

# DEMOCRACY REPORT

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### **WATER GOVERNANCE IN NAMIBIA: A TALE OF DELAYED IMPLEMENTATION, POLICY SHORTFALLS, AND MISCOMMUNICATION**



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**The water sector in Namibia has been hampered by poor policy implementation since independence. This is the result of:**

- Severe underinvestment
- Limited capacity and technical skills
- Poor coordination among stakeholders
- Weak regulation and enforcement

Mistrust and lack of communication between public institutions, the private sector and the general public has severely limited problem-solving approaches. Schisms between technical experts and policymakers need to be breached as a matter of urgency. This paper makes the following recommendations:

- Government should finalise and promulgate all regulations for the Water Resources Management Act No. 11 of 2013 to ensure that the provisions in the Act are compliant with the law and legally binding
- The Ministry of Agriculture, Water and Forestry should officially establish key governing institutions: the Water Advisory Council, the Water Regulator and the Water Tribunal as outlined in the 2013 Act
- Government should revive, endorse and implement the Integrated Water Resource Management (IWRM) Plan for Namibia
- Government should make provisions for and fast-track finance for key water infrastructure projects, including the rehabilitation and modernisation of existing infrastructure
- Government and stakeholders should realistically explore funding models for long-term water and sanitation infrastructure needs
- Government and stakeholders should initiate a transparent, multi-sector and holistic dialogue regarding the water sector, taking into account national development goals such as industrialisation and agriculture schemes and threats particular climate change and pollution
- Both public and private entities should place more emphasis

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## Glossary

Aquifer	Underground layer of water-bearing porous stone or earth
Desalination	Process of removing salt from sea water to obtain potable water
Groundwater	Water that exists beneath the earth's surface in underground streams and aquifers
Potable water	Water of adequate quality for safe human consumption or freshwater
Surface water	Water that collects on the ground and in rivers, lakes and oceans
Water reticulation	Piped-water supply, water running through a network of pipes

## List of Abbreviations

BMC	Basin Management Committee
CBM	Community Based Management
CoW	City of Windhoek
DWA	Department of Water Affairs
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
GRN	Government of Namibia

HPP	Harambee Prosperity Plan
IWRM	Integrated Water Resource Management
MAWF	Ministry of Agriculture, Water and Forestry
MDGs	Millennium Development Goals
m <sup>3</sup>	Cubic Meters
MoHSS	Ministry of Health and Social Services
MoLR	Ministry of Lands and Resettlement
MTEF	Medium-Term Expenditure Framework
NamWater	Namibia Water Corporation
NGO	Non-governmental organisation
NSSA	Namibia Sanitation Situation Analysis Report
NUST	Namibia University of Science and Technology
NWP	National Water Policy White Paper 2000
NWRMR	Namibia Water Resource Management Review
PPP	Private-Public-Partnership
SOE	State Owned Enterprise
UNAM	University of Namibia
WDM	Water Demand Management
WRMA	Water Resource Management Act 2004 / 2013
WSASP	Water Supply and Sanitation Policy 2008

on Water Demand Management (WDM) and ensure that environmental sustainability is actively pursued

## Introduction

It is almost a given that any policy document regarding water will stress the fact that Namibia is one of the driest countries in the SADC region. This is a consequence of the mostly sparse and highly variable rainfall in the country coupled with very high evaporation rates. For example, the Integrated Water Resource Management (IWRM) Plan for Namibia notes that according to estimates roughly 97 percent of rainfall is lost through evaporation while 2 percent and 1 percent end up as run-off surface water and recharge groundwater respectively. Therefore the arid nature of the country means that Namibia's potable water<sup>1</sup> is an extremely precious and scarce resource.<sup>2</sup>

Besides being essential to life on earth water also plays an important role in the socio-economic development of nations and their inhabitants. A great many economic activities require a dependable, safe and affordable supply of water including construction, mining, agriculture, hospitality and so forth. Neither can hospitals, schools and universities operate optimally without adequate water. Within the context of a developing country like Namibia achieving optimal management and supply of water in a sustainable manner is a crucial development goal. Hence, any limitations or shortfalls in the provision of safe water to Namibia's inhabitants will impact negatively on the development and wellbeing of the community as a whole.

Namibia's water and sanitation sector development since independence can be captured, broadly under three themes:

- The establishment of increasingly complex and ambitious policies, laws, plans and regulations many of which remain fragmented, incomplete, unenforced and unimplemented
- The loss of technical expertise and capacity from public institutions to the private sector or retirement
- The overall lack of public investment in tangible capital projects coupled with a growing maintenance backlog on the existing, increasingly inadequate infrastructure

This paper gives a brief overview of the current status of the water sector in Namibia including policy considerations, supply and infrastructure challenges as well as relevant external political factors. The paper highlights pertinent issues and makes a number of recommendations.

## Background

It can be argued that in Namibia the water sector has not been given the attention from a governance perspective that it rightly deserves. At a cursory glance the theme of water supply and sanitation in the country's post-independence development has had and continues to have a fairly important role. During the past 25 years the country has developed and revised, passed or initiated a number of Acts, policies and regulations addressing the utilisation, management and protection of the nation's scarce water resources.<sup>3</sup> Furthermore, the Government of Namibia (GRN) has

<sup>1</sup> Potable water = water that is safe to drink or use for food preparation.

<sup>2</sup> The Government of Namibia, "Integrated Water Resource Management Plan for Namibia," August 2010, 2.

<sup>3</sup> Shirley Bethune and Oliver C. Ruppel, "Water and Fisheries Related Statutory Law and Policy in Namibia" Ch. 11, in Environmental Law and Policy in Namibia, Oliver C. Ruppel and Katharina Ruppel-Schlichting (eds.), 3rd Edition, 2016, 159-71.

also strived to rectify and reform the institutions within the state structure tasked with governing water supply, demand and sanitation inherited from the former apartheid regime.<sup>4</sup> Last but not least, the state with the support of donors, civil society and private business has invested in research, feasibility studies and community engagement focusing on among others infrastructure development, education and information and decentralisation. The country can also look upon some physical achievements such as the expansion of rural safe water supply since independence.

Nevertheless, a closer look at the current water sector and especially its governance aspects invariably bring to the fore a wide range of challenges and deficiencies.<sup>5</sup> One very obvious current example is the water crisis in the central area brought about primarily by the failure of the state to address the situation as a matter of national urgency. Another severe oversight is the long-term and seemingly continuous lack of capital investment in the rehabilitation and building of water supply infrastructure. In defence of the GRN, securing adequate potable water supplies for the nation and furthermore ensuring that it is managed in a sustainable and environmentally sound manner in addition to being distributed equitably is a very tall order. As such the 'issue' of the water sector combines thematic sets of challenges and opportunities – properly handling each set presents a considerable undertaking. However, striking the correct balance between all sets, which are often in competition, is probably the biggest challenge.

Over the past years, Namibia's water sector has increasingly come under pressure. Demand for water has steadily increased driven by increased urbanisation, mining operations, a booming construction sector and developments in the tourism and agricultural sectors. Since 1990 Namibia has achieved respectable levels of economic growth. Conversely however, the water sector has struggled to keep pace with these developments.<sup>6</sup>

**Table 1: Projected Water Demand for Namibia**

Consumer Group	Demand in million m3 per Annum				
	2008	2015	2020	2025	2030
Urban	66	80	91.1	103.5	117.2
Rural Domestic	10.3	10.6	10.9	11.1	11.4
Livestock	86.8	86.8	86.8	86.8	86.8
Irrigation	135.3	204.6	344.6	379.8	497.2
Mining	16.1	17.2	18.1	19.1	20.3
Tourism	19.6	27.5	31.9	35.2	38.9
Total	334.1	426.7	583.4	635.6	771.7

Source: The Government of Namibia, "Integrated Water Resource Management Plan for Namibia," August 2010, 15.

Table 1 above does not only project the rapid increase of water use but also shows how rising demand is steadily outstripping supply. Namibia's total estimated renewable freshwater water resources comprise around 600 million cubic meters per annum a pitiful amount which will be overexploited at current rates of demand in less than 10 years.

<sup>4</sup> Piet Hyens, "Water institutional reforms in Namibia", in Water Policy 7, 2005, 89-106.

<sup>5</sup> The Government of Namibia, "Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation", August 2010.

<sup>6</sup> "Integrated Water Resource Management Plan for Namibia," 5-6.

<sup>7</sup> Potable water = water that is safe to drink or use for food preparation.

