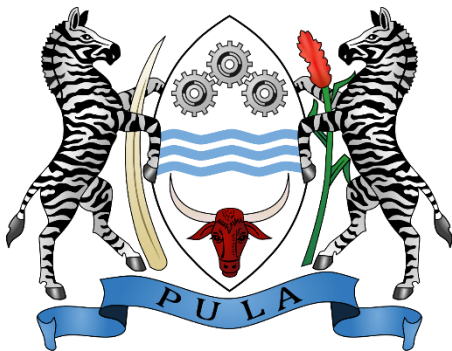


BOTSWANA - USING NCA DATA TO INFORM SECTORAL POLICIES/STRATEGIES AND MONITOR SDGs

Thursday, February 25, 2021

Water Accounts

Water Accounting Unit
Department of Water and Sanitation
Tel: (+267) 3607100
Email: obpule@gov.bw / dwsinfo@gov.bw



Republic of Botswana



PRESENTATION LAYOUT



Background/ Trend of results



Summary of policy messages



Linkage to ongoing water sector strategies



SDG 6 Applications



Conclusion

Background:

Why Water Accounts?

- **Why?**

- Botswana water supply is variable
- Water accounts help to understand how water is being used, and how this use is changing over time.
- For predicting future water needs
- Assessing impacts of water use:
 - water quality
 - economic changes which might result from reallocations of water

- **Policy relevance:**

- National Development Planning (NDP11) & National Vision 2036
- Water resource management and resource allocation
- Sector planning (e.g. mining, agriculture, tourism and economic diversification)



Background: Towards institutionalisation

- **May 2012: the Botswana Economic Advisory Council (BEAC) prioritized the up-dating and elaboration of water accounts**
 - The country was experiencing serious water shortage due to low rainfalls and complex distribution of water after the water sector reforms (Water accounting: water scarcity, to better assess the availability, uses, and economic contribution of water)
- **DWS with technical assistance from Centre for Applied Research started the WAVES Water Accounting Project:**
 - **Phase 1** (September – November 2012): preliminary account construction and analysis;
 - **Phase 2** (December 2012 – June 2013): elaboration of the water accounts and plans for institutionalization of water accounts at DWS,
 - **Phase 3:** (July 2013 – June 2016): up-dating, expansion of water accounts and integration of results into National Development Plan (NDP) 11.
 - **Beyond June 2016:** Full institutionalization within DWS, annual production of SEEA styled water accounting reports

