BLUE DEAL TANA NEWSLETTER

4rd Edition - November 2021

NOTE TO OUR READERS

This newsletter will be published every 4 months. It will inform you about the recent activities, planned events, meetings, and outputs of the project.

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ABSTRACTION AND POLLUTION SURVEY

The Blue Deal partnership (of Dutch Water Authorities and the Water Resources Authority (WRA)), focuses on improving quantitative water management in the upstream areas of the Tana River in Kenya. In the first phase of this partnership, the team is working together on drawing up water management plans and water allocation plans in sub catchments of the Upper Tana namely; Upper and Mid Thika. Special attention is paid to the required information about water availability and water users, and to improving data management by setting up water information systems. Recently an abstraction and pollution survey was conducted in the Upper Thika sub-catchment. It entailed the following:

- Undertaking inventory of current water users and establishing the level of compliance to water use, allocation and permit conditions
- Identifying all point and non-point polluters and effluent dischargers and establishing their level of compliance with EDCP
- Establishing water quality and quantity at different points by taking insitu water quality and discharger measurements respectively

- Identifying and georeferencing all abstraction points (surface water & ground water)
- Collecting water abstraction/ water demand data to assist in the development of a water allocation plan (WAP)

Borehole water storage facilities

Raw water master meters

Surface water Intake at Ruchu Girls School

The team labelling water samples collected

Measuring of surface water discharge

During the month of August two new Dutch resident members have joined the Blue Deal team. Peter de Koning will be stationed as Resident Project Manager (RPM) for World Waternet. From this position he will be project manager for the Dutch WaterWorX program and join the Blue Deal team as well. Joost Verbart joins the Blue Deal team as a Young Expert from World Waternet. We proudly introduce these new two team members to you.

Introducing Peter de Koning

I grew up in Assen (the Netherlands), and studied Civil Engineering at the Hanze University of Applied Sciences in Groningen. During my studies, I specialized in Harbours, Coastal protection and Dredging. Water has always been one of my major passions. Swimming, surfing or just looking at water flowing, that's what makes me happy. I participated in a traineeship at Boskalis, one of the world's most renowned dredging and maritime services company. Here, I gained my first international work experience.

I will stay in Kenya for three years. I hope that due to my constant presence here, together with Joost, I will be able to fully exploit the potential of knowledge sharing and capacity building between World Waternet and our Dutch and Kenyan partners whilst creating a tangible impact in water (resource) quality and availability for the people of Kenya.

Resident Project Manager (RPM) Peter de Koning -- Young Expert Joost Verbart

Introducing Joost Verbart

I grew up in Breda (the Netherlands) and after high school I decided to take a gap year and started volunteering in an orphanage in Malindi, a town lying on the coast of Kenya. It was a great and fulfilling experience working with kids and I always wanted to go back to Kenya one day. For my Master thesis, I got into contact with Waternet and World Waternet as I was looking for an interesting water-related research project in Africa. That is how I got to graduate on non-revenue water in Nairobi, specifically on where to install smart water meters in order to easily detect leakages. After graduation I started working as a technical assistant teacher at a high school. This was extremely fun, doing scientific experiments with kids to teach them more about chemistry and physics. The assignment of Sam Robroek, the previous Young Expert in Kenya,

was coming to an end. So that position opened up again and I immediately decided to apply. I was longing to return to Kenya, and this was an exceptional opportunity.

For two years I'll be in Kenya, working as Project Coordinator. Half my time is dedicated to the Blue Deal project with the Water Resources Authority (WRA) and the other half to the WaterWorX project with Nairobi City Water and Sewerage Company (NCWSC). I aim to be the linking pin between the Waternet and local experts, prepare short-term visits, conduct field visits and facilitate capacity building and sharing expertise. All this will contribute to providing more people access to clean and safe water, that is distributed equally for those how life upstream as well as downstream. On top of that, my goal is that two years from now I am fluent in Swahili. And, last but not least, I want to go back to Malindi and reunite with my Kenyan host parents and see if I can track down some of the kids I met at the orphanage eight years ago!