## Laws, Policies and Strategies

Soon after independence it was already apparent to the state that the existing apartheid era policies that governed the water sector were severely outdated and did not conform to the new political order which explicitly emphasised human rights and equitable access to resources and opportunities for all citizens.<sup>7</sup> Consequently, the nation has seen a number of reform processes and fundamental changes to legislation and regulation of the water sector over the past 25 years. These policies also form part of Namibia's environmental law which comprises a comprehensive and advanced legal framework acknowledging the importance of sustainable use and protection of the environment and its natural resources in today's world. Notable documents include:

- The Water Act No. 54 of 1956
- The Namibia Water Corporation Act No. 12 of 1997
- The National Water Policy White Paper 2000
- The Water Resource Management Act No. 24 of 2004
- The Water Supply and Sanitation Policy 2008
- The Integrated Water Resource Management Plan 2010
- The Water Resources Management Act No. 11 of 2013

This section will focus primarily on policies exclusively tailored towards freshwater and sanitation. Since independence and particularly starting in the late 90s the state has sought to transform the water and sanitation sector. In a nutshell the reforms can be summarised into three, interlinked aims: ensuring an equitable supply and access of potable water to all citizens, shifting from a water supply to a Water Demand Management (WDM) approach and finally ensuring that Namibia's water resources are utilised in a sustainable and environmentally sensible manner. These aims are reflected in policy principles and laws of most of the above listed documents in various degrees of detail. There are currently two main policies that guide the water and sanitation sector's administration and development in the country: the National Water Policy White Paper 2000 (NWP) and the Water Supply and Sanitation Policy 2008 (WSASP). Both policies emphasis similar core principles with WSASP the latest policy giving additional guidance on the economic value of water, generating and availing information to institutions and the public, capacity building and promoting equitable use of water resources shared with neighbouring countries. An assessment of the water sector's policies and institutions, conducted under the Food and Agriculture Organisation of the United Nations (FAO) from 2012 summarises the country's priorities as follows:

"The broad priorities of the Namibian water sector are to

- Achieve the efficient allocation and assured, safe supply of water to the users;
- Ensure equitable access to water and sanitation services;
- Contribute to long-term social and economic development;
- Ensure the environmental sustainability of water use and re-use;

- Maintain water quality and prevent pollution;
- Achieve full participation of all the stakeholders in water issues;
- Develop a strong institutional capacity from the local to the national level.
- Secure access to water from the perennial rivers”<sup>8</sup>

Overall, it could be argued that Namibia possesses a fairly comprehensive and progressive policy and legal framework regarding the water and sanitation sector. Importantly, policy takes into account the fragile and scarce reality of the country's water resources and stresses the principle of equitable access for all citizens unlike pre-independence laws. Most local water experts and researchers consulted for this paper had few complaints about specific policies. From a legal perspective however one significant issue has been raised. For all intents and purposes the policy environment of the nation is dogged by the fact that legally the water sector is still regulated by the apartheid era Water Act No. 54 of 1956. Enacted by the then apartheid regime of South Africa the Act was selectively applied to Namibia whereby some sections did not apply. The law disregards the ecological reality of Namibia and emphasises the use and control of water in a centralised and racial unequal manner in essence discriminating against the majority of citizens. Unfortunately the Act remains in force since neither the Water Resource Management Act (WRMA) of 2004 nor of 2013 has been signed into law.<sup>9</sup> Although in expert circles there appears to be considerable uncertainty as to which Act and regulations are legal and which are applied in practice.

From a practical perspective it can be argued that the outdated law has little influence on the operation of the water sector. The WSASP in particular serves as a central policy and to its credit has been commended as a progressive and sensible “guiding framework” for subsequent policy formulations.<sup>10</sup> Furthermore, Namibia's Constitution and overarching environmental laws such as the Environmental Management Act No. 7, 2007 bolster the legal regime to address legal disputes that might arise from the water sector. Nevertheless, the current legal framework is patchy and convoluted. When issues are taken to court such as the case of intensive groundwater abstraction by the Valencia mine the resulting ruling has been far from satisfactory within the context of post-independence policies.<sup>11</sup> Furthermore, the lack of ‘officially sanctioned regulations’ is a considerable concern. Various experts were of the opinion that certain regulations under the 2013 Act were already followed, while others could not say for sure. Curiously, the state does follow stipulations in the 2013 Act when for example constituting a new Basin Management Committee (BMC). Government is essentially operating in a legal ‘grey-area’.

The current GRN policy does not only differ from but opposes the state's outdated laws leading in effect to a policy vacuum in the water sector. While this issue might be overplayed and have little bearing on day-to-day operations it does pose severe concerns. For example specific policies that have been actively promoted and financed by government could be hampered by legal challenges. Likewise, the lack of officiated regulations and outdated laws would make it difficult for government to enforce for example policies intended to curtail unsustainable groundwater abstraction.<sup>12</sup> Instead of having access to clear and legally sound regulations communities and businesses could find themselves unwittingly confronted at best by capricious bureaucratic interpretations of policy or at worst by lengthy and costly legal battles.

It is also conceivable that the unclear policy environment poses a barrier to investment in Namibia. Thus businesses both local and foreign, but especially those dependent on a regular and safe water supply could judge the country's water policies as too risky and curtail business engagement and expansion. In contrast unscrupulous companies could exploit the policy vacuum to their gain causing environmental damage without having to take accountability.

Finally, a number of locally based water experts have expressed reservations with regards to the scope of the latest WRMA and policies. Dr Matrose-Goreses, NUST academic and NamWater board member feels that in some sections the 2013 Act is too prescriptive by for example stipulating meeting protocols for individual governing bodies. She argues that these administrative details should have been reflected in the regulations. Instead the current approach could hamper implementation due to the difficulty of even amending minor details.<sup>13</sup> Other experts take their criticism further noting that the incessant focus by government on formulating complex policy invariably impacts negatively on the application of the same by already overtaxed state agencies. Taking stock of institutional reforms in Namibia's water sector Heyns states:

“One of the pitfalls of institutional reform in a developing country is that the rationale behind the reforms may have been based upon sound best practices in water resources management, but when it comes to practical implementation, there is a lack of human capacity or adequate funding available to meet the needs identified.”<sup>14</sup>

In other words the most comprehensive and sophisticated water policy is of no use for Namibia if it cannot be applied in a practical and sensible manner. Unfortunately, this assessment reflects many shortcomings in the implementation of policy which will be covered in the next section.

<sup>8</sup> J. Barnes, “Water related policies and institutions: Namibia”, February 2012, 3. [http://www.fao.org/nr/water/docs/okavango/CBR8\\_InstitutionalMappingNAM.pdf](http://www.fao.org/nr/water/docs/okavango/CBR8_InstitutionalMappingNAM.pdf).

<sup>9</sup> Shirley Bethune and Oliver C. Ruppel, 164-7.

<sup>10</sup> J. Barnes, 7.

<sup>11</sup> Legal Assistance Centre / Mills International Human Rights Clinic, Stanford Law School, “Not Coming Up Dry: Regulating the Use of Namibia's Scarce Water Resources by Mining Operations”, 2009.

<sup>12</sup> *Ibid.*, 17-8.

<sup>13</sup> Interview with Dr Matrose-Goreses, Windhoek, November 15, 2015.

<sup>14</sup> Heyns, 105.

## Governance Issues

In many ways governance is the key factor that determines the overall performance of the water and sanitation sector. Governance is a contested term but broadly refers to the ability of institutions to implement policy and ensure competent and sensible administration and planning.<sup>15</sup> Without 'good governance' policies and regulations will not be properly and consistently enforced, existing infrastructure will not be properly maintained and planning for the future will likely be weak and ad-hoc. In addition the public water sector institutions will struggle to successfully advocate for more funds and resources at the national level having to compete against other sectors.

Since independence government's efforts in the water sector can roughly be summarised as follows:

- Reforming existing and creating new governance entities
- Developing and adopting progressive policies in line with the constitution, environmental sustainability and international best practice
- Expanding potable water access especially in rural areas
- Decentralisation - devolving more responsibilities of water resources and infrastructure management to regional and local authorities and communities
- Conducting research, strategic plans and feasibility studies
- Promoting the concept of private-public-partnership to secure financing for infrastructure projects

Undoubtedly, all the above points are of merit with regards to improving governance of the water sector. That being said, all experts consulted during the research of this paper stated unequivocally that poor implementation of policies and plans is one of the most pertinent problems hampering the country's water sector. This clearly is a result of inadequate governance structures or in other words, weak institutions.

According to the WSASP the responsibilities of regulating and managing the water and sanitation sector in Namibia involve a considerable number of ministries and government institutions as well as the Namibia Water Corporation or NamWater. Hence for example the Ministry of Lands and Resettlement (MoLR) is responsible for establishing water and sanitation services for resettlement farms while the Ministry of Health and Social Services (MoHSS) is tasked with promoting sensible sanitation practices among communities. However, core competencies in particular with regards to overall control, management, monitoring and assessment of the country's water resources is the prerogative of the Ministry of Agriculture, Water and Forestry (MAWF).<sup>16</sup> It should be noted that NamWater in this paper is defined and treated as a public institution and therefore part of government. After all, this State Owned Enterprise (SOE) is technically owned by the state being mandated in the Namibia Water Corporation Act No. 12, 1997 as "the sole member and shareholder of the corporation."<sup>17</sup>

From the information above it can already be perceived that the governance structure of Namibia's water and sanitation sector is very complex and extensive. While complexity is not necessarily a drawback in itself it does however require a significant level of effectiveness and efficiency by individual institutions. It is thus perhaps far from an ideal structure considering Namibia's status as a developing nation. As it stands the various institutions responsible for the water and sanitation sector are all struggling to meet their assigned responsibilities.

Overall, most of these challenges and shortcomings are well known and documented. Thus for example the IWRM Plan provides a list of identified concerns and issues as part of a comprehensive situation analysis in 2010. Many of these challenges are both technical and particular to specific organisations within the water sector.<sup>18</sup> Discussing this lengthy list of issue exceeds the scope of this paper. However, from these challenges emanate a number of common themes that really illustrate deep-seated, systemic weaknesses among the institutions.

## Staff and Skills Deficits

Undoubtedly one of the most crucial issue affecting public institutions in the water sector is a severe lack of capacity including technical skills and overall staffing levels. This theme is highlighted extensively in the critical literature and is echoed by many experts spoken to during this paper's research phase. The IWRM Plan '*Review and Assessment of Existing Situation*' report for example states that:

"Staff retention is a difficult issue for all government and private water institutions and service providers because there is a lack of skilled people and a continuous movement of skilled persons between the institutions."<sup>19</sup>

The inability of institutions involved in the water sector to attract and retain qualified staff has been a concern for many years. According to Heyns, the MAWF's then Department of Water Affairs (DWA) lost many well-experienced staff to NamWater when the latter was created in December 1997. He further argues that during the sector's reform process from the late 1990s onwards the Ministry failed to cultivate enough young professionals who would be able to take over crucial technical and managerial tasks once older management staff retired in the mid-2000s. The newly created state owned utility NamWater 'benefited' only for so long from the downsizing of the Department of Water Affairs (DWA) located in the MAWF.<sup>20</sup> Data collected from the SOE's annual reports, collated and published in the '*Guide to the Namibian Economy 2013/14*' by Robin Sherbourne shows a continuous decline of employees from 2001 – 2008. During that time period the total staff complement was nearly halved from 1,160 to 601.<sup>21</sup> NamWater's Annual Report of 2015 states that it has an approved, perma-

<sup>15</sup> Merilee S. Grindle, "Good Enough Governance Revisited", February 2005, 1-2. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/events-documents/1281.pdf>

<sup>16</sup> The Government of Namibia, "Water Supply and Sanitation Policy", July 2008, 15-6.