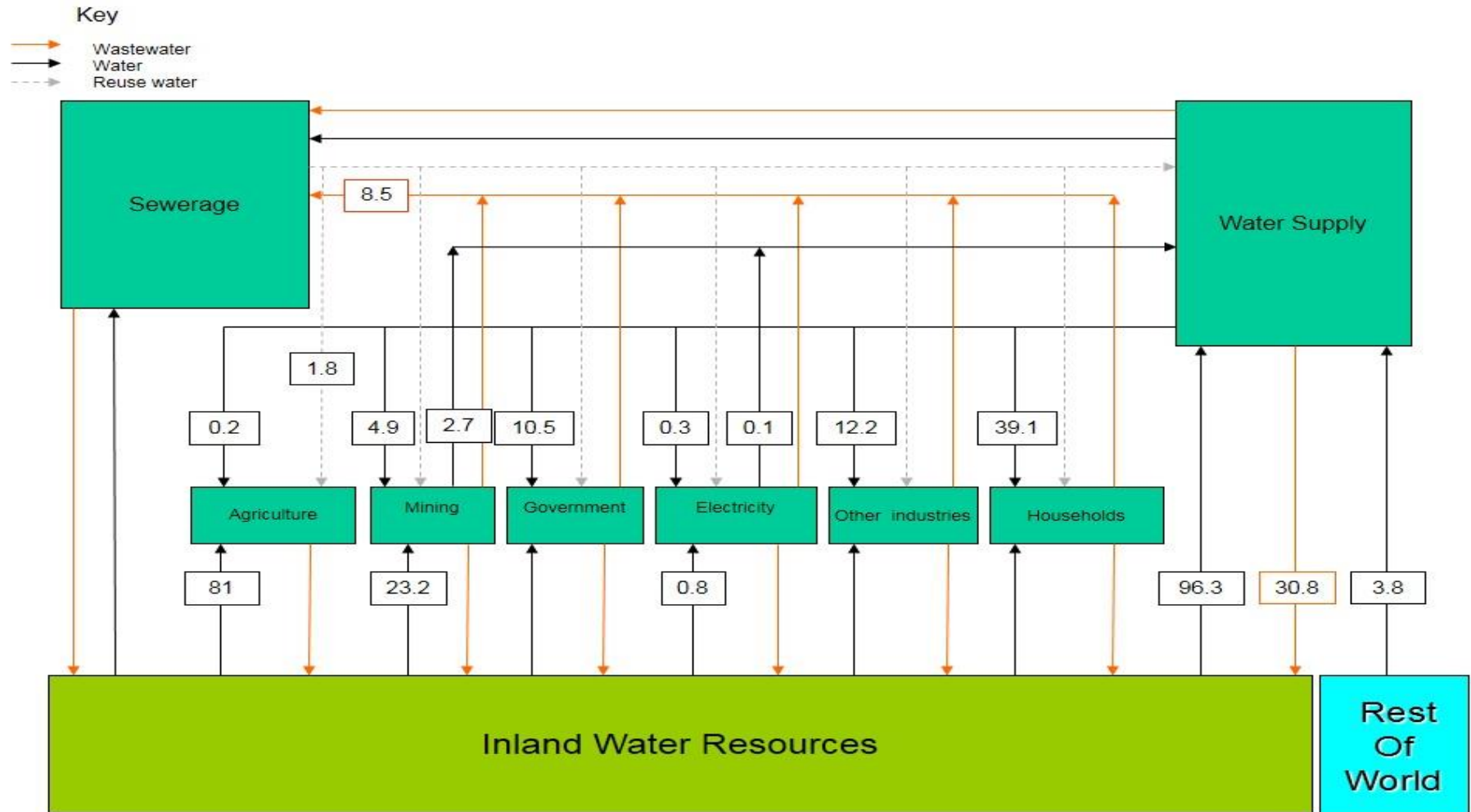


Trend of results: Tangible products

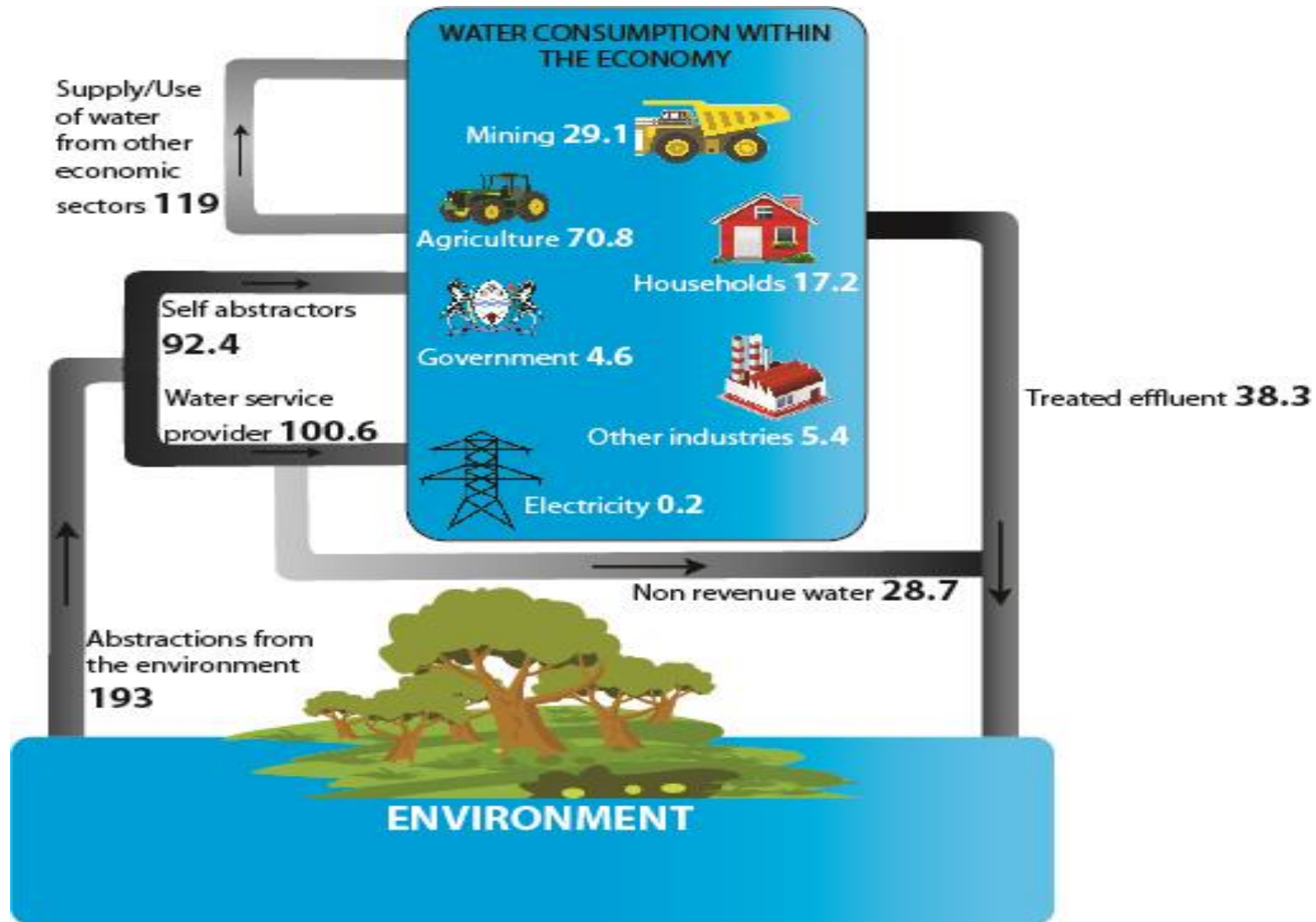
- **Total of six (6) SEEA styled water accounting reports covering the period 2010 to 2019, long term series on water consumption 1990 to 2019**
- **Five (5) policy briefs**
- **Three (3) papers published**
- **Numerous case studies to address emerging challenges (Water rationing risks, House holds not connected to the potable water network, Soil moisture)**
- **Agricultural surveys done annually to optimized available data**

