM 2).

“This syndicate I am talking about, we would go out and look for a space where there is no *masimo* and we would run there. So if they could find us a borehole at Semomotwane, and say this is for so many poor people and this is for so many poor people because there are many of us poor people. I mean, we want the government to help us with a borehole” (FGM 3).

“To be poor is to be someone with less than 10 cattle” (FGM 4).

The view from the riverine village of Olifants Drift with many cattle posts in its surrounding area was a choice between the mass free watering at the Limpopo River, with a resultant quagmire where up to 1000 cattle came in every day to the river bank or using the private boreholes run by syndicates. The degradation of the areas close to the river stretched up to one mile inland from the River. The cattle are managed by cattle boys who have to go into the River to haul out the cattle that are stuck in the mud.

“When we talk about river water... river water is helping the whole tribe, all these cattle posts and I am talking about livestock. All this livestock. There is nobody who can afford the syndicates and so even those who tried their syndicates have broken down because there was nothing to fix their engines” (FGOD 1).

“Syndicates are a problem. This river will help us rather than us having to go to the syndicates. With syndicates you need a lot of money. You just have to sell cattle” (FGOD 2).

“There are those who come and ask for water from the members,

they also pay yearly. They pay P2,000 each year. It doesn't matter if you have 2, 3 cattle or you fetch water with a donkey cart or with your head, they have only one price. I mean this syndicate issue is a problem" (FGOD 3).

The nature of the Motswana life is shown by the answers to different questions in the Mochudi supermarket survey. While the thirty five cattle owning respondents (out of a total sample of ninety nine) saw themselves as only domestic consumers of water from WUC (Figure 8.2), they also paid the borehole syndicates for access to water at the cattle posts (Figure 9.6). There was no right to have free access for the cattle of the poor. Twenty respondents, over half, paid BP1,000 per annum or below and six paid in kind with calves. The latter route could be taken by the poor but only with the agreement of the borehole syndicate. On top of this borehole access charge, would be the cost²⁵⁹ of cattle boys to manage that part of the herd.

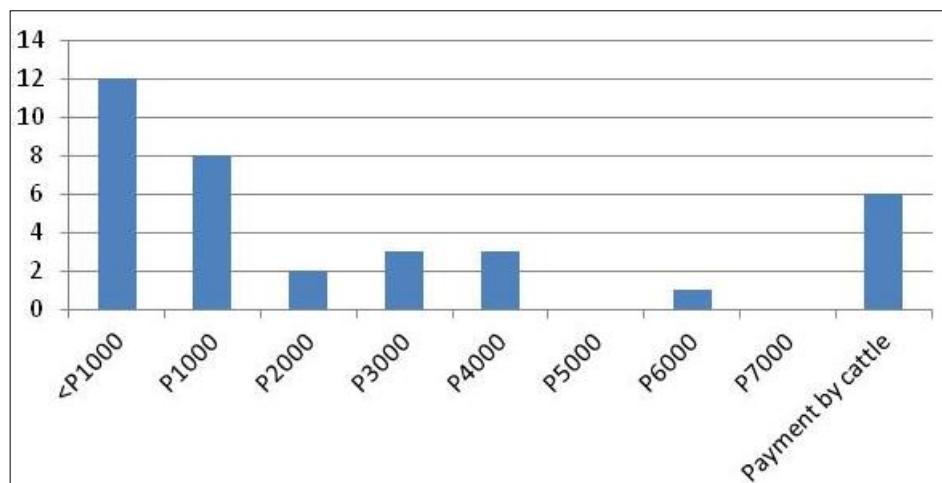


Figure 9.6 Payment levels per annum for non-syndicate members for use of borehole water at the *moraka* (n=35)

Source: Survey of cattle owning respondents, Mochudi June 2011

²⁵⁹ P480 per month minimum wage plus food and water; but KI stated that many of the poor worked as cattle boys and thus built up a small herd with access to water.

The GOB draft water policy for the *moraka* was “to implement a raw water extraction fee for all water withdrawals to help fund water management activities and encourage conservation” (NWP 2010a:12). This was meant to apply not only to mining companies but also borehole syndicates who pay once at a de minimis level of BP 60 (UKP £6) for the WAB application and approval, and then absolutely nothing more. Discussion took place in the Water Reform Unit (WRU) of the DWA in 2010 as to how the borehole syndicate would seek to recover the costs coming from such a borehole charge. The belief was that charging of non syndicate users of the borehole would take place. The BEWRA water regulator in the draft legislation would have the power to set a pro-poor tariff for the syndicates at the boreholes and to require access to that water for those poor with smaller herds. But this charge was seen to be difficult to enforce and politically disastrous:

“I think the concept of trying to assess payment for underground water abstraction on an individual source basis is well beyond even wishful thinking. In the late ‘80s and early ‘90s it was all the rage for each Land Board to conduct a Water Points Survey (using consultants). But no attempt was made to try to assess the borehole yield since many farmers only equipped their boreholes to reflect their needs rather than the maximum sustainable yield of the borehole. Even then, the data was terribly inaccurate since the consultants (who were usually young expats) did not have the investigative/interrogation skills to find the water points. Also, for an open well or a borehole fitted with a windmill, it is all but impossible to calculate a meaningful output” (KI WEN 5, June 2012).

“Since all possible water points will rarely all be used at the same time and some will have varying levels of use year on year, it is all but impossible to charge for the actual usage. I cannot imagine a Government here that would ever go forward with such a proposal. The locations of the water points are not known with any degree of

confidence, nor are the abstractions rates and there is no workable mechanism to collect any payment that might be calculated in some thumbsuck way. Anyway, every voter would vote the party out at the first opportunity" (KI WEN 5, June 2012)²⁶⁰

The discussions in Cabinet outlined in Section 7.7 involved a fight back by the cattle owning group of ministers and senior civil servants. The proposed volumetric charge to be made on all borehole usage for cattle farmers was removed and replaced in the proposed policy by a 'periodically reviewed graduated flat abstraction fee per borehole ' for larger herds and feed lot farmers '(GOB 2012d:17). This enabled the policy to pass the Cabinet with the support of the BDP Ministers who had significant herds. The latter tended to be feedlot farmers of which there are only nearly 200 but they form more than 60% of the number of cattle going through the monopoly Botswana Meat Commission abattoirs (KI I 6). So the role of Botswana Electricity and Water Regulatory Authority (BEWRA) in setting the volumetric charge, and thus a potential stepped tariff for syndicate use to allow access to the poor, has been lost. But all boreholes are proposed to be registered and off-take measured.

Summary of the water policy impact on the poor at the *moraka*

Progressive exclusion of the poor from the common lands by the GOB polices on ranching and support for syndicate development of boreholes has happened over the last 30 years (Peters 1994). There was no right to free water. The only access came through work as a cattle boy or membership of the *morafe* of the syndicate borehole owner.

The initial bold proposals of the GOB draft water policy (2010) coupled with the use of the new BEWRA powers could have provided a pro poor tariff by right and allow the smaller herds of the poor to have the ability to graze alongside the

²⁶⁰ The Australian Government confronted the same policy choice over identification and ownership of boreholes (Strang 2009:69)

big herds of the rich but the opportunity was lost (GOB 2012d). The proposals for a permanent water supply to the *masimo* may, with suitable fencing off, of the cattle, mean an easier way forward for the poor to herd their cattle closer to the village. This has been supported by the President in March 2013. This may reflect the difficulties for the advocacy coalition for the WRM and WSS reforms at the *moraka*, in getting support from the syndicate owners, who were, in 2013, prominent in the Cabinet and the ruling party, the Botswana Democratic Party (BDP).

9.6 Discussion of the key issues

The right to water is not contained within the Batswana constitution. The January 2011 Basarwa judgement provided that right in common law. The legal ramifications in Botswana have not yet spread beyond the one waterhole in the CKGR but could undermine the WDM policy laid out in the water reforms. If there is an unfettered right to drill a borehole for 'household use' (Water Act 1968, paragraph six), there will need to be clarity in the Botswana Courts as to what constraints are to be put upon this (KI CGCS 6 May 2013)

The statistical success of lowering the level of poverty below 6% on the WB definition, and below 22% on the Botswana survey definition, with the exclusion from the calculation of the wide range of public goods such as healthcare and education, is undoubtedly. But these welcome changes still require a pro-poor approach to the pricing of water. There is still poverty in Botswana. If the South Africa position on free water allowance is not supported in the Botswana water reforms, the closure of the standpipes that provided free access for the poor for the pursuit of livelihood agriculture could defeat the approach of the government to poverty eradication. A furore over backyard gardeners in the villages' entitlement to subsidised water could change the stepped water tariff policy set out so far. The universal rollout of prepaid water

metering could allow for after the event pro-poor bill correction²⁶¹. But requiring prepaid cards for the poor to access the remaining now metered standpipes needs to be monitored to 'ensure that no more than 5% of household disposable income has to be spent on domestic water needs' (GOB 2012:18)

The subsidies (over 50% of the cost in 2010) given to everyone have started to reduce with the June 2013 'national' tariff moves, which entrenches the very low initial stepped tariff to protect the poor. The pace and detail of the change over the coming five year implementation period needs to be examined to ensure the poor do not suffer unaffordable tariffs.

All Batswana, including the poor, have title to some land at the *masimo* areas. The **clustering of *masimo*** to enable all year round affordable access to water from the WUC and other sources could have provided a major improvement in irrigated smallholder agriculture (NWP 2010:14g). There is an important question as to whether the removal of that power from the final water policy leads to the end of that idea (GOB 2012)

The charging policy on the cattle post boreholes (NWP 2010:12, Strategy Point I) could have, through regulatory price control, provided affordable, guaranteed access to water for the poor. This could have reopened the communal range lands to the poor. But the elite, whose control of the rangelands rests on the existing ownership of boreholes, did not allow this to go ahead. It was not politically possible.

This raises the question whether the President has given up on this with his March 2013 pronouncement that cattle could be kept at the *masimo*? The authorisation in the final water policy (GOB 2012d) for the metering of all boreholes...and for a 'graduated flat abstraction fee' for large users has given the WRB power to introduce WDM which could in the long term make the common lands more open to the poor with their lower water needs for their smaller herds.

²⁶¹ The 40% metering level of water consumers in England and Wales does not enable pro-poor bill correction (KI WEUK 1)

9.7 Summary

The starting point for the water reforms was the perceived need of the new AC to move to a regime of WDM supported by both the tribal leaders and the elite perceived a future return to a water stressed society (see Chapter Six). The requirement to make this politically and socially possible, by ensuring that the policy is pro-poor, could have been seen as contrary to WDM policies which require the reduction of water consumption, through the restriction on free water from standpipes in every village and community, and universal charging.. However, the deep beliefs of the Batswana, and the record of the GOB of reducing inequality within society, and coping with drought, tempered the views of the advocacy coalition as shown in this Chapter.

The Researcher saw the evolution of a GOB pro-poor policy on tariffs that, after free water for the destitutes, was based on a low contribution rate for low usage and was still highly subsidised. The high volume users were paying more from June 2013. The view from a KI was that within five years that subsidy on high volumes/users will be severely reduced, while still protecting the poor and their livelihood raising policies (KI CGCS 6).The move to national prepaid metering was welcomed by all groups interviewed to stop what was seen as unsubstantiated and erratic billing from WUC. But this policy will need to be monitored to ensure the right to water is not undermined.

New structures that could enable more equal access to water at the *masimo* and *moraka* were possible under the 2010-11 policy frameworks of the new WRC and the new water regulator. But the final policy proposal (2012-14), while entrenching a pro-poor stepped tariff, has at present seen the GOB step back from the original proposed pro-poor reforms outside the villages, in a compromise that does not fully support the WRM advocacy coalition. The post 2014 Election GOB is likely to revisit these decisions.

Chapter Ten: To what extent has the conceptual framework used in the thesis been vindicated?

10.1 Chapter Overview

The Advocacy Coalition Theory (ACT) conceptual framework proposed in Chapter Three has been explored through the data analysed in Chapters Five to Nine. This Chapter integrates the analysis from those Chapters together with reflections of the Researcher as a participant observer of events analysed in paragraphs 10.5, 10.6 and 10.7. It seeks to assess if the water reform processes in Botswana were, as tentatively proposed in Chapter Three, an example of the playing out of a change in the dominant Advocacy Coalition (AC) (Weible et al 2009,2008; Sabatier and Jenkins-Smith 1999,1993), within a frame of unconstrained economic development, based on no limits to growth (Duncan 2012), to one seeing the need to take account of the ecological and resource limits of Botswana, particularly that of water scarcity (Blaikie 2010).

10.2 ACT: The Belief Framework (Sabatier and Jenkins-Smith 1993; Figure 3.1): Does it apply in Botswana?

In Chapter Three, the AC theory was initially proposed as the lens through which the water policy process in Botswana could be understood. This is re-proposed. Sabatier and Jenkins-Smith (1993) sought to codify the policy process into a system-based approach, with power moving both up-down and down-up. Their ACT sees understanding of the 'black box' of decision making, as being explained by changes in the beliefs of participants in the process and thus policy changes over a period of time (Figure 3.1). There are three belief levels and, from these beliefs, come sub-systems to support change:

1. Deep core beliefs, predominantly normative across a society being analysed (such as in the case at hand in Botswana);

2. Policy core beliefs, which can be changed by evidence and can lead to coalition formation (such as on the Water Resource Management (WRM) reforms in Botswana); and
3. Secondary beliefs, more narrow and subject to change over time, leading to fine tuning of reforms on an empirical basis (such as that on poverty eradication).

Thus the assessments contained in this Section are to see if:

1. there are deep core beliefs among Batswana on water and its importance to Botswana society,
2. evidential policy core beliefs around WRM that aimed to deliver high levels of access to WSS to Botswana 1966-2009 have now changed, through the influence of new evidence, based on ecological considerations, particularly physical limits (GOB 2006c; GOB 1992),
3. in the working out of 2) there were secondary beliefs on how the WRM reforms should be worked out in detail, and if
4. ACT can be used to explain the establishment of the original AC of 1966 onwards which is now defined as AC 'A', and the movement towards a potential new AC from 2009 onwards, which is now defined as AC 'B'.

In building the case to support the assessments that follow, the Researcher has called on the Files of data assembled as laid out in Chapter Four (Blaikie and Springate-Baginski 2012) and used throughout Chapters Five to Nine. He has then overlaid this by a qualitative reading of these multiple sources of data. The strength of the overall findings about the ACs, their changes and relationship to the theory is thus subjective and qualified. However, given the experience of the Researcher, noted in section 4.3, in observing the dynamic process of coalition policy formations and reformations in the UK 1974-2005, there is some confidence in his understanding of the process in Botswana 2010-14.

10.2.1 The post Independence Advocacy Coalition 'A' 1966-2009

1) Deep Core Beliefs

The concept of deep core beliefs were explored in Section 2.2 in the Literature Review and assessed in Chapter Five as to its applicability to Botswana. The indigenous Basarwa or San are proposed to have a deep religious belief in the power of water, given by the almighty deity (Workman 2009; Van der Post 1961). The eight Tswana tribes, that form over 80% of the Batswana population today, formed a cohesive grouping following their move to the then Bechuanaland in the nineteenth century. There was a nationally accepted customary law on water alongside the colonial common law (Schapera 1938b). The Tswana saw their lives as being governed by the availability of water and rain. Alongside in importance to the Chief was the rainmaker, there to summon rain from the ancestors (Schapera 1971). The importance of water to them for cattle and fodder drove the development of a water policy for the use of shallow wells and dams and basic rainwater harvesting (Morton 2011). The coming of the Christian missionaries brought modern hydrological thinking but did not displace within the Tswana their deep beliefs on water coming from the ancestors (Comaroff and Comaroff 1991). The policies of the Batswana on water were to protect the people from starvation. Agriculture was rain fed. Whatever was needed to bring rain and to find water was carried out (Schapera 1938). The Tswana believed that the guarantee of survival could only come from working together to ensure the water was there (Schoen 2012; Gulbrandsen 2012).

2) The Policy Core Beliefs

The post independence concept was one of political economy bringing together politics and economics, focusing on 'power and resources, how they are distributed and contested in different countries and sector contexts' (Poole 2011). The leaders were driven by the need to deliver water for all through the

combination of deep beliefs engendered by the tribal administration overlaid by the economic development objectives of the democratically elected local and central government (Sebubudu and Molutsi 2011, 2009; Picard 1987). This process is outlined in Chapter Five.

The BDP, led by Seretse Khama, won the 1965 pre-Independence election, and have held power since then in open multi-party elections. In the words of former President Masire,

‘The policy has been from the very beginning, [to have] a collective responsibility for decisions, and we took teamwork seriously. This was true of ministers as well as senior officials.... decisions would be the outcome of a process, not just a brainwave of one person.’
(Masire 2006:87).

‘Our failures came at those times when we lost the commitment to teamwork, consultation, consensus and cooperation’ (ibid: 102).

The opposition parties were brought into the coalition: ‘we had extensive all party caucus meetings on matters of economic policy’ (ibid: 115).

3) The Secondary Policy Beliefs

Water policy was ‘one of the areas where it was important for experts – hydrologists, engineers, economists –and us politicians to understand one another as we reviewed our options and made decisions on major projects’ (Masire 2006:173). As has been seen in Chapter Five, the GOB employed a largely expatriate water civil service for many years after Independence to deliver WSS levels of 98% potable water and 80% improved sanitation (UNICEF 2012).