<sup>17</sup> The Government of Namibia, "Gazette: No. 12 Namibia Water Corporation Act, 1997", No. 1703, October 10, 1997, 5.

<sup>18</sup> "Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation", ii-xii.

<sup>19</sup> *Ibid.*, vii.

<sup>20</sup> Heyns, 98 & 104.

<sup>21</sup> Robin Sherbourne, "Guide to the Namibian Economy 2013/14", October 2013, 296-8.

ment workforce of 660 but only 584 post were filled. In addition the report highlights that most vacancies were located in the “Water Supply and Engineering & Scientific Services departments”.<sup>22</sup> Some losses could be put down to rationalisation and outsourcing. Nevertheless, for a corporation that has added considerably to its client base over the years this remains a questionable if not worrisome trend.

While usually less critical official government documentation and policies consistently acknowledge capacity and human resources challenges within the sector. The WSASP states that water resource management is hampered among others by “limited human resource capacity” and places emphasis on improving staffing and technical skill at public institutions.<sup>23</sup> The draft *‘Namibia Sanitation Situation Analysis Report’* (NSSA) of 2009 funded by the European Union (EU) lists the skills deficit as a key strategic issue: “Lack of skills on sanitation issues at all levels. Lack of appropriated formal educational training on sanitation.” The analysis also observed that in particular Regional Councils and Local Authorities lacked adequate technical capacity.<sup>24</sup> The 2010 IWRM Plan echoes the assertions of the NSSA for the overall water sector. Among many other shortcomings it was noted that the majority of Regional Councils and Local Authorities had only weak management capacity especially with regards to finances.<sup>25</sup> Regrettably, lack of technical capacity and human resources does not only affect regional and local public institutions but is prevalent across all levels of the water sector.

Namibia remains a developing country with significant social, economic and political problems. Hence, the skill and staff limitations hampering the country’s water and sanitation sector are understandable and should not come as a surprise. What does surprise, however, are two related issues that are not as easily discernible from government and donor documentation.

Firstly, while capacity shortfalls have been mentioned in official reports since at least the mid-90s, there are few visible concerted efforts apparent that seek to mitigate and reverse the situation. Fairly concrete steps and implementing options to improve staffing levels and skills are given, for example, in a report of the Namibia Water Resource Management Review (NWRMR) a comprehensive exercise undertaken for GRN around the late 90s and early 2000s. The review report also identifies policy, institutional and technical shortcomings of which many were attributed to weak capacity.<sup>26</sup> In turn the IWRM Plan published around seven years later lists a range of capacity building and training needs for government institutions, service providers and stakeholders at large. However, more telling the document also observes that with regards to the issues identified by the NWRMR: “Many of the findings at that stage are still true today and in certain cases some is-

ues have worsened since then.”<sup>27</sup> This observation is general but without doubt also includes the skills deficit. Some experts involved in capacity building feel that public institutions don’t attach enough importance to training and skills development. It is acknowledged in the IWRM report that skill development efforts do not necessarily result in significant improvements. Training and capacity building should not be considered as a ‘silver bullet’. Instead they need to be combined with other sensible strategies such as monitoring performance and improving operational and fiscal management.<sup>28</sup> That said, the crucial observation is that for all the emphasis placed on policies and reports on capacity building and training very little has translated into visible, tangible results. Indeed, judging by the current situation whereby the country is facing severe freshwater shortfalls in the central area, national capacity to manage water resources has deteriorated further over the past years.

The second issue concerning the lack of capacity and staff is the hemorrhaging of qualified and experienced staff from public institutions. While some of this is due to retirement many other professionals move into the private sector. The IWRM plan states that due to the limited pool of skilled people in the country both public and private water institutions struggle to attract and retain staff.<sup>29</sup> While difficult to prove it is nonetheless very probable that the private sector is at an advantage in the competition for skilled staff being able to offer higher salaries than the public sector. Furthermore, a number of professionals have privately expressed their reservation towards accepting employment at a public water institution. Many are of the opinion that, in such institutions, technical and engineering expertise is considered secondary to management and political acumen for which however they did not enter their profession. Unfortunately for the public sector overall it is no secret that it is considered on average more attractive to work for a smaller, dynamic company than a large, lumbering bureaucracy.

It is fortunate for Namibia that the skills and expertise with regards to water resource management located in the private sector remains available for the country’s development. Over a decade ago the NWRMR recommended that the private sector should be engaged especially with regards to sector planning, training and design and construction of water schemes. The numerous available assessments and plans focusing on the water sector emanating from private firms and consultancies, stands as an attest to the competencies of the private sector. Hence for example the on-going research on the long-term options for securing water supply to the nation’s central area is conducted by a group of engineering and environmental consultancies contracted by the MAWF.<sup>30</sup>

Likewise the comprehensive IWRM plan was developed by private sector businesses. The drawback of having Namibia’s water sector expertise located in private businesses is the fact

<sup>22</sup> NamWater, “Annual Report 2015”, 38.

<sup>23</sup> “Water Supply and Sanitation Policy”, 1.

<sup>24</sup> European Commission, “Namibia Sanitation Situation Analysis Report”, 2nd Draft, April 2009, 38 & 57.

<sup>25</sup> “Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation”, 55-6.

<sup>26</sup> The Government of Namibia, “Namibia Water Resource Management Review - Institutions & Community Participation: Theme Report”, n.d.

<sup>27</sup> “Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation”, 53.

<sup>28</sup> *Ibid.*, 56.

<sup>29</sup> “Integrated Water Resource Management Plan for Namibia”, 10.

<sup>30</sup> See: <http://namibiawateraugmentation.com>

that most implementation and project management roles lie within the public sector. Almost all bulk water supply infrastructures as well as local authorities' water supply, reticulation and sanitation systems are owned and managed by public institutions. Yet, as already mentioned, the country's main failing is the lack of implementation of plans and policies and poor management of water resources.

This divide around skills among public and private spheres is proving detrimental for Namibia. While the available expertise is not lost to the nation as such, it is misaligned and cannot be brought to bear fully to the areas in greatest need of it.

## Institutional Issues

Aside from the three key shortcomings regarding water resource management in the country there are a number of additional issues. These are primarily weaknesses within the governance structure. They include: the lack of coordination, decentralisation challenges and the absence of key governing instruments. This section will briefly outline and discuss these identified institutional issues.

## Coordination

As already mentioned the list of government institutions involved in some form in Namibia's water and sanitation sector is extensive. Given the crucial importance of water for human survival and the complexities of managing such a natural resource the institutional list is justifiable. Nevertheless, Namibia's institutional arrangement with regards to the water sector has spawned a number of challenges. System and organisational structure related problems are very common worldwide and afflict all sectors of society. Therefore, it can also be argued that there is no uniform solution for such issues that can be readily adopted. Namibia's water sector reform process which began in the late 90s emphasised emulating the international practice of separating roles and responsibilities among institutions as well as levels of government. Water resource management is located on the national, regional, basin wide and local level. Furthermore, the WSASP places great importance on community involvement and participation, an objective also vigorously promoted by the NWRMR.<sup>31</sup>

Given the importance of water supply planning, infrastructure development and resource management the following institutions or sectors and their respective responsibilities are listed below:

- MAWF – resource management, rural water supply and overall sector coordination
- NamWater – bulk water supply
- Regional Authorities – water supply to small communities
- Local Authorities – water supply, reticulation and sanitation or water reticulation and sanitation

- Private Sector – water supply and sanitation on private land for mining, industry and tourism<sup>32</sup>

The complexity of this organisational structure is apparent. According to the IWRM plan, international experience has demonstrated that "merging agencies or responsibilities has frequently resulted in very little performance improvements." Nevertheless, there are numerous documented instances of poor coordination and communication within the water and sanitation sector both within and between institutions. Throughout the IWRM plan reports reference is made of weak coordination and communication instances. Hence for example it is stated that coordination between central and decentralised water management structures need to be improved.<sup>33</sup> Given the broad set of responsibilities spread among a multitude of state as well as non-state actors it is essential that close cooperation is fostered effectively to align activities and policies with each other.

Overall it appears that coordination and communication among water sector institutions is still weak. It is for example unclear if the governments much promoted large-scale irrigation project 'Green Scheme' has taken into account fragile and limited water resources and climate change concerns. The Namibia Second National Communication to the United Nations Framework Convention on Climate Change published in 2011 states that a large proportion of the scheme located along the Okavango River might not be viable in the long-term considering that climate change will bring about a projected decrease of annual rainfall in certain areas of the country.<sup>34</sup>

It should also be noted that overall communication to the public and business fraternity regarding the water supply situation is oftentimes patchy and poor. For example active publicity regarding the central area water shortages by the City of Windhoek (CoW) and Namwater's have been negligible from a public relations perspective.