WORK VISIT TO KENYA

During the first week of September, members of the Blue Deal team from the Netherlands paid a visit to the Kenyan team.

The visit started with meetings at WRA HQ where the DWA team met with the CEO Mr. Mohammed Shurie, the Technical Manager, Mr. John Kinyanjui, and the resource mobilization manager, Mr. Joash Oruta. The progress of the Blue Deal activities, developments in water management in Kenya and priorities for 2022 were discussed.

Control room at WRA headquarters for WRA's Smart Metering Project

The work visit continued at the regional office in Embu. Special attention was paid to highlighting the progress made since the previous visit and explaining the relations between the Blue Deal and other projects of Dutch institutions with WRA. Afterwards, WRA presented the monitoring system in the basin and how this adds data to the hydrologic model of the basin. The draft results of the A&P Survey were discussed with the team, which provided a good insight in availability of information and work methods used. Also, DWA demonstrated how to measure water levels with an app on a mobile phone, and explained how the use of this app can make monitoring of water levels easy, faster and more reliable. We aim to start a pilot project with this app in 2022.

DWA demonstrating the mobile water monitoring app

On the final day, the team visited the sub-regional office in Murang'a for a short meeting with the sub-regional manager Patricia Musau. The results of the abstraction & pollution survey were explained. The field visit was concluded with a joint discussion with representatives of the Upper Thika and Mid Thika WRUA's.


Meeting with Upper Thika and Thika Mid WRUA's

HYDROLOGICAL MODELLING

The modelling team has been working on the hydrological model WEAP. They finalized a 'Modelling approach' document, describing in detail the model requirements, data to be used, desired results among other topics. The most important components of the model are the rivers, elevation, soil type and land use, combined with meteorological data. Furthermore, the team included the water demands in the sub-catchments, reservoirs like Ndkaini and Sasumua and various transfer links.
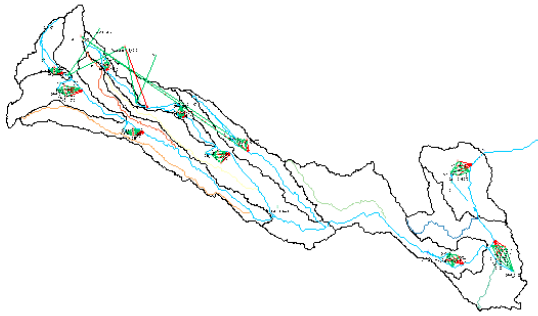
The next step in the modelling process was to conduct a sensitivity analysis. The purpose of this was to determine which model parameters have the most influence on the model results.

During the visit of the DWA team to Kenya in September, the modelling team gave presentations about the modelling work, and about the Monitoring plan as well.
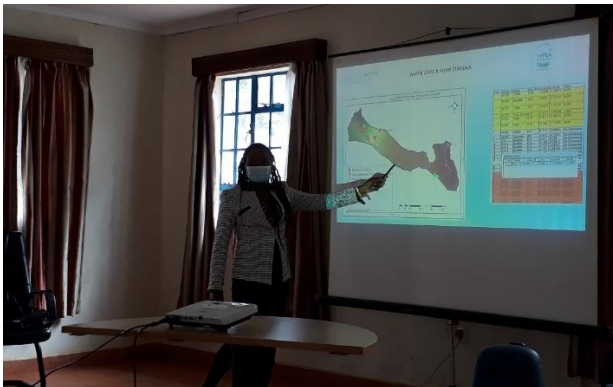
Lead modeler Pauline Nyamu (WRA) presenting the monitoring plan in Embu

Currently, the modelling team is finalizing the model calibration. The goal of the model calibration is to get a model that resembles the real river system as good as possible, by adjusting the model parameters. Once this is done, it is time to put the model to work and generate the results that are needed for the development of the Water Allocation Plan.