MISSION

The mission of Helping Hand for Relief and Development’s (HHRD) Water for Life (WFL) program is to provide access to clean water, for daily consumption and irrigation purposes, through the construction and rehabilitation of water supply schemes. And, to ensure dignity and health through Water, Sanitation and Hygiene (WASH) programs.

VISION

HHRD’s WFL vision is a world in which all communities realize their human right to easy access to safe, protected and sustainable drinking water and sanitation; as well as protection from water-borne diseases through hygiene education.
Africa
Rainwater harvesting is the collection and storage of rain which would otherwise run off and become dirty and polluted. Rainwater is collected from a roof-like surface and redirected to a tank, for future needs. The rainwater harvesting system is one of the best methods implemented to support the conservation of water. Rainwater, which is pure and of good quality, can be used for irrigation, washing, cleaning, bathing, cooking and also, for other livestock requirements.

**RAINWATER HARVESTING**  
**Kenya & Uganda**

**Average time to install and inaugurate:**  
2 months

**Average number of beneficiaries:**  
2000 students (in school setting) or 1550 people (in a community hospital setting)

**Life span of project:**  
6 years, if well maintained

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A borehole is a narrow shaft bored in the ground, either vertically or horizontally. the surface.

**BOREHOLE**  
**Kenya**

**Average time to install and inaugurate:**  
6 months

**Average number of beneficiaries:**  
30,000 people

**Life span of project:**  
15 years, if well maintained

**Digging range:**  
100ft to 350ft
A shallow well is a hole which has been dug, bored, driven or drilled into the ground for the purpose of extracting water. The source of a shallow well is an aquifer—a body of porous rock or sediment saturated with groundwater, resulting from precipitation which seeps through the soil. Shallow wells tap the shallowest aquifer in the vicinity. A well is considered to be shallow if it is less than 50 feet deep, allowing use of a suction pump to extract water, the practical lift of which is assessed as 22 feet (6.7 meters).

**SHALLOW WELL**
Kenya, Uganda, Somalia, Mali & Tanzania

Average time to install and inaugurate: 2 months

Average number of beneficiaries: 1,000 people

Life span of project: 5 years, if well maintained

Digging range: 20ft to 50ft

A water filtration plant is a facility that works to filter and purify water by removing chemicals, hazardous materials, and toxic matters from a water source.

Filtration is a process which removes particles suspended in water. Removal takes place by a number of mechanisms which include straining, flocculation, sedimentation and surface capture.

**WATER FILTRATION PLANT**
Kenya

Average time to install and inaugurate: 6 months

Average number of beneficiaries: 15,000 people

Life span of project: 15 years, if well maintained
HHRD Africa latrines consist of 5-unit pit latrines and one hand-washing area. It is used as a sanitation facility in public schools. The toilets are supplied with water for cleaning and flushing purposes. A septic tank is located at least 3 to 6 meters away from the latrines building structure.

WASHROOM PROJECT
Kenya, Uganda Somalia & Tanzania

Average time to install and inaugurate: 6 months

Average number of beneficiaries: 15,000 people

Life span of project: 10 years, if well maintained

Digging range: 3 meters long, 2 meters wide, 7.5 meters deep

SUBMERSIBLE PUMP
Kenya, Uganda Somalia, Mali & Tanzania

Average time to install and inaugurate: 4 months

Average number of beneficiaries: 1,000 people

Life span of project: 5 years, if well maintained

Digging range: 80 feet or more in depth

The submersible pump is especially suited for deep wells. The pump utilizes a submersible motor coupled directly to the bowl assembly and is designed to operate completely submerged in the fluid being pumped. Power is supplied to the motor by waterproof electrical cable. Submersible pumps are efficient, high in capacity, require very little maintenance and are generally very economical for wells that are more than 80 feet in depth.
Installing a simple traditional hand pump for the provision of raw water, HHRD Nepal keeping in mind the ground situation, adds a Bio Sand Filtration, an Open Aeration and Electrical Dozen Pump that turns this small project into a worthy and more productive project. This provides water for washing as well as for drinking purposes.