## Decentralisation

Reforms of institutions and organisational structures in the water and sanitation sector went hand in hand with a further government objective, decentralisation. This policy has been promoted and pursued across most sectors of government since the first years of an independent Namibia. Writing on the topic in 2000 Gerhard Töttemeyer defines it as follows:

"Decentralisation entails a process of dividing and distributing authority, power and responsibility for programmes and policy implementation to subunits, as well as reassigning decision-making responsibilities to lower governmental units on a geographical basis."<sup>35</sup>

An important core feature of the policy is the active promotion of community participation to address and partake in problem-solving efforts thus giving citizens a direct stake in their own

<sup>31</sup> "Water Supply and Sanitation Policy", 3, 6, 8, 11 & 12.

<sup>32</sup> "Integrated Water Resource Management Plan for Namibia", 8-9.

<sup>33</sup> "Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation", 16 & 40.

<sup>34</sup> The Government of Namibia, "Namibia Second National Communication to the United Nations Framework Convention on Climate Change", July 2011, 75.

<sup>35</sup> Gerhard Töttemeyer, "Decentralisation and State-building at the Local Level" in *State, Society and Democracy: A Reader in Namibian Politics*, Christiaan Keulder (ed.), this Edition 2010, 108.

development. For all intents and purposes the policy therefore seeks to establish transparent and accountable local governance structures and develop a “culture of democracy at local level.”<sup>36</sup>

Overall the policy of decentralisation has and is being promoted aggressively in the water sector.

In urban areas a combination of water supply, reticulation and sanitation or water reticulation and sanitation responsibilities have been devolved to municipalities, towns and villages. This practice was already in place for larger settlements prior to independence. In turn, Regional Councils were tasked with similar duties for villages without councils and communal settlements.

The MAWF introduced the community based management (CBM) programme in the late 1990s with the objective of involving rural communities in the management and administration of local water resources. It was envisioned that local communities would not only manage but also maintain the local water infrastructure via funds collected from the community.<sup>37</sup> Finally, government initiated the establishment of BMCs (Basin Management Committees).

BMCs are constituted from interested stakeholders including representatives from public and private organisations and their main functions according to the WRMA of 2013 is:

“To advise the Minister on matters concerning the protection, development, conservation, management and control of water resources and water resource quality in its water management area.”<sup>38</sup>

By 2011 eight BCMS had been established, a further committee for the crucial Omaruru-Swakop basin in which Windhoek is located was constituted only recently. Water basins are defined according to a specific water catchment area based on a certain geographical size. Overall, there are currently 11 classified and recognised basins in total. However, it should be noted that this is not necessarily a fixed figure.<sup>39</sup>

To generalise, decentralisation in the water sector has brought with it a very mixed bag of successes, failures and intermediate results. While some progress has been made such as the provision of clean water to many rural areas the decentralisation approach continues to be plagued by a wide range of shortcomings and inefficiencies. Both Regional Councils and many Local Authorities have struggled to meet their mandates. Instances of smaller towns and villages being increasingly unable to maintain existing water and sanitation infrastructure not to mention expanding such services have become all too com-

mon across the country. Poor financial management and inappropriate tariff settings by some authorities has forced the bulk supplier NamWater to step in and manage such accounts.<sup>40</sup> According to the IWRM plan, there is considerable reluctance among central government ministries to devolve more responsibilities to the regions due to patchy performance. However, it should also be acknowledged that regional and local authorities often lack the financial and human resource base to meet their responsibilities.<sup>41</sup>

CBM has been touted as a success particularly with regards to securing and expanding fresh water supply to rural communities and settlements. However, very little detail is provided on this success apart from the establishment of water point committees and associations. Figures cited on the coverage of safe drinking water across the country are not consistent across official documentation and frequently contradict each other. Research for this paper was unable to source current coverage figures. One of the few comparative graphs that could be found indicates puzzlingly that the percentage of rural households with access to fresh water rose from 50 to 79.9 percent during 1991 – 2001, but decreased again to 62.8 percent by 2011. Furthermore, overall water supply fell from 87.2 percent in 2001 to 80% by 2011.<sup>42</sup>

The IWRM plan report states that committees face financial and management challenges in administering and maintaining local water infrastructure and that water supply security and pollution remain significant problems.<sup>43</sup> In an interesting if dated thesis, from UNAM graduate Clever Mapaire, a very different picture emerges of the CBM programme. In his 2009 thesis Mapaire highlights the many tensions and conflicts among a group of rural communities and regional and national state institutions brought about by the CBM programme. According to his field research, conducted in three of Namibia’s northern regions, CBM is viewed critically by many rural residents who see it either as an infringement on traditional authorities’ and customary law rule or as a centrally imposed measure to foist responsibility and cost of local water infrastructure on unprepared and poor rural communities.<sup>44</sup>

While Mapaire’s findings are difficult to verify, Wolfgang Werner – in a paper published under the CuveWater project in 2007, points out a number of policy deficiencies that could lead to potential tensions between the committees, Communal Land Boards, Traditional Authorities and Regional Councils. He notes that the proliferation of various local and regional institutions mostly concerned with promoting community participation, has resulted in a complicated governance framework with uncoordinated mandates. He further notes that such institutions will most likely erode power and influence of traditional authorities.<sup>45</sup> Writing more recently, Falk notes that the latest

<sup>36</sup> Ibid., 109.

<sup>37</sup> The Government of Namibia, “National Water Policy White Paper”, 2000, 19.

<sup>38</sup> The Government of Namibia, “Gazette: No. 11 Water Resource Management Act 2013”, No. 5367, December 19, 2013, 24.

<sup>39</sup> Interview with Greg Christelis, Windhoek, July 30, 2016.

<sup>40</sup> “Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation”, 51.

<sup>41</sup> Ibid., 44. & “Integrated Water Resource Management Plan for Namibia”, 30.

<sup>42</sup> The Government of Namibia, “Profile of Namibia: Facts, Figures and other Fundamental Information”, 2013. <http://cms.my.na/assets/documents/p19dpmrmdp1bqf-19s2u8pisc114b1.pdf>

<sup>43</sup> “Integrated Water Resource Management Plan for Namibia”, 30.

<sup>44</sup> Clever Mapaire “Water Wars: Legal Pluralism and Hydropolitics in Namibian Water Law”, 2009. <http://www.wis.unam.na/theses/mapaire2009.pdf>



Water Act has sought to remedy many inconsistencies regarding water point committees neglected in the Act of 2004. He, however, acknowledges that “customary or community ownership” is still not addressed and emphasises that there is a need to harmonise the Act’s regulations with the Communal Land Reform Act of 2002.<sup>46</sup>

According to the IWRM plan, BMCs require considerable capacity building and funding to carry out their tasks. The 2013 WRMA defines the roles and responsibilities of BMCs clearly. In addition, the Act stipulates that the MAWF must provide administrative and technical support to each committee and the Minister may authorise financial support.<sup>47</sup> Nevertheless, BMCs’ responsibilities are extensive and perhaps unrealistically so given existing challenges around coordination and communication among governance institutions as well as funding constraints. It should also be noted that weak engagement and feedback from regional and national authorities would likely sap committee members’ commitment as well as community engagement towards BMCs. An environmental expert involved in the support of committees was of the opinion that currently most BMCs were weak or non-functional.

Decentralisation within the water and sanitation sector remains a central GRN policy objective and has been on-going for around two decades. The obstacles to and complexities of the policy’s implementation are substantial and persistent. Be that as it may, it is neither feasible nor desirable to roll back the policy considering the efforts, funds and institutional arrangements committed to decentralisation so far.

## Key Governing Instruments

For any law, policy or plan application and implementation requires actual resources and functional institutions. Namibia’s line ministries are subdivided into directorates and departments that are tasked with specific responsibilities and tasks and ideally appropriately staffed and resourced to fulfil their duties. Responsibilities are determined by policy and regulations that in turn rely on the institution’s organisational workings and structure to be implemented and enforced.

The complexity of water resource management, its crucial importance for human survival and not least Namibia’s democratic dispensation necessitate the establishment of governance mechanisms within and across institutions. It is interesting to mention that the need for such mechanisms was already recognised early in the previous century. In 1932 the Water Ordinance passed by the South West African Administration made provision for a Water Board to advise the government on water issues. The NWRMR reform process proposed among others the creation of a Cabinet committee on water resources and an independent price regulator.<sup>48</sup>

The Water Resource Management Act of 2013 sets out no less than four entities that can be classified as important or

even vital governance mechanisms of the water sector. These are the Water Advisory Council, Water Regulator, Water Tribunal and the BMCs. While the last mechanism individually only covers a single basin its scope of responsibilities is broad and is therefore included here. The responsibilities of each of these mechanisms or governance instruments are summarised in Table 2. Most of their powers are advisory only. Thus, for example, the Water Advisory Council is tasked with advising the Minister on water policy development and resource management.

**Table 2: Key Governance Instruments & Summary of Responsibilities**

Name	Responsibilities	Status
Water Advisory Council	Advises Minister on: water policy development and review; water resource management; water abstraction and use; any matter raised by basin management committees deemed pertinent enough by the Council; any matter related to the administration of the Act	Only constituted in September 2016
Water Regulator	Determines fees and tariffs for the provision of water as well as licence fees charges of water abstraction licence holders; negotiates operational targets with water service providers; monitors performance and compliance of service providers with regards to operational targets as well as compliance with water service plans and water management strategies (conservation); notifies Minister of any non-compliance	Not constituted
Water Tribunal	Appeal body to hear and decide on appeals made to Minister regarding - refusal to issue a water licence, licence issued to an operator to discharge effluent, construct or operate water treatment plant or waste disposal site, refusal to grant approval for transfer of licence, term of licence, discretionary licence conditions, refusal to renew licence; amendment or suspension or cancellation of licence; driller licence penalty payment	Not constituted
Basin Management Committees	Advises Minister on matters of protection, development, conservation management and control of the respective basin’s water resources; makes recommendations on water licence applications to Minister; promotes community engagement with management of basin’s water resources; prepares or initiates a basin IWRMP; makes recommendations to Minister regarding licence holders; monitors and reports on effectiveness on policies in achieving sustainable water management; collects, manages and shares relevant data including: irrigation; helps resolve conflict related to water resources; coordinates with regional councils & local authorities where appropriate and conducts a water research agenda	Most BMCs have been constituted
Water Point Committees & Local Water Committees (Rural water supply)	Manages and controls the supply of water at a specified water point/rural water supply scheme or part thereof	Large number of committees in existence

Source: The Government of Namibia, “Gazette: No. 11 Water Resource Management Act 2013”, No. 5367, December 19, 2013

<sup>45</sup> Wolfgang Werner, “Integrated Land and Water Management: Policy and Institutional Issues”, CuveWaters Papers, No. 1, October 2007. 18-9.

<sup>46</sup> Thomas Falk, “Governance of Rural Water Supply in Namibia”, in Environmental Law and Policy in Namibia, Oliver C. Ruppel and Katharina Ruppel-Schlichting (eds.), 3rd Edition, 2016, 174-5.

<sup>47</sup> “Gazette: No. 11 Water Resource Management Act 2013”, 24-5.

<sup>48</sup> Heyns, 94 & 99.

According to the Act, the Water Regulator and Tribunal have national decision making powers. Among others, the former determines tariffs for charges by water service providers and the latter hears and decides on appeals brought against the minister's decisions for example in refusing to issue a water abstraction licence.<sup>49</sup>

Even a cursory overview of the tasks and powers of the four governance instruments reveals their crucial role in managing and guiding the whole water sector. In a nutshell then, the role of these mechanisms is to provide official forums for experts, policy- and decision makers and stakeholders to deliberate on and to both make informed recommendations and decisions pertaining to the sustainable management and development of the nation's water resources. Indeed it can be argued that as a legal framework the 2013 Act and the mechanisms stipulated in it, seeks to ensure a most sensible management of national fresh water resources taking into account equally environmental, social, economic and political aspects.

It is therefore no less disturbing to note that only the BMCs have been constituted. To date all other governance instruments exist only on paper. All water experts consulted for this paper either confirmed that none of these mechanisms (excluding BMCs) were in place or did not have any knowledge of their existence. The lack of three key governance instruments within the water sector is undoubtedly directly related to the creeping national water crisis. Essentially, this means that there are no standing official forums where senior government officials, political appointees and stakeholders can review, discuss and come to decisions or recommendations regarding issues affecting the water sector.

Clearly this has had a detrimental effect on policy implementation. Firstly, since there are no regular, official forums to communicate and coordinate activities between public institutions, vital review, recommendation and decision making processes are likely stalled. In turn, these delays will severely affect planned initiatives and timelines for existing projects as well as the overall management of the water sector. For example, the poor progress in terms of water infrastructure development in the country is to a significant extent the result of weak communication and coordination. It is furthermore conceivable that, on a political level, water sector representatives find it hard to advocate for more and urgent funding given that the sector administration is disorganised and gives out contradictory messages. Hence for example publicly announced overall costs for water and sanitation infrastructure needs have jumped from single to double billion N\$ figures in the course of just six years. The national budget has repeatedly prioritised infrastructure development in the transport, military and public service sector while only limited provisions have been made for water and sanitation.<sup>50</sup>

Secondly, the lack of regulated discussion platforms means

that whenever stakeholders do get together there is a likelihood that some relevant parties are left out of the discussion which could lead to skewed and biased decisions ignoring other viewpoints and expertise. Furthermore, recommendations and decisions taken at such meetings would essentially be ad hoc and therefore more likely to be ignored or withdrawn. Such an approach could also cause rifts among stakeholders within the water sector and breed resistance towards policy that is perceived as being one-sided. According to a host of media reports over the past months, there has been a noticeable growing dread in the private sector and the public at large with regards to the water crisis in the central area. Unfortunately, overall poor communication on the part of the authorities regarding the crisis and its management has only heightened businesses concerns. In a similar vein, in media reports residents have repeatedly complained about the perceived unfair saving measures imposed on private households while wasteful GRN facilities such as schools are 'let off the hook'. The issue is further compounded by the lack of discussion platforms through which businesses and private individuals can engage government.<sup>51</sup>

Thirdly, the absence of formal governance instruments in which a broadly representative group of stakeholders can discuss critical issues and plans makes a mockery of transparency and accountability. Given the lack of regular and formal meetings deliberations leading to decisions would be difficult to reconstruct. Consequently, policy- and decision makers could more easily shirk their responsibilities for weak policy implementation or overarching decisions. Paradoxically, this situation also negates the positive if not always successful work of the CBM programme as well as the BMCs. With regards particularly to the latter what is the point of this mechanism's existence if basin stakeholders cannot easily communicate their concerns at the national level?

## Water as a Priority in the Harambee Prosperity Plan

The lack of governance mechanisms raises concerns around the latest approach to the management of the sector. In April 2016 the government released its new Harambee Prosperity Plan (HPP). This plan is seen by GRN as a blueprint to address core national issues and advance the development of the country and the living standards of its citizens.

The plan includes water as a priority under infrastructure development and sets out seven proposed strategies regarding water supply and security. This is undoubtedly a commendable step towards acknowledging the importance of the water sector by President Hage Geingob's administration and outlining specific actions endorsed by the country's political leadership. The desired outcome of these strategies is that 100 percent of the population should have access to potable water by 2020 and that adequate water should be available for "industrialisa-

<sup>49</sup> Shirley Bethune and Oliver C. Ruppel, 168-70.

<sup>50</sup> Rowland Brown, "Fiscal Sustainability and Growth: A Difficult Balancing Act", April 2016, 16, 18-9.

<sup>51</sup> See for example: Frank Steffen, "Wassernot führt zu Sparzwang", Allgemeine Zeitung, August 1, 2016. <http://www.az.com.na/nachrichten/wassernot-fhrt-zu-sparzwang/>; Neil Weatherman, "Water crisis, We should be concerned", Windhoek Observer, May 26, 2016. <http://www.observer.com.na/opinions/6249-water-crisis-we-should-be-concerned/>; New Era, "Water crisis: How did we get here?", June 10, 2016. <https://www.newera.com.na/2016/06/10/water-crisis-here/>

tion and land servicing and housing development". The seven strategies including implementation or planning deadlines are listed as follows:

1. Establishment of a Cabinet Committee on Water Supply Security by June 2016
2. Implementation of a national water resource monitoring system by March 2017
3. Infrastructure development to utilise newly discovered, northern underground water resources - plan ready by September 2016
4. Development of the Windhoek Managed Aquifer Recharge project - plan ready by July 2016
5. Construction of a coastal seawater desalination plant by February 2019
6. Completion of the Neckartal dam construction by February 2019
7. Create incentives to locate industry sites closer to water resources, proposals by July 2017<sup>52</sup>

Overall, the seven strategies are sound. A number of them are uncontroversial and have been advocated in policy documents and by experts for some time. Strategies number two and four are both solid recommendations in the IWRM plan report "Review and Assessment of Existing Situation" - the former is a key recommendation and it is stated that "the level of data collection, processing, analysis, management and archiving" requires strengthening. Furthermore, water aquifer recharge and water banking are endorsed as part of necessary infrastructure developments.<sup>53</sup> The WSASP surprisingly makes no mention of information and data improvement. However, it does in principle support the development of unconventional projects such as aquifer recharging.<sup>54</sup> The CoW is currently laying out considerable investment in order to establish the aquifer recharge project as an emergency water supply measure for the central area.<sup>55</sup> It should be noted that a number of experts have criticised government's tardiness in exploring and providing funding for this and similar projects as they have long been considered feasible. Furthermore, it should be noted that the current project is focused on abstraction rather than recharge. To ensure the long-term viability of the project it will be vital that the recharge component will be implemented consistently and with environmental acumen.

Given the lack of key governance mechanisms to date, the creation of a Cabinet Committee on Water Supply Security is of great significance. According to media reports, President Hage Geingob was personally briefed on the nation's water issue and specifically on the central area crisis. The briefing

took place at the start of June and shortly thereafter saw the official appointment of the committee. The committee with the support of a technical committee was instructed to develop a detailed plan to avert a worsening of the central water crisis by August.<sup>56</sup> The President expressed his grave concern about the crisis and asserted that his government would address the situation.<sup>57</sup> Notwithstanding the President's positive assertion, it is highly unfortunate that it had to take the HPP to initiate such a mechanism, given that the NWRMR already recommended such instruments over 10 years ago.

Strategy number three - infrastructure development to access recently discovered groundwater resources in the north - holds much promise. Yet very little concrete information about the size and viability as well as environmental considerations of this resource is known.<sup>58</sup> Given particularly the general environmental sensibilities and dangers of groundwater pollution, prioritising the development of this resource is premature. Contrary to point three, strategy six - the completion of the Neckartal Dam - was already planned and endorsed, construction having started at the start of 2014, long prior to HPP.<sup>59</sup> Furthermore, experts, engineers and environmentalists spoken to for this paper were united in their criticism of the project stating that the dam's eventual contribution to national water security would be minimal.

Proposed strategy number five (the construction of a desalination) plant has been mooted in both government and private circles for a considerable time. Overall, there seems to appear a grudging consensus among experts and government officials for the need of such a plant. An opinion survey carried out by South African based academics in 2014 found overwhelming support among government, private business and NamWater respondents for the construction of a desalination plant for mining needs.<sup>60</sup> Nevertheless, there have been dissenting voices towards desalination particularly with regards to the high cost of building and operating such a plant. Disagreements around desalinated water supplied by the Areva built and owned plant at the coast have already cropped up. According to a media report in June, the Town Council of Swakopmund opposed recent water tariff increases by NamWater, stating that the council was not consulted when Areva agreed to NamWater's request to supply desalinated water for the town. This water as opposed to groundwater is considerably more expensive.<sup>61</sup> In turn uranium mining operations at the coast are also considering constructing their own plants in an effort to reduce costs.<sup>62</sup>

The HPP advocates that such an undertaking could possi-

<sup>52</sup> "The Government of Namibia, "Harambee Prosperity Plan", April 2016, 51-2.

