



THE GLOBAL ENGINEERING CONFERENCE ON SUSTAINABLE
DEVELOPMENT AND WORLD FEDERATION OF ENGINEERING
ORGANISATIONS EXECUTIVE COMMITTEE MEETINGS.

15th - 18th October 2024, Kigali, Rwanda

Theme: Engineering Innovations for a Sustainable Future

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Achieving SDG 6: Ensuring Clean Water and Sanitation for All “Embedding Sustainable Water and Sanitation into Practices and Management: A Case Study of WASAC Group”

by

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PRESENTATION OUTLINES

- **Introduction to SDG 6**
- **Key Indicators and Targets of SDG 6**
- **Challenges to Achieving SDG 6**
- **Successful Rwanda Case Studies**
- **Strategies for Accelerating Progress**
- **Successful Rwanda Case Studies**
- **SDG 6.1 & 6.2: WASAC Group Case Studies**
- **Conclusion and recommendations.**

Introduction to SDG 6

- **SDG 6** seeks to ensure safe drinking water and sanitation for all, by 2030 focusing on the sustainable management of water resources, wastewater and ecosystems, and acknowledging the importance of an enabling environment.
- In the 2030 Agenda for Sustainable Development, countries have committed to engage in systematic follow-up and review of progress towards the Goals and targets, using a set of global indicators.