**FILTRATION + AERATION WITH COMMUNITY HAND BIO SAND PUMP**

Average time to install and inaugurate:
3-4 months

Average number of beneficiaries:
500 people (daily)

Life span of project:
5 years

Features:
- Inexpensive and an ideal project for smaller communities; schools or extended families/homes.
- Filters water from turbidity (sand, silt & clay), color, taste and smell.
- It can provide 500 liters/hour.

Installing a traditional hand pump for the provision of raw water, HHRD Nepal keeping in mind the ground situation, adds a Bio Sand Filtration and an Open Aeration that turns a small project into a worthy one. This provides water for washing as well as for drinking purposes.

**DRINKING WATER TREATMENT PLANT (UV/RO)**

Average time to install and inaugurate:
3-4 months

Average number of beneficiaries:
500 people (daily)

Life span of project:
5 years

Features:
- Kills infectious microorganisms of water using ultraviolet rays.
- Filters water for taste and smell.
- Since it does not use chemicals so it is one of the safe water treatment systems.
Pakistan
**COMMUNITY HAND PUMP “AFRIDEV” AND “LOCAL”**

<table>
<thead>
<tr>
<th>Details</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average time to install and inaugurate:</td>
<td>4-6 months</td>
</tr>
<tr>
<td>Average number of beneficiaries:</td>
<td>150 people (7-15 households)</td>
</tr>
<tr>
<td>Lifespan of project:</td>
<td>1 - 2 years</td>
</tr>
<tr>
<td>Digging Range:</td>
<td>Afridev hand pump = 120 ft, Local Hand Pump = 80 ft</td>
</tr>
<tr>
<td>Capacity:</td>
<td>900 liters/hr</td>
</tr>
</tbody>
</table>

Afridev Hand Pump Projects will be installed at feasible locations after assessment. In special cases households also vary due to water flow and local requirements.

**SOLAR POWERED WATER PROJECT**

<table>
<thead>
<tr>
<th>Details</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average time to install and inaugurate:</td>
<td>4-6 months</td>
</tr>
<tr>
<td>Average number of beneficiaries:</td>
<td>200 people</td>
</tr>
<tr>
<td>Lifespan of project:</td>
<td>1 - 3 years</td>
</tr>
<tr>
<td>Digging Range:</td>
<td>120 ft</td>
</tr>
<tr>
<td>Capacity:</td>
<td>1500 liters/hr</td>
</tr>
</tbody>
</table>

In special cases extra taps are installed and the number of households also vary. Solar Based Drinking Water Solution Projects will be installed in Schools, Madaris, Mosques.
It is a traditional source of water in rural areas of Pakistan. The ground is excavated deep to fetch water. Digging is done through various techniques including drilling, blasting, etc. Cemented rings are put in open wells for long life and sustainability. Water motors and hand pulleys are used for pulling the water up, down from the wells.

**DUG WELL**

- **Average time to install and inaugurate:** 4-6 months
- **Average number of beneficiaries:** 200 people
- **Lifespan of project:** 5-10 years
- **Digging Range:** 80 ft
- **Capacity:** 3000 liters/hr

*In special cases households also vary due to water availability and local requirements. Water Well Project will be installed at a suitable place.*

**WATER SUPPLY (GRAVITY FLOW) SCHEME**

- **Average time to install and inaugurate:** 4-6 months
- **Average number of beneficiaries:** 250 people
- **Lifespan of project:** 15 - 25 years
- **Digging Range:** No Boring
- **Capacity:** 2,700 liters/hr

*In special cases households also vary due to water availability and local requirements. Gravity Flow Schemes will be installed at feasible locations after assessment.*

The distribution of water is always troublesome in hilly and remote areas. To remedy the situation a reservoir of water is created mechanically and stored at a place where it could be easily disseminated to the required population. The scheme also involves the development of new water resources so that demand could be met along seamless provision lines.
A submersible water pump operates beneath the earth’s surface. Submersible Water Pump pushes water to the surface. Most submersible pumps are long cylinders that are about 3 to 5 inches in diameter and 2 to 4 feet long. Submersible Water Pumps have a hermetically sealed motor that is close-coupled to the body of the water pump. Having a hermetically sealed motor prevents the water from getting inside the pump’s motor and causing a short circuit. Other components of a submersible water pump are the cable, which is connected to the motor, and a pipe that transports the water to the surface. Water is then stored in the RCC water storage tank which is constructed near the Submersible water pump tube well. Submersible Water Pumps are best suitable to run systems for water pumping in remote areas or where electricity has a frequent outage.