<sup>53</sup> "Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation", viii & xi.<sup>54</sup> "Water Supply and Sanitation Policy", 7 & 14.

<sup>54</sup> "Water Supply and Sanitation Policy", 7 & 14.

<sup>55</sup> Upper Swakop Basin Management Committee, Presentation "City of Windhoek: Drought Response Plan", June 22, 2016.

<sup>56</sup> Theresia Tjihenua, "Windhoek still ignores water restrictions", *The Namibian*, July 21, 2016. <http://www.namibian.com.na/Windhoek-still-ignores-water-restrictions/43239/read>

<sup>57</sup> Elvis Muraranganda, "N\$24 billion needed to solve water shortage ... Geingob says situation is scary", *New Era*, June 8, 2016. <https://www.newera.com.na/2016/06/08/n24-billion-needed-solve-water-shortage-geingob-situation-scary/>

<sup>58</sup> Helvy Shaanika, "Ohangwena aquifer Namibia's best water backup plan", *New Era*, June 21, 2016. <https://www.newera.com.na/2016/06/21/ohangwena-aquifer-namibia-as-best-water-backup-plan/>

<sup>59</sup> Luqman Cloete, Ndanki Kahiurika, "Neckartal construction starts amid water challenge", *The Namibian*, February 2, 2014. <http://www.namibian.com.na/index.php?id=119562&page=archive-read>

<sup>60</sup> Kahilu Kajimo-Shakantu, Lukas Kavela & Winston Shakantu, "Applicability and constraints of delivering water infrastructure via public private partnership", in *Procedia - Social and Behavioral Sciences*, 119, 2014, 867 – 76.

by be initiated as a Private-Public-Partnership (PPP). Given the expressed interest by mining companies in constructing a desalination plant a PPP approach sounds promising. The financing of large, public infrastructure projects in Namibia has been promoted by government for some time. In this regard a dedicated PPP Policy was approved by Cabinet in 2012. The government has also set up a 'PPP Unit' Directorate in April 2015 to scrutinise potential projects and ascertain their feasibility. In addition a PPP Bill is currently in preparation to ensure legislative oversight.<sup>63</sup> However, to date there are only a handful of existing PPP projects in Namibia.

Opinions among experts and observers on government's PPP policy are divided. Most hydrologists and water engineers consulted for this research paper felt that they constituted the most viable option in guaranteeing the country's water supply arguing that the state, NamWater and local authorities were increasingly unable to manage and supply the resource. Such an argument might make economic sense socially and politically however it is fraught with difficulties. Some observers have expressed concern that an aggressive PPP policy would hand-over control of a critical, public resource to private entities whose primary objectives are about profits as opposed to equitable and sustainable national development. The WSASP stresses that water is a public good which should be available to all citizens at an affordable cost.<sup>64</sup> Apart from the real possibility that PPP water supply would be too costly for many Namibians, it could conflict with the CBM approach and overall democratic dispensation. Elected public officials are answerable to their electorate, private businesses only answer to their shareholders and clients. International development NGOs have been critical of PPPs especially with regards to large projects noting that such arrangements can often side-line the poorer segments of society. In a critical 2014 report on PPPs in the agricultural sector Oxfam states:

"...mega-PPPs are inherently risky in sub-Saharan African countries, where governments have low levels of government effectiveness, challenges in regulating markets and difficulties in including the voices of the poor in policy... Evidence shows that in contexts with poor governance, PPPs can also provide opportunities for corruption and political gain."<sup>65</sup>

Two academic literature meta-reviews of PPP studies, one focusing on healthcare the other on PPPs in developing countries published in 2014 and 2013 respectively, find that there is very limited empirical evidence demonstrating the effectiveness of the PPPs approach to date.<sup>66</sup> The technical and finance section will provide further detail on the PPP approach.

When reviewing the remainder of the HPP Strategy questions

also arise regarding the compatibility of water sector strategies with other crucial sector strategies. Hence for example industry growth programmes are proposed under Economic Transformation yet no reference is made to ensuring that these are non-water intensive.<sup>67</sup> Under the "Hunger Poverty" issue, the strategy of improved agricultural output is highlighted which includes among others the "expansion of the Green Scheme to improve food security". Food security is very important within Namibia's development context but large-scale traditional irrigation initiatives will put extensive pressure on dwindling water supplies. As mentioned previously it is not clear if this circumstance has been taken into consideration for the Green Scheme plan. Apart from promoting debushing projects, no references are made in the HPP to Climate Smart Agriculture, strategies that focus on climate change adaption and mitigation measures with regards to agriculture.<sup>68</sup>

In a final observation of the HPP strategies for the water sector it should be noted that most of them focus on increasing the supply of freshwater in the country. Given the current and looming near future shortages of water in various localities of Namibia this is understandable. However, national policy since at least the late 90s has emphasised the importance of utilising water resources in a sustainable and sensible manner by advocating WDM. Freshwater is a valuable, fragile and above all finite resource in Namibia. Expanding the water supply system is undoubtedly necessary - however it impacts upon the environment, increases infrastructure and maintenance costs and can encourage wastage. Among others the WDM strategy attempts:

"...the reduction of inefficient consumer demand to reduce the pressure and reliance on conventional water resources and infrastructure. By reducing demand, through a variety of approaches, Water Demand Management provides an equivalent outcome to supply augmentation. This, in turn, results in a net financial benefit to the supplier as well as its customers and benefits to the environment."<sup>69</sup>

Therefore a nearly exclusive national strategy of expanding water supply is counterproductive in the long-term. It is highly unfortunate that the HPP does not explicitly highlight WDM.

## Finance and Technical Considerations

Water and sanitation infrastructure projects are capital intensive and Namibia is a developing nation. It is therefore perhaps understandable that water and sanitation infrastructure has only expanded marginally since independence. It should be noted that a countrywide, detailed summary of actual financial

<sup>61</sup> Marc Springer, "Wassernot führt zu Tarifstreit", *Allgemeine Zeitung*, Mai 9, 2016. <http://www.az.com.na/lokales/wassernot-f-hrt-zu-tarifstreit.430981>

<sup>62</sup> Marc Springer, "Wenn um Wasser gepokert wird", *Allgemeine Zeitung*, Mai 9, 2016. <http://www.az.com.na/lokales-kommentar/wenn-um-wasser-gepokert-wird.430977>

<sup>63</sup> Brigitte Weidlich, "Go PPP Go", *Insight Namibia*, April 2016, 21-2.

<sup>64</sup> "Water Supply and Sanitation Policy", 3.

<sup>65</sup> Robin Willoughby, "Moral Hazard? 'Mega' public-private partnerships in African agriculture", September 1, 2014, 15.

<sup>66</sup> Ministry of Foreign Affairs, The Netherlands, "Public-Private Partnerships in developing countries: A systematic literature review", IOB Study, No. 378, April 2013; Jens K. Roehrich, Michael A. Lewis & Gerard George, "Are public-private partnerships a healthy option? A systematic literature review", in *Social Science & Medicine*, 113, 2014, 110-19.

<sup>67</sup> "Harambee Prosperity Plan", 28-30.

<sup>68</sup> *Ibid.*, 30.

<sup>69</sup> "Integrated Water Resource Management Plan for Namibia", 27.

investments and requirements over the past years exceeds the scope of this paper. It has proven rather challenging to easily ascertain both overall as well as specific costs for water infrastructure and supply as well as operational costs. Nevertheless, some observations can and should be made regarding finance of the water sector.

Publicly available cost estimations for various water and sanitation components have diverged significantly. In addition it is seldom clear what exactly cost estimations entail. Media reports cite various figures announced by senior civil servants or politicians often with the vague reference to on-going and planned projects. It is also not always clear if costs mentioned relate to just new or also include rehabilitation and maintenance of existing infrastructure. Overall it seems that most cost quoted are very broad with the aim of meeting current as well as medium-term needs with regards to water supply and sanitation countrywide. What is remarkable is that roughly comparable figures to meet planned water infrastructure needs have ballooned significantly over the past five years. The IWRM plan published in 2010 provides a fairly detailed cost table based on water and sanitation targets for Namibia according to Vision 2030 and the Millennium Development Goals (MDGs). While targets slightly diverge deepening on the document or plan it is safe to say that Namibia aims for no less than 100% potable water supply and 80% for total sanitation coverage by 2030. Taking into account national budget provisions for water infrastructure from 2008/09 (N\$93 million) the estimated investment gap constitutes just under N\$ 2.8 billion.<sup>70</sup> In 2012, two years later, the media cites a figure of N\$ 14 billion announced by the MAWF at the 'Namibia Water Investment Conference'. The funds were intended to finance 300 planned infrastructure projects including rehabilitation and upgrading of existing infrastructure.<sup>71</sup>

Surprisingly this figure nearly doubles four years later. During a recent Cabinet briefing on the water situation MAWF Deputy Permanent Secretary Abraham Nehemia cited the estimated cost of N\$ 24 billion for on-going and current projects.<sup>72</sup> High maintenance costs, in addition with the depreciation of Namibia's currency, probably accounts for part of the considerable rise in the total cost estimate since 2010. Nevertheless, the accuracy of these spiralling cost estimates is doubtful.

As the one and only bulk water supplier in the country NamWater should and does play an important role in managing and expanding national water infrastructure. The utility is mandated to operate on a cost-recovery basis in an attempt to cover the full cost of bulk water supply. But as many observers have pointed out over the years since the SOE's creation in 1997 this has proven both administratively and politically challenging.<sup>73</sup> As the discussion on decentralisation illustrates many

municipalities, local authorities and rural customers have and continue to struggle to pay for water supply.

