



### **Editorial**

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

We are very pleased to report once again in our current newsletter about numerous successful project completions as well as updates.

We are especially proud that we were able to visit to two new project countries for the very first time: On one hand, a team from Erlangen and Munich successfully implemented a [waste project in Zimbabwe](#), and on the other hand, as a cooperation with *Bintumani D-SL e.V.*, a preliminary exploration was carried out in Sierra Leone. This project will have its focus on recycling, on one side of Water Sachets, and on the other side of old laptop batteries, details can be found [in this article](#).

But there are also success stories to report in Ghana and Uganda: If you want to know how one can [spend the time after finishing high school](#) meaningfully, or what is the current status of the [kindergarten in Drobo](#), or what the members of RG Sunyani experienced on their [trip to Uganda](#), be sure to read on!

We would like to thank all project participants for their great commitment and wish all readers a successful end to the year.

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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### **Project Tour through Ghana**

**After graduating from high school, I searched for a long time to find a good project or an NGO where I could be sure that my invested time and work would be meaningful and have a positive impact. Finally I found what I was looking for at „Technology without Borders“- and consequently, a few months later, I found myself, with my team partner Dominik Lang, on a four-month project trip through Ghana.**

We traveled a lot through the country during these four months and worked primarily in the cities Sunyani, Asewewa, Drobo and the capital Accra on the three projects "RecycleUp!Water-Sachets", "Regenerating Wells" and "Agroforestry".

In addition to the technical knowledge I gained from working on the projects, I also learned new things in many different areas during my time in Ghana. I got to know a new culture, different customs, the history of an impressive country and many new people and their stories. I learned how beautiful Ghana's nature is, how welcoming the people are, but unfortunately also how unfair the world is. I learned how little you can take for granted and how little you can be happy with. I also learned a lot of interpersonal skills by working closely with the members of the local group in Sunyani.

The four months in Ghana were very intense months for Dominik as well as for me. There were many highlights, but of course also some disappointments. However, my hope that my time and work would be worthwhile has been fulfilled. We have been able to implement the project "RecycleUp!WaterSachets" with the support of many great people at 40 schools in different places in Ghana, converted a container with the students in Sunyani into a water laboratory

and repaired with them two wells in a small village, thus securing the water supply for many hundreds of people. We have also laid foundations for local groups to be established in other towns.

I am incredibly grateful for the exciting time and the many experiences I was able to make through the project trip!



*Luisa Spremberg, RG Bayreuth*

## Emergency Water Supply Training in Uganda

**A continuation of the report in the last newsletter II/2022 - this time from the perspective of the Ghanaian participants.**

Joseph and I went to Uganda to participate at a 3-day workshop themed “Emergency WASH (water, sanitation and hygiene) training” in Arua, Northern Uganda which was organized by the Malteser. Renin Omugabe from TwB Uganda joined us. The



The training was meant to strengthen humanitarian WASH preparedness and Response Capacity during disasters. Topics covered were Emergency WASH assessment, Emergency Water supply options, Sphere Standard for WASH, Installation of Emergency water pumping, storage, filter and distribution systems, Emergency water treatment and testing. The training also gave us the opportunity to network with other people including Mr. Arno Coever (Facilitator and Global Advisor for WASH, Environment and infrastructure Malteser International) and Madam Amina (Chairperson of PASEDA international, Kenya).

On day 1, we looked at scope of assessment where we were told “one does not need to be a water engineer before knowing that people need water”. Topics addressed different challenges faced in many countries, especially in aspects of open defecation which gives birth to cholera infection. We learnt that time and resources are two very important components of emergency assessment, accompanied by speed and accuracy. We ended the day by setting up equipment for pumping water.

On day 2, we applied everything that we learnt. A water pumping machine and a sky hydrant, which can be used to purify any kind of water, were brought for use and water was pumped from a small stream around workshop's location.

On day 3 we heard presentations from various NGO groups. Joseph held a great presentation about TWB water projects in Ghana. He went ahead to explain the modus operandi of his business and how he is able to monitor water usage and implement a payment system even from remote locations as Uganda. Furthermore, Renin from the University Ndejje presented their biosand filter project to the group.

Besides the training, we also visited the regional Group at Ndejje University. We met about 10 local members and were able to gain insights into their bio sand filter project. I hope to implement a similar project in my regional group too. Joseph advised the members of RG Ndejje on what to do to increase the flow rate at their biological filtration method.

*Anthony Hunkpe, RG Sunyani*

## Kindergarten Drobo – Current State

**I would like to take this opportunity to report what has happened in the past six months at the kindergarten in Drobo, Ghana, which will also be used as a training center for our agroforestry project, and in the agroforestry activities.**

We did a lot of work on the building of the kindergarten and finished the floors, windows and doors. We also furnished the classrooms so that the children can now learn reasonably in the classrooms.



Corn, cocoyam, beans and plantains have already been grown on the 1 ha Agroforestry demonstration farm. Cultivation of tomatoes, green and white bell pepper, peppers, cassava, coconut, millet, peanut, cashew, pineapple, oranges and papayas is also planned to take place soon. In addition, a pigsty is currently being constructed. The farm will also be used

as a school garden, where the children will be involved and lunch for the students will be cooked from their own plants. The picture provides a current impression of the farm.

I had the opportunity to work for four days with Pascaline, who already owns many Agroforestry farms and is very happy to share her expertise with us. She visited the school garden with me to see what we could plant on the land. I also received education and advice on what to do on the farmland. In addition, she will support the community, especially the children and women.