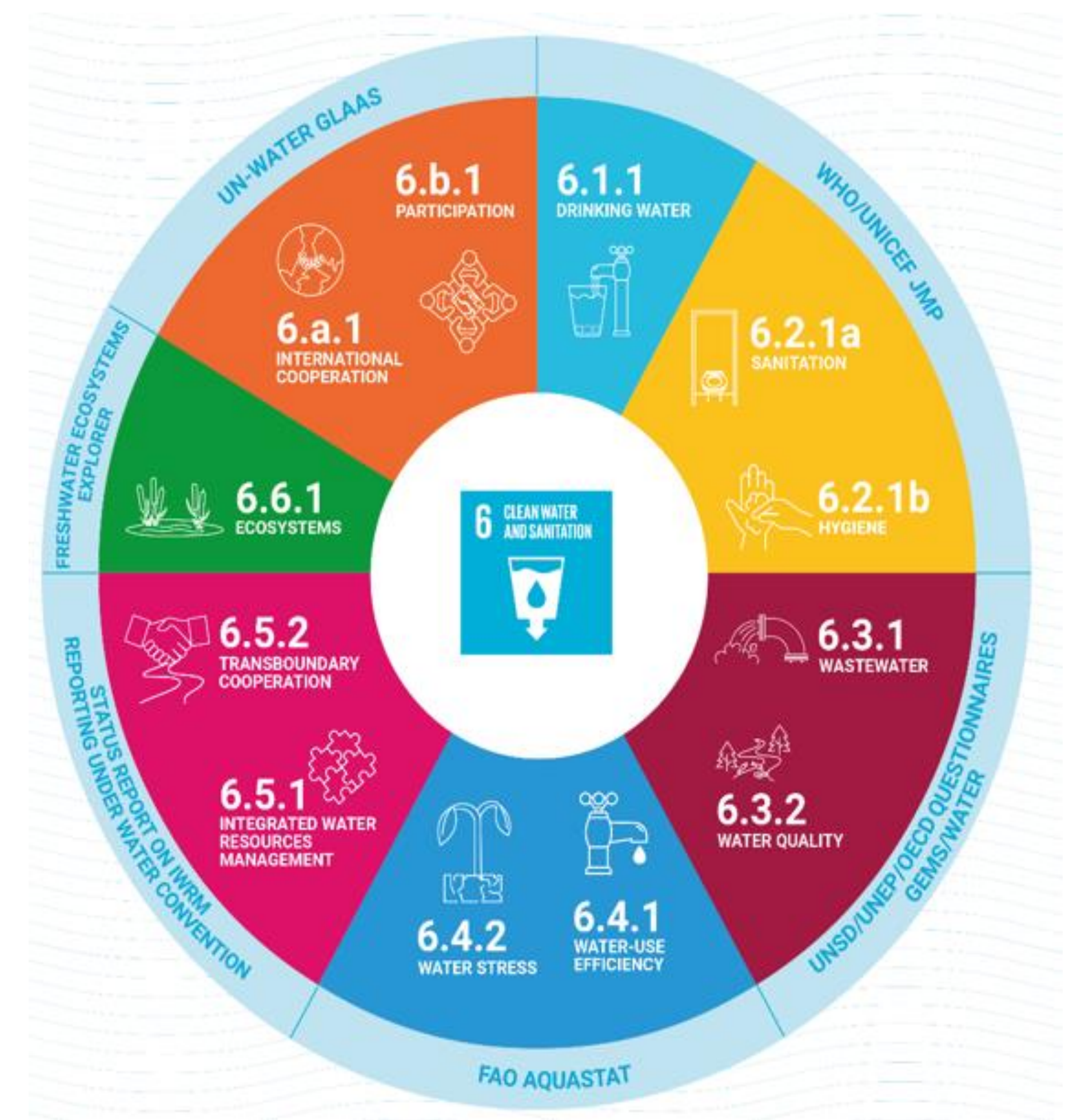
KEY INDICATORS AND TARGETS OF SDG 6

- **Indicator 6.1:** Achieve universal and equitable access to safe and affordable drinking water for all. So far in Rwanda 18.2% have water in their premises with a target of 50% in 2029 while 72% and 56% have access to basic water services in urban and rural, respectively. But in general, 82.3% households have access to improved sources of drinking water.
- **Indicator 6.2:** Achieve access to adequate and equitable sanitation and hygiene for all. In Rwanda 72% use unshared toilets but in general 92% have improved sanitary facility.
- **Indicator 6.3:** Improve water quality by reducing pollution and minimizing the release of hazardous chemicals.



KEY INDICATORS AND TARGETS OF SDG 6

- **Indicator 6.4:** Increase water-use efficiency and ensure sustainable withdrawals to address water scarcity (**RWB**).
- **Indicator 6.5:** Implement integrated water resources management (**RWB, REMA, WASAC Group, ...**).
- **Indicator 6.6:** Protect and restore water-related ecosystems (lakes, rivers, wetlands) (**RWB & REMA, RFA**).



Challenges to Achieving SDG 6

- **Water Scarcity:** Increased demand due to population growth, industrialization, and irrigation. To mitigate this WASAC Group developed a **water supply masterplan** whereby the demand is expected to be 850,000 m³/day by 2030 and projects to meet that demand are ongoing while others are in pipeline.
- **Pollution and Water Quality:** Contamination from industrial waste, agricultural chemicals, and untreated sewage.
- **Climate Change:** Changes in precipitation patterns, droughts, and floods impact water availability and quality.
- **Financing:** Insufficient investment in water infrastructure.



