



United Nations Development Programme Programme of Assistance to the Palestinian People

Country: occupied Palestinian territory

Donor: Government of Japan

Project: Maintaining critical health, border and trade facilities impacted by COVID-19 and extreme weather in the West Bank and Gaza Strip



PAL-00130907



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Final Project Report
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Final Project Report

1. SUMMARY OF THE PROJECT

- (1) Title of the project:** Maintaining critical health, border and trade facilities impacted by COVID-19 and extreme weather in the West Bank and Gaza Strip.
- (2) Approval date of funding:** 02 March 2022
- (3) Amount of approved grant:** US\$ 1,436,398
- (4) Scheme of the Project:** 2022 Japan Supplementary Budget
- (5) Period covered by the report:** 31 March 2022 – 31 December 2024
- (6) Palestinian project counterpart:** The Palestinian Ministry of Health (MoH) for the project's first component in the Gaza Strip, the Palestinian Investment Promotion and Industrial Estates Agency (IPIEA) for the second component in JAIP, Jericho. In December 2024, The Palestinian Industrial Estate and Free Zone Authority (PIEFZA) assumed responsibility for the second component following a decree on 7 July 2024 that separated PIEFZA's functions from IPIEA.

2. DESCRIPTION OF THE PROJECT

2.1 INTRODUCTION AND OBJECTIVES

This narrative report provides a detailed overview of the achievements, challenges faced, and lessons learned from the implementation of the "Maintaining critical health, border, and trade facilities impacted by COVID-19 and extreme weather in the West Bank and Gaza Strip" project.

Due to the impacts of the COVID-19 crisis and the increased fiscal deficit faced by the Government of Palestine, this project supported, under its first component, increasing access to reliable electricity supply through installation of solar PV system at the Turkish-friendship hospital to maintain access to health critical services in the Gaza Strip. It aimed to support the Palestine-Turkish Friendship Hospital with reliable and sustainable supply of electricity that can contribute to improved access to decent healthcare for vulnerable cancer patients – amongst others.

While in the West Bank, the project aimed to enhance the environmental sustainability, accessibility, and safety of Jericho Agro-Industrial Park (JAIP) - Phase II through the rehabilitation of the intersecting wadi Marar to reduce the risk of flooding, and ease movement and access to all facilities and industrial development services available within the JAIP compound. Wadi Marar splits JAIP into northern and southern segments, and becomes flooded in winter months, constraining movement, and access to JAIP facilities and industrial development services. Only 750 m of the wadi falls within the area of JAIP - Phase II, where 4,000 meters of the wadi upstream cuts across the Jericho gate residential project area up to the Jerusalem-Jericho Road. Upstream the wadi rehabilitation has been completed to mitigate flooding for the ongoing development works. This project focused on rehabilitated the segment that

crosses JAIP Phase II to avoid any risk of flooding– which would negatively impact accessibility to and continuity in the provision of industrial development services at JAIP, as well as operations of businesses.

2.2 OUