



**DUTCH WATER
AUTHORITIES**



BLUE DEAL TANA NEWSLETTER

2nd Edition - November 2020

NOTE TO OUR READERS

This newsletter will be published every 3 months. It will inform you about the recent activities, planned events, meetings and outputs of the project.

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BLUE DEAL PARTNERSHIP; AN UPDATE

The Blue Deal is a Dutch program to strengthen the three crucial elements of good water management: sufficient knowledge and expertise, a well-functioning organization and cooperation with key stakeholders. In Kenya the partnership between the Water Resources Authority and the Dutch Water Authorities, focuses on the Tana catchment (Thika river Mid & Upper). Main goal for the forthcoming years is to produce a Water Allocation Plan (WAP) for catchments Thika Mid and Thika Upper.

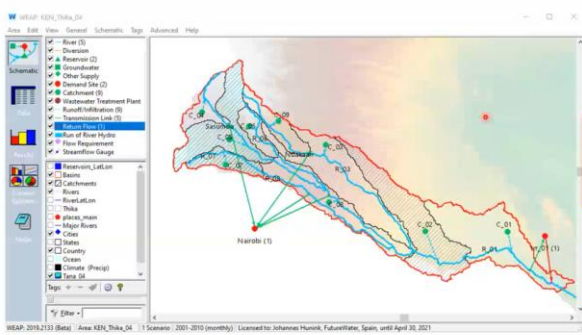
The collaboration in the past year has been very successful. Together, WRA and DWA have worked on the following aspects:

- Prepared an Action Plan for WAP development, based on WRA guidelines
- DWA have trained WRA staff on catchment delineation in GIS and hydrology and water resources management as well.
- A SWAT model for the Thika River was created to assess water resources availability, estimate actual abstractions, and to create and improve water balances.

Together these steps provide the partnership with useful insights to continue working towards a new Water Allocation Plan that will address the water availability/scarcity and water allocation in Thika Mid and Thika Upper.

The Blue Deal project engaged Future Water Consultants to train the teams on application of WEAP model in water evaluation and planning. It's expected that this model will be of great significance while developing the Water allocation plan for Thika River system.

Enhancing the Thika-Chania WEAP model – pineapple irrigation



The image shows a screenshot of the WEAP (Water Evaluation and Planning) software interface. The main window displays a map of the Thika-Chania river system, with various nodes and links representing the water network. The interface includes a menu bar at the top, a toolbar on the left, and a list of simulation parameters on the right. A small inset image shows a person in a field, likely related to the agricultural context of the model. The bottom of the screen features a video conference interface with several participants' video feeds and icons representing different roles or locations.

Figure 1: Workshop on how to use the WEAP model

INTRODUCING OUR YOUNG EXPERTS

Introduction YEP Program

The [Young Expert Program \(YEP\)](#) is an initiative of the Dutch Ministry of Foreign Affairs, Netherland Water Partnership, the food and business knowledge platform and the Netherland enterprise agency.

The main goal of the program is to offer young Dutch and local professionals the opportunity to take their first steps in an international environment. Additionally, YEP aims to rejuvenate the water and agrofood sectors and introduce innovation and networking opportunities and to contribute to the Sustainable Development Goals for water and food security.

Currently the BATCH 21 YEP'ers are drawn from several countries namely: the Netherlands, Afghanistan, Kenya, Ethiopia, South Africa, Myanmar, Malawi, Zambia, Ghana, Benin, Colombia, Burkina Faso, Vietnam, and Mali. All YEP'ers are participating in an online training that consists of a mix of training, coaching and mentoring for personal development, collective skills and networking and innovation.



Figure 2: YEP BATCH21 during an online training

Introducing Cloy, Pauline and Sam

Recently two local Young Experts from WRA have joined the YEP program and will be working for the Blue Deal partnership program. Sam Robroek, our Dutch Young Expert has already been working on this Blue Deal project as of September 2019.

Cloy Anyango Adero – Senior Community Development Officer, WRA

Job title: Stakeholder advisor

Role within the Blue Deal project: Stakeholder engagement and management



Pauline Nyamu – Surface Water Officer, WRA

Job title: Modelling expert

Role within the Blue Deal project: Hydrological modelling and the improvement of GIS infrastructure



TECHNICAL ANALYSIS: SWAT-MODEL



Figure 3: Augusta Wanjiku (Surface Water Officer at Embu regional office) participating in the WEAP training organised by the Blue Deal in collaboration with Future Water

Throughout September and November, the team as been intensively working on the soil and water assessment tool (SWAT) model and the water evaluation and planning system (WEAP) to improve information and the accessibility to data for proper decision making. With the above mentioned tools, it is possible to simulate and obtain more understanding of the water availability in the catchment area.

To make the team familiar with using the model, the first part of the training entailed a general introduction to hydrological modelling software, utilization and collation of data and examples from a practical experience in Kenya.