Various water experts and economists have over the years pointed out that much of the country's water infrastructure is old and often in poor condition. It is noticeable that many of the 'supply infrastructure development' projects mentioned over the past years in NamWater's Annual Reports are not new but concern rehabilitation and maintenance work. The latest Annual Report from 2015 notes that significant funds are required to replace old infrastructure, stating: "the corporation requires funds in excess of N\$ 5 billion to maintain the capacity to supply its existing customers."<sup>74</sup> It is unfortunate that overall the Annual Reports summary provide only limited information. In particular cost breakup graphs are extremely basic and past annual financial categories and figures are sometimes contradictory from report to report. The 2014 report contains information on a five year maintenance plan totalling around N\$ 40 million to address the maintenance backlog.<sup>75</sup> No mentioning is made of this plan and its progress in the 2015 report.

According to the media some government officials have recently expressed the vision of pumping potable water across Namibia to areas most in need. This year information surfaced that GRN has also expressed interest in providing water to Botswana in the long-term. It is not at all clear if this vision constitutes official policy or if it has even been explored properly. Water and engineering experts have noted that both the financial and technical obstacles to such a vision are tremendous. For example dedicated costing for a 1.8 meter diameter steel pipeline running from the coast to the central area has been put at no less than N\$ 6.7 billion. This figure excludes pumping stations, the associated desalination plant and running costs.<sup>76</sup> In turn the cited largest challenges to the construction of a desalination plant are the initial high cost of construction and high operational energy requirements. As a result desalinated water per cubic meter (m<sup>3</sup>) is very costly. According to figures published in NamWater's 2015 Annual Report the corporation paid around N\$ 204 million and in turn sold just over 4.2 million m<sup>3</sup> of "potable desalinated water". This translates into around N\$ 48 per m<sup>3</sup> in comparison the bulk water supplied to the CoW comes at a cost of N\$ 17.77 per m<sup>3</sup>.<sup>77</sup>

The other alternative for supply augmentation envisions the tapping of the Okavango River availing bulk water supply via a pipeline to the northern regions all the way to central Namibia. Detailed costing analysis of such a supply system estimate the total construction cost of such a project at N\$ 9.6 billion. This figure would include pump stations, engineering oversight and necessary power infrastructure upgrade.<sup>78</sup> The Okavango option could also prove highly controversial with neighbouring countries that share the river watercourse.

<sup>70</sup> "Integrated Water Resource Management Plan for Namibia", 4-5.

<sup>71</sup> Namibian Sun, "Rural sanitation a big challenge – Mutorwa", September 14, 2012. <http://www.namibiansun.com/content/agri/rural-sanitation-big-challenge-%C3%A2%E2%82%AC%E2%80%9C-mutorwa>

<sup>72</sup> Ndanki Kahiurika, "N\$2b needed to bring water to Windhoek", The Namibian, June 9, 2016. [http://www.namibian.com.na/N\\$2b-needed-to-bring-water-to-Windhoek/41510/read](http://www.namibian.com.na/N$2b-needed-to-bring-water-to-Windhoek/41510/read)

<sup>73</sup> Sherbourne, 297-8.

<sup>74</sup> Namibia Water Corporation Ltd, "Annual Report 2015", 20.

<sup>75</sup> Namibia Water Corporation Ltd, "Annual Report 2014", 36.

<sup>76</sup> Upper Swakop Basin Management Committee, Public discussion event, June 22, 2016.

<sup>77</sup> Namibia Water Corporation Ltd, "Annual Report 2015", 22 & 26.

Given the significant financial outlays involved it is unavoidable for government to explore alternative funding options for at least part of the water and sanitation infrastructure needs. The PPP approach discussed earlier and actively supported by GRN is one such approach. Two researchers from the University of Greenwich, David Hall and Emanuele Lobina, have published a very interesting and critical analysis of global finance and funding for water and sanitation infrastructure utilising primarily financial data. They argue that, within the water sector, the donor- advocated PPP model relying on private capital is neither attractive to the private sector nor more beneficial compared to public finance.<sup>79</sup> Firstly they argue that there exists no prior best-practice example for private finance, noting that developed countries historically funded their water infrastructure with public finances utilising taxation and continue to do so.<sup>80</sup> Secondly, they state that the approach has so far failed in garnering significant amounts of private capital suggesting it is seen as a 'high risk, low-return' scenario by private business. Finally they refute the assertion that private funding is critical arguing that most developing countries could finance water infrastructure needs through public funds.<sup>81</sup> The researchers conclude:

"Donors should stop encouraging countries to try to finance development of sewerage systems through cost recovery from users, and stop encouraging countries to believe that the private sector will make any significant contribution to investment in sanitation. They should instead help countries to build the taxation capacity needed to finance this investment, and focus aid on the countries in greatest need of assistance."<sup>82</sup>

Hall and Lobina's study published in 2012 dismisses potential public funding shortfalls in developing countries due to economic slowdowns. Given the current uncertainties of Namibia's economic performance this might have not been a realistic assessment. Nevertheless, their study should not be disregarded. Astute observers of Namibia's recent and current government budgets, including numerous economists have noted repeatedly and with growing concern that GRN consistently spends large amounts on the military, new public office buildings and ineffective SOEs, amongst others while neglecting critical sectors such as water and energy.

Conversely there seems to be a tentative trend of local businesses, particularly in the central area to seek ways to minimise their dependency on water supplied by the state by making contingency plans such as optimising water use, procuring large potable water tanks and drilling private boreholes.<sup>83</sup>

Government, in the current Medium-Term Expenditure Framework (MTEF) has in its development budget made provisions for water infrastructure construction. In the current financial

year government has allocated around N\$ 1.2 billion primarily for the on-going Neckartal Dam, rural water pipeline construction and the government Green Scheme.<sup>84</sup> Furthermore, the MTEF has set aside N\$ 688 million for the Windhoek Aquifer recharge project to be spent over a period of two financial years 2017/18 – 18/19.<sup>85</sup> In addition government has allocated N\$ 3.6 billion for a "bulk water supply" project intended to realise the water augmentation of the central area from the Okavango River. However, the first funds towards this project, around N\$ 156 million will only be made available in 2018/19. While these budget allocations are positive, only limited finance has been allocated in this fiscal year. The total allocated funds in the MTEF are also far from meeting the purported N\$ 24 billion required.

## External Political Factors

The public discussions and debates around the water supply and sanitation sector are dominated by technical, financial and economic considerations. This is understandable considering the professional background of many people involved in the sector. This circumstance, however, can and does obscure other issues and debates that are pertinent when it comes to understanding the workings and obstacles within the sector. These factors can be roughly defined as being social or political in nature rather than specific to water. Moreover, they tend to have little to do with water per se but are complex and often hidden aspects that arguably play a large role in the governance of Namibia. These aspects are often sensitive and barely researched and therefore this section will only touch upon some of them - the intention being to stimulate a wider and more honest debate about these factors.

While researching the water sector it is noticeable that many water experts are frustrated with the seeming inability of policy makers and politicians to take major decisions for which they feel that, from a technical perspective at least, there exist clear guidance and recommendations. Yet, high political appointees in general have to deal with a whole range of regional and national challenges. Water supply and sanitation take their place among many sectors that require urgent attention. Poverty, unemployment, lack of affordable housing and land to name but a few are all high on the agenda and it should be therefore come as no surprise that many institutions and senior decision makers are likely overwhelmed and find it increasingly challenging to prioritise and budget. Considering Namibia's development status, the proposition can safely be made that the HPP is a very ambitious plan and it is plausible that current governance capacity will not be adequate for its implementation.

Some observers of water issues in the country have also noted privately that senior technical and engineering staff and con-

<sup>78</sup> Upper Swakop Basin Management Committee, Public discussion event, June 22, 2016.

<sup>79</sup> David Hall & Emanuele Lobina, "Financing Water and Sanitation: Public realities", March 2012, 3.

<sup>80</sup> Ibid., 4-6.

<sup>81</sup> Ibid., 7-9 & 13-14.

<sup>82</sup> Ibid., 18.

<sup>83</sup> James Cumming, Andre Kuschke & Indileni Nanghonga, "The economic effects of a water shortage in Central Namibia", September 18, 2015, 6.

<sup>84</sup> Rowland Brown, 9.

<sup>85</sup> Ibid., 11 & 18.

sultants often find it hard to have a candid discussion on water issues at higher institutional levels which often place more emphasis on political and diplomatic acumen rather than purely technical professional ability.

The process of decision-making within government and government institutions in Namibia should also be scrutinised more critically. Apart from being subjected to cumbersome and often ineffective bureaucratic review and approval processes, the culture of many ministries often seems to discourage civil servants from proactively exploring and implementing practical problem-orientated solutions. The multi-layered, complicated organisation of the civil service structure and the segmentation and sharing of roles and responsibilities with many SOEs also makes it difficult to address sector issues in a harmonised, persistent and coherent way. Moreover, senior staff operating in such a structure might find it easier to defer critical decisions or push them to another institution to avoid potential blame. Finally, easy freshwater access is something that many middle-income and higher-income groups in the country take for granted including policy and decision makers. Much of the physical infrastructure is located out of sight. Local authorities and municipalities seek to sustain water supply as long as possible and only tentatively introducing WDM measures. Hence, overall water shortage situations do not really affect people's lives unless they turn into crises or directly affect sectors like farming or water-intensive industry. Poorer segments of society who feel the brunt of water shortages much earlier tend to have fewer chances to voice their grievances and are more easily ignored by decision-makers. It is clear that apart from managing water resources more sensibly there needs to be a change in mind-set among many citizens with regards to the use of this precious resource.<sup>86</sup>

## Conclusion & Recommendations

Governance challenges within the water sector are many and multi-faceted. Similar to other sectors in Namibia water and sanitation is hampered by poor implementation of overall sound if ambitious policies. This is the result of a combination of factors including severe underinvestment, limited capacity and technical skills, poor coordination among stakeholders and weak regulation and enforcement.