10.2.2 The new Advocacy Coalition 'B' 2009-14+

1) Deep Core Beliefs

The continued role of the tribal administration and the Chiefs outlined in Chapter Eight meant that the old beliefs; a fundamental need to recognise the dependence of Batswana on a deity that provided rain, was unchanged, as in other African countries (Sheridan 2012). Chapter Six showed the strength of the churches' advocacy in Botswana which made them the pre-eminent NGO on discourses on water (Tsuwaneng 2010). The beliefs about the healing and religious power of water continued²⁶². The giving of rain continued to be seen as God's blessing on Botswana: "we thank God because he listened to our prayers and gave our country rain," said President Khama²⁶³.

2) The Policy Core Beliefs

The evidence in Chapter Six analysed the drivers of change which could lead to a new coalition of opinion and action, integrating 'the concerns of ecology and a broadly defined political economy' (Blaikie and Brookfield 1987:17). Vision 2016 was a campaign rooted in the community to establish a consensus on how Botswana would be 50 years on from Independence (V2016 2010:79). It established the emotional, almost religious, basis for a reappraisal of the founding Advocacy Coalition 'A'. The main NGO movement in Botswana was from the churches (ibid: 79) and Vision 2016, and its commitment to WRM, was enthusiastically endorsed by them (ibid).

There has been a move to convince the old guard coalition, who had benefitted from the total availability of water, of issues of water scarcity and the need for WDM. The lead was taken initially by the Ministry of the Environment, Wildlife and Tourism (MEWT) with their work on the threats of climate change from

²⁶² Botswana Monitor 11th March 2013 '60,000 for Bishop Zondo holy water'

²⁶³ Quoted in Daily News Feb 9th 2014

1992 onwards. This was then taken up by the Ministers in the Ministry of Mining, Energy and Water Resources (MMEWR), supported by both the outgoing President Masire and endorsed by incoming President Mogae. This was shown in support for Vision 2016 and its targets for WRM and WSS reforms (see Box 6.1). The modernisation agenda set by the incoming 1966 Independence elite group became revitalised by a new generation of leaders, educated and influenced by ideas of stewardship of Botswana in the twenty first century. These ideas came from the WB, USA, EU, UN institutions and the UNFCCC, but were transmuted into Batswana concepts of *botho*²⁶⁴, of a community reappraising its needs.

There was support among politicians of all parties at the all-party caucus in December 2010, at which the Researcher was present, for the draft water policy proposals, particularly for the WUC to take over sole countrywide responsibility for the delivery of water and water borne sanitation, and a progressive WDM policy of long-term cost recovery for those water supplies. In February 2012, the WUC was given responsibility by Government Decree for all sanitation needs. This was not challenged in the National Assembly. The delivery of WSS by the WUC has been rolled out as planned (2009-2013) to both rural and urban areas and has led to some reduction²⁶⁵ in water loss, together with a level of demand management. The AC on WSS held, despite concerns that are reflected in the FG data and grey literature cited in this thesis.

3) The Secondary Policy Beliefs

The Researcher met in 2010/11 a large number of Batswana water specialists, both senior civil servants and private sector representatives, all of whom had trained to a very high level (PhD or Chartered Institutes) often as water engineers or hydrologists. They had progressively moved up the GOB civil service and private sector water related industries, appointed on merit. They

²⁶⁴ Respect for all opinions

²⁶⁵ Reduced from 40% (UNDP PEI 2012) to 29% as stated in 'the Gospel according to WUC' Mmegi 22nd March 2013

now run MMEWR, MEWT and the Ministry of Agriculture (MoA), the three most important ministries on WRM and WSS. They also run the WUC. They are the water 'professionals embedded in deeply political relationships' (Mason et al 2013:2.2). They did the fine tuning of the water reforms on an empirical basis 'of their secondary policy beliefs' at the Kasane meeting (Section 7.6), in response to the questions coming from the consultations on proposed water reforms (Sabatier 1991). They are now amending their detailed working out, following the changes in the AC, following the negotiations in Cabinet 2011-12 (Section 7.7). The basic tenets of the AC originally agreed in 2012, have been confirmed in the final water policy that are to go to the National Assembly in 2014.

10.3 ACT: The System (Weible et al 2009; Figure 3.2). Does it apply in Botswana?

In the two previous sections it has been described from analysis of the data how the three levels of ACT can be identified in both the original coalition A and the new emerging coalition B. The movement across coalitions of the deep core beliefs of the tribal leadership and the main NGO force of the Botswana Council of Churches is particularly strong (as described in Section 6.2). The change involved in policy core beliefs is identifiable in the analysis of the key GOB reports on WRM and WSS (2012; 2010; 2006; 1992). By 2008, the ACT had moved beyond the simple three belief systems with linear movement of opinion (and feed-back when new evidence came forward) to a more complex model shown in Figure 3.2 (Weible et al 2009). To what extent does the data on decision making in Botswana on the water reforms support the theory of movement from one coalition or 'Policy Subsystem' to another, as proposed in Figure 3.2?

It is suggested that the left hand side of Figure 3.2 named 'Relatively Stable Parameters' represents the 'deep core belief systems' of the Batswana (1), covered in Section 5.1. This underscores (to the right in the Figure) the establishment of a 'Long Term Coalition Opportunity Structure' covered in Section 6.2 on the Drivers of Change that in turn feed into the 'Policy

Subsystem' mechanism. This decision box can explain the movements between pre and post 2009 'Coalition A' and 'Coalition B', arising from potentially new evidence based, changeable 'policy core beliefs and resources' (2), mediated by the water scarcity 'policy brokers' of Section 6.1, the water experts, the civil service and the WB, who have access to the 'secondary beliefs' (3). This has resulted in two ACs alongside each other, each strategy having guidance instruments, the Water Act 1968 in the case of the pre 2009 AC, and a future Water Act based on the NWMR (GOB 2006c) that has arisen from the Water Policy 2012 in the case of the post 2009 AC. The GOB Cabinet has to decide which Coalition should prevail.

The position in April 2014 is that the GOB has approved the new AC 'B' on WSS with a staged process of WDM but at present is staying with the pre-existing AC 'A' on WRM, particularly on the use of groundwater. Policy outputs and impacts lead to a feedback loop to amend the AC as has happened in Botswana 2009-13 as outlined in Chapters Eight and Nine. Further impacting the AC, are the short term constraints and resources of GOB/MEWR in dealing with the infrastructure backlog outlined in Section 7.2. This in turn is affected by the challenges, outlined in the next Section 10.5, initially covered in Chapter Seven (the Trade Union strike) and Chapter Eight (the Kgafela action), which could be considered within Figure 3.2 as the 'External (System) Events'. These were calmed by the 'Relatively Stable Parameters' (1) from the deep core beliefs of the Batswana on the need for WRM covered in Chapter Five and Six. These 'Events' in turn feed into 'Short –Term Constraints' that have prevented the full plans of 'Coalition B' to be implemented... the full draft 2010 water reforms. It is proposed that Figure 3.2 shows dynamically how advocacy coalitions are formed and re-formed in Botswana. Figure 10.1 is proffered as a simplified depiction of how ACT (Weible et al 2009) can be applied to what has and is happening in Botswana's water policy reform process.

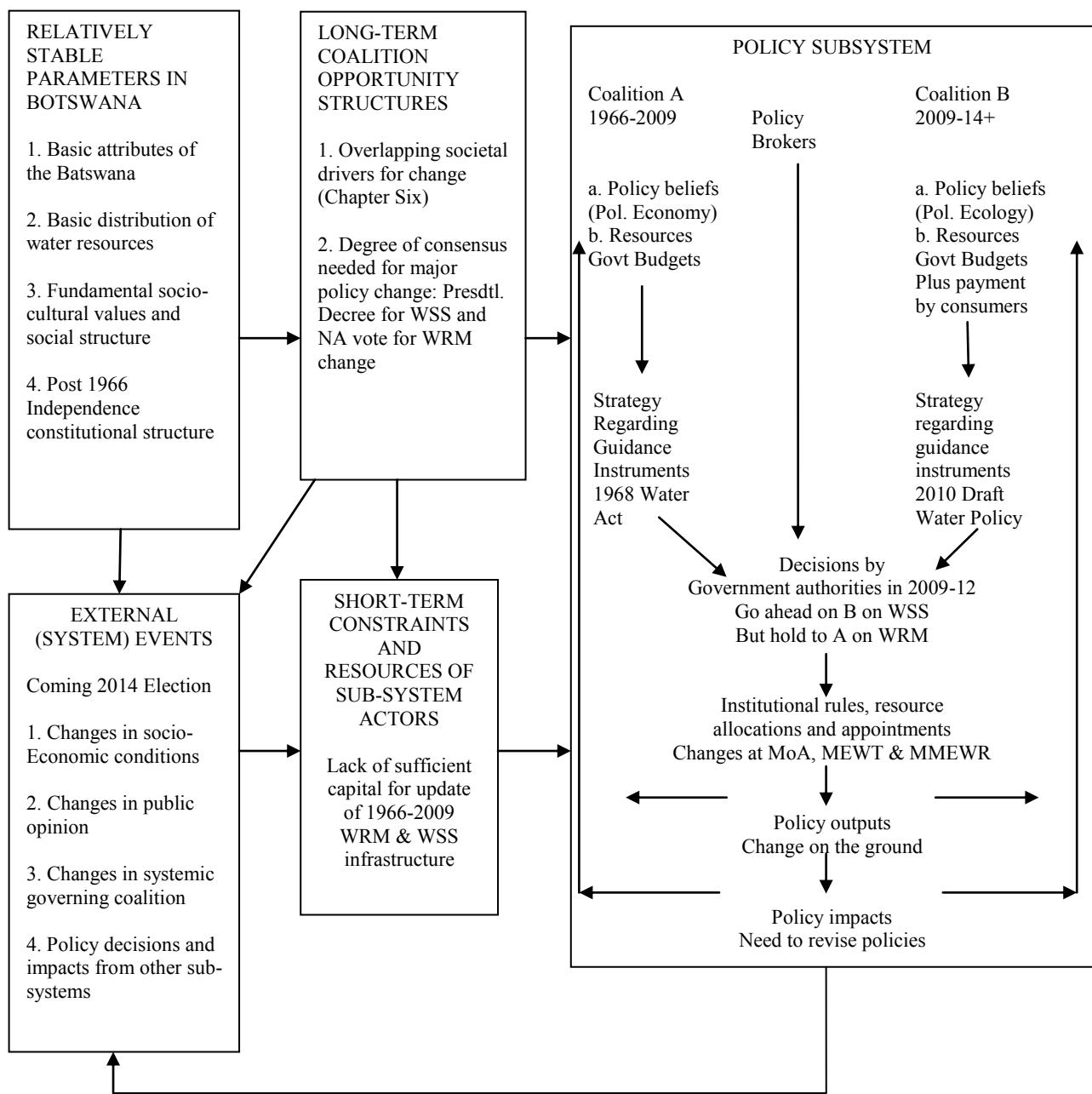


Figure 10.1 The use of Advocacy Coalition Theory (Weible et al 2009) to explain the Water Reform process in Botswana

Source: Researcher's observational reflections and research data 2010-14

10.4 Challenges to the Advocacy Coalition 2009-14

10.4.1 Public Workers Strike 2011

The evidence for the deep core beliefs of the Batswana in the need to preserve the availability of water under all circumstances was shown in the decisions of Trade Unionists (TU) to support the water reforms during the Public Workers Strike outlined in Chapter Seven.

The challenge of the reforms in service delivery was to move the water industry from 10,000 employees to 5,000 (GOB 2011) and by 2014 to an even smaller number. This was agreed to by the Botswana National Amalgamated Local, Central Government and Parastatal Workers Union (NALCGPWU). This Union had represented all workers in all the water industry, in the WUC, the DWA and Local Government. It accepted the deal. It perceived WUC as not part of the civil service and as such had already negotiated separate higher pay packages for WUC members.

The Public Sector Unions, the Botswana Federation of Public Sector Trade Unions (BOFEPUSO), 93,000 out of the 103,000 Botswana Civil Servants, went on indefinite strike on April 18th 2011. They claimed a 16% (subsequently 12%) pay increase. The union leaders capitulated for 3% on the 13th June and the unhappy rank and file were ordered back, in one case in Gaborone at gun point. Those who struck had their pay deducted and were sacked, having to apply for their jobs back.

Through all this, the WUC employees, despite being civil servants and members of one of the striking unions (NALCGPWU) did not strike. Some remaining DWA water employees, in areas where WUC had not taken over, struck but they amounted to under 100. Despite the action on health services putting lives at risk, there was agreement among TU KI that WSS should not be brought down. The Researcher in his meetings with the TUs at this time believes that they perceived that society would not support them if they did so.

The TUs argued that WUC was a parastatal and thus not part of government. WSS reform job losses (over 5,000) were never mentioned in any strike leaflets. The TUs did not challenge the WSS delivery reforms. They were part of the AC in favour.

10.4.2 The Kgosi Kgafela, Paramount Chief of the Bakgatla, Challenge to the Independence Constitution

The Literature review in Chapter Two and the analysis in Section 8.1 have provided an overview of the nature of Botswana society and within that, the tensions arising from changes post Independence on decision making, involving the tribal administration on WRM and WSS. The 1966 Constitution and subsequent legislation removed the rights of chiefs to allocate land and water rights. The government appointed Land Boards gave a continuing but largely ceremonial role to the chiefs in each Land Board District.

In September 2010, at the beginning of the fieldwork period of this thesis, Kgosi Kgafela of the Bakgatla authorized groups of his tribesmen to administer ad hoc corporal punishment, whipping, on citizens of Kgatleng District. The Chief stated that he had the right to authorise these whippings, because his rights as Chief had not been extinguished by the Independence constitution as it had not then been put to the people for a vote. Thus he said it was invalid and the pre 1966 rights of chiefs continued unchanged. This included the absolute right of the Chief to allocate land and water rights. The challenge to the High Court was put forward in October 2011, but was lost in the Courts in June 2012. The Kgosi Kgafela's claim to establish a large game ranch/wildlife reserve in the north of the District and by doing so extinguish the water rights over a number of boreholes was not accepted (KI TAC 1). An AC agreement post 1966 to curb chiefly powers was not overturned. The parallel organisation of water responsibilities noted to be de facto 1966-2009, is now clearly the single responsibility de facto and de jure of the central government elected elite of politicians and civil servants.

10.4.3 The BDP Ranchers' Veto

It was recognised in Section 7.2, that, while the opposition parties, largely representing urban areas, had no problem with the WRM and WSS reforms (KI CGP3, 4), up to the start of the Election period (March 2013), the government party, the BDP, representing rural areas and often with ministers and senior civil servants being cattle ranchers, expressed concerns at the meetings the Researcher attended at the National Assembly. The replacement of the WAB with the WRC/B and the monitoring of boreholes and payment for water use from those boreholes were muttered against from the beginning, in the presence of the Researcher. The 'cluster' policy of the water reforms proceeded very slowly with only nine clusters being completed by March 2013 (PQ answer reported in the Daily News). The WRM element of the post 2009 AC was seen to be delayed in Cabinet by those who had an interest in cattle ranching.

10.4.4 The Delay in Cabinet 2011-14

The Researcher attended a three day meeting with key WRM and WSS stakeholders in Kasane June 26 – 28th 2011 and the data from that meeting has been analysed in Section 7.6. The meeting did not alter the key sections of the reforms. The WSS reforms, which did not require new legislation, were endorsed and the roll out continued.

The reform policy proposals on WRM went from there straight to the Cabinet. The data used to support the argument of increasing water scarcity was not questioned, but the urgency for change was. In the period July 2011 to April 2014, the water policy was not proposed to the National Assembly and no bills, for either the Energy or Water Regulator or for a Water Bill containing the powers of the demand-led WRC, were tabled. The draft water policy was sent back to MMEWR in June 2012 by the Cabinet for revision: the contentious clauses were the principles that a volumetric and increasable extraction charge on borehole groundwater should be paid, both by the mines and agricultural users, and the removal of power from MoA to MMEWR. The final version

agreed by Cabinet in October 2012, circulated to all MPs in December 2012, is to be presented to the National Assembly in 2014 (GOB 2012d). The bulk of the draft water policy (2010) survived but the final policy replaced the proposed volumetric charge on borehole extraction with a five yearly flat charge for a maximum extraction license which could be renewed at a flat rate for a subsequent five years (and then on). The rate was to be variable (but flat rate) according to the licensed use. The MoA retained control over water supply for agricultural purposes but the cluster concept was retained. All boreholes would be continually monitored by the new WRB/WRC²⁶⁶. This would not now be independent of government but chaired by the Permanent Secretary to MMEWR (as was the WAB). The latter was not present at the delayed groundbreaking ceremony for the BP1.6Bn NSCII in May 2013, the construction of which could be seen as a continuation of the Coalition A policies. Nor was the President HE Ian Khama present, for what was the largest civil engineering project ever in Botswana. But NSCII was necessary for Coalition B for the survival of the economy of water scarce Botswana, alongside the water reforms bringing in WDM. The final water policy (GOB 2012d) was a Motswana compromise that moved towards Coalition B in favour of WDM/IWRM reforms but kept Coalition A in play with the contestation over the value of groundwater to either the miners or the MoA clients (Grynberg 2013).