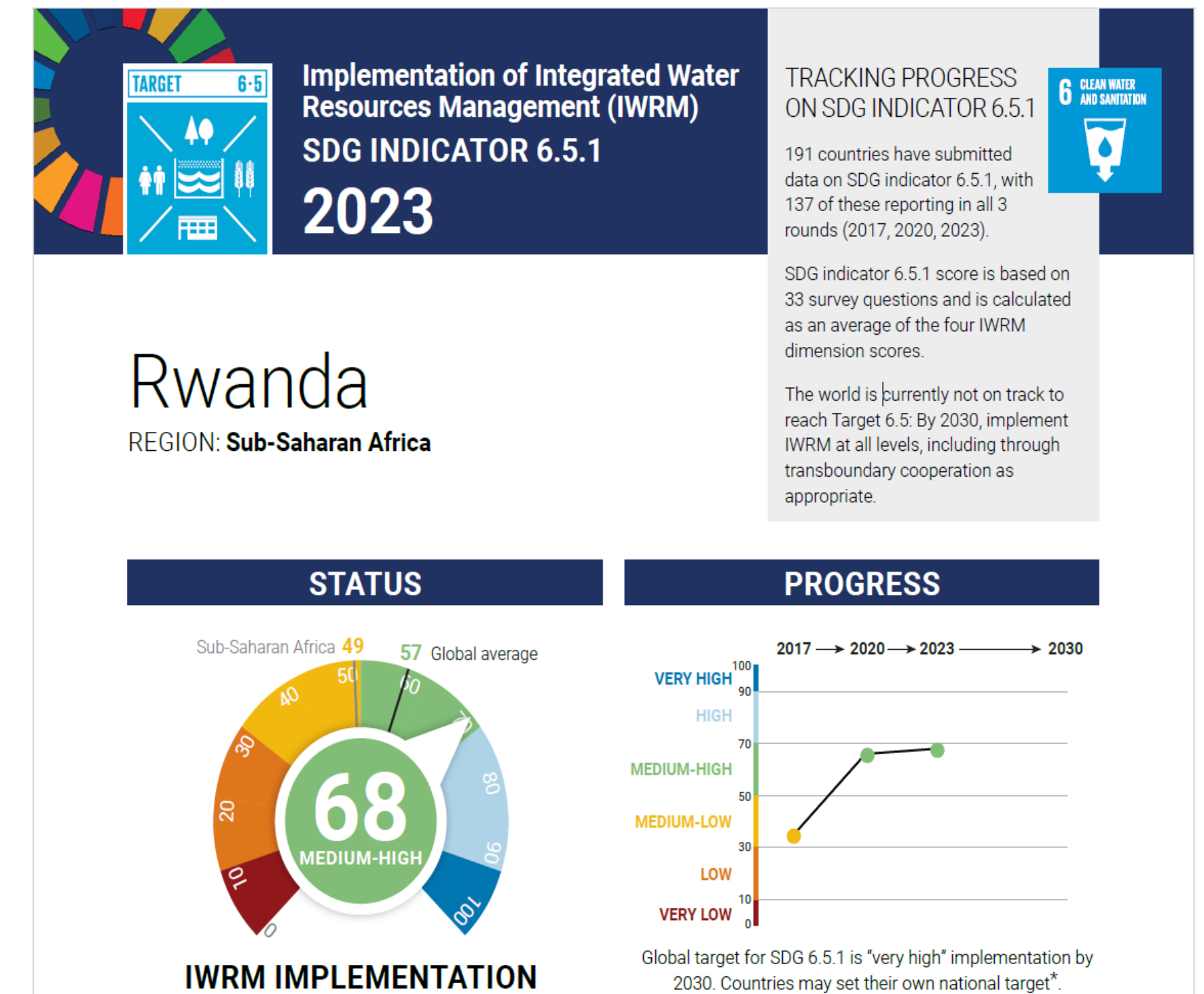
Strategies for Accelerating Progress

- To accelerate achievement of DSG 6 targets, **Rwanda invested** in integrated water resources management (**IWRM**) and multipurpose water infrastructure projects.
- One of the flagship project is **Muvumba Multipurpose Water Resources Development Program** aims to improve water, energy, food and nutrition security by availing water resources for irrigation (10,320 Ha), **domestic and livestock (50,000 m³/day)** and hydropower (Annual energy of 6,939 MWh), while ensuring sustainability of the water resources and **building resilience against climate change** and variability through catchment protection.