**SUBMERSIBLE WATER PUMP**

- **Average time to install and inaugurate:** 4-6 months
- **Average number of beneficiaries:** 250 people
- **Lifespan of project:** 3 - 5 years
- **Digging Range:** 300 - 400 ft.
- **Capacity:** 2,500 liters/hr

In special cases households also vary due to water availability and local requirements. Submersible Pump Projects with Tanks will be installed at feasible locations after assessment.

**DEEP TUBE WELL**

- **Average time to install and inaugurate:** 4-6 months
- **Average number of beneficiaries:** 1,500 people
- **Lifespan of project:** 5 -10 years
- **Digging Range:** 500 - 600 ft.
- **Capacity:** 2,000 liters/hr

A tube well is a type of water well in which a long, 6 inches to 10 inches pipe is bored into an underground aquifer. The lower end is fitted with a strainer, and a pump lifts water for irrigation. The required depth of the well depends on the depth of the water table. A small reservoir of water is made at the outlet of the tube well. This reservoir is used for different usage of water by the local population.

In special cases households also vary due to water availability and local requirements. Tube well projects will be installed at feasible locations after assessment.
The conventional theme for the water pump is to first use the potential energy of the water to generate electricity, from this produced electricity the pump is operated to transfer the water to the required location.

The main theme of the hydraulic ram pump is to utilize the energy of the flowing water to pump it to a higher height without any added energy. Ram pump harvests the energy of a large volume of water from the low head to pump the small volume of water to a higher head. The scientific principles of operation for the working of hydraulic ram pumps are listed below.

- Incompressibility of water
- Conservation of energy

Using above mentioned principles and their effective application by the careful and studied construction of the pump, the device works as a Positive Displacement Pump to gain a higher head as compared to its centrifugal counterparts whilst not consuming additional energy i.e., fossil fuel and electricity.
The project will focus on three major areas: i) increasing the knowledge and improving the behavior of the students, teachers, and parents around Water, Sanitation, and Hygiene in schools, ii) improving the WASH-related infrastructure at schools through rehabilitating and constructing latrines, installing a water system, and iii) improving knowledge of hygiene management in the most deprived areas.

The project will use the child-to-child approach used for the promotion of good health practices. The schoolteachers and parents will also be engaged in the promotion of good hygiene behaviors and practices. These three will also contribute to improved hygiene behaviors at the school level. The usage of a forum like a child club proved highly successful in imparting hygiene communication messages at scale. Additional enabling factors such as training programs for schoolteachers, capacity building and awareness-raising, coordination, and support for the district-level government education department played significant roles in the program’s success.
Water purification is the process of removing undesirable chemicals, biological contaminants, suspended solids, and gases from contaminated water. The goal is to produce water fit for drinking purposes. Water purification plants are the source of providing pure, safe, and healthy drinking water to people.

Water filtration plants make use of Ultrafiltration (UFT) and Reverse Osmosis (RO) processes for water purification. The Reverse Osmosis process is used in those areas where underground water condition is not good, i.e., water is saline. The ultrafiltration process is used in those areas where underground water is sweet but not completely pure to drink.

Water Filtration Plants

Average time to install and inaugurate: 6 months

Average number of beneficiaries: 2,000 people

Lifespan of project: 5 - 10 years

Digging Range: 300 - 400 ft.

Capacity: 2,000 liters/hour

In special cases beneficiaries can also vary due to water availability and local requirements.

