



# Technology without Borders Newsletter II / 2022

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## Editorial

Dear members, dear friends, and supporters of Technology without Borders,

"... **without borders**" is our slogan and we as the Board are always pleased when exactly this succeeds. There are two examples for this, which we report on in this newsletter.

Through our contact with Roland Hansen, Head of Regional Group Africa & Senior Programme Advisor of **Malteser International** from the Headquarters Europe, we learned about the Malteser training programme to regenerate silted wells. This technique is an excellent complement to our area of competence "Regenerating wells". A refresher course on this particular technique was held by Malteser International in Arua, in the north of Uganda. Anthony and Joseph from Ghana and Renin from Uganda could participate. In the context of this course, our members in Uganda and Ghana also got to know each other intensively, and both sides decided to continue this contact and the exchange of information about projects in the form of regular online meetings. This is how "Technology **without Borders**" works!

In Brazil, we started the topic of agroforestry in cooperation with the farmer Ubaldo. In the context of this, our Brazilian members came across training materials on agroforestry for schools, which Lutz translated into English. This approach was not used in Brazil because of the different approach to agroforestry. However, the concept fitted so well into the planned activities of our RG Rhein-Main that they were able to use it directly in their project in Kenya "**without borders**" 😊.

=> <https://www.teog.ngo/videos/> (see April 2022)

We would like to express our thanks to all those involved - this is how technology **without borders** works!

Sincerely

Your board

F. Neumann	M. Reinhard	M. Graf	L. Hachmann	J. Schlund	D. Schaffert
	R. Schullan	Ch. Zeidler	F. Enzmann	A. Fenn	A. Bruns
				A. Vierling	

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## Agroforestry school gardens and a tree nursery for Ngi'ya, Kenya

Despite the ongoing corona pandemic, we were able to implement our agroforestry and school garden project in Ngi'ya, Kenya in March. Together with our partner association **Stawisha Africa**, three members of TwB planted school gardens at a total of 9 primary schools according to the agroforestry principle. **Stawisha Africa** also implemented the project at another school for deaf children. The pupils have actively helped and have also founded environmental clubs at the schools, which will take care of the gardens in the future.

The agroforestry principle combines agricultural and forestry use of an area. For this purpose, so-called "Islands of Abundance" were planted in the school gardens, in which vegetable plants and fruit trees complement each other in a circular pattern. For this purpose, the soil is first prepared so that ditches and hills alternate in concentric circles - varieties that need more water are planted in the ditches, varieties that like it rather dry are planted on the hills. Different types of vegetables that are used in Kenyan cuisine were planted. In the middle of the circle is a banana tree, and in the outermost circle are mangoes, papayas and other varieties of fruit trees, which help the soil to absorb more water and, after a while, also provide shade. The fruits and vegetables are used in the school kitchens.



In addition, rainwater harvesting systems were newly installed at all schools or existing systems were repaired so that the gardens can also be sufficiently irrigated. For this purpose, rain gutters were installed, and water tanks were set up. Compost was also created at each school to produce organic fertiliser and the necessary gardening tools were provided for the further care of the plants. The school garden project was rounded off with workshops with the members of the new environmental clubs on climate change and plant growth as well as composting organic waste and green waste.



In addition to the school gardens, a small tree nursery was also started on the grounds of Stawisha Africa, from which local farmers can now obtain fruit trees. This is also intended to counteract desertification and climate change in the long term. The tree nursery was established in cooperation with a local expert for fruit trees, who assisted with the selection of varieties and the correct cultivation and also lent a hand with the school gardens.

While implementing the agroforestry project, two other projects were conducted, the establishment of a small library with children's books for the extensive care services offered by Stawisha Africa and the repair of an existing water supply in the region. The repaired water supply provides three schools and about 80 households with clean well water, which can be collected from a water kiosk. The repair primarily required the replacement of some valves. Our special thanks go to our friends and partners from Stawisha Africa who helped organise this project so perfectly. We also thank all donors and supporters for making this project possible, which will be continued at other schools in the future.



*Franziska Enzmann, RG Rhein-Main*

## Maintenance of a water supply in Kenya

As reported above, three TwB members were travelling in Kenya in March. By chance, we passed an existing water supply system that was built a few years ago with the support of UNICEF. The system consists of a drilled well, a solar-powered pump, a solar panel, a high tank and a small "water kiosk" where people can fetch water. There are also pipes to some

nearby farms and three schools. The system was not functioning for about a year when we arrived. After consulting the residents and examining the system, it turned out that basically only three valves were defective, so that the water could no longer flow out of the tank. The pump itself as well as the solar system were fully functional except for an insect nest in the fuse box, which we removed. Of course, it was clear that the water supply had to be repaired, after all, 80 families as well as 3 schools can get clean water through it, which are currently dependent on rainwater. So, in cooperation with a local technician, the valves were changed and the taps in the water kiosk were repaired. A meeting was also convened with the village board, the head teachers and some of the families who use the water to set up a water committee. This committee, in collaboration with Stawisha Africa, will collect and manage funds for repairs in the future so that repairs can be done without outside help. In addition to the current caretaker of the system, who is already quite elderly, another person will be trained to operate the pump in the future.