The second part of the training is taking place in October/November and will elaborate more on the practical use of the model for water allocation, permitting and planning. Several topics include, estimation of water demands and irrigation, water resources infrastructure, scenario analysis, climate change impacts, land management.

The knowledge and skills acquired during the trainings will later on be used to develop information that can be used as input for the water allocation plan.

STAKEHOLDER PARTICIPATION

WRA uses an integrated Water Resource management approach, thus Stakeholder participation is key in Water Resource Management activities and therefore an important part of creating a Water Allocation Plan. The first step to involve stakeholders is via the Abstraction and Pollution Survey. Whose main goal is to obtain accurate information on water abstracted and pollution point sources to enhance compliance to water resource management regulations. WRA team members will team up with WRUA members and other stakeholders and discuss their water abstraction from the Thika river.

Once all the technical analysis is combined with the stakeholder input a Water Allocation balance proposal will be written. This proposal will be intensively discussed in stakeholder meetings with all stakeholders present. Once the Water Allocation Balance proposal is verified a draft Water Allocation Plan can be written. The draft Water Allocation Plan will again be validated in stakeholder meetings.



Figure 4: Example of stakeholder engagement in WRM

CHARACTERISTICS OF WATER AVAILABILITY

Water availability in this catchment is seasonal and highly dependent on precipitation. In the months of March – May and October – December which are the rainy seasons, water availability is high and almost all the demand can be met. On the other hand the months of January, February, July, August and September experience low flows in the sub catchment hence water demand is hardly met in these months. Water use conflicts are on the rise during this season as

competition for water resources increases. The graph below illustrates the long term monthly average discharge for station 4CB04, on Thika River for the period between 1948 – 2015.

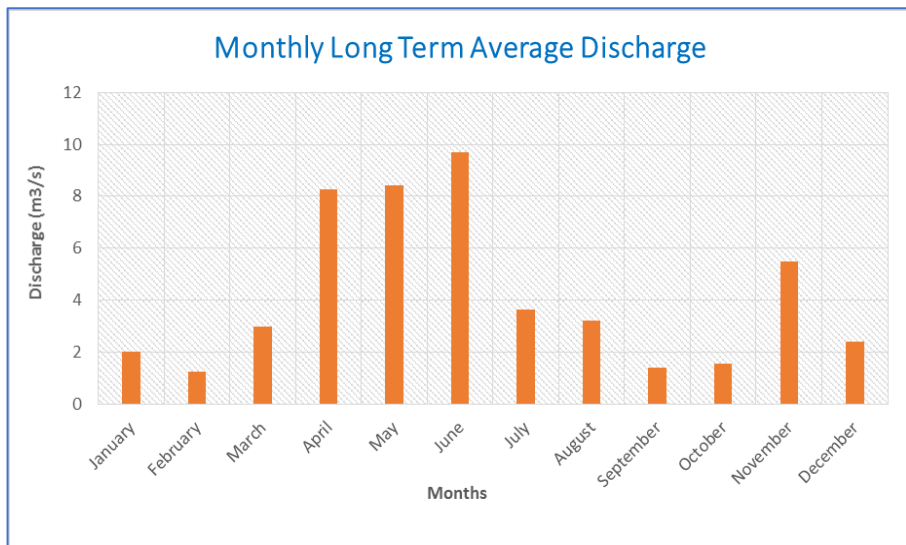


Figure 5: Long Term Monthly Average Discharge for RGS 4CB04, Thika River

The aim of developing a water allocation plan is to ensure equitable water allocation as well as guarantee availability of reserve flow throughout the year. This can only be achieved through integrated water resources management approach which encourages involvement of stakeholders in developing a sustainable water allocation plan for this sub catchment

ACTIVITIES FOR 2021

A few of the activities that are planned for 2021 are:

- Execute an Abstraction and Pollution Survey for Thika upper and Thika mid. In order to gather knowledge and information about the functioning of the Thika river (i.e. gather knowledge on water availability, water users, abstractions and water balances).
- Improve technical models and determine existing data-gaps, including collecting hydrological data that is still missing (e.g. data on groundwater extractions).
- Training on monitoring planning and data management.
- Develop action plan on how to decrease the number of illegal abstractions and how to increase effective permitting
- Organize stakeholder meetings with all water users (that are not active members of the WRUA's) to discuss interests, water use and the Water Allocation Plan process. And gather information on the points of view on water allocation of all water users by means of the WRUA's.

COVID-19 SEASON ONLINE COMMUNICATION

The Blue Deal has allocated a small part of the budget to make minor improvements for the server room at the Embu regional office in order to enhance online communication during the Covid-19 season when physical meeting were not possible. This will also help in better sharing of data and also to store the acquired data more safe and effectively. This will not only support the operations within the Blue Deal project but also the operations of WRA on a daily basis.



Figure 6: Well and safely installed servers and at controlled room temperature rating