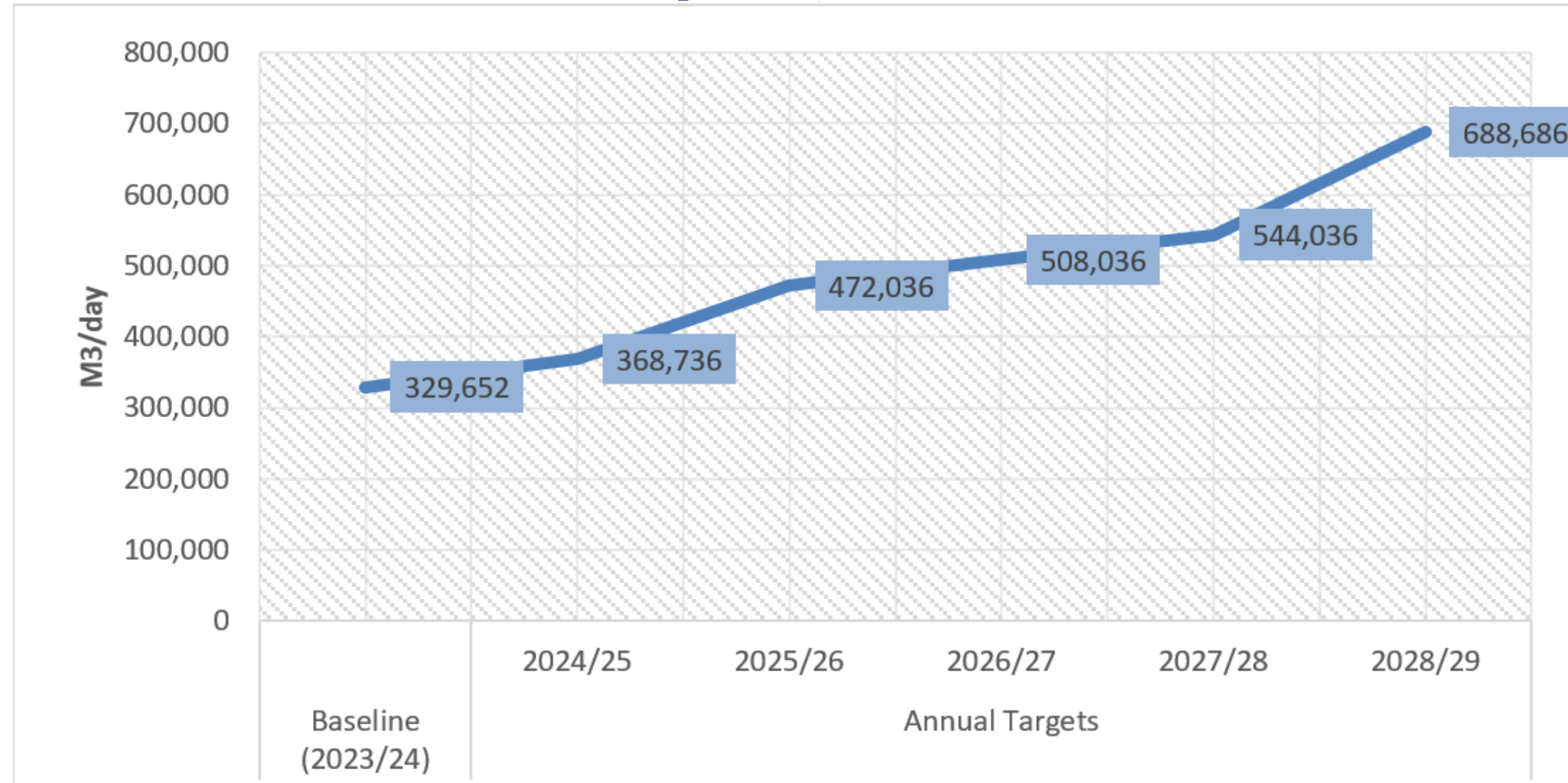
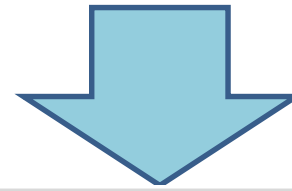
SUCCESSFUL RWANDA CASE STUDIES

- Holistic Rwanda's Integrated Water Resources Management (**IWRM**) strategies improving access and efficiency. The recent UN Water publication shows that National SDG 6.5.1 score is **68%** while the **Global coverage is 57%** and **49% in Sub-Sahara Africa**.
- Water and sanitation programs improving **safe water coverage** in urban (**96%**) and rural areas (**77%**), leading to public health improvements.

