

San Diego NALA Hackathon

Name of the project:

**Group size:** 2 people

**Background:**

The Bench Sheko zone (previously part of the Bench Maji zone) is situated in the South West Ethiopia People's Region in Ethiopia. The zone is home to a largely rural population of approximately 650,000 people in a land size of 19,252 km<sup>2</sup>.

The zone is divided into 9 districts (woredas), accounting for a range of cultures and languages across different ethnic groups. Electricity and water access at the household level is scarce, with power outages common across the zone. The majority of individuals in the zone are agricultural workers, and 81% of children are enrolled in primary schools.

However, the zone is a hotspot for neglected tropical diseases (NTDs) with a census in 2014 reporting over 50% of schools children to suffer from one of more NTDs. NALA has been working in the zone since 2016 alongside to the local government and partner organisations (including the Merck group) to reduce the prevalence of NTDs.

NTDs, often termed 'Diseases of Poverty', affect the world's poorest and most marginalised populations, and can be the cause of chronic disabilities including blindness, intestinal issues and pain. In addition to being a strong underlying factor for malnutrition, leading to stunted physical and cognitive growth, these diseases impact individual's and community's opportunities, hence perpetuating the cycle of poverty.

The occurrence of NTDs is attributed to several factors, including, but not limited to, the use of unsafe water and inadequate hygiene standards at the household and community level. Few houses have private latrines (toilets), whilst public and school toilets are unlikely to meet sanitary standards including a lack of running water or associated hand-washing stations. With the population of the Bench Sheko zone predominantly rural, rivers and streams are the main source of water for drinking, cleaning, bathing, and leisure. However, these water sources are often contaminated, resulting in disease for the individuals using them.

Alternative sources of clean water are desperately needed to improve the health of men, women, and children in Bench Sheko.

Are you up to the task?



## **NALA:**

NALA was founded in 2008 and established as an independent NGO in 2011 with the primary goal of eradicating NTDs in Ethiopia, and a vision of world free of diseases that perpetuate poverty.

Throughout the last decade NALA has implemented 14 projects throughout Ethiopia, in over 200 districts, resulting in an average 90% decrease in the prevalence of intestinal worms in school children.

NALA works with community and government partners to implement health education programs for men, women and children and works with the national government at a policy level to improve coordination between different sectors working towards the same goal.

One aspect of NALA works includes making community and school-based improvements to water, sanitation, and hygiene access (WASH). These projects aim to create an enabling environment for better behaviours surrounding the transmission and prevention of NTDs and are always done in partnership with the community – NALA provides the technical expertise and the community provides the labour and materials.

Using this approach NALA has supported the building of 158 WASH sites, including foot-operated hand pumps, rainwater harvesting tanks and innovative toilet designs.

The WASH sites, although designed by experts abroad, are built by the local community many of whom have limited technical expertise or training. The materials are locally sourced and cheap, ensuring the structure can be aptly maintained and fixed in the case of change. The structures are also contextually appropriate for the community and are in many cases supported by education and policy interventions by NALA.

## **Shalom Corps:**

Shalom Corps has partnered with us on this project, and is an organization that was founded in 2020 as a global Jewish volunteer movement, dedicated to meaningful service and social responsibility as an expression of Jewish values and love of humanity.

Their mission is to empower a global Jewish volunteer network through meaningful and significant volunteerism that engages participants in Jewish service-learning experiences.

## **Mission:**

Hundreds of individuals across the Bench Sheko zone still lack access to safe water sources including handwashing stations. Your mission is to improve access, elevating environmental sanitation standards and ultimately reducing the prevalence of diseases in communities.

**Your task:**

As a participant of this hackathon you will need to come up with an innovative and sustainable **hands free handwashing stations** that is context appropriate and meets the needs of the school community including students from nursery through to high-school, individuals with disabilities and can withstand high use (~1000 children per/school).

**How the competition will work:**

The competition will be made up of 2 rounds: the concept round and the technical round.

During the concept round you will need to invent an innovative hands-free handwashing station that meets the needs of the school community and will improve school water access in rural areas.

This will include:

- A concept and design note, using the NALA template provided.
- List of materials
- 3D digital or drawn prototype
- 1 minute video pitch describing your prototype
- A social media campaign raising awareness on safe water access in Ethiopia and how your intervention will combat this in relation to NTDs

The concept will be assessed by teachers and engineers and following feedback you will be creating a working prototype of your design.

The winner will be determined by our CEO Michal Bruck, Shalom Corps and the San Diego NALA team.

**Things to consider:**

1. Access to the Bench Sheko zone is limited with the nearest airport a minimum of 6 hours away in the city of Jimma.
2. Many products including water tanks, metal, cloth and building materials can be sourced locally, or if necessary, can be transported from Addis Ababa, the capital of Ethiopia.
3. The Bench Maji zone has a rainy season for 8 months of the year, the remaining 4 months are sunny and warm. During the rainy season access to certain areas becomes very difficult.
4. There is knowledge surrounding the use of soap by children and adults, it is often in the form of bars but can be available as diluted liquid soap in bottles.
5. There is limited access to the water and power grid within the zone.
6. The WASH intervention should consider COVID-19 prevention protocols, some of which are in line with NTD prevention protocols.

**Criteria:**

The concept and design note will have you consider several criteria when designing your prototype. In addition to the practicalities of access, connectivity and knowledge you will as a team have to show your consideration for sustainability, viability and context.

**Sustainability:** Does your prototype require expert engineers from abroad to build it or to train individuals to build it? Will the structure be maintained once experts are no longer there? Are materials available? If not where are they from? Who is involved with the building of your prototype? These are all questions to be considered when designing your prototype, can you answer these questions to prove the sustainability of your intervention.

**Viability:** Are the materials you need locally available? What source of power, if any, is required? Where will you source this energy, does that require a secondary intervention? Can the mechanism withstand the rainy and dry season? How large is the infrastructure? Can it be used by young and/or disabled children? This point considers how viable it would be in reality to build your prototype, what materials do you need, where are they sourced, what externalities would be necessary. Rather than thinking of the future with sustainability, would this work in the here and now?

**Context:** Have you considered the context of the community in which your prototype will be implemented, this should specifically come across during the video pitch and social media campaign. Are your posts and promotions culturally sensitive, do they pose the image of 'white saviours' or do they present a strong local presence who will take charge of building these handwashing stations?

**Prize:**

The winning group will have the opportunity to partake in a 2-week communication internship at NALA. This will include a hands-on opportunity to communicate the message of NALA to the public through social media, letter writing, reports and meetings.

Any participants receive a certificate of participation by the NALA Foundation.

**Timeline:**

3<sup>rd</sup> March – Launch Date

20<sup>th</sup> March - Concept Round Deadline

7<sup>th</sup> April – Technical Round Deadline

End of April – Judge Panel