The announcement on 3rd February 2014 by the Minister of Finance in the Annual Budget speech in the NA, was of continued support for Coalition 'B' on WRM. He said:

‘a comprehensive National Water and Waste Water Policy, which represents the first step in a process to ensure that water is properly positioned to meet the needs of the nation, has been developed and approved by Cabinet in 2012 and will be submitted for approval by Parliament during 2014. The Policy will allow for

²⁶⁶ In the water policy paper sent to Parliament the nomenclature had changed from Water Resource Council to Water Resource Board: the powers remained unchanged from the original proposals. Perhaps the new name was seen as acceptably close to that of the body it is to replace –the Water Apportionment Board (WAB)

development of National Water Conservation Strategy, which will ensure proper utilisation of water resources. Government is also developing an Integrated Water Resource Management Plan. The Plan will facilitate the development of processes, procedures, methods and options for full integration of water resources management and development options'.

A General Election is due in October 2014. The Researcher reflects that perhaps the President and his BDP candidates for the National Assembly may wish to get re-elected first and then move forward then to complete the 'Coalition B' WDM/WRM reforms after the General Election.

10.5 What insights have come forward on ACT being used in this thesis?

The coalitions are loosely defined, based on multiple sources of evidence; this means that they are not fixed and may exhibit patterns of interactions and events not always fully consistent with their formal labels. The move between coalitions is neither smooth nor obvious in the changes in ACs in Botswana. The sharpness of the change in the AC after Independence shown in the legislation 1968-72 is belied by the continued power of the chiefs to influence the giving of riparian rights well into the 1980s. Similarly, the identification of 2009 as a breakpoint is false if it is seen as a sudden shift in policy coming from nowhere. The head of steam for change had built up since the BNWP of 1992 and the outside influence of climate change academics that provided support for the tribal authorities' deep beliefs that never went away. ACT as applied in Botswana should be seen through a gradualist lens.

10.6 Summary

The movement of the advocacy coalitions on WRM and WSS could be seen as being from 'Coalition A' to 'Coalition B' and back (Figures 3.2 and 10.1). The pre-Independence, chief driven water scarcity model was superseded at Independence by a state based political economy technocratic 'Coalition A'. It

was supply-side driven and, achieving high perceived levels of access to WSS, could be seen as being successful, but it did not seek to tackle long-term issues of WRM and WSS.

The post 2009 'Coalition B' around WDM, based on demand constraints on water availability from surface and groundwater sources, within a concept of greater understanding of ecological limits, was threatened by the 2011 Strike, the constitutional challenge of the Bakgatla chief, and significantly, by the infighting within the Botswana Cabinet. The final water policy (2012) endorsed to the new WRB the key power of monitoring all water usage and being able to introduce WDM. The delivery of WSS by the WUC has been rolled out as planned during 2009-2013, to both rural and urban areas and has led to the start of reductions in water loss and moves towards long term sustainability through cost recovery and demand management.

ACT remains, for the Researcher, as demonstrated in this Chapter, a robust framework for understanding the water reform processes in Botswana. Chapter Eleven proposes potential answers to the research questions set in Chapter One, as seen through the lens of ACT.

Chapter Eleven: Conclusions

11.1 Chapter Overview

This final chapter seeks to provide potential answers to the research questions (RQ) set out in Chapter One, utilising the data arising from Chapters Five to Ten. These are summarised in Section 11.2 in a meta-narrative analysis. The Researcher then reflects in Section 11.3 on the strengths and weaknesses of the research process in building a coherent triangulated view from different data sources. Section 11.4 places this research in a framework of norms currently used to apply to WRM in developing countries and suggests areas of further research.

11.2 Summary of research findings: opportunities and challenges for Water Resource Management (WRM) in Botswana

In seeking to address the question posed by this research project as to the extent that the process of reform in Botswana's water sector 2009-13²⁶⁷ can be

²⁶⁷The sub questions are:

What was the governance of WRM and WSS in Botswana in the pre-2009 Water Reform process? (Chapter Five)

What processes have contributed to the potential for change? What placed reform on the agenda? How did the national and international perceptions of water scarcity affect WRM decision-making at all levels in Botswana in 2010-2011? What were the underlying drivers of water sector reform in Botswana? (Chapter Six)

What were the proposed WRM and WSS reforms during 2009-2013 and how did they evolve during the process? (Chapter Seven)

How did traditional forms of government and elected local government react to the change in their authority on WSS? How did the traditional forms of government react to the change in their authority over land and water brought about by the elected government in Botswana? What has been the response of local government to the change in their powers on WSS? How was the centralising of power on WSS becoming accepted in Botswana? (Chapter Eight)

What were the impacts on the poor of the water reforms in the post Independence AC and the post 2009 AC? To what extent could the new WRM structures have addressed poverty and

understood, a meta narrative analysis is undertaken from the range of data and insights cited in the preceding chapters and within the themes set out in Section 2.2.

The process of reform has deep roots in the way Botswana has evolved since the nineteenth century and particularly since Independence. The post 1966 drive for universal WSS could be seen as successful but at a low level of performance, through a wholly inefficient range of delivery mechanisms with no control over water use. The range of actors involved in driving processes of change, first in the 1960s and then in the current phase, has been quite small, mainly restricted to civil servants with the support of significant politicians.

The use of the Integrated Water Resource Management (IWRM) paradigm, outlined in Chapter Two, has been minimised in the Botswana IWRM-WE to take account of a rationale of water security not coming from the four Rivers that edge Botswana under TRBOs, but what can relied on within the state borders. The solution has been supply driven: more groundwater mining and more water from tributaries within Botswana, brought down to the main centres by 600 mile long pipelines, with subsidised water for the extractive industries and potentially for large scale irrigated farming. Growing concerns within the elite group of decision makers over the impact of climate change, the increasing population demands and the needs of an expanding mining industry, led to the 2009 proposed reforms, based on a perception of water scarcity, which signals a move to adaptive water management (Giordano and Shah 2013).

The lack of knowledge of groundwater availability is recognised as a constraint on development (see Chapter Two), and this is true in Botswana (Chapter Five). The provision of support from DWA to the new Water Resources Board (WRB) is integral in producing for the first time an accurate water atlas for Botswana (KIWB1). Metering of all boreholes as proposed would provide a level of usage metrics but de-watering for mining will remain a significant unmeasured use.

equity in the main locations of Batswana life: in the villages, at the lands and at the cattle posts? (Chapter Nine)

Discussions over the merits or otherwise of centralisation or decentralisation of WSS have been settled in Botswana on the basis of centrally delivering a universal provision of piped water to individual yards. The provision of all WSS by a single supplier, the Water Utilities Corporation (WUC), replaced a three way muddle of providers and was pushed through by a GOB Cabinet decision in 2009. It was finally completed in 2013. The problems with the North-South water Carrier I (NSC I) in 2013/4, affecting Gaborone water supply, dented the image of the WUC in delivering successful change. The takeover by the WUC of all sanitation responsibilities from LA and the MLG was supported as evidenced in Chapter Eight but WUC, funded by GOB, have found it difficult to catch up on the under- investment in WSS over the last 60 years.

The planned replacement of the national WAB by the independent WRC/WRB did not happen. The GOB Cabinet felt it would take power away from them to allocate water, and the new WRB is planned to remain under GOB control. The proposed introduction of a water regulator, however, could establish an arm's length institution able to take decisions on pricing policy, which could also potentially deflect criticism of the cost recovery process from the GOB.

The participation of stakeholders in IWRM decisions was proposed as best practice by the GWP (2000). However, civil society organisations engaged in water issues in Botswana have not thrived since the withdrawal of most ODA in the 1990s, and the decline of agricultural cooperatives. Churches are the main NGO stakeholder group. Traditional forms of government had their legal responsibility for water removed in the post Independence settlement but retain a surprisingly high moral right to consultation on water rights. Local government in Botswana were pleased to give up their responsibility for WSS and were positive about their role in representing the public to the WUC and DWA. The Councillors, male and female, filled the gap left by the failure to establish Water User Associations (WUA) and Water Consumer Committees, and provide a participative mechanism for decision making in the absence of a wider civil society representation. This could be seen as a European approach to

participation where political parties vie, at the local level, to be seen as responsive to the concerns of their electorate.

The drivers of the policy reforms, recognised in Chapter Two as primarily political (Cosgrave 2012), pressed for poverty reduction objectives. The GOB did not imitate the South African example of free minimum water allocation to households, fearing their experience of poor collection rates would follow. Instead it followed the stepped tariff approach and VAT free charging for the first 5000 litres pa for each *lapa*. National tariffs started in June 2013 and there is a commitment to a five year phase-in of cost recovery while protecting the poor. The total phasing out of standpipes was opposed, and the GOB relented, but made them only operable by prepayment meters with free tokens for the very poorest, the destitute. A move to provide water to backyard gardens for horticulture provided a way forward for the GOB for poverty eradication.

An important innovation in the initial water reforms was to reticulate, or provide by borehole, WUC organised and Ministry of Agriculture (MoA) subsidised, water to all *masimo*²⁶⁸ These were to be organised into groupings to enable a single reticulated supply to be used for a number of *masimo*. But this concept, while still wished for by reforming KIs, was not in the final water policy of 2012. The decision in March 2013 to allow cattle to be kept at the *masimo* got around the exclusivity of supply at the *moraka* held by the rich, the owners of the syndicate provided boreholes. This elite group, originally targeted by the reforms, appear to have seen off the challenge to their near free groundwater, but the five year fee system on all boreholes, where off-takes will be measured (although this remains to be seen in practice), will start to bite.

The key influences on the process of reforms emerge from elite water and social experts from within the political class and civil service, wanting change and then driving it. As has been analysed in Chapter Ten, this was through the formation of a new Advocacy Coalition (AC), to seek to influence and then

²⁶⁸ Allocated land outside the village for the growing of crops.

change the post Independence AC. The reforms were home grown. Whilst the WB was hired to provide expert advice, it was not the driver of the reforms. Policy space was used in a way perhaps not available in developing countries dependent on donor driven paradigms. The imminence of the 2014 General Election at the end of the fieldwork cast a shadow over the 2009/10 WRM proposals and slowed their implementation, but the WSS reforms have been completed. The completion of the WRM reforms from 2015 onwards will be decided by whoever wins the election, but they are likely to go ahead with broad based support.

11.3 Study contributions and reflections on the research process

Rich insights to the processes of policy reform in Botswana's water sector have been gathered, by triangulation of multiple sources of data from KIs, FGs and the Researcher's reflections and his involvement in key meetings during 2010-2011. Whilst the Researcher recognises the need to understand the positionality of both himself and the Batswana he listened to, a general consensus across the data groups does enable tentative conclusions to be drawn.

The KIs knowledge of the reforms was rather patchy. The closer the KIs from across Botswana society were to the decision point the more they knew. But it was surprising how little interest was taken in how the reforms could impact on the KI's constituency of interest. This was particularly true of the civil society representatives. The lack of take-up by stakeholders of opportunities for consultation was surprising. There appears to be a high acceptance of and confidence in, the ability of the GOB civil servants (and politicians) to deliver what is best for society. This was echoed in the FG discussions with poorer people who were generally supportive of the changes and had low levels of criticism.

The research process on the ground covered 10 months (September 2010-July 2011) and it was only towards the end of fieldwork that the various pieces of

data came together within an overall framework. The return to fieldwork in April-May 2013 produced new data which enabled the Researcher to understand the concerns of the drivers of change²⁶⁹ in a water reform process that had hit difficulties, yet a wide- spread coalition of support for the changes remained strongly evident.

11.4 Policy implications and recommendations for future research

The policy process of water reform in each developing country is always different, but the Botswana experience is a case study that any country government looking to develop to a European standard of WRM and WSS could reference. The move from local village standpipes/boreholes, giving minimum access to potable water under local control, to a centralised parastatal, offering reticulated water to each household and livelihood, was the aim of the GOB in the reforms. The initial drive for root and branch change has been tempered by the difficulties of maintenance of 50 year old assets and the difficulties of supply by dams and long distance pipelines. However, the success of the GOB and WUC is still considerable; in four years, it has established a single credible provider for the whole of Botswana. While the standards have yet to advance to the level planned in 2009, the foundations have been laid for higher standards post 2014. Implications of these policies on the right to water and the livelihoods of the poor will need to be revisited regularly and recalibrated to provide WSS affordable for all.

The process behind WRM and WSS reforms elsewhere in developing countries should be researched further to build a data base of knowledge about the potential barriers to successful WRM and WSS delivery. The Botswana water statistics are largely estimates and there needs to be a drive across the world to bring estimate acceptability to an end, particularly on groundwater. The academic acceptance of poor statistics not just on GDP should be revisited

²⁶⁹ As defined in Chapter Six

(Jerven 2013). Accurate water metrics, with a rapid build-up of in-country capacity, should be an early goal to achieve within the post 2015 SDGs.

Donor agencies' emphasis on the norm of decentralised delivery of WSS and basin led WRM at the lowest level of subsidiarity may need to be questioned. The coordination role of Central Government is advocated in recent research, as in Tanzania (UNWATER 2014). The low population level of 2 Million could be seen as a reason for relative success in WSS in Botswana, but the physical size of the country and the spread of settlements to be supplied with WSS, make the project worth analysing in understanding a way to deliver WSS in other large countries with a widespread rural hinterland. The delivery of neighbouring South Africa WSS is once again being criticised (SAHCR 2014). South Africa and elsewhere could learn from the Botswana experience.

A national borders based IWRM policy may be the norm in developing countries where there is no legal enforceable sharing of trans-boundary river basin water (Giordano and Shah 2013:8; Sitorus 2008). Botswana with its four trans-boundary river basins is not alone with its water problems. IWRM, based on basin sharing, may be the right way forward in Europe but it is harder in more predatory Governmental conditions, in Southern Africa, with hegemonic water powers dominating basins, both internally and externally (Van der Zaag and Bolding 2005). Will a 'new water architecture' evolve, connecting country water policies with TBWC basin organisations (Van der Zaag 2009:254)? Or will a state based water security policy approach, as in Botswana, be the most effective way forward (Giordano and Shah 2013)? More qualitative research is needed to explore the evolution of the processes of WRM within regional river basin organisations.

The 2014 Election looms. Water reform requires political will, not over just one election cycle. It took Europe 100 years to develop its WRM and WSS. It remains to be seen whether Botswana, with what appears to be a coalition of support for progressive WRM, with reasonable levels of political will, can achieve those standards much faster.

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Appendix One: Government of Botswana Research Permit

TELEPHONE: (267) 3656600
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MINISTRY OF MINERALS,
ENERGY AND WATER
RESOURCES, PRIVATE
BAG 0018 GABORONE
BOTSWANA

24th May 2010

Mr. Anthony Colman
University of East Anglia
Norwich NR4 7TJ
United Kingdom

Dear Mr Anthony Colman

RE.: APPLICATION FOR A RESEARCH PERMIT – **ANTHONY COLMAN**

Your application for a research permit refers.

By this letter you are given permission to conduct a research entitled
“Water Resource Management (WRM) Governance in Botswana.”

The permit is valid for a period not exceeding twelve (12) months effective
from **1st September 2010 to 31st August 2011**.

The permit is granted subject to the following conditions:

1. Copies of reports produced as a result of the research are directly deposited with the following institutions: Office of the President; Ministry of Minerals, Energy and Water Resources; Botswana Archives and Records Services; Botswana national Library Services and the Research and development Office – University of Botswana.
2. The permit does not give authority to enter premises, private establishments or protected areas. Permission for such entry should be sought from those concerned.

The Ministry that makes a real difference to Botswana

3. The study is conducted according to the particulars furnished in the approved application, taking into consideration the above conditions.
4. Failure to comply with the above stipulated conditions will result in the immediate termination/cancellation of the permit.

Yours Faithfully



Anne K. Leipego
for/**PERMANENT SECRETARY**

cc: Permanent Secretary, Office of the President
Director, Botswana Archives and Record services
Director, Botswana National Library Services
Director, Research and Development Office, University of Botswana.

Appendix Two: Existing Laws and Statutory Instruments affecting Water and Sanitation in Botswana

Principal Legislation

Constitution of Botswana: There is nothing explicit in the Constitution regarding the protection of water resources, but natural resources in general are referred to in section 8(5) in relation to the expropriation of property. By this section, any compulsory acquisition of property may be effected by the government, but only if it is necessary for soil conservation or for the *conservation of natural resources*.

01:04 Interpretation Act: By section 17, where an enactment confers power to grant a licence, authorization or permit, the power includes the power to revoke, suspend or amend the licence, authorization or permit. By section 18(1), where an enactment confers a power to appoint a person to an office, the power includes power to remove or suspend him, exercise disciplinary control over him, reappoint or reinstate him, and to appoint a deputy to act in his stead. By section 24, international conventions can be used to interpret national law. By section 44(1), in an enactment, words importing the male sex include the female sex and vice versa. By section 49, in any enactment (i.e. an Act or a statutory instrument):

- the term “land” includes water;
- “local authority” means a city council, a town council, a township authority or a district council;
- the term “the Minister” means the Minister for the time being responsible for the matter in question;
- “person” includes a body corporate and an unincorporated body as well as an individual;

02:11 Public Authorities (Functions) Act0

2:12 Ombudsman Act
04:01 Court of Appeal Act
04:02 High Court Act
04:04 Magistrates' Courts Act
04:05 Customary Courts Act.
05:03 Commissioner of Oaths Act
06:01 Arbitration Act
08:01 Penal Code

10:04 Local Authority (Proceedings) Act: By section 2, “local authority” includes a land board established under the Tribal Land Act.