Pascaline and I went to Amaforso-Sampa near Drobo to visit my second cashew farm, which is 12 hectares. Pascaline gave a workshop to the farm workers, explaining what needs to be done to establish agroforestry demonstration farms and how to keep the farm alive to produce more cashew plants in the long term and to attract more farmers to participate in agroforestry demonstration farms around Amaforso-Sampa.

We have 70-80 farmers from the community that we are currently training in agroforestry demonstration farms, but we expect more farmers to join the movement next year as our school in Drobo can train up to 200 farmers.

*Stephen Takyi, LG Ghana*

## **Construction of an incinerator for the St. Theresa's Hospital in Zimbabwe**

**After the foundation and the roof for the incinerator have already been built in January 2022, the remaining construction work was completed in May 2022 on the property of the St. Theresa's Hospital in Charandura (Zimbabwe). Hospital waste can now be incinerated and sterilized with significantly less pollutants.**

The St. Theresa's Hospital in Charandura (Zimbabwe) was established more than 30 years ago by the nuns of the Dominican Order of the convent Strahlfeld (Germany). Before the beginning of the project, only parts of the often-infectious hospital waste were inadequately incinerated in a small, already defective incinerator. With the aim to improve the waste situation of the hospital and dispose the waste as clean as possible, the monastery Strahlfeld, the University of Applied Sciences in Munich and TwB collaborated. In cooperation with a small local company, a 2-chamber incinerator based on the De Montford Mark9 design was built in Zimbabwe on the foundation already set up.

An important content of the project was also to instruct the hospital staff regarding the operation of the incinerator. Since pre-sorting of the waste is necessary for a smooth firing process, a system for waste separation and disposal was introduced.

After the incinerator was completed on schedule despite power outages, delivery bottlenecks and other delays, there was even time at the end of the stay to visit the nearby St. Joseph's Hospital in Mutare. This hospital is run by the same Dominican order and is soon to be significantly expanded. Due to the expansion, the existing incinerator will have to be demolished. Perhaps TwB will soon support the incinerator construction in Mutare in a follow-up project.

Many thanks to all contributors and supporters of the project, to the sisters of the hospital for accommodation and especially thanks to the monastery Stahlfeld for financing the project!

*Klara Feile, RG Erlangen*



## Preliminary exploration Sierra Leone

At the end of May this year we started our first mission in Sierra Leone. The first task was to get to know the country and to explore the problems and potentials in detail.

The project was initiated by Frank Neumann and on site were Norbert Hoffmann from Bintumani D-SL together with Jannik Hereth from the regional group Bayreuth. Norbert has been active in Sierra Leone for many years with his association and was therefore able to familiarize Jannik with many people and situations.



The focus of the preliminary exploration was on the extension of the project "RecycleUp! Water Sachets" to Sierra Leone as well as the thematic extension to other plastic types and recycling possibilities. The second focus was on the Powerwall project, which aims to recycle old laptop batteries as electricity storage for households without a grid connection and is now being managed under a new name by RG Aachen. Systems consisting of solar cells, storage and lighting and/or USB chargers are being planned.

The local partner is Light Salone Innovation, a start-up around founder Mustapah Lolleh, which can be seen as an assembly of innovative minds. Mustapah himself is a solar installer, making him the perfect partner for the Powerwall project. His colleagues Mr. Kebbie and Mr. Farma are very interested in plastic recycling.

They also found connections to waste collection groups and ventures that are trying to recycle plastic but still lack know-how and machinery. The Environmental Protection Agency has shown interest in cooperation and possible funding for upcoming projects are conceivable through cooperation with the German Embassy and the EU Delegation, among others.

A kind of FabLab has been started in the technical university in Kenema and a group led by Mr. Kebbie has set the goal to collect, sell as well as recycle plastic. Premises for temporary storage in Kenema are currently being renovated and collaboration with a company in Makeni will provide access to a shredder and baler.

*Jannik Hereth, RG Bayreuth*

## Short Messages

### Looking back on 12 years of board work and wishes for the future

It all began on 29 April 2010. Together with the former 2nd Chairman Franz Regler, a total of 15 members founded the new association Technology without Borders. Since Franz and I had already had many years of experience in the Association of German Engineers (VDI), it is not surprising that the VDI statutes inspired us when we founded the association, as we had had good experience with them over the years. At that time, the purpose of our statutes was shaped by two essential points:

- Helping people in need through aid missions in areas of the world where there is misery and / or poverty.
- To promote the transfer of knowledge for students and young people.

With the amendment of the statutes on 29 May 2021 we were able to modify the first point to

- Improvement of living conditions for people. This should mainly be done in developing countries.

This change gives us much more room for creativity in the future, both thematically and in terms of areas of intervention (e.g. TCB for migrants in Germany).

Looking back, I would like to sincerely thank all my comrades in arms, because together we have been able to help many people to look to the future with a little more optimism. Personally, I have always enjoyed working with you and the most enjoyable thing for me was to be able to admire what happened to those who came back from a project. I cannot describe this better than Luisa did in the first article of this newsletter.

Two wishes that I have for the future of our association:

- Let's continue to push the topic of agroforestry, because with it we help people as well as nature and create positive aspects against climate change.
- Let's not get tired of fighting against the "littering" of this world.

For the future, I wish us all the best and much success in our projects.

*Frank Neumann, Vorstand*

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

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