*Franziska Enzmann, RG Rhein-Main*



## Children's books for Ngi'ya

In many rural areas of Africa they are in absolute short supply - books! Yet reading stories is a great way for children to learn a language better through play, to improve reading and writing as an important skill for their future professional lives, and to simply go on a mental journey to foreign worlds. Therefore, we have diligently collected English-language children's books and brought a total of almost 200 books for different age groups to Kenya, where we have set up a small library for children together with our partner association Stawisha Africa in addition to our projects on agroforestry and water supply. The kids can come in the holidays and in the afternoons after school and read or play board games such as Scrabble. The project was rounded off with a handicraft workshop where all the children could make a bookmark with their name on it, and an afternoon of reading aloud.



*Franziska Enzmann, RG Rhein-Main*

## Hospital Support in Ghana

**After a long time, a hospital support project could start again in March 2022. We visited two different hospitals in Ghana: The Holy Family Hospital in Berekum and the Holy Family Hospital in Techiman. The project team supported the maintenance departments there.**

At the beginning of March, the time had finally come: the trip to Ghana could start. The first stop was HFH Berekum. Here, the "Swift" app developed by TwB was introduced. This is used by the technicians for the digital inventory of clinical equipment. In addition, they can network with each other and thus share their knowledge to solve problems more quickly. Within the one and a half week stay in Berekum, the entire equipment was inventoried and the Preventive

Maintenance function was already diligently integrated into the work. The medical staff was also trained on the app's reporting system to improve the communication system with the technicians. At the end of the app introduction, there was a long feedback session with all technicians regarding further wishes and functions for the app. This direct user feedback and also the good cooperation with the technicians is particularly valuable for the project team, as the app can now be further improved in a targeted manner.



For the second part of the project, we went to Techiman. Here, the focus was on analyzing the workflow of the technicians and structuring the workshop so that this information could be used to plan the new workshop buildings. In addition, we worked with the technical team of the Clinical Engineering Department to improve the current workflow. For example, new communication and documentation systems were established to increase the flow of information for repairs and

maintenance. Another major task at Techiman was cleaning the current workshop. Countless pieces of broken equipment had accumulated that were certainly beyond repair, and there were quite a few pieces of equipment waiting for replacement parts. However, a closer look through the equipment quickly revealed that in many cases it would be disproportionately expensive to buy spare parts for an obsolete piece of equipment instead of simply purchasing a new piece of equipment. After disposing of all the broken equipment, a regular discarding system every three months was agreed upon with all parties involved. Last but not least, a tool trolley was introduced so that all screwdrivers etc. have a fixed storage place.

Although the project tasks were very different in the two hospitals, we achieved our goals and provided meaningful support to the maintenance departments. The success of the project will be evaluated in regular meetings with the local technicians. In addition, future cooperation is also envisaged.

*Katharina Mai, RG Erlangen*

## **Training on WASH and Emergency Water Supply in Northern Uganda**

Technology without Borders Regional group Ndejje was honored to host two members from TwB Ghana (Anthony Hunkpe and Joseph Maudjorm) on the 9th of April 2022. It is the first time that members from different international TwB country groups met and shared various experiences from projects. Anthony and Joseph managed to visit one of our last year's

projects, the bio sand filter. Here, Joseph, who happens to be a water expert, pointed out different ways this bio sand filter could be improved to increase the rate of flow.

Later, one member from RG Ndejje, Renin Omugabe, joined the two members from Ghana and travelled to Arua in Northern Uganda for the training which was organized by Malteser international. During this training, there were a lot of skills gained concerning Water, Sanitation and Hygiene (WASH) topics. Our TwB members managed to present outstandingly under this topic since they had a lot of experience concerning WASH programs and projects.



Renin was requested to explain more about the bio sand filter which is one of the water treatment methods that are being adopted by the society since it helps in conserving the environment by reduction in the rate of cutting down forests for fuel to boil safe drinking water.

One of the other major topics was emergency water supply. This applies most especially when there is an emergency in a given area, for example during war times, when refugees enter a certain area and find out that there is a need to supply water urgently. This was especially helpful because members gained hands-on experience during setting up the emergency tanks, pumping and supplying water during the training. Finally, there was a presentation on well shaft rehabilitation. Participants were introduced to different ways of rehabilitating damaged boreholes.