16:01 Customary Law Act: By section 3, customary law (i.e. the law of a particular tribe or tribal community so far as it is not incompatible with written law or contrary to morality, humanity or natural justice) is to be applied by the courts of Botswana in all proper cases. By section 4, customary law is applied in all civil cases and proceedings where the parties are tribesmen, unless the parties intended the common law (i.e. any law, written or not, in force in Botswana, other than customary law) to apply or the transaction is one unknown to customary law or the parties consent to the common law being applicable. By section 5, subject to any written law, proceedings between tribesmen and non-tribesmen shall be regulated according to customary law provided each intended the matter to be regulated accordingly. By section 10(1), where there is a conflict of customary laws in respect of land (and water), the applicable customary law is that of the place where the land (and water) is situate.

17:01 Statistics Act: By section 3, statistics may be collected by the Minister regarding: (1) (c) the supply of water; and (1)(d) “soil erosion and water conservation works and borehole sinking”.

22:05 Essential Supplies and Services Act: By section 2, an “essential supply and service” is one, in the opinion of the President of the Republic, essential to the life and well-being of the community. Thus, by section 4, if it

appears to the President that, say, the supply of water is in jeopardy, he may make such regulations as to him appear necessary and such regulations may: ration the supply of water; control the price of water; apply to any area within or to the whole of Botswana; apply to all persons, to any group of persons or to individual persons.

32:01 State Land Act

32:02 Tribal Land Act: Land boards are established under this Act and are responsible for the allocation and administration of tribal land in the districts in Botswana.

32:03 Tribal Territories Act

32:05 Tati Concessions Land Act: dealing with existing rights to water, the right to pump and conduct water, the right to search for water and erect pumping stations

32:07 Bamangwato Land Grant Act

32:09 Town and Country Planning Act

32:10 Acquisition of Property Act:

34:01 Water Act: By section 2, “public water” is defined as “all water flowing over the surface of the ground or contained in or flowing from any river, stream or spring or natural lake or pan or swamp or in or beneath a watercourse and all underground water made available by means of works, but does not include any water which is used solely for the purposes of extracting mineral substances there-from or water which has been lawfully appropriated for use”. By the same section, “water right” is defined as a right granted under the Water Act and, subject to section 10, includes an existing right. Section 2 also defines “domestic purposes” as including the watering, spraying and dipping of stock. In addition, section 2 includes definitions of the terms “public stream”, “underground water”, “effluent”, “well” and “works”. Section 3 empowers the Minister to appoint the Water Apportionment Board, consisting of three to fifteen

persons as the Minister determines. By section 3(3), the Minister appoints a Water Registrar who is the *ex-officio* Secretary of the Board. By section 3(5), the Board and the Registrar must “have regard to any relevant international agreement regulating the use of water to which Botswana is a party.” By section 4, there is no right of property in public water and the control and use thereof is “regulated as provided in this (Water) Act or in accordance with … the Waterworks Act”. By section 5, the casual use of water in a public stream is permitted without the granting of a water right. Section 6 provides the regime for the use, etc., of water by owners and occupiers of any land who, without a water right, may sink or deepen any well or borehole thereon and use water therefrom for domestic purposes not exceeding such amounts per day as prescribed by the Minister in consultation with the relevant ‘advisory board’ established pursuant to section 35, provided that no borehole can be within 236 meters of any other borehole (other than a dry borehole). By section 6(1)(b), the owner or occupier of land may also, “without a water right, construct any works thereon for the conservation of public water, and abstract and use public water so conserved for domestic purposes” subject to certain provisos. Section 6(3) deals with the corresponding regime for an occupier of tribal land in accordance with customary law or agreement. Section 7 deals with the right to water for mining purposes and section 8 with the right to water for forestry purposes. Subject to the foregoing, section 9 prohibits the use of water except with lawful authority in the form of a water right granted under the (Water) Act and this includes a prohibition on diverting, damming, storing, using or discharging effluent into public water. Section 10 provides for the extinguishing of certain existing rights not brought to the attention of the Registrar. By section 11, there are no prescriptive rights to the use of water. Sections 12 to 14 deal with the recoding of existing rights. Sections 15 to 18 deal with the granting of water rights by the Board. By section 16, the rights may be made appurtenant to land. Section 17 sets forth the conditions that are implied in every water right granted for mining, forestry or industrial purposes or for the generation of power. These include that the water used there under “shall not be polluted with any matter derived from such use to such an extent as is likely to cause injury either directly or indirectly to public health, livestock, animal life, fish, crops, orchards

or gardens which are irrigated by such water or to any product in the processing of which such water is used.” Furthermore, the holder of a water right for mining, forestry or industrial purposes or for the generation of power must take precautions, to the satisfaction of the Water Registrar, “to prevent accumulations in any river, stream or water course of silt, sand, gravel, stones, sawdust, refuse, sewage, waste or any other substance likely to affect injuriously the use of such water.” Section 18 provides the regime applicable to water rights made conditional on the construction of works. Sections 19 to 25 deal with the revision, variation, determination and diminution of water rights due to: the inadequacy of water supply; drought; the failure to comply with a condition; non-use; or for public purposes. By section 26, the Board is empowered to create servitudes. By section 28, the Registrar has the power to inspect works, measure the quantity of water abstracted or capable of being abstracted and to require repairs, demolitions, modifications or change of use as he considers necessary. By section 29, the Registrar is empowered to require the demolition of unlawful works. By section 30, the Minister is empowered to enter upon any land to make any investigations and surveys the Minister considers necessary for “the conservation and best use of water in Botswana” and the Minister “may establish and maintain on any such land ... hydrological stations and other works for the purpose of obtaining and recoding information and statistics as to the hydrological conditions of Botswana”. By section 31, any person who is aggrieved by a decision of the Registrar or of the Board may appeal to the Minister whose decision is final. Section 32 provides for the registration of water rights and the right of any person to obtain extracts. Section 33(1) permits the Registrar, with the approval of the Minister, to delegate his functions to any officer in the public service. Section 33(2) permits the Board, with the approval of the Minister, to delegate to any local authority the Board’s powers in respect of the construction and enlargement of, and the abstraction or water from, wells and boreholes. By section 35, the Minister is empowered to make certain regulations. Section 36 provides for the offence of pollution of public water, etc, and, by section 37, a person guilty of such offence is liable to a fine not exceeding 1000 Pula or to imprisonment not exceeding one year, or to both. A person who is guilty of an offence under section 9(2) is

liable to the same penalty and a person who is guilty of an offence under sections 7(4), 17(2), or 29(3) is liable to a fine not exceeding 500 Pula or to imprisonment not exceeding six months, or to both. By section 37(3), in the event of a continuing offence, the court may impose an additional fine not exceeding 10 Pula per day during which the offence continues.

34:02 Boreholes Act: By section 2, a borehole is defined as “a well sunk by means of a rig, and shall not include a well sunk by persons subject to any Botswana customary law, with hand labour only, in any of the tribal territories defined in the Tribal Territories Act or on any of the Barolong Farms”. By section 4, notice of intention to sink a borehole of a depth of more than 15 meters below the surface must first be given to the Director of Geological Survey ('DGS') of Botswana and the person responsible for the borehole must keep a record of the progress of the work. Section 5 empowers the DGS to inspect within one year of the completion of the sinking or deepening of a borehole. Section 6 requires the reporting to the DGS of any pump-test made by the person sinking or deepening any borehole. Section 7 requires written notice to the DGS within ten days of the completion of the sinking or deepening or of the abandonment of a borehole. By section 8, for any territories described in the Tribal Territories Act or on the Barolong Farms, copies of the documents referred to in sections 4, 6 and 7 must, in addition, be sent to the District Council having jurisdiction in such area. Section 9 allows records to be treated as confidential, except those relating to water. And section 10 provides for penalties for failing to fulfill obligations, etc., under the Act.

34:03 Waterworks Act: By section 2, “waterworks” are defined as “reservoirs, dams, tanks, cisterns, tunnels, adits, wells, boreholes, filters, settling tanks, purifying plants, conduits, aqueducts, mains, pipes, foundations, stand-pipes, hydrants, taps, pumps, engines, and all other structures and appliances for obtaining, storing, purifying, conveying distributing, measuring or regulating water.” By section 4, the Minister may declare any area a ‘waterworks area’ and, by section 5, he appoints a Water Authority for every waterworks area. By section 6, the Water Authority is empowered to acquire rights to water and to construct and manage works for supplying water. By section 7, the Water

Authority has the right to acquire existing waterworks. Section 11 provides for payment to be made for such acquisition and the application of the provisions of the Acquisition of Property Act in the event of a dispute concerning any interest in or right over an undertaking acquired under section 7 or the legality of the acquisition or the *amount* of the compensation. Section 12 provides the *basis* of such compensation. Section 13 empowers a Water Authority to lay waterworks in public places. Section 14 empowers a Water Authority to lay any pipe, etc., through, across or under any private land. Section 15 provides a Water Authority power to enter premises for inspection and to supervise the proper use of water service so as to ascertain “whether there is or is likely to be any waste, leakage, obstruction, damage or pollution or misuse of water in connection with any premises.” Furthermore, by section 15(2), a Water Authority may enter premises and take samples of any material or effluent which, in its opinion, may cause pollution of such water. Section 16 provides power to a Water Authority to curtail or withhold the supply of water. By section 17, a Water Authority may prohibit the use of water for certain purposes. By sections 18(1) and (2), a Water Authority may supply water to any premises in the waterworks area and “no such application shall be unreasonably refused”. By section 18(3), the applicant may be required to pay the cost of the extension of supply if the cost “would be excessive in relation to the moneys that would be recovered by way of water charges”. Section 19 provides for the manner by which the Water Authority assesses charges for water supplied. By section 20, the Water Authority is empowered, with the approval of the Minister, to prescribe charges, etc., whether by consumers generally or any class of consumers. By section 21, the Minister may authorize a Water Authority to supply water outside its waterworks area. Section 22 provides for a fine not exceeding 2000 Pula or imprisonment not exceeding six months, or both, for negligently or willfully injuring a waterworks or any meter installed by a Water Authority or for unlawfully taking water from the same or polluting or causing the risk of pollution to any such water. By section 23, any person who willfully or negligently misuses or wastes water from any waterworks is liable to a fine not exceeding 250 Pula. By section 24, any person, without the consent of the Water Authority, who alters a service through which water is supplied, is liable to a fine of 200

Pula or imprisonment not exceeding 6 months or both. By section 25, any person who fraudulently measures water or tampers with a meter is liable to a fine not exceeding 100 Pula or, in default, to imprisonment not exceeding three months. Section 26 provides for offences in connection with water being used for a purpose other than that for which it is supplied. By section 27, the erection of buildings or structures over a water mains or pipe is prohibited without the permission of the Water Authority. By section 28, the supply of water by certain persons is prohibited. By section 29, any person who accumulates or does not remove any “foul, noisome or injurious matter or any earth deposit or excavated material in such manner or place that it may be washed, fall or be carried into waterworks” shall be liable to a fine not exceeding 50 Pula and to a further fine of 4 Pula per day for each day during which the offence continues. Section 30 prohibits bathing or washing in waterworks. By section 31, the Minister shall appoint “Government officials as inspectors” to inspect the affairs of a Water Authority. And by section 32, the Minister may make regulations.

34:04 Aquatic Weeds (Control) Act: Section 3 prohibits the importation and movement within Botswana of any aquatic weed (as specified in the Schedule). By section 5, any person who knowingly or recklessly contravenes section 3 is liable to a fine not exceeding 2000 Pula or to imprisonment not exceeding two years, or to both.

35:06 Agricultural Resources Conservation Act: By section 2 “agricultural resources” includes the waters of Botswana in their relation to agriculture. By Section 16, the Agricultural Resources Board (ARB) is empowered to issue conservation orders and make conservation regulations regarding cultivation, watering of livestock, the protection of catchment areas, the drainage of land, including the construction, maintenance or repair of artificial or natural drains, gullies, contour banks, terraces and diversion ditches when required to prevent the silting up of dams, to preserve vegetation, to protect the source and banks of streams, and to preserve the soil and its fertility, etc. By section 18, the ARB may have works carried out so as to dispose of and control water, including storm water and drainage water, to protect the catchment, source, course, banks or feeders of any stream, and to prevent the pollution of public water.

See also Part IV dealing with the Conservation and Improvement of Agricultural control of livestock, especially in respect of the number of livestock that can be watered at watering points specified in an order of the ARB.

35:08 Agricultural Management Associations Act: This Act provides for the constitution, registration and control of agricultural management associations (AMA) and establishes the Commissioner for the AMA with power to control AMA and give them directions in the management of agricultural resources. See section 3. (See as a potential model for a statute authorizing Water Users' Associations.)

35:09 Agrochemicals Act: See re: issues of potential pollution and the role of the National Agrochemicals Committee appointed by the Minister pursuant to section 6 and including the Chief Chemist of the Department of Water Affairs.

38:01 Wildlife Conservation and National Parks Act: See section 2 for the meaning of "water installation". See also section 6(1) re: the construction of water conservation works and irrigation works, as well as section 15(3)(f) re: boreholes.

38:03 Forest Act: The definition of "river" in section 2 includes "streams and all natural water courses in which water flows or remains either throughout the year or at certain seasons".

40:01 Local Government (District Councils) Act: By section 32, a council must exercise its powers "so as to secure and promote the health ... of the area for which it has been established." By section 33, a council may make bye-laws in respect of all matters it considers desirable for the maintenance of the health, safety and well-being of the inhabitants of the area for which the council has been established, including in respect of steps, in addition to those taken by any other authority: to safeguard and promote public health; to provide public lavatories; and to provide public water supplies outside any area for which a Water Authority has been appointed by law. By section 34, no bye-law is of any effect until the Minister has given his approval and caused the bye-law to be published in the *Gazette*. By section 44A, a council shall set service and user

fees for the services set out in the Third Schedule. These include sanitation services, septic tank emptying service, sewer connection services, sewerage services, the leasing of boreholes and water connection services.

40:02 Townships Act: By section 7A, a township authority may set service and user fees for services set out in the Third Schedule to the Townships Act and these include sanitation services, septic tank emptying service, sewer connection services, sewerage services, leasing of boreholes, and water connection services.

40:04 Fire Service Act: By section 5, each Council is required to provide adequate water supplies. By section 6, where any person proposes to carry out works for the supply of water to any part of the area of a Council, at least four weeks notice of this fact must be given by the person to the fire brigade of the area concerned.

40:06 United Local Government Service Act: The powers of the Establishment Secretary to appoint, discipline and remove officers in local government service are provided for in section 6. The powers of the Establishment Secretary regarding 'senior officers' (as defined by section 2) may only be exercised with the consent of the Minister. By section 12(3), a local government officer who has attained the age of 45 years may, in the discretion of the Establishment Secretary and in the interests of the service, be retired from local government service. By section 30, the Minister may make regulations: (a) to provide for the creation and abolition of local government offices; and (b) to set up bodies for the purposes of consultation between Government and officers of the local government service and the procedure and function of such bodies. By the Schedule, part-time employees other than senior officers are not subject to the Act.

41:01 Chieftainship Act

42:07 Consumer Protection Act: Section 2 defines "commodity" as "any property" (which thus includes water) and "consumer" as "any person to whom ... a commodity is offered, supplied or made available" Section 19(c)

empowers the Minister, by Regulation, to prescribe “the minimum specifications, performance, quality and safety standards for any type of commodity ... being offered to consumers.”

42:08 Public Procurement and Asset Disposal Act: By section 3, the Act applies to all entities of the Central Government (and thus WUC). See section 26 for the powers and functions of the Public Procurement and Public Asset Disposal Board.

43:08 Control of Goods, Prices and Other Charges Act: By section 2, “goods” means “anything capable of being bought or sold” and thus the term includes water. By section 3(1), the Minister may make regulations to control: (a) the distribution, disposal, purchase and sale of any goods and the charges which may be made for services relating to the distribution, disposal, purchase and sale of such goods; (b) the supply of any goods to ... any person; and (c) the quality and standards of any goods. By section 3(2), such regulations may provide, *inter alia*, for the rationing of any goods and for fixing ... different quantities of such goods to be obtainable in the aggregate or individually by different classes of persons.

43:10 Small Business Act: By section 4(m), the Local Enterprise Authority is empowered to “facilitate and coordinate the provision of infrastructure and facilities ...*including serviced land and utility services* for Small, Micro or Medium Enterprises, in conjunction with local authorities, parastatal organizations, the private sector and the Government.”

44:02 Mines, Quarries, Works and Machinery Act

47:01 Employment Act: By section 124 which requires the supply of water by employers, and protection from pollution, etc. By section 63, “no public officer shall recruit ... for a private undertaking except where the recruited employees are to be employed on works of public utility for the execution of which a private undertaking is acting as contractor for a public authority.” Section 2 defines “contractor”, “employee”, “public authority” and “public officer”.

52:01 Income Tax Act: By section 2, WUC is defined as a “specified corporation”. See also Third Schedule - Capital Allowances – Paragraph 1 Computation of Allowances Deductible for Farmers – (a)(iv) includes any expenditure incurred in the sinking of boreholes and wells, the provision of piping and pumping plants, or the construction of structural improvements for the conservation of water or irrigation channels and water furrows.