RO and 2 UFT Plants will be installed at feasible locations after assessment.
Afrediv hand pumps are ideal for villages and households in which surface sources are common, so only a basic pump suffices for poor families trying to meet their water requirements. Suction hand pumps are economical, easy to install and maintain. Maintenance is done at the village level without the need for specialist parts. The pumps are made with galvanized iron.

**BOREWELL WITH AFREDIV HAND PUMP**

**Average time to install and inaugurate:**
4 - 6 months

**Average number of beneficiaries:**
100 - 170 people

**Lifespan of project:**
3 years

**Digging Range:**
30 - 55 meters
In order to increase the health rate of Indonesians, Human Initiative initially builds water well projects. To achieve this vision, indeed we have missions including clean water for consumption and providing an easy access public facility. This mission is supported by several activities, one of them is the construction of 20 meters depth water well to increase community access to clean water resources. Thus, it may create public health by considering that clean water is a beneficial resource in our daily lives. The water well is built in residential areas that urgently need clean water. Furthermore, most people in those areas work as farmers and laborers with middle to lower economic levels. This program itself has been implemented across Indonesia; Bogor (West Java), Lombok, East Nusa Tenggara, and Central Sulawesi.

**BOREWELL WITH WATER TANK**

**Average time to install and inaugurate:**
3 months

**Average number of beneficiaries:**
10 households

**Lifespan of project:**
3 - 5 years

**Digging Range:**
Minimum 100 meters from one water well to another. Some areas need around 12 meters depth / 20 meters depth or more. Depends on the geographical conditions of the areas.
In many rural areas in Cambodia such schools, masajid, health centers and community there are only one small water well pumps with raw water directly from where the plant is installed. This included a hand wash basin in addition to the motor pumping water from the water system.

**Water Project Model:** we selected the water tank project model to make wudu/ablution, drinking and more.

**Capacity:** we have one tank that can keep 2000 liters or water, four water out systems with cement and tail designation in good condition and quality, so one water tank can be used for at least over 5 years.

**Machine:** we use the motor pumping the water system from small well or river to store in water tank.

**Civil work:** Basic Survey Participation of Local Govt. Feasibility Study Water Quality Testing Water Consumption Committee
This project provides needy families with clean and fresh water through water tanks four times a month. We aim to ease the sufferings of the refugee families especially women and children.

WATER SUPPLY VIA TRUCKS AND WATER TANKS

Average time taken to finish the project:
Jordan: 3 Days per week
Lebanon: Daily

Average number of beneficiaries:
600 people Jordan
1500 people Lebanon
Thousands of Syrian refugee families live in tents in Jordan in several areas especially in Al Mafraqa and Madaba. They are lacking proper facilities for sanitation and have to go outside to relieve themselves. This practice is not only affecting the environment but also not healthy for the people living in the area. Moreover, in harsh weather it becomes difficult for people to go outside. Life threatening animals like snakes, scorpions, and such are also another issue in this regard. If proper restrooms can be provided for these deprived families living in tents, it can improve their way of living.

There is lack of clean drinking water in MENA region epically in Jordan and Lebanon, so HHRD Middle East North Africa (MENA) provides Water Filters to Palestinian refugees in Jordan. This project can ease their lives and make it healthier for them and improve access to clean drinking water.
## Project Donation Levels for 2022