In conclusion, we must send a special vote of thanks to the TwB Board for a lifetime opportunity by allowing and funding its members to take part in this training where they not only gained a lot of skills but also met and shared a lot of ideas with various people from different parts of the globe such as Kenya, Netherlands, Ghana and Uganda.

*Renin Omugabe, RG Ndejje*

## **Regenerating Wells – Container Conversion at UENR Sunyani, Ghana**

**The “Regenerating Wells” project deals with the maintenance of wells in the communities around Sunyani in Ghana. For this purpose, if necessary, the wells are repaired, the water quality is checked and the pipeline is removed from deposits by using a chemical called *Wessoclean*. This leads to an increase in the flow rate of the well (which naturally decreases over the years) and thus more water can be extracted.**

In the past, it has become increasingly difficult for our members to use their University (University of Energy and Natural Resources, „UENR“) laboratory for water analysis. For this reason, it was decided to transport a 40-foot cargo container from Tarkwa to Sunyani to convert it into a water laboratory. Since then, the container has been on the university campus of the UENR, which has kindly provided us with a free space.

In April 2022, the conversion of the container began, which was carried out as part of a project trip in collaboration between two members of RG Bayreuth and the RG Sunyani. In addition to five windows and a new door, we also cut and built an additional second roof on the container to protect the container ceiling from direct sunlight and heat. For the same reason, we installed

a plywood cover on the interior walls of the container when the electrical wiring for a future power supply via solar panels was installed. With exception of the welding and electrician work, the conversion was carried out by ourselves in order to keep costs as low as possible. After five weeks of refurbishment, the interior of the container is now ready to be furnished and equipped with laboratory equipment. The implementation of this final step is now fully in the hands of our Ghanaian members.

*Dominik Lang, RG Bayreuth*

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## Short Messages

### Collection of the membership fee

Dear members, in the next weeks the membership fee for 2022 will be collected.

### Small planting campaign of the RG Rhine-Main completed

On the 18th of March we were able to plant 75 wild cherries and 250 ash trees on the grounds of the Wasserbeschaffungsverband Riedgruppe Ost. Unfortunately, only three TwB members were able to participate due to Covid regulations. Nevertheless, we are very pleased that the planting campaign went so well and hope that these trees will make a contribution against climate change and for the water quality in the region.

*Cora Kroner, RG Rhein-Main*

### Invitation to the 1000 Miles Run - the fundraising run of TwB

The regional group Erlangen is organizing the “**1000 Miles Run**” – the **4th** fundraising run of Technology without Borders e. V. – on **July 3, 2022** to support current projects.

For this we need your athletic support: Together we want to run at least 1000 miles. Local companies will stand at the finish line as sponsors to reward each of your hard-won miles. However, the 1000 Miles Run is not only about athletic performance. Everyone is invited to support us with a few laps.

Here is an overview of the most important information:

- Participation is **free of charge**.
- The event will take place from **11:00 a.m. to 10:00 p.m.** at the university's sports campus in Gebbertstraße 123. The run itself lasts until 5:00 pm. The individual start time can be selected freely.
- We will also provide **entertainment and catering**: during and after the run, there will be barbecue, drinks, music and great prizes to be won in our raffle.

Don't miss when Erlangen's mayor Dr. Florian Janik opens our charity run and bring friends and family along. If you want to run together in a group, feel free to sign up for our team challenge. Look forward to a day full of sports, fun and good humor!

Registration can be found at: <https://survey.teog.ngo/363452>

If you have any questions, please do not hesitate to contact us: [1000milesrun@teog.de](mailto:1000milesrun@teog.de)

*1000 Miles Run Team, RG Erlangen*

## **Party without borders**

On 26.05.22 a long planned and always postponed event finally took place: Party **without borders**. An event that has already existed in the RG Erlangen, but then fell asleep at some point. The concept was to get together in a club in Erlangen for one evening, have fun, use the proceeds to cover costs and projects, and of course to increase our public presence.

We, the planning team, were exuberantly happy that despite the long preparation time we were still in close contact with the club of our choice, the "Flash", and that it was now finally foreseeable that the event could take place. In order to make the event attractive to a larger crowd, it quickly became clear that we would cooperate with another university group at FAU that approaches a different target group than we do. We quickly found the association "Funklust" - the campus media of the university - which primarily addresses students of the Faculty of Philosophy and thus ideally complements us as a university group of the Faculty of Technology.

By the way: We more than exceeded our goal of covering our costs. In addition, after internal consultation at Funklust and TwB, we decided to donate half of our proceeds to the FAU Innovation Fund for Ukrainian students, lecturers and researchers.

V.i.S.d.P. Dr.-Ing. Frank Neumann, Annika Mücke, Stefan Leimbach

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