63:01 Public Health Act: Section 46 defines what constitutes a “nuisance” and subsection (1)(d), (e) and (m) deal with water, waste water and occupied dwellings without “proper, sufficient and wholesome” water within a “reasonable distance.” By section 57, health officers have a duty: (a) to ensure the purity of any supply of water the public uses for drinking or domestic purposes; and (b) to “take *all* necessary measures” against any person polluting any such supply or any streams, etc.

65:02 Building Control Act: By section 4(1), the Minister may make regulations regarding: “sanitary conveniences”; the drainage of buildings, including the means for conveying refuse water and water from roofs and from yards appurtenant to buildings; cesspools and other means for the reception or disposal of foul matter in connection with buildings; as well as wells, tanks and cisterns for the supply of water for human consumption in connection with buildings; private sewers; and communications between drains and sewers and between sewers. Also, by section 4(2)(b), the regulations may include provisions as to the testing of drains and sewers.

65:03 Atmospheric Pollution (Prevention) Act: regarding air pollution control and the impact thereof on the purity of rain and surface water.

65:05 Food Control Act: See section 10(1) regarding clean water supply and the duty of every “authorized officer” (as defined in section 2) in these respects, as well as section 10(2) in respect of polluters being guilty of an offence.

65:06 Waste Management Act: By section 2, “waste” includes “the following substances and any combination thereof which are discarded by any person or are accumulated or stored by any person for the purposes of recycling: (a)

undesirable or superfluous by-products; (b) residue or remainder of any process or activity; (c) any gaseous, *liquid* or solid matter. Also, “controlled waste” is defined by Section 2 as including household, industrial, commercial clinical and hazardous waste. By section 9(3), the Director of the Department of Sanitation and Waste Management, in conjunction with the Department of Water Affairs “and other relevant Departments”, is obliged to draw up a national waste management plan based on the local waste management plan of each local authority, which national plan shall then be evaluated and revised at regular intervals. By section 10(1), as part of the local waste management plan, the local authority must prepare a waste recycling plan covering the type and quantity of controlled waste to be recycled, the initiatives the local authority will take to encourage recycling, the estimated costs of recycling so as to conserve resources and prevent harm to human, animal or plant life. By section 17, the Director of the Department of Sanitation and Waste Management must consult with Department of Water Affairs “or any other relevant Department” in respect of each application for the registration of waste disposal sites and the licensing of waste management facilities. By section 23(3)(a), the surrender of any part of a waste management facility is not effective until the Director of the Department of Sanitation and Waste Management has consulted with the Department of Water Affairs. Section 53 entitled “Inspection of land” and its subsections (2) and (3) provide measures that must be taken by the Director of the Department of Sanitation and Waste Management in consultation with the Department of Water Affairs in respect of the pollution of public water.

65:07 Environmental Impact Assessment Act: The main purpose of this Act is to provide for assessments of planned developmental activities in order to determine and provide specific mitigation measures for the effects of such activities as are likely to have a significant impact on the environment and to put into place a system to monitor and evaluate the environmental impacts of activities that have been implemented. By section 4(1), no person shall undertake or implement an activity unless the environmental impact of the proposed activity is fully taken into account in accordance with the Act and

authorization has been issued. The impact of the activity could relate to a range of factors, including the extent of the pollution of water, air and soil.

66:01 Mines and Minerals Act

66:02 Mineral Rights in Tribal Territories Act

67:01 Petroleum (Exploration and Production) Act: By section 55 regarding work practices for the registered holder of a licence and section (2)(f) requiring the licence holder to “prevent the pollution of any water-well, spring, steam, river, lake, reservoir or estuary by the escape of … any … waste product …”, as well or dispose of it in an environmentally acceptable manner”.

73:01 Electricity Supply Act

74:02 Water Utilities Corporation Act: By section 2: “Government water undertakings” are defined as “works established and arrangements concluded by the Government for the purpose of supplying water to communities and enterprises in Botswana”; “undertaking” means “any business for the supply of water to the public, whether operated by a water authority or not”; and “water authority” means “a water authority within the meaning of the Waterworks Act”. WUC is established by section 3 and is deemed to be a water authority “in respect of such waterworks areas as may from time to time be specified by the Minister by notice published in the *Gazette*”. By section 4(1), WUC consists of a Chairman and between 6 and 8 other members each of whom is appointed by the Minister. Section 4(2) provides grounds for disqualification for membership. Section 5 provides for the resignation and removal from office of the chairman and any other member. Section 6 provides for the tenure of office: three years for the chairman with a right to be re-appointed for three further years and four years for any other member with the right to be reappointed. By section 7, the Minister may appoint temporary and alternate members. Section 8 allows WUC to make payments of remuneration, fees and allowances to members as the Minister may approve. Sections 9 to 11 provide for meetings and proceedings of WUC. By section 12(1), with the approval of the Minister, WUC shall appoint a CEO on such terms and conditions as WUC shall determine. By section 12(4),

after considering the recommendations of the CEO, WUC shall determine the staff deemed necessary to discharge WUC's functions and the terms and conditions of staff employment. By section 12(7), with the approval of the Minister, WUC may: (a) grant pensions, gratuities or retiring allowances to any officers or employees and may require such officers and employees to contribute to any pension or contributory scheme; (b) establish or make contributions to any pension, superannuation and medical fund for the benefit of its officers and employees; and (c) appoint and employ such agents and contractors as it deems necessary. Section 14 sets out the functions of WUC, namely (a) to supply water in bulk or otherwise in such areas as the Minister may designate; (b) to do all things necessary to secure adequate supplies of water "for the performance of its functions"; and (c) to apply for and obtain all rights, licences, permits, etc as may be required or desirable. The powers of WUC are set out in section 15 and these include the power: (a) to acquire and use any kind of property, etc, and to dispose of the same to the Government or any person other than a member, employee or agent of WUC; (b) to enter into any contract or obligation; and (c) to do all such acts as WUC may deem necessary for the performance of its functions. By section 15(2), WUC may: (a) acquire, construct or install, whether on land owned by or leased to it or elsewhere such works, etc. as it deems necessary; (b) enter into agreements for the loan of money to any WUC employee to enable him to purchase motor or other vehicles required by him for the purposes of his employment; (c) give guarantees for the repayment of money so lent; and (d) give guarantees for the repayment of up to 30 percent of the amount lent by a financial institution approved by the Minister for the purchase or construction of a dwelling house to any WUC employee who is a member of WUC's superannuation scheme. By section 16, in discharging its functions, WUC must cooperate with local and other public authorities, including departments and agencies of the Government. By section 17, WUC is obliged to keep full and accurate records of all of its operations and has the power to engage in research, etc. and to publish such records and research. Section 18 allows the Minister to give general and specific directions to WUC not inconsistent with this Act or any of its contractual or other legal obligations. The principles of WUC's financial

operations are set out in section 19. By subsection (1), WUC's charges for the supply of water must "ensure that its revenues are sufficient to produce on the fair value of its assets a *reasonable* return measured by taking its net operating income as a percentage of the fair value of its fixed assets in operation plus an *appropriate* allowance for its working capital." By subsection (2), "net operating income" is defined as "the amount of income remaining after subtracting from the total operating revenues all charges which in accordance with GAAP are chargeable to revenue account, including appropriate provisions for the depreciation of assets, adequate maintenance and taxes, but before deducting interest or other charges on borrowing or taking into account non-operating income and expenditure." By subsection (3), all pertinent considerations are to be taken into account in determining what constitutes a reasonable return so as to ensure that WUC's net operating income (a) meets interest payments on borrowings; (b) provides for repayments each year in respect of loans incurred by WUC to the extent such repayments exceed the year's provision for depreciation charged to revenue account; (c) provide a *reasonable* proportion of the funds needed for expanding WUC's activities and improving its services; (d) provides reserves for replacement, expansion, etc. to the extent the "Board" [sic] deems it necessary; and (e) makes dividend payments to the Government to the extent deemed appropriate by WUC. By section 20, the assessment of charges for water supplied by WUC shall be determined in accordance with sections 19 and 20 of the Waterworks Act and section 19 of the WUC Act. By section 21, WUC may borrow on such terms and in such currencies such sums as it requires and may charge its assets and issue bonds, subject to the approval of the Minister of Finance. By section 22(1), "any properties, assets, rights, debts, liabilities and obligations of the Government ... which are part of or concern or relate to the Government water undertakings may, with the consent of WUC, be transferred to and vest in WUC. Furthermore, by section 22(2), the Minister may designate properties, assets, rights, debts, liabilities and obligations of the Government ... which relate to the Government water undertakings and as from the date specified in any such designation the properties, assets, etc, vest in WUC. By section 22(4) WUC is obliged to pay the Government in such manner and on such date or dates as the Minister, with

the concurrence of WUC and the Minister of Finance, may specify, any amount expended or advanced by the Government on or in connection with the Government water undertakings that vest in WUC. By section 23, WUC may invest in securities and property approved by the Minister of Finance. By section 24, WUC is not liable to pay tax on income but is obliged to pay all duties, rates levies or other charges. Provisions relating to the accounts of WUC and to their audit are in section 25. By section 26, WUC is obliged to produce an annual report which, together with WUC's audited statements, must be laid before the National Assembly by the Minister. By section 27, the operations of WUC are deemed to be "public purposes" for purposes of any law relating to the compulsory acquisition of land for public purposes. By section 28, if the operations of WUC require resettlement of any persons on any communally owned land, the terms of resettlement are subject to agreement of the Government and the relevant local authority. By section 29, WUC shall cause the least damage possible in executing works or interfering with property and shall make full compensation to all local and other authorities and other persons who have sustained loss or damage and in default of agreement between the parties, the amount and application of compensation shall be determined in accordance with the Arbitration Act. By section 30, the Minister may call for information from WUC regarding its estimates of future revenue and expenditure and for such other information from WUC as he may reasonably require. And finally, section 31 protects the Chairman, any other member, any officer, employee or agent of WUC from any personal liability to any claim if the matter or thing is done *bona fide* for the purpose of executing any provision of the WUC Act.

74:03 Botswana Housing Corporation Act: "For or in connection with any house or building or estate owned, developed, constructed or managed by the Corporation", the Corporation is empowered by section 14(2)(i) to "provide and, where appropriate, maintain ... drains, sewers and water courses other than those the maintenance of which the Government or a local authority has undertaken or decides to undertake".

74:05 National Development Bank Act: By section 4, the Business of the Bank is to provide loans, etc., for providing, maintaining or improving the supply of water, whether of a public or private nature **Subsidiary Legislation (Statutory Instruments/SIs)**

17:01 Statistics (Household Income and Expenditure Survey) Regulations: see Schedule Book 1 Information to be collected in respect of every household - Section C Housing, Household Possessions and Cattle Ownership – 3 Water Supply, and 4 Toilet Sanitary Facility

32:02 Tribal Land – Establishment of Subordinate Land Boards Order

32:09 Town and Country Planning (Declaration of Planning Areas) Order Schedule

Town and Country Planning (General Development) Order – By paragraph 2, the “development control code” is defined as “the code making provision for matters mentioned in the Second Schedule to the Act incorporated in the relevant development plan”. The Code is to guide plot development in urban areas. See also First Schedule – Classes of Development which may be carried out without recourse to Board or Responsible Authority – Group XV – Classes of development relating to operations carried out by water authorities,

33:02 Deeds Registry (Conveyancers and Notaries Public) (Fees and Charges) Regulations See: Schedule Part I Miscellaneous Fees and Disbursements - Paragraph 7 (b) re: 600 Pula per hour pro rata search fee in connection with rights to water

34:01 Water Regulations: Regulations 6 to 11 provide for the proceedings of the Water Apportionment Board. Regulations 12 to 15 provide the regime for applications to the Board under the Act. Regulations 16 to 19 deal with appeals to the Minister. Regulation 20 allows the Registrar and the Board to request and collect information. Regulations 21 to 27 provide for advisory boards created by

the Minister to assist the Registrar, Board or Minister. And regulations 28 to 37 provide the regime for servitudes. See also the various First Schedule Forms, including Form W2 Application for Grant of Water Right and Form W6 Certificate of Grant of Water Right. The Second Schedule provides the Scale of Fees. An application for the grant of water rights or servitude is 1 Pula.

The Subsidiary Legislation (Statutory Instruments):

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32:09 Town and Country Planning (Declaration of Planning Areas) Order
Schedule Town and Country planning by paragraph 2, the “development control code” is defined as “the code making provision for matters mentioned in the Second Schedule to the Act incorporated in the relevant development plan”. The Code is to guide plot development in urban areas. See also First Schedule – Classes of Development which may be carried out without recourse to Board or Responsible Authority – Group XV – Classes of development relating to operations carried out by water authorities,

33:02 Deeds Registry (Conveyancers and Notaries Public) (Fees and Charges) Regulations: Schedule Part I Miscellaneous Fees and Disbursements - Paragraph 7 (b) re: 600 Pula per hour pro rata search fee in connection with rights to water

34:01 Water Regulations: Regulations 6 to 11 provide for the proceedings of the Water Apportionment Board. Regulations 12 to 15 provide the regime for applications to the Board under the Act. Regulations 16 to 19 deal with appeals

to the Minister. Regulation 20 allows the Registrar and the Board to request and collect information. Regulations 21 to 27 provide for advisory boards created by the Minister to assist the Registrar, Board or Minister. And regulations 28 to 37 provide the regime for servitudes. See also the various First Schedule Forms, including Form W2 Application for Grant of Water Right and Form W6 Certificate of Grant of Water Right. The Second Schedule provides the Scale of Fees. An application for the grant of water rights or servitude is 1 Pula. The issuance of a certificate as to the granting of a water right is 5 Pula, but half this fee is waived if the Board is of the opinion that the right "is of a minor nature". The issuance of a certificate as to the creation of a servitude is 5 Pula. A certified extract from the register of water rights or the register of servitudes is 1 Pula. And an uncertified extract from either of these registers is 50 thebe.

34:03 Prescribed Charges for WUC Supply Areas

Declaration of Sowa Township Waterworks Area Order

Declaration of Waterworks Area Order

Francistown Waterworks (Prescribed Charges) Order

Jwaneng Waterworks (Prescribed Charges) Order

Maun Waterworks Area Order

Orapa and Lethakane Mine Waterworks Areas Declaration Order

Prohibition of Use of Water in Lobatse Waterworks Area Order

36:03 Livestock and Meat Industries (Poultry Abattoir) Regulations: see Fourteenth Schedule – Paragraph 10 re: Additional Requirements re: water supply and treatment

38:01 National Parks and Game Reserves Regulations: See reg. 28(4) which prohibits any person from bringing or causing to bring a boat into a national park or game reserve unless in accordance with a permit issued by the Department of Water Affairs.

40:01 Local Government (District Councils) Southern District Council (Public Standpipes) Bye-laws
Local Government (District Councils) North-East District Council (Public Standpipes) Bye-laws

Local Government (District Councils) Kgalagadi District Council (Public Standpipes) Bye-laws

Local Government (District Councils) Kweneng District Council (Public Standpipes) Bye-laws: By bye-law 4(1), no person may draw water from a public standpipe unless he resides within the designated area in which the standpipe is located or has written authority from the Council. Bye-law 4(2) requires all water from a standpipe to be used for domestic purposes unless otherwise specified in writing by the Council. Any person who contravenes either provision is liable to a fine not exceeding 100 Pula or to imprisonment not exceeding one month, or to both. Other provisions deal with the use of public standpipe water by people other than residents, the use of water to extinguish fire, the withholding by the Council of the supply of public standpipe water, the inspection of public standpipes to detect unauthorized connections or the waste or misuse of water, and, finally, penalties for unauthorized connections, waste or misuse of water, willful or negligent damage to a public standpipe or for the pollution of any public standpipe.

Local Government (District Councils) Gaborone City Council (Public Standpipes) Bye-laws

Local Government (District Councils) Selebi-Phikwe Town Council (Public Standpipes) Bye-laws

Local Government (District Councils) Lobatse Town Council (Public Standpipes) Bye-laws

Local Government (District Councils) Ghanzi District Council (Markets) Bye-Laws: see First Schedule – Form 3 – Memorandum of agreement of lease – Para. 5
42:07 Consumer Protection Regulations: See regulation 13 re: Minimum Standards and Specifications

63:01 Public Health Regulations: See regulations 9 to 13 regarding the pollution of water

65:02 Building Control (Grade II (i.e. low-cost or self-help) Dwelling Houses) Regulations – Paragraph 14(2) (b) requires the installation of a “a toilet of a type determined or approved by the local authority, which may be housed in separate structures”. Paragraph 17 requires local authority determination or approval of the disposal of bathroom wastewater. Paragraph 19 requires a dwelling house to “be provided with or have access to an adequate supply of potable water” (defined, in paragraph 2, as “water which is suitable for human consumption”). And paragraph 20 requires “surface water drainage” to be “provided to the satisfaction of the local authority.”

Principal relevant policy documents at the national level:

Vision 2016 1997

National development plans

Water and wastewater sector tariff strategy 2010

National energy policy 2010

National master plan for sanitation and wastewater 2003

Wastewater and sanitation management policy 2001

Waste management strategy 1998

National policy on natural resources conservation and development 1990

Community-based natural resources management policy 2007

Game ranching policy 2002

Tourism policy1990

Integrated support programme for arable agriculture development 2010

Livestock management infrastructure development 2007

National master plan for arable agriculture and dairy development 2002

Agricultural water development policy implementation guidelines 1993

Appendix Three: Data Collection

A) Key Informants

Consent forms

How are the processes and implications of water sector reform being understood in Botswana?