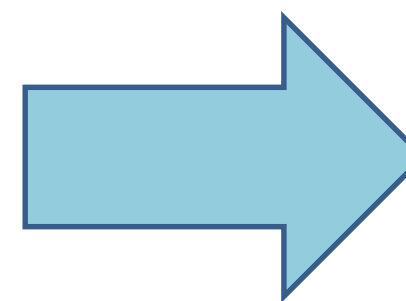


6. SDG 6.1: WASAC GROUP CASE STUDIES

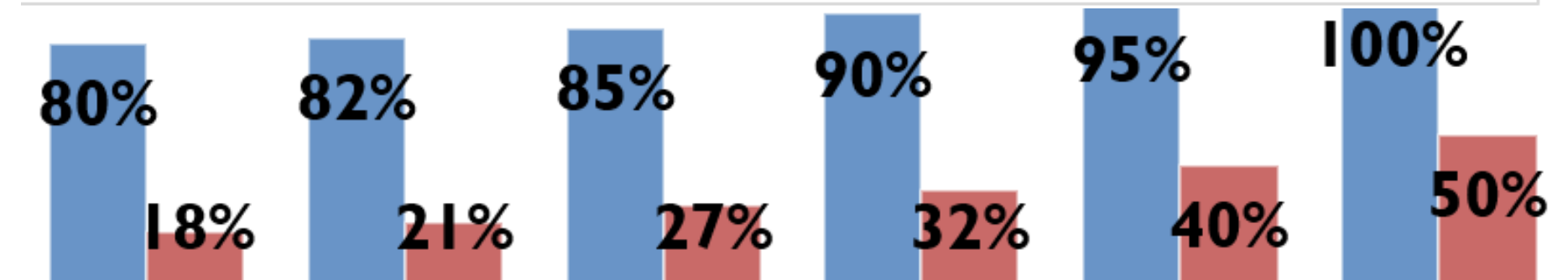
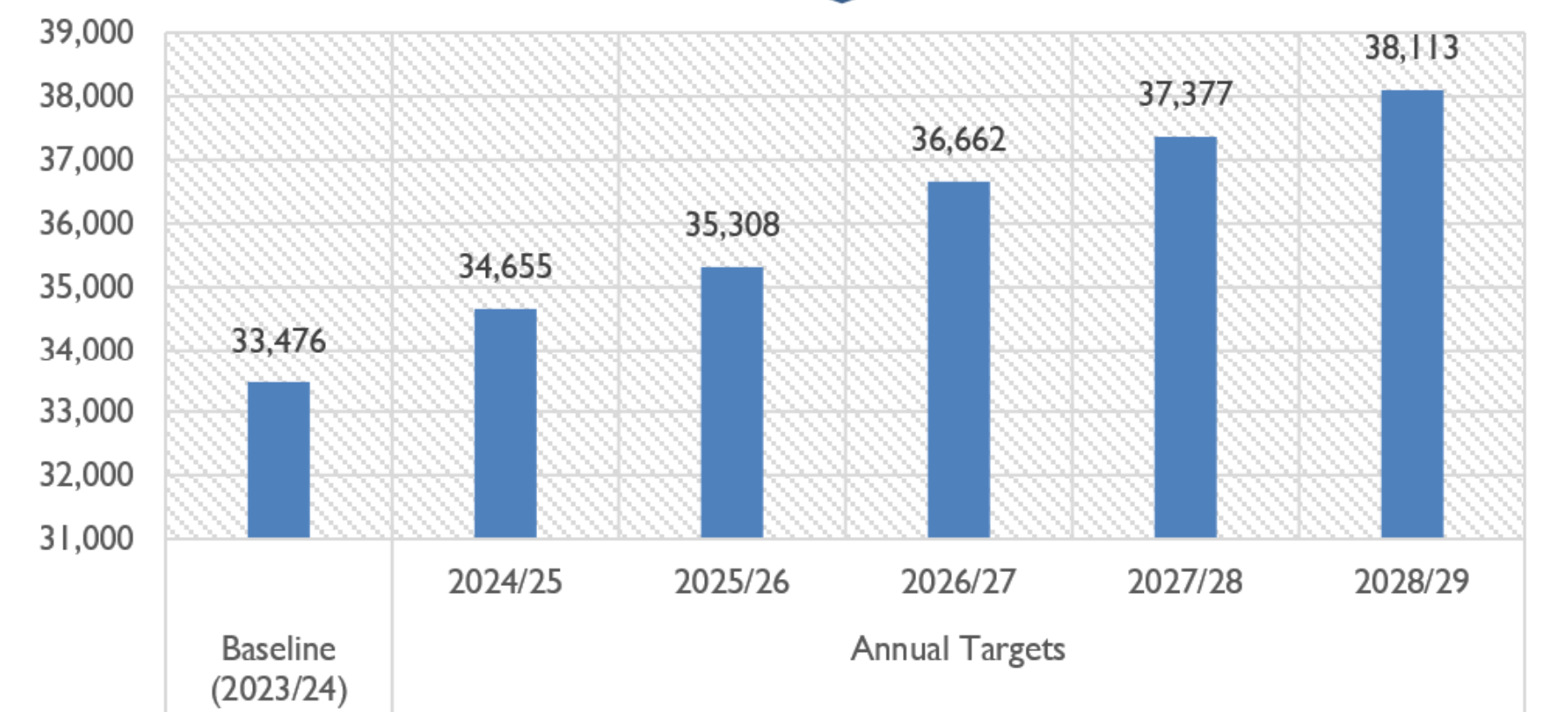
Daily water production will be increased (m3/day)



