



# **Solar Powered Artesian Well Lebanon**

*Prepared For :  
Imam Hasan Foundation*

# Project Overview

## PROJECT COST

Total Cost: USD \$185,400/ AUS \$278,650

## SOLAR POWERED ARTESIAN WELL

## LOCATION

Ayta Shaab village, Bint-Jbiel district, South Lebanon

## BENEFICIARIES

Approx. 3200 daily

## PROJECT DESCRIPTION

Non-flowing artesian well, (600-630 m. depth), supplemented by photovoltaic solar panels for the pumping system.



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# Need On Ground

Lebanon is facing a severe economic crisis with its currency losing over 90% of its value. Poverty rates have surged to more than 80%, and unemployment levels have risen above 50%.

Female-headed households and Syrian refugees are particularly vulnerable to these economic challenges. The food insecurity situation is alarming, affecting 34% of Lebanese and 50% of Syrian refugees.

The destruction of Lebanon's main grain silo during the 2020 Beirut Blast has worsened the situation, leaving the country with meager grain reserves and a risky supply chain.

The cluster of three villages identified by our ground partners are Ayta Shaab, Rmeich, and Ramieh, and have a population of over 30,000 people who are in need of clean drinking water. Half of whom are indigenous, and depend on agricultural activities but are hampered by a lack of sufficient water resources. Hence, they rely mainly on rain-fed farming, leading to reduced harvests and hindering economic development in the region.

So far, as part of the attempt to rehabilitate and sustainably empower the locals in these three villages, our ground partners have already launched projects to support the agricultural activities including the provision of artisan water wells and water delivery systems. However, the need is still great, and an additional artisan water well is still desperately required in Ayta Shaab.



# Project Location

For decades, South Lebanon has faced significant challenges due to its geopolitical context and the resulting instability. These issues have led to demographic imbalances, waves of refugees, high emigration rates, and widespread unemployment. Moreover, the public system's weaknesses have further exacerbated the region's economic struggles.

In this cluster of three villages, Ayta Shaab, Rmeich, and Ramieh, there is a lack of significant surface water resources nearby. The existing water supply network managed by "The South Lebanon Water Establishment" draws water from springs in Deir-Kanoon, just south of Tyre.

However, this water source is inconsistent and fails to adequately reach all towns and meet the needs of the inhabitants. To supplement, the communities have constructed medium and small artificial ponds for rainwater harvesting primarily used in agriculture.

Nonetheless, the primary source of water for domestic and agricultural use in the area remains groundwater from artesian wells.



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# Project Overview



The proposed solution to boost agricultural development is the digging and installation of a non-flowing artesian well, with a depth of 600-630 meters. This well will be supplemented by photovoltaic solar panels to power the pumping system. The decision to use an artesian well was based on the availability of good-quality groundwater with low hardness and salinity and its safe distance from pollution sources. Moreover, the existing wells in the area are insufficient to cater to the needs of the population.

Moreover, as part of the larger objective of the project, the local farmers will be trained to handle their agricultural business effectively.



Photovoltaic solar panels previously installed by our ground partners.



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# Project Cost



The total cost for this project is **USD \$185,400/ AUS \$278,650**.



Previously done artesian well piping and water cistern installations by our ground partners.



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# Cost Breakdown

The table below provides the breakdown of the project costs requested from Imam Hasan Foundation in USD \$ and the AUS \$ as equivalent to today's currency rate:

High level Cost Breakdown	Total Cost USD \$	Total Cost AUS \$
Geological Study	\$1,000	\$1,502.97
Digging Cost	\$49,600	\$74,547.31
Well Casing	\$24,800	\$37,273.66
Pumps, Pipes & Cables	\$40,000	\$60,118.80
Photovoltaic System	\$62,000	\$93,184.14
Water Tank	\$8,000	\$12,023.76
<b>Total Project Cost</b>	<b>\$185,400</b>	<b>\$278,650</b>



# Beneficiaries



The artesian well project aims to provide clean and safe water for daily domestic and agricultural use to a population of approx. 3,200 people. Due to its proximity to the Israeli border, the locals who have been impacted by the regime are living under very dire and harsh living conditions. The region is facing an urgent need for sustainable and reliable water solutions.

## Beneficiary Story

Following the Israeli war on Lebanon in July 2006, the aftermath was even more devastating than the war itself due to the presence of destructive cluster bombs left by the enemy on our lands. One of the villagers, S.M., a farmer, unfortunately, fell victim to one of these cluster bombs while working in his agricultural field, resulting in a severe injury to his left leg. The injury was so severe that his leg had to be amputated from the knee, leaving him in urgent need of a prosthetic leg. Consequently, he was unable to continue his main source of livelihood – farming.

Thankfully, the medical health center in his village, Ayta Chaab, intervened and arranged for the installation of a prosthetic leg, providing him with the necessary mental health support as well. With the assistance received, S.M. was able to regain his ability to work in agriculture and was eager to return to his field as a farmer. Ensuring favorable conditions for agriculture will undoubtedly improve his living circumstances, as it will help overcome existing obstacles and facilitate his farming activities.



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Imam Hasan  
Foundation  
"Mighty through opportunity"



**Imam Ja'far Sadiq (a.s.) says: “An act of charity given openly prevents seventy types of mishaps, and a secretly given charity cools the anger of our Lord Allah (S.w.T.)”**

*Bihar ul Anwar v93, p130r*



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