Batswana ba reng ka diphetogo mo tsamaisong ya kabo le tiriso ya metsi mo Botswana?

What are the underlying drivers of water sector reform in Botswana?

Diphetogo tse di tsetswe ke eng?

This form is available in both English and Setswana.

Mokwalo o o kwadilwe ka Setswana le Sekgowa.

Introduction/Madume

Hello, I am Tony Colman, doing research in Botswana as part of a PhD in the School of Development Studies at the University of East Anglia, United Kingdom. It is a world class research institution looking at issues such as water reform.

Dumelang, leina lame ke Tony Colman. Ke moithuti ko unibesithing ya East Anglia ko Enyelane. Unibesithi ya rona ke nngwe ya di-unibesithi tsa maemo lefatshe ka bophara mo go direng ditlhotalhomiso mo dikgangnyeng tsa ditlhabologo, go akaretsa le dikgang tsa tsamaiso ya kabo le tiriso ya metsi.

Purpose of the study/ Maikaelelo a ditshekatsheko tsame

The purpose of the study is to understand how the processes and implications of water sector reform are being understood in Botswana? What are the underlying drivers of water sector reform in Botswana? The research is purely of an academic nature. It is being carried out under a research permit from the Government of Botswana, Ministry of Mining, Energy and Water Affairs (GOB MMEWR; copy of research permit attached).

Ditshekatsheko tsame di itebagantse le diphetogo mo tsamaisong ya kabo le tiriso ya metsi mo Botswana. Re batla go itse gore Batswana ba tlhaloganya diphetogo tse di raya eng mo matshelong a bone? Gone mme, diphetogo tse, di tsalwa ke eng? Ditshekatsheko tsame ke tiro ya sekolo eseng gape. Di dirwa jaana ka teseletso go tswa mo Lephateng la Meepo, Kgothetso le Metsi (teseletso e e mo tsebeng e e latelang).

Right to refuse or end participation in the study/ Tetla ya ga gana go tsaya karolo kana go emisa potsoloko

If you want to, you can decide not to participate in this study. If you agree to participate, at any time you have the right to refuse to answer any question that you do not want to discuss, and you can stop an interview at any time.

Itse fa o na le tetla ya go gana go tsaya karolo mo puisanong e. Le fa o na le kgatlhego ya go tsaya karolo, itse fa o na le tetla ya go gana go araba dipotso tse o sa batleng go di araba. O ka emisa puisano e ka nako nngwe le nngwe e o batlang puisano e e ema.

Study procedures/ Tsamaiso ya puisano ya rona

If you are happy to take part in this study, I will visit you all at a place of your choosing, at a time convenient to you, to spend one hour asking you questions in a semi structured way about the study. If you have any queries about the interview or my study in general, either now or afterwards, I can be contacted on the telephone number written on the bottom of this form.

Fa ona le kgatlhego ya go tsaya karolo, ke tla go etela ko lefelong le o batlang re kopanelo ko go lone, ka nako e o e batlang. Puisano ya rona e tla tsaya sebaka ya oura. Fa o na le dipotso ka puisano ya rona kgotsa sepe fela se se amanang le ditshekatsheko tsame, o ka nteletsa ko mogaleng o o ko bofelong jwa foromo e.

The interview will be conducted in English or through a Setswana speaking interpreter. The questions can be sent to you in advance if you request it. It would greatly assist my research if I could tape record the interview for accuracy purposes. The tapes will subsequently be destroyed. Should you

object to the recording, responses will be recorded in note format? Either way you will be provided with a written summary of the interview.

Puisano ya rona e tla nna ka Sekgowa, kana ka Setswana, ka thuso ya moranodi. Ke ka go romelela dipotso tse re tla buang ka tsone, pele fa re kopana, fa o batla ke dira jalo. Ke kopa go dirisa sekapamantswe go nthusa go tsaya dikgang jaaka o ne o di bua. Fa ke sena go kwalolola mafoko gotswa mo sekapamantsweng, sekapamantswe seo se tla a tshubiwa. Le gale, fa o sa batle ke dirisa sekapamantswe, le gone go siame ka ke tla kwala dintlhakgolo tsa puisano ya rona fa re ntse re bua. Pele fa ke ka dirisa maikutlo le dikarabo tsa gago mo ditshekatshekong tsame, ke tla go bontsha dintlhakgolo tsa puisano ya rona gore o netefatse fa ele se o neng o se bua.

Agree to participate/ Tumalano ya go tsaya karolo

The project information was read and explained to me clearly. Anything I did not understand was explained to me and all my questions were answered..Ke baletswe ka bo ka tlhalosetswa sengwe le sengwe se se mo mokwalong o. *Dipotso tsame tsotlhe mabapi le puisano e di ne tsa arabiwa.*

Signature of interviewee: _____

Date:

Monwana wa motsaakarolo

Questionnaire on the Water reform process in Botswana

Before every interview, the ethical statement agreed with UEA/DEV ethics committee has been and will be read out and agreement sought prior to starting the interview. Please state your position and your role in water allocation (if any). In the case of each statement that follows, please state on a range of 1- 7 where 7 is the most agreement with the statement and 1 is the least agreement, your own scoring and then go on to explain why you have scored at your particular level.

- 1) I understand the Water Resource Management (WRM) Reforms taking place.
- 2) The WRM Reforms are good for Botswana.
- 3) I have been consulted on the WRM reform proposals.
- 4) There is water scarcity in Botswana.
- 5) There a legal/moral right to water for personal use.
- 6) There is an economic imperative for the supply of water to be available for
 - (a) Mining, (b)Energy/Electricity production, (c) Cattle Ranching, (d) Irrigated Agriculture, (e)Tourism, (f) Environment/Ecosystem Protection.
- 7) The Customary Courts/Kgosi have been important in WRM
- 8) The Customary Courts/Kgosi are, post reform, important in WRM
- 9) Local Government/District Councils have been important in WRM
- 10)Local Government/District Councils are, post reform, important in WRM

11)I am aware of the IWRM-WE Botswana process funded by UNDP/GEF

12)I am involved as a stakeholder in the IWRM-WE process.

How do you obtain your water needs?

From your own borehole resources?

How is this monitored by the Department of Water Affairs?

Has this changed?

Do you have difficulty dealing with waste water from your organisation? If so, how?

Can you provide me with the data for your organisation's use of water 1970-2010?

Is there anything you want to tell me or to ask me about the research?

Thank you for your time

Data summary of Key informants (KI) on a Likert Scale of 0 (total disagreement) to 7 (total agreement)

Key Informants	Private Sector (2)	Civil Service (6)	CSO (4)	Local Govt (5)	<i>Kgosi</i> (3)	Water Experts (7)	Media (2)	Mean Average (29)
1.Understanding of WRM Reforms	7	7	6	6	6	6	3.5	6
2.WRM Reforms are good for Botswana	7	7	6	7	7	6	6	6
3.Consulted on WRM Reform proposals	7	7	5	7	7	3.5	4	6
4.Perception of water scarcity	4	5	5	6	7	4	6	5
5.Legal/moral right to water	7	3.5	5	4	7	5	6	5
6.Priority for Water – Mining	7	7	6	6	5	7	6	6
7.Priority for Water – Energy	7	7	6	6	5	7	6	6
8.Priority for Water – Cattle ranching	6	7	6	6	7	4	6	6
9.Priority for Water –	5	6	6	6	4	4	7	5.5

Agriculture (non-rain fed)								
10.Priority for Water - Tourism	5	6	6	5	4	4	6	6
11.Ecosystem (recharge of aquifers/protection of surface/groundwater)	5	6	7	6	7	6	6	6
12.Importance of Role of Customary Law/Chiefs: Pre-reform	6	4	5.	4	7	6	5	5
13.Importance of Role of Customary Law/Chiefs: Post-reform	6	4	4	3.5	7	6	5	5
14.Importance of Role of Local Govt: Pre-reform	5.5	6.5	6.5	6.5	4.5	6	6	6.5
15.Importance of Role of Local Govt: Post-reform	3.5	5	5.5	4.5	3.5	4	5	4.5

16. Awareness of IWRM-WE process	5.5	6.5	5	1	0	5	2	4
17. Stakeholder in IWRM-WE process	3.5	6	5	1.5	0	0	0	2

Key

Private: Two Interviewees: Debswana, Kalagadi Breweries

Civil Service: Six Interviewees: MoA, WAB, MMEWR, DGS, DC (Gaborone/Mochudi), MEWT

CSO: Four Interviewees: BOONGO, KCS, Ditshanwelo, Emang Basadi

Local Government: Five Interviewees: BALA, KDC Chair, Vice Chair and Deputy CE, Mayor GCC

Kgosi: Three Interviewees, Sub Chief, Elder, Headman

Water Experts: Seven Interviewees: 3 UB academics and 4 independent

Media: Two Interviewees: Voice Newspaper, Mmegi Columnist

The interviews for this chart took place September –December 2010. There have been further interviews between January and June 2011 covering all the categories covered by the questionnaire but not using the formal marking by each interviewee used for this chart. However the later interviews do not contradict the category or overall results obtained for this KI chart.

Coding and numbers of key informants interviewed in the course of fieldwork, and subsequently quoted in the thesis:

Categories	Numbers interviewed and code
Central Government	6 Politicians (CGP) 9 Civil Servants (CGCS)
Vision 2016	1 (V2016)
Local Government	5 Politicians (LGP) 3 Civil Servants (LGCS)
Land Board	1 Civil Servant (LBCS)
Tribal Administration	3 Chiefs (TAC)
District Commission	1 (DC)
Judiciary	2(J)
WUC	5 Officials (WUCO)
Religions	2 Ministers (RM)
NGO	7 National (NGON)
Academics	5 University of Botswana (UB) 1 BIDPA
Water Experts	7 National (WEN) 1 Namibia (WENA) 2 South Africa (WESA) 2 UK (WEUK)
Industry	6 (I)
Media	3 (M)
International Agencies	8 (IA)
Botswana Residents	12 (BR)

B) Focus Groups

In the capital city, Gaborone, two FG locations were chosen: a) Old Naledi, a former township with high turnover of occupants and b) Broadhurst, a more settled and planned suburb. The locations are shown in Figure A1.

Focus Group at Old Naledi (FGON)

Old Naledi was chosen as an area of study because it was the last area in Gaborone to get access to WSS. The 'township' area is in the south of Gaborone and arose from the labourers' camp set up in the 1960's to build Gaborone (Gwebu 2003). There were 19,079 (2011)²⁷⁰ inhabitants living in low grade accommodation with low levels of services. The land tenure system was unsure with squatting and multiple levels of landlords, letting out 72% of the accommodation (Kalabamu 2006:227). The area is the temporary accommodation point for those coming to Gaborone with no family connections that need cheap accommodation. The social workers for the area stated that there were high HIV/AIDS infection rates along with high levels of poverty.

The WSS facilities in Old Naledi were installed 2009-13 to supposedly enable the close down of standpipes currently used communally and the pit latrines which were often overflowing. The standpipes were to be replaced by paid for piped water to each *lapa* (yard), with access to mains water borne sewerage system. Old Naledi is within sight of the Gaborone Dam, the main and original water supply source for the capital (Figure 4.1). The WSS work was completed in 2012 but a number of residents have so far refused to pay the connection charges²⁷¹ to the new system. The last two standpipes remained open and in use (May 2013). In January 2013, 505 *lapas*, each with possibly five residents, remained unconnected to piped water, for reasons of cost, uncertain land title or

²⁷⁰ All 2011 population statistics in this Appendix are at August 2011 and available at www.cso.bw

²⁷¹ Charge of BP 1500 = £15 (2011)

the refusal of the absentee landlord to take action²⁷². But the number of destitutes²⁷³ was only 24 reflecting the highly transient nature of the inhabitants. The destitutes were to have their WSS costs met by Gaborone City Council (GCC).

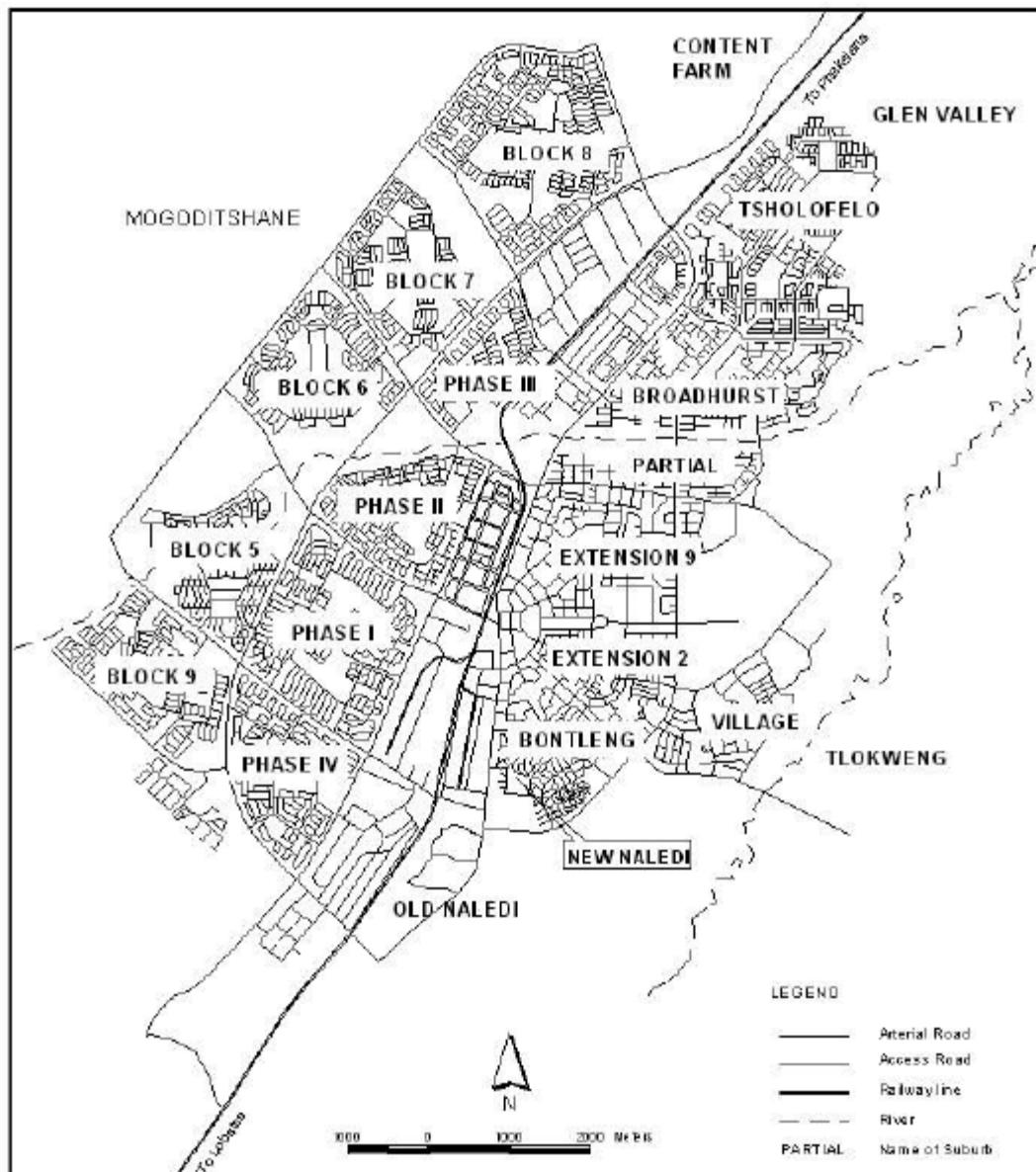


Figure A1 Locations of Old Naledi and Broadhurst in Gaborone

Source: Kalabamu 2006:218

²⁷² Mmegi Thursday, 24 January 2013 Issue: Vol.30 No.11 'Over 505 Old Naledi plots still without water'

²⁷³ Destitutes are identified under 2002 legislation as the very poorest for whom all WSS costs are to be met by local councils. This is covered further in Chapter Nine.

The Researcher and his assistant met with GCC social workers to discuss the research and identify with their help possible interviewees who could represent a cross section of the residents of Old Naledi. Thirteen interviewees formed the FG which took place on 15th February 2011 (1030-1300) and was held in the Kgotla building. Originally there were 14 in the focus group but one had to leave to join a queue by 1200 to collect anti-retrovirals at the FG area health clinic.

Focus Group at Broadhurst (FGB)

Broadhurst was chosen as an area where standpipes have been largely phased out and connections were direct to *lapas*. It is an urban area to the north of Gaborone and is named after the farm previously there. This is a purpose planned area, completed in 1974, for working class accommodation under the Self-Help Housing Agency (SHAA), providing owner occupied housing as part of the expansion from the 1960s of Gaborone as the capital. The population was 16,257 (2011). Broadhurst has shops, a Police station, schools and a hospital nearby. It is mainly housing for the working poor of Gaborone with large *lapas* being filled entrepreneurially with basic additional accommodation units for rent. The qualitative data gathered here could be seen as representative of the SHAA housing areas across all of the suburbs of Greater Gaborone developed from 1960.