Increasing access to clean water



Water Supply network to be constructed



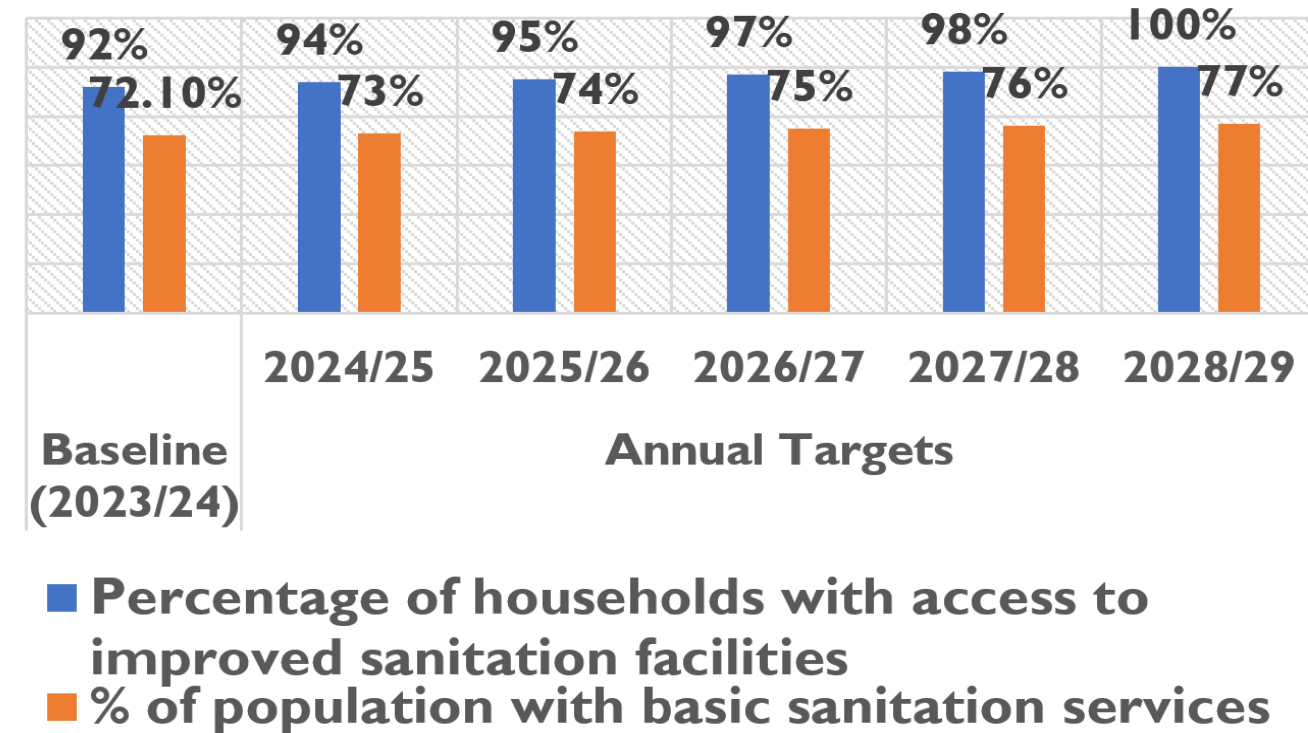
Percentage of villages with access to improved drinking water

Legend: ■ Percentage of villages with access to improved drinking water

6. SDG 6.2: WASAC Group Case Studies

Sanitation Infrastructure and Services

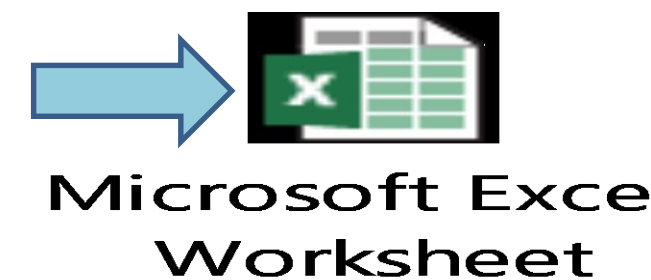
Household Sanitation is expected to Increase



Sewerage treatment capacity is expected to increase

- ▶ Construct **3 centralized sewerage systems** (Kicukiro, Gasabo and CBD) and **5 fecal sludge treatment plants** (Masaka and Musanze, Karongi, Rubavu and Rusizi Districts)
- ▶ Construct the **solid waste management facilities** for proper collection and disposal (5 modern landfills (Nduba, Bugesera,))

WatSan SSP Implementation Plan



Conclusion and recommendations

- Achieving SDG 6 is critical to global health, environmental **sustainability**, and economic development.
- **Requires a multifaceted approach**, including technological innovation, strong governance, and collaboration.
- Building water systems that are **resilient to the impacts of climate change**.
- **Equitable water access** by prioritizing the needs of vulnerable populations.
- **Everyone has a role to play**, from policymakers and businesses to individuals and communities, to secure clean water and sanitation for all by 2030





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