<table>
<thead>
<tr>
<th>Region</th>
<th>Project Description</th>
<th>Donation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>Afrediv Pump</td>
<td>$3,335</td>
</tr>
<tr>
<td>Africa</td>
<td>Kenya Shallow Well with Afrediv</td>
<td>$4,500</td>
</tr>
<tr>
<td></td>
<td>Somalia Shallow Well with Afrediv</td>
<td>$4,500</td>
</tr>
<tr>
<td></td>
<td>Uganda Shallow Well with Afrediv</td>
<td>$4,500</td>
</tr>
<tr>
<td></td>
<td>Tanzania Shallow Well with Afrediv</td>
<td>$4,500</td>
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<tr>
<td></td>
<td>Mali Shallow Well with Afrediv</td>
<td>$5,750</td>
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<tr>
<td></td>
<td>Kenya Rain Harvesting</td>
<td>$3,450</td>
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<tr>
<td></td>
<td>Uganda Rain Harvesting</td>
<td>$3,450</td>
</tr>
<tr>
<td></td>
<td>Kenya Mega Borehole</td>
<td>$115,000</td>
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<tr>
<td></td>
<td>Uganda Mega Borehole</td>
<td>$115,000</td>
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<tr>
<td></td>
<td>Kenya Mega Water Filtration Plant</td>
<td>$160,000</td>
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<tr>
<td></td>
<td>Kenya WASH (5 Units Restroom)</td>
<td>$6,670</td>
</tr>
<tr>
<td></td>
<td>Somalia WASH (5 Units Restroom)</td>
<td>$6,670</td>
</tr>
<tr>
<td></td>
<td>Uganda WASH (5 Units Restroom)</td>
<td>$6,670</td>
</tr>
<tr>
<td></td>
<td>Tanzania WASH (5 Units Restroom)</td>
<td>$6,670</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Cambodia Water Tank</td>
<td>$1,600</td>
</tr>
<tr>
<td></td>
<td>Indonesia Water Tank</td>
<td>$2,500</td>
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<tr>
<td>Bangladesh</td>
<td>Water Project</td>
<td>$1,600</td>
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<tr>
<td>Haiti</td>
<td>Water Project</td>
<td>$5,750</td>
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<tr>
<td>India</td>
<td>Water Project</td>
<td>$2,875</td>
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<tr>
<td></td>
<td>WASH (Restroom)</td>
<td>$3,800</td>
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</tbody>
</table>
## PROJECT DONATION LEVELS FOR 2022

### MENA

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Donation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan Water Tanks Placement at 3 Locations</td>
<td>$1,150</td>
</tr>
<tr>
<td>Palestinian Refugees Home Water Filtration for 3 Families</td>
<td>$1,000</td>
</tr>
<tr>
<td>Syrian Refugees in Jordan Water Supply by Truck Project for 2 Families</td>
<td>$1,000</td>
</tr>
<tr>
<td>Syrian Refugees in Lebanon Water Supply by Truck Project for 2 Families</td>
<td>$1,000</td>
</tr>
<tr>
<td>Syrian Refugees WASH in Jordan (One Unit Restroom)</td>
<td>$2,000</td>
</tr>
</tbody>
</table>

### Nepal

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Donation Level</th>
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</thead>
<tbody>
<tr>
<td>Bio-Sand Filtration Community Water Pump</td>
<td>$1,460</td>
</tr>
<tr>
<td>Drinking Water Treatment Plant</td>
<td>$6,000</td>
</tr>
</tbody>
</table>

### Pakistan

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Donation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afrediv Pump or 2 Abayaar Hand Pumps (in selected locations)</td>
<td>$1,000</td>
</tr>
<tr>
<td>Solar Based Drinking Water Solution (SBDWS)</td>
<td>$1,300</td>
</tr>
<tr>
<td>Dug Well</td>
<td>$2,650</td>
</tr>
<tr>
<td>Submersible with Brick Masonry Water Tank</td>
<td>$3,450</td>
</tr>
<tr>
<td>Gravity Flow Schemes</td>
<td>$3,450</td>
</tr>
<tr>
<td>Tube Well</td>
<td>$11,300</td>
</tr>
<tr>
<td>Ultra-Filter Unit (UFT)</td>
<td>$13,300</td>
</tr>
<tr>
<td>RO Plants</td>
<td>$20,000</td>
</tr>
<tr>
<td>Ram Pump</td>
<td>$20,000</td>
</tr>
<tr>
<td>WASH (2 Units Restroom)</td>
<td>$5,400</td>
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</tbody>
</table>

### Rohingya Refugees in Bangladesh

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Donation Level</th>
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<tbody>
<tr>
<td>Mega Water Project</td>
<td>$11,000</td>
</tr>
<tr>
<td>WASH (2 Units Restroom)</td>
<td>$2,450</td>
</tr>
</tbody>
</table>