Initial provision of water supply had been by standpipes. By 2011, most yards had connections for WSS, and standpipes had been largely been closed down and removed. Backyard gardens were more widespread than Old Naledi. Destitute²⁷⁴ numbers were over 100, receiving their entitlement to food baskets which were provided weekly from the Community Hall. There was limited water harvesting for backyard gardens (estimated by the Researcher as being carried out in less than 1% of the *lapas*). It is next to the Notwane River, dammed for the Gaborone Dam upstream, which has a low continual flow outside the rainy

²⁷⁴ See footnote 12

season, prior to being topped up by the outflow from the Gaborone Sewage Works downstream, where it flows on to Kgatleng District. However, there was flooding of the River in Broadhurst in the rainy season of 2011.

The FGB took place on 25th February 2011 (1100-1400) and was held in the Community Hall with 12 participants invited by the District Development Committee (DDC)²⁷⁵.

In Kgatleng District (KD), there were four FG locations: a) Matebeleng village, in a peri-urban area; b) Mochudi, main centre of KD; c) Olifants Drift, a riverine village alongside the Limpopo River; d) Artesia, a village in the North which is a cattle centre and transport stop. The locations are shown in Figure 4.2

Focus Group at Matabeleng (FGMA)

Matebeleng is chosen as a village in change in an area previously supplied by Kgatleng District Council (KDC) until October 2011 and then taken over by WUC. It has communal standpipes and occasional connections to *lapas*. It is a peri-urban village 20 km north of Gaborone, and 5 km from Oodi, a centre for Kgatleng District. The jump in population to 2,196 (2011) from 1,458 (2001)²⁷⁶ reflects the role of Matebeleng village as a growing peri-urban centre with a mix of Gaborone commuters and local villagers working the land.

Matebeleng is alongside the Notwane River, flowing north and now containing sewage water treated at the works 15 km away. Water connections were available but limited. Water supply came from the nearby Bokaa Dam fed by the N-S Carrier (ultimately from the Chobe/Zambezi River system). There was no mains water borne sewerage available, so inhabitants were dependent on pit latrines with poor emptying timescales. This was said to have led to pollution of

²⁷⁵ Urban equivalent of Village Development Committees (VDC)

²⁷⁶ All population statistics pre-2011 for FGMA, FGM, FGOD and FGA are from Kgatleng District Development Plan 6, Table 1.3

the aquifers so that boreholes previously used, had to be shut-off as not fit providers of potable water. There is very little water harvesting.

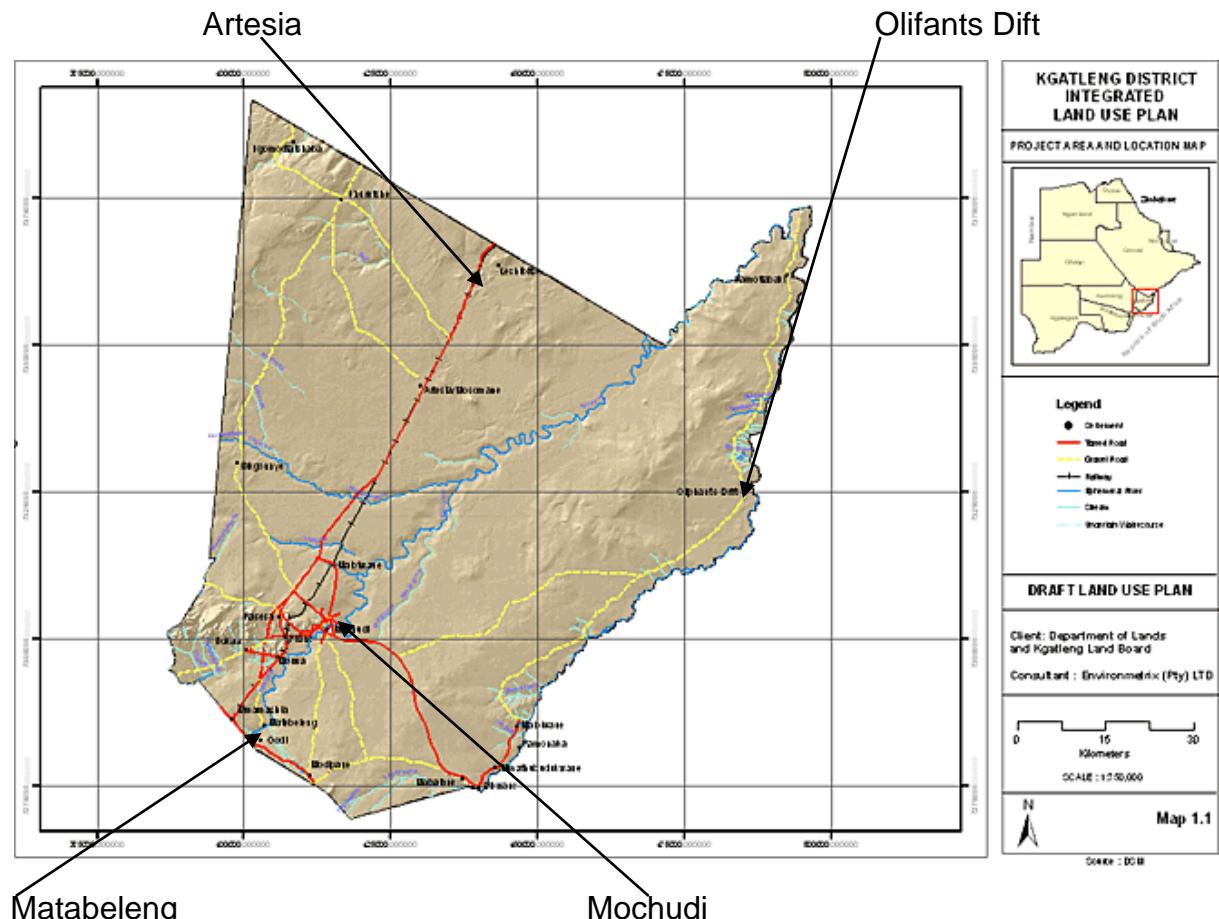


Figure A2 Locations of FGs in Kgatleng District

The poor quality water from the river was used, without water rights, for agriculture and watering livestock. There was no water user association, although the farmers in the Oodi area were starting to organise. They had approached WUC for a meeting in 2011 to discuss the water off-take from both the river and from the sewage works. The upgrade of the Gaborone Sewage Works after takeover by WUC in March 2011, has led to an improvement in river water quality. Water from the Sewage works was being used with GOB encouragement for irrigated agriculture in the Glen Valley area of northern Gaborone. The FG took place in the Matebeleng Kgotsa on 15th March 2011

(1000-1315) with 12 people brought together as representative by the VDC Chair for the village.

Focus Group at Mochudi (FGMO)

Mochudi was chosen for a FG as its WSS was previously provided by the DWA and taken over by the WUC in October 2010. The FG was held in Tshukudu ward, in the centre of Mochudi, near the main *kgotla*. Mochudi (see photograph 4.1) is the capital of KD with a population of 44,815 (2011) a rise from 6,945 in 1971, and is located 40 km from Gaborone. The area has been settled for over 100 years and has a mix of Western style housing and traditional huts, often in the same *lapa*. Low levels of destitution are registered but income appears to be dependent on public sector jobs, particularly in commutable Gaborone. The Harvard Survey of Mochudi²⁷⁷ shows a HIV/AIDS infection rate of 25% (2012). WSS was fully available in the area but the take-up on water borne sewerage was very low (<10%), said to be due to the costs of water for sewerage for the very frequent social events of weddings and funerals where attendance of around 1,000 was typical. There was some rainwater harvesting.

The Notwane River flood plain is shown in photograph A1. It originally (up to the 1960s) provided drinking water via hand dug sand wells at the sides of the river. It now provides water for livestock although these were banned from the village in 2011. River water quality has been low due to the pollution from livestock. The FG took place on 29th March 2011 (0800-1130) in the *Kgotla* VDC room, with 15 people chosen by the VDC Chair.

²⁷⁷ All residents of Mochudi were voluntarily screened 2009-12 by teams from the Harvard Public Health Institute, Boston USA for a longitudinal study to 2030.



Photograph A1 The River Notwane, Mochudi (May 2013)

Focus Group at Olifants Drift (FGOD)

This location was chosen for the FG because Olifants Drift is a riverine village, dependent on the Limpopo River for watering livestock, fishing and, under limited water rights, irrigated farming. Potable water has been provided by KDC from a local borehole and this has been taken over by WUC in October 2010. Olifants Drift is 150 km NE from Mochudi by sand road, on the banks of the perennial Limpopo River. It had 925 (2011) inhabitants down from 1184 (2001) and up from 386 in 1971 and 332 in 1964. It has a school, police station and clinic but is very poor with some 60%+ (District Council Chair's estimate) living below the poverty line. This is reflected in the out-migration shown in the drop in population in 2011, compared to 2001.

Water flows in the river inundate the areas close to the river each rainy season. It is currently dependant on standpipes and the locals are fearful of them being phased out, leading to dependence on expensive WUC water piped to each *lapa*. Sanitation is by the use of pit latrines. Olifants Drift is a centre for labour for the cattle posts in the neighbouring common lands. There is some rainwater harvesting.

Rainfall analysis has shown 'high rainfall variability in time and also in space' (Cooke 1981:130). There is still only one borehole unchanged from 1981 (ibid: 124). Again, unchanged is the 'degradation of the areas' alongside the Limpopo River, from the cattle accessing the river, leading to 'extensive bare area[s] of unproductive rangeland' (ibid). This is shown in photograph A2 with the cattle finding it difficult to extract themselves from the deep mud at the edge of the river. Cattle boys²⁷⁸ took it in turn to bring herds to the river.



Photograph A2 Livestock drinking from the Limpopo River at Olifants Drift (November 2010)

²⁷⁸ Cattle boys is the term used by Batswana to describe those who look after the livestock herds in the common lands

Across the river, but not accessible at Olifants Drift, is South Africa with modern irrigated farming. The soil appears to be the same on both sides of the river. The Limpopo River forms the border with South Africa and is shown in photograph A3 at the sole crossing point in KD 50 km south of Olifants Drift. On the South African side is Limpopo Province with modern high tech farming; however, on the Botswana side of the same river, due to lack of water rights, there are scrublands with low level rain-fed subsistence agriculture, mainly cattle ranching, and utilising boreholes (see Chapter Nine).



Photograph A3 The Limpopo River at the Sikwane border crossing between KD and Limpopo Province of SA (April 2011)

The FG took place on 5th April 2011 (0800-1100) held in the Kgotsa at Olifants Drift. The original group was chosen by the KDC social workers for the village but permission was withdrawn at the last minute, due to the demand of the social worker for payment. The researcher refused to pay. As the Researcher

had already arrived in Olifants Drift, after a four hour drive on the sand roads, the VDC chair then invited 12 people, who were mainly *lpelegeng* (workfare) workers.

Focus Group at Artesia (FGA)

The Researcher chose Artesia as an area previously supplied by KDC and taken over by the WUC in October 2010. The village had standpipes with limited connections to government and commercial premises. There was no sewerage system. Artesia is a centre for cattle boys of the area to visit at the weekend, potentially to catch the bus to either Francistown to the north or Gaborone to the south, or just to drink beer or chibuka²⁷⁹. Artesia, with 2,365 inhabitants (2011) down from 2,589 (2001) and up from 517 in 1971, is the first main stop 100 km north out of Gaborone on the way to Francistown. The drop in population (2011/2001) may in part be due to the decrease in cattle rearing, alleged by several KI in the area. Its name comes from the springs that once flowed there. It is the third centre of KD with a full range of public services. The village has good connections in the past to District Council water, which utilises the N-S carrier, the pipeline for which passes the village.

There is no river and the landscape is rain-fed savannah. There were said to be large numbers of boreholes nearby. The researcher visited cattle posts in the area and to the north, and found not only WAB authorised boreholes but also some drilled by the MoA. There was very little rainwater harvesting. Smaller settlements were continuing to be supplied potable water by KDC water tankers. The area is in the centre of the Mmwanawitse coalfield although this is yet to be developed. While the WAB authorised boreholes for the project will provide some water, the view of the KI was that a separate pipeline would have to be laid to access the N-S carriers or a separate dedicated line. The development of the Mmamabula coalfield to the north would double this

²⁷⁹ A local sorghum based alcoholic beverage

requirement. The need for water for mining in such a water stressed area as Artesia was highlighted by KI.



Photograph A4 The FG at Artesia (May 2011)

The FG was held in Artesia 15th May 2011 (1200-1500) outside a hostelry on the main North Road with 15 drinkers, mainly young men who worked in Artesia or in the neighbouring countryside, as shown in photograph A4.

Consent Forms for Focus Group participants

Anonymity/ Leina la gago le sephiri

The answers you give as part of this focus group will be anonymised and will not be attributable to you and will be fully confidential. All members of the group should show respect for each other's views. The views you share together with me and yourselves should be regarded as confidential by all members of this group. *Itse fa leina la gago le sena go supiwa gope kana ka tsela epe mo batho ba ka bonang gore dikarabo tsa gago e ne ele dife. Re kopa gore batsayakarolo botlhe ba fane tlotlo, ka mmualebe o bua la gagwe. Re kopa gape gore rotlhe re itlame gore se re se buang fa, se tla itsiwe fela ke rona, ebole ga gona ope yo o tla tlotlelang ope gape gore maikutlo a batsayakarolo ba bangwe mo dikgangnyeng tsa rona e ne e le afe.*

Focus group themes guiding notes on water reforms in Botswana

(Following the group discussion with social workers in Old Naledi, Gaborone 31 January 2011)

A) The Spiritual Nature of Water

- 1) Where does water come from?
- 2) Is water scarce? Why do you think that?
- 3) Who ensures we have enough? (Prompt: God, The Kgozi The Government, WUC)
- 4) Whom do you go to, to complain about water or sewerage? (Prompt: Kgosi, Council, Councillors, MP, WUC, DWA)?

B) The Cultural Right to Water

- 5) Should water be free? If not, why not? What about a minimum amount? If so, how much?

- 6) If it should not be free, how much should a Motswana pay for it? If you cannot afford to pay, who should pay for it? (Prompt: Landlords, Council, Government)

C) The Water Reforms

- 7) Has your water supplier changed? Has the supply improved? Do you pay the bills? Are there problems with billing? Are you being charged more?
- 8) Should Standpipes be closed? How will that affect you? Affect other people?
- 9) How should livestock get water with no standpipes in the villages?
- 10) How is/ should water be provided for the farms?
- 11) How is/ should water be provided at the cattle post?
- 12) Are Pit latrines OK at the moment? Who pays to empty them?
- 13) Should sewerage be water borne only? Who pays? How much?
- 14) Should sewerage water be purified and reused? For Irrigation? For Human consumption?

Final Questions

- 15) How many mobile phones have you had in the last 2 years?

C) Mochudi Supermarket Survey

Questionnaire for Water Consumers at a Mochudi Supermarket, Kgatleng District June 2011 No.....

(The Researcher will be using this sheet to ask the questions in Setswana, and circle the replies)

M F

Age: 20-30 30-40 40-50 50-60 60+

Earns: <P350 <P500 P500-1000 P1000-5000 >P5000

Lives: in Mochudi outside Mochudi

How long have you lived in Kgatleng? Before / After September

1) In your view, is there a scarcity of water in Botswana?

(1 is 'not scarce at all'....7 is 'very scarce') 1 2 3 4 5 6 7

Has this changed in the last 12 months? Yes No

2) What do you use the water for?

Household Livestock Masimo Cattle Post

Do you use standpipes? Yes No

If yes, what do you use standpipes for?

Do you think Standpipes should remain? Yes No

3) Who is your current supplier?

DWA, Kgatleng Council, Water Utilities Corporation

In your opinion has the change of supplier been:

for good, not for good

4) How would you rate the continuity of water supply in Kgatleng?

(1 = Bad.....7 = Excellent) 1 2 3 4 5 6 7

Has this changed in the last 12 months? Yes No

5) How do you rank Water Quality in Kgatleng?

(1= Bad.....7= Excellent) 1 2 3 4 5 6 7

Has this changed in the last 12 months? Yes No

6) How much should each household pay for its water?

not exceeding monthly:

P10 P20 P30 P40 P50 P60 P70 more than P70

Why?.....

Should rich people pay more? Yes No

7) How do you normally pay your Water Bill?

Queue up at the Payment office

Send someone to pay

Pay by Post

Pay by Credit Card

8) As a non-member of a borehole syndicate, how much do you pay each year for water at the cattle post (if you have one)?

<P1000 P1000 P2000 P3000 P4000
P5000 P6000 P7000 payment by cattle

9) Are you aware in developed countries recycled treated sewage water is mixed in the drinking water? Yes No

Is it OK to drink recycled treated sewage water in the drinking water in Botswana? (1 is not agree at all7 is strongly agree) 1 2 3 4 5 6 7

Tony Colman PhD UEA/UB under Govt. of Botswana Research Permit

The data arising from the analysis of the answers to the survey are in figures and tables in Chapters Six, Eight and Nine. Results of Chi Square testing of answers where appropriate are:

Q1 Perception of scarcity of water

By Age

CHI Square Test 0.079924 = Not Significant

By Sex

CHI Square Test 0.95275= Not significant

By Earnings

CHI Squared Test 0.038525= Very significant

Q6: How much should you pay?

CHI Squared Test 0.169549= Not significant

Should the rich pay more?