It is imperative for Namibia's long-term positive and sustainable socio-economic development that these issues are addressed progressively and constructively. Mistrust and lack of communication between public institutions, the private sector and the general public severely limits problem-solving approaches. Schisms between technical experts and policymakers need to be breached as a matter of urgency. Besides vital technical and environmental considerations it is equally important that stakeholders commit to engage on the complex issue of water resource management in a far more open, sober and frank dialogue. Following is a list of suggest recommendations which are not exhaustive but nevertheless vital:

- Government should finalise and promulgate all regulations for the Water Resources Management Act No. 11 of 2013 to ensure that the provisions in the Act are compliant with the law and legally binding
- MAWF should officially establish key governing institutions: the Water Advisory Council, the Water Regulator and the Water Tribunal as outlined in the 2013 Act
- Government should revive, endorse and implement the IWRM plan
- Government should make provisions for and fast-track finance for key water infrastructure projects, including the rehabilitation and modernisation of existing infrastructure
- Government and stakeholders should realistically explore funding models for long-term water and sanitation infrastructure needs
- Government and stakeholders should initiate a transparent, multi-sector and holistic dialogue regarding the water sector, taking into account national development goals such as industrialisation and agriculture schemes and threats particular climate change and pollution
- Both public and private entities should place more emphasis on WDM and ensure that environmental sustainability is actively pursued

This paper has sought to provide a broad yet critical overview of the water and sanitation sector situation in which the country finds itself after 26 years of independence. Perversely, the current water crisis in the central area of Namibia could actually lead to positive long-term development within the water sector which has in the past often been side-lined by other development considerations. Establishing and realising funding models for new water infrastructure as important as it is, should go hand-in-hand with a critical and open reflection of national socio-economic goals with respect to the water situation. The GRN cannot and should not be responsible alone for addressing the multitude of water resource management issues in the country. Indeed, all citizens need to rethink their attitude and activities with regards to their use of this precious resource.

<sup>86</sup> Examples of international, academic discourse on similar issues mentioned in this section see: Geeta, Gandhi Kingdon, *et al.* "A rigorous review of the political economy of education systems in developing countries", April 2014; Douglass North, Daron Acemoglu, Francis Fukuyama & Dani Rodrik, "Governance, Growth and Development Decision-making", April 2008.

## Bibliography

- Barnes, Jon, "Water related policies and institutions: Namibia", Food and Agricultural Organisation of the United Nations, February 2012, 3. [http://www.fao.org/nr/water/docs/okavango/CBR8\\_InstitutionalMappingNAM.pdf](http://www.fao.org/nr/water/docs/okavango/CBR8_InstitutionalMappingNAM.pdf).
- Bethune, Shirley and Oliver C. Ruppel, "Water and Fisheries Related Statutory Law and Policy in Namibia" Ch. 11, in Environmental Law and Policy in Namibia, Oliver C. Ruppel and Katharina Ruppel-Schlichting (eds.), 3rd Edition, 2016, 159-71.
- Brown, Rowland, "Fiscal Sustainability and Growth: A Difficult Balancing Act", Democracy Report, Institute for Public Policy Research. April 2016.
- Cloete, Luqman and Ndanki Kahiurika, "Neckartal construction starts amid water challenge", The Namibian, February 2, 2014. <http://www.namibian.com.na/index.php?id=119562&page=archive-read>
- Cumming, James, Andre Kuschke & Indileni Nanghonga, "The economic effects of a water shortage in Central Namibia", Simonis Storm Securities, September 18, 2015.
- European Commission, "Namibia Sanitation Situation Analysis Report", 2nd Draft, April 2009.
- Falk, Thomas, "Governance of Rural Water Supply in Namibia", in Environmental Law and Policy in Namibia, Oliver C. Ruppel and Katharina Ruppel-Schlichting (eds.), 3rd Edition, 2016, 174-5.
- Grindle, Merilee S., "Good Enough Governance Revisited", DFID, February 2005. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/events-documents/1281.pdf>
- Hall, David & Emanuele Lobina, "Financing Water and Sanitation: Public realities", PSIRU University of Greenwich, March 2012.
- Heyns, Piet, "Water institutional reforms in Namibia", in Water Policy, 7, 2005, 89-106.
- Legal Assistance Centre / Mills International Human Rights Clinic, Stanford Law School, "Not Coming Up Dry: Regulating the Use of Namibia's Scarce Water Resources by Mining Operations", 2009.
- Kahiurika, Ndanki, "N\$2b needed to bring water to Windhoek", The Namibian, June 9, 2016. [http://www.namibian.com.na/N\\$2b-needed-to-bring-water-to-Windhoek/41510/read](http://www.namibian.com.na/N$2b-needed-to-bring-water-to-Windhoek/41510/read)
- Kajimo-Shakantu, Kahilu, Lukas Kavela & Winston Shakantu, "Applicability and constraints of delivering water infrastructure via public private partnership", in Procedia - Social and Behavioral Sciences, 119, 2014, 867 – 76.
- Mapaure, Clever, "Water Wars: Legal Pluralism and Hydropolitics in Namibian Water Law", 2009. <http://www.wisis.unam.na/theses/mapaure2009.pdf>
- Ministry of Foreign Affairs, The Netherlands, "Public-Private Partnerships in developing countries: A systematic literature review", IOB Study, No. 378, April 2013.
- Muraranganda, Elvis, "N\$24 billion needed to solve water shortage ...Geingob says situation is scary", New Era, June 8, 2016. <https://www.newera.com.na/2016/06/08/n24-billion-needed-solve-water-shortage-geingob-situation-scary/>
- Namibia Water Corporation Ltd, "Annual Report 2015".
- Namibia Water Corporation Ltd, "Annual Report 2014".
- NamibianSun, "Rural sanitation a big challenge – Mutorwa", September 14, 2012. <http://www.namibiansun.com/content/agri-rural-sanitation-big-challenge%C3%A2%E2%82%AC%E2%80%9C-mutorwa>
- New Era, "Water crisis: How did we get here?", June 10, 2016. <https://www.newera.com.na/2016/06/10/water-crisis-here/>
- Roehrich, Jens K., Michael A. Lewis & Gerard George, "Are public-private partnerships a healthy option? A systematic literature review", in Social Science & Medicine, 113, 2014, 110-19.
- Shaanika, Helvy, "Ohangwena aquifer Namibia's best water backup plan", New Era, June 21, 2016. <https://www.newera.com.na/2016/06/21/ohangwena-aquifer-namibias-best-water-backup-plan/>
- Sherbourne, Robin, "Guide to the Namibian Economy 2013/14", Institute for Public Policy Research. October 2013.
- Springer, Marc, "Wassernot führt zu Tarifstreit", Allgemeine Zeitung, Mai 9, 2016. <http://www.az.com.na/lokales/wassernot-f-hrt-zu-tarifstreit.430981>
- Springer, Marc, "Wenn um Wasser gepokert wird", Allgemeine Zeitung, Mai 9, 2016. <http://www.az.com.na/lokales-kommentar/wenn-um-wasser-gepokert-wird.430977>
- Steffen, Frank, "Wassernot führt zu Sparzwang", Allgemeine Zeitung, August 1, 2016. <http://www.az.com.na/nachrichten/wassernot-fhrt-zu-sparzwang/>
- The Government of Namibia, "Development of an Integrated Water Resource Management Plan for Namibia: Review and Assessment of Existing Situation", August 2010.
- The Government of Namibia, "Gazette: No. 12 Namibia Water Corporation Act, 1997", No. 1703, October 10, 1997, 5.
- The Government of Namibia, "Gazette: No. 11 Water Resource Management Act 2013", No. 5367, December 19, 2013.



The Government of Namibia, "Harambee Prosperity Plan", April 2016.

The Government of Namibia, "Integrated Water Resource Management Plan for Namibia," August 2010.

The Government of Namibia, "National Water Policy White Paper", 2000, 19.

The Government of Namibia, "Namibia Second National Communication to the United Nations Framework Convention on Climate Change", July 2011.

The Government of Namibia, "Namibia Water Resource Management Review - Institutions & Community Participation: Theme Report", n.d.

The Government of Namibia, "Profile of Namibia: Facts, Figures and other Fundamental Information", 2013. <http://cms.my.na/assets/documents/p19dpmrmdp1bqf19s2u8pisc1l4b1.pdf>

The Government of Namibia, "Water Supply and Sanitation Policy", July 2008.

Tjihenuna, Theresia, "Windhoek still ignores water restrictions", The Namibian, July 21, 2016. <http://www.namibian.com.na/Windhoek-still-ignores-water-restrictions/43239/read>

Töttemeyer, Gerhard, "Decentralisation and State-building at the Local Level" in *State, Society and Democracy: A Reader in Namibian Politics*, Christiaan Keulder (ed.), this Edition 2010.

Upper Swakop Basin Management Committee, Presentation "City of Windhoek: Drought Response Plan", June 22, 2016.

Weatherman, Neil, "Water crisis, We should be concerned", Windhoek Observer, May 26, 2016. <http://www.observer.com.na/opinions/6249-water-crisis-we-should-be-concerned>

Weidlich, Brigitte, "Go PPP Go", Insight Namibia, April 2016, 21-2. Werner, Wolfgang, "Integrated Land and Water Management: Policy and Institutional Issues", CuveWaters Papers, No. 1, October 2007.

Willoughby, Robin, "Moral Hazard? 'Mega' public-private partnerships in African agriculture", 188 Oxfam Briefing Paper. September 1, 2014, 15.







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