Sample of results (2015-2016)

Physical Supply and Use Diagram (MCM)



Sample of results (2016-17)



Sample of results (2018-19)

Physical supply and use table (MCM)

| Units (MCM) | | Agriculture | Mining and Quarrying | Electricity | WUC | Sewage | Government | Other Industries | Total industries | Households | Imports | Total |
|----------------------------------|---|-------------|----------------------|-------------|-------|--------|------------|------------------|------------------|------------|---------|-------|
| I. Physical use table | | | | | | | | | | | | |
| From the environment | 1. Total abstraction | 74.6 | 27.8 | 0.4 | 99.2 | 0.0 | 0.0 | 0.0 | 202.0 | 0.0 | | 202.0 |
| | 1i.Surface water | 22.1 | 2.2 | 0.0 | 71.3 | 0.0 | 0.0 | 0.0 | 95.6 | 0.0 | | 95.6 |
| | 1ii.Ground water | 52.5 | 25.6 | 0.4 | 27.9 | 0.0 | 0.0 | 0.0 | 106.4 | 0.0 | | 106.4 |
| Within the economy | 2. Use of water from other economic sectors | 2.0 | 10.8 | 0.1 | 8.5 | 40.1 | 11.2 | 13.1 | 85.8 | 41.9 | 0.0 | 127.7 |
| | 3. Total use of water (1+2) | 76.6 | 38.6 | 0.5 | 107.7 | 40.1 | 11.2 | 13.1 | 287.8 | 41.9 | 0.0 | 329.7 |
| II. Physical supply table | | | | | | | | | | | | |
| Within the economy | 4. Supply of water to other economic units | 0.1 | 7.6 | 0.2 | 77.3 | 1.8 | 5.8 | 6.8 | 99.5 | 21.7 | 6.5 | 127.7 |
| Into the environment | 5. Total returns | 0.0 | 0.0 | 0.0 | 29.8 | 38.3 | 0.0 | 0.0 | 68.1 | 0.0 | | 68.1 |
| | 6.Total supply of water (4+5) | 0.1 | 7.6 | 0.2 | 107.1 | 40.1 | 5.8 | 6.8 | 167.6 | 21.7 | 6.5 | 195.8 |
| | 7. Consumption (3-6) | 76.5 | 31.0 | 0.4 | 0.6 | 0.0 | 5.4 | 6.3 | 120.1 | 20.2 | -6.5 | 133.8 |

*Grey cells – Zero entries by definition



Summary of policy messages

| Finding from the accounts | Policy relevance/ Policy application |
|---|--|
| Optimized agriculture data e.g rainfed to irrigated water use | National Water Master Plan (NWMP) demand projections to reflect water required for food security. 2016 Water Policy has a chapter dedicated to water for agriculture |
| Wildlife water use estimates | Raw water abstraction and pricing strategy to reflect wildlife water needs within ecological water requirements |
| Under utilization of treated effluent (2/40 MCM used) | NMWP prioritizes treated effluent as an additional source of water |
| High per capita consumption within greater Gaborone | Water conservation and demand management strategy highlights demand management at the household level as a strategy to reduce future deficits |



Linkage to ongoing strategies

| Project/Study | Influence from Water Accounts Reports |
|--|---|
| Study on raw water abstraction and pricing strategy | Water use efficiency, rate of self abstraction and longterm time series |
| Demarcation of catchment management areas | Management of water at the community level, regionalisation of the accounts |
| Water conservation and demand management | Per capita water use and water allocation efficiency |
| Review of water related legislation | Flattening the curve on operational cost by the water service provider |

SDG 6 Applications

- Department of Water and Sanitation (DWS) is responsible for monitoring and reporting on (SDG) number 6 (Ensure availability and sustainable management of water and sanitation for all).
- The Water Accounts data directly addresses SDG 6.4(Water use and scarcity) on indicators 6.4.1(Change in water-use efficiency over time) and 6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources)
- Also used as a management instrument that support IWRM implementation (SDG 6.5.1)
- Data from accounts cover:
 - Agriculture/Services/Industries water use efficiency
 - Total fresh water withdrawals
 - Total renewable water resources



Conclusion

“The main objective of the water accounting process is to generate more credible information on natural capital for informed planning and policy decision making. The accounts are deemed to be a critical tool to assist and guide in issues of water allocation efficiency, monitoring of compliance to safe yields, create linkages with sustainable development goals and better decision making. The water accounts enable assessing water scarcity, to better assess the availability, uses, and economic contribution of water.” DPS – Dr O T Obakeng, WaterNet Symposium, Oct 2016