CHI Squared Test 0.000452+Very significant

D) Maun BIWRM Survey October 2010

Ranking of Stakeholders in IWRM-WE Maun October 2010 Analysis of the participants' response when asked to rank the "importance of various Groups in achieving a dynamic plan for a Botswana IWRM-WE". Maun October 7th 2010

Stakeholder / stakeholder group	How strong is the <u>influence</u> (their decisions and actions) (H/M/L)	How strong is their <u>interest</u> in IWRM (H/M/L)	Comments at the time, from the 7 Batswana participants, to explain the rating.
OKACOM	H	H	Since we are looking at the issue of trans-boundary rivers, they can influence
ORASECOM	H	H	Same as above
LIMCOM	H	H	Same as above
ZAMCOM	H	H	Same as above
GWP / Water net	L	H	They cannot influence country's decisions
NGOs (National)	M	H	They are limited by the funds they have
NGOs (International)	M	M	Survival International (a right to water for everyone)
SADC	M	H	They respect the

			sovereignty of countries
UNDP/GEF	H	H	Co-funder Of BIWRM-WE. Interested in seeing projects completed accordingly
UB / Research Institutions	L	H	The uptake of the research results is not guaranteed.
M of Agriculture	L	H	Low economic input
MMEWR	H	H	High Economic Input
MEWT	H	H	Because of DEA and DWMP
MFDP	H	H	Every development is dependent on water
MLG	L	H	Water Sector Reform taking water supply from LAs.
Ministry of Lands and Housing	M	L	They allocate the surface rights
Department of Women Affairs	M	M	Interests are on labour and social equity
African Development Bank	M	M	Funding organization with interest in water project
Ministry of Education	L	L	Has potential to be high influence in terms of spreading knowledge

			but currently ineffective. High end user
Media	H	L	Reaches a greater population than other outlets; however interests vary
Mining Companies	L	H	High end users. Subject to govt regulations hence low influence. Operations greatly depends on availability
BPC	L	H	High end users. Subject to govt regulations hence low influence. Operations greatly depends on availability
Private Sector	L	H	High end users. Subject to govt regulations hence low influence. Operations greatly depends on availability
UN Water	L	H	Not active in Botswana

E) Data Sources for Chapter Eight

The analysis utilises KII, and FG results from fieldwork carried out between September 2010 and June 2011²⁸⁰ and between April and May 2013. The Researcher attended the Commonwealth Local Government Forum (CLGF) Southern Africa Local Government conference on 'Strengthening Local Government Capacities in Southern Africa' in Windhoek, Namibia in November 2010 and the meetings of the Botswana Association of Local Authorities (BALA) and met the senior officers of BALA regularly during his fieldwork. Meetings in 2010-11 were attended of the National Assembly (NA), Gaborone City Council (GCC) and Kgatleng District Council (KDC) and he met with both MPs and Councillors and members of the House of Chiefs. Interviews were conducted with the Speaker of the NA, Hon Margaret Nasha and the then BDP Mayor of GCC, Hon Veronica Lesolle and the then BNF²⁸¹ Chair of the KDC, Hon Stephen Makhura. In addition, *Kgotla* meetings in Mochudi were attended, addressed by *Kgosi Kgafela*, and the Secretary of the Kgatleng District Land Board (KDLB) and the District Commissioner (DC) (initially in post for Gaborone and then for KD) were interviewed. The WUC invited him to be present and make notes at the WUC monthly management meetings in Mochudi, January – June 2011. The reflections of the Researcher take account of this range of data for the purpose of triangulation.

²⁸⁰ See Chapter Three for explanation of KI and FG citations, and Appendix Two for the key to the KI acronyms

²⁸¹ Botswana National Front was one of the opposition parties in Botswana and had been traditionally in control of KDC since 1966. It lost power in Kgatleng in 2013 to a non BNF coalition which included the national ruling party the BDP.

Appendix Four: Setswana Vocabulary

(From Botswana Book Centre, (2009) Setswana-English Setswana Dictionary, First Edition 1875 Fourth Edition reprinted 2009, Ed. Z. Matumo, Macmillan, Gaborone.)

Batswana:	all citizens of Botswana
Bogadi (pl. magadi, lobola):	cattle given to a woman's elders as a marriage gift; dowry
Botho:	respect for all opinions
Dumela:	agree; believe; accept
Ipelegeng:	'people must carry themselves on their own backs' (Selolwane 2012:11) name given to those who chose to register for workfare Originally from the drought relief funds(see Table 8.2 in the thesis)
Kagiso:	peace
Kgosi (pl. dikgosi):	a chief; a king
Kgotla (pl. dikgotla):	originally an assembly of tribal elders; now a community or tribal meeting held at the ruler's residence; the place or enclosure where the community assembles for any kind of business that is of importance to the community.
Kutlwano:	mutual sympathy; concord
Lapa (pl. malapa):	yard in the village where dwellings are erected
Mafisa:	cattle which have been lent to another; cattle kept at another man's cattle post for that individual's benefit
Malata: serfs;	underlings
Masimo:	land outside the village used for cultivation of crops

Morafe (pl.merafe):	community; tribe; nation
Moraka:	cattle post
Motse:	a village; a home; a homestead
Motswana:	individual Botswana citizen
Pitso:	consultative Meeting of stakeholders often called by the GOB

Appendix Five: Water tariff comparisons internationally and in South Africa, Namibia and Botswana

International comparisons

In the WB analysis of comparison of water tariffs in surrounding countries in 2009, 'Botswana water tariffs for 12KL/month of water usage are about half the Namibian and USA tariff levels, slightly higher than Zambian tariff levels, and 24% lower than the average South African tariff levels, despite the fact that most South African municipalities provide the first 6KL of water per month free of charge. In South Africa, virtually all municipalities increase tariffs annually as part of the annual budget process, in line with general inflation levels. This practice is also followed by most utilities in Europe and the USA. If Botswana had the same policy in the past, its current tariff levels would be comparable to South African tariff levels' (GOB 2010b:26).

Table A 1Water Tariffs in Botswana and International Comparisons 2009-10

WATER				
KL/Month	5	12	25	
WUC				
Gaborone/Lobatse	11	34	135	
Jwaneng	8	23	76	
Francistown	12	36	137	
Selebi-Phikwe	8	22	63	
Sowa	8	24	89	

WUC Average	9	25	87
WUC Average with 20% increase, 2011/12	11	33	120
DWA			
WUC-supply	10	43	130
DWA own-supply	6	29	87
DWA Average	8	36	109
DWA Average with 20% increase, 2011/12	9	43	130
District Councils			
Kwengeng, Kgatleng, WUC-supply	13	60	181
Malotwane	9	40	122
Central, Ghanzi	5	21	63
Kgalagadi	6	28	87
NW	8	34	103
SE	10	43	130
DCs Average	8	37	114
DCs Average with 20% increase, 2011/12	9	43	131
Botswana Average	8	32	103
Botswana Average with 20% increase, 2011/12	10	39	127
International Comparisons:			
South Africa, 2009	0	42	123

Zambia, 2009	8	27	57
Namibia (Windhoek), 2010	30	97	229
USA, Virginia, 2009	43	104	217
USA, national eastern cities, 2009	45	109	227
WASTEWATER			
South Africa, 2009	4	33	56
Zambia, 2009	N/A	N/A	N/A
Namibia (Windhoek), 2010	56	56	56
USA, Virginia, 2009	54	131	272
USA, national eastern cities, 2009	55	133	277
WUC, 2011/12 (proposed)	12	29	60
<p>Notes: 1) All amounts in Pula at 15 May 2010 exchange rates. 2) WUC WW tariff of P2.40/KL, based on P120 million total WW cost (in 2012 Pula) and 50 million annual KL sales (100% WUC + 60% DWA billings)</p>			

Source: GOB 2010b:27

The South Africa example:

The post Apartheid Government wrote into the 1996 Constitution a right to free water for basic needs. It was subsequently defined in the SA Water Act of 1998 as 25L²⁸² of water per person per day (or 6KL per month per household). There have been court challenges from SA NGOs to have this raised to 50L or more

²⁸² http://www.dwa.gov.za/dir_ws/DWQR/subscr/ViewComDoc.asp?Docid=406

but these have failed²⁸³. The Independence movements had encouraged non-payment of bills levied by the then Government including non-payment of WSS bills. Since Independence and the entitlement to free basic water needs, there has been difficulty in the collection of water bills, creating a problem for the financing of WSS infrastructure and delivery. South Africa Water Minister [Asmal] 'knew there was this huge popular demand for water supply for poor Blacks [sic] and that many of the left talked of water being human right, akin to the right to life' (Johnson 2010:103). 'They would not accept realistic water pricing, however inevitable [it had to be] in the long term. The state paid the capital costs of the new schemes and the local communities paid for the water but no provision was made for payment of depreciation, maintenance and repairs. Without this, the new schemes were white elephants destined for speedy failure. The schemes proved unsustainable' (ibid: 104).

As in Botswana, destitutes (classified as indigents in South African legislation) have their water bills paid. The power of disconnection for non-payment by the non-destitute was seen as not possible to use due to the right to basic free water. Pre-payment metering that shut off water completely when the pre-payment amount of water was exhausted were not seen as acceptable by CSOs in SA²⁸⁴. A method for dealing with this has been the use of trickle feed flow restriction devices to give non-payers the free basic water supply but no more on a daily basis. At the World Water Week conference event in March 2011, in Cape Town, South Africa, attended by the Hon Minister for MMEWR, the Cape Province Government featured the use of the device. They saw it as successful, both in ensuring the poorest get their entitlement and that bills were now being paid where the devices had been installed (with residents' agreement after their existing bills had been written off)²⁸⁵. However, the South African NGO movement strongly attacked the concept as 'keeping the poor

²⁸³ <http://www.ejiltalk.org/a-human-right-to-water-the-south-african-constitutional-court%20%99s-decision-in-the-mazibuko-case/>

²⁸⁴ At the World Water Day event in Capetown in March 2011, CSOs campaigned against this policy.

²⁸⁵ Cape Province presentation to the WWW conference Capetown, March 2011

starved of water²⁸⁶. Discussion between the Hon Minister and the researcher at the time led to the view by the Minister that, given the different historical and social conditions in Botswana, utilisation of such devices was not the way forward. This policy was subsequently confirmed during an interview with the Permanent Secretary to MMEWR in June 2011.

It has been said that 'the decision, to ignore the question of affordability of water in South Africa quickly, [had] catastrophic consequences, as water providers tried to recover the cost from consumers. 10 million South Africans have had their water cut off since 1994 and more than 2 million have been evicted from their homes. By 2000 there were major outbreaks of cholera directly traceable to failures of sanitation and water supplies' (Johnson 2010:105). The redistribution towards the poorest was largely simply because large amounts of water and electricity was stolen through illegal connections and because the government repeatedly wrote off the bad debts incurred by the refusal of so many to pay rent, rates and taxes (ibid 583). Mvula Trust estimates that just about 10-20% [of the population] pay for the tariff, to achieve the full operation and maintenance which goes beyond the free basic water (WPP/AfDB 2010:81). There is thought to be a 37% loss of non revenue water.²⁸⁷

Provision of free basic water in South Africa at 25KL per person per day appears not to have resolved the issue of pro-poor provision of water in SA. Part of the difficulty of affordability was the much higher level of tariffs above this level in SA compared to Botswana was shown in earlier in this Appendix. But this has changed with the Botswana tariff increase of June 2013 moving above South Africa (Figure 9.4).

²⁸⁶ Flyer at the conference quoting Jeff Rudin of the SA Municipal Workers Union, from an article in Armandia, 13.21

²⁸⁷ Available at http://www.polity.org.za/article/sa-water-losses-could-fund-20-lesotho-highland-projects-2013-08-06?goback=%2Egde_4411769_member_263942991 accessed 8th August 2013.

In South Africa, irrigated land for both crops and cattle farming had its water sources and water quotas registered from the pre Independence government controls. However 'with only a handful of staff members in Water Affairs' water resources department, the challenge of monitoring whether or not 17,000 farmers stick to their water quotas is huge if not impossible. For that reason, we are promoting water–user associations' (James Perkins of DWAF KZN region, quoted in Farmers Weekly 14th March 2008:27). It appears that despite the lack of water in SA, there was very little control over the volume of water used from either surface or groundwater sources. There was concern at the lack of political will to deliver the WRM reforms inherent in the SA Water Act (Schreiner 2013). The resurrection in September 2013 of the 2007 proposal for a parastatal National Water Resources Infrastructure Agency²⁸⁸ could provide a centralised control of dams, pipelines and wider water infrastructure.

The provision of water and sanitation in South Africa within its existing three level governance structure remains poor (SAHRC 2014). It is likely to remain a key political issue for the post 2014 Government.

The Namibian example:

The National Water and Sanitation Policy of 1993 had three relevant objectives:

- Essential water supply and sanitation should become available to all Namibians and should be accessible at a cost which is affordable to the country as a whole;
- This equitable improvement should be achieved by the combined efforts of the government and the beneficiaries, based on community involvement, community participation and acceptance of mutual responsibility;

²⁸⁸ Available at http://www.fm.co.za/fm/Features/2013/08/15/sa-to-form-water-management-state-firm?goback=%2Egde_4411769_member_266655558#%21 accessed 27th August 2013

- Communities should have the right, with due regard for environmental needs and the resources available, to determine which solution and service levels are acceptable to them. Beneficiaries should contribute towards cost of services at increasing rates for standards of living exceeding the levels required for providing basic needs' (WPP/AfDB 2010:78).

The rural water supply plans were for 'community based management of all water points as the strategy for achieving the targets in a sustainable manner. By the year 2007 DRWS aim[ed] to have all water points under decentralized control of local communities. It is in this way that cost recovery of rural water supply, as stipulated in the Water and Sanitation Policy of 1993 will be achieved' (WPP/AfDB 2010:79). Outside the main centres in Namibia, collection rates were low. But in towns such as Windhoek, Swakopmund and Walvis Bay, water tariffs sought full cost recovery to reflect the scarcity of water and the high costs of recycling. For the poor, the stepped tariff was seen as the way forward.

Table A2 Botswana Water Tariffs from 1st June 2013

Schedule	Current Tariff Schedules					Proposed Tariff Schedules					
	Min	0-5	>5-20	>20-40	>40	Min	0-5	>5-15	>15-25	>25-40	>40
LA											
F'Town, 1	11.20	1.25	3.95	8.15	10.05	11.20	1.50	4.00	9.00	13.00	18.00
Kweneng, 2	11.20	2.60	8.20	16.90	20.85	11.20	2.00	8.00	11.00	16.90	20.80
Mochudi, 3	11.20	1.75	5.50	11.35	14.00	11.20	2.00	6.00	11.00	16.90	18.00
Lobatse, 4	11.20	1.90	5.90	12.10	15.00	11.20	2.00	6.00	11.00	16.90	18.00
S Phikwe, 5	11.20	1.30	3.95	8.15	10.05	11.20	1.50	4.00	9.00	13.00	18.00
Ghanzi, 6	11.20	0.90	2.85	5.90	7.25	11.20	1.50	4.00	7.00	10.00	15.00
Maun, Okav	5.70	1.25	3.20	6.60	8.15	11.20	1.50	4.00	7.00	10.00	15.00
Maun, Ngami	5.70	1.50	3.75	7.80	9.60	11.20	2.00	4.00	9.00	10.00	15.00
DWA											
DWA supply, 1	11.20	1.25	3.95	8.15	10.05	11.20	1.50	4.00	9.00	13.00	15.00

DWA Maun	10.00	1.40	3.50	7.25	8.95	11.20	1.50	4.00	9.00	13.00	15.00
WUC supply, 4	11.20	1.90	4.75	9.80	12.15	11.20	2.00	5.00	9.00	13.00	15.00
<u>'Old WUC'</u>	Min	0-5	>5-15	>15-25	>25						
Gaborone, 7	11.20	2.10	7.95	10.10	14.00	11.20	2.00	8.00	11.00	16.90	20.80
Jwaneng, 8	11.20	1.65	4.10	5.35	6.15	11.20	2.00	5.00	7.00	10.00	15.00
F'town, 9	11.20	2.40	7.10	10.40	11.65	11.20	2.00	8.00	11.00	16.90	20.80
Sowa, 10	11.20	1.65	4.65	6.70	7.45	11.20	2.00	5.00	7.00	10.00	15.00
S Phikwe, 11	11.20	1.65	3.30	4.10	5.35	11.20	2.00	4.00	7.00	10.00	15.00
<u>Government</u>											
<u>LA</u>	Min	0-5	>5-20	>20-40	>40	Min	0-5	>5-15	>15-25	>25-40	>40
All, 12	22.40	6.20	15.90	32.80	40.50	22.40	6.00	16.00	21.00	33.00	41.00
<u>DWA</u>											
All, 12	22.40	6.20	15.90	32.80	40.50	22.40	6.00	16.00	21.00	33.00	41.00

<u>'Old WUC'</u>	Min	0-5	>5-15	>15-25	>25						
Gaborone, 13	22.40	5.45	15.95	20.50	28.00	22.40	6.00	16.00	21.00	33.00	41.00
Jwaneng, 14	22.40	3.00	5.90	7.65	9.00	22.40	6.00	16.00	21.00	33.00	41.00
Francistown, 15	22.40	6.20	14.55	20.90	23.35	22.40	6.00	16.00	21.00	33.00	41.00
Sua, 16	22.40	3.00	6.70	9.70	10.75	22.40	6.00	16.00	21.00	33.00	41.00
SP, 17	22.40	3.00	4.80	5.90	7.40	22.40	6.00	16.00	21.00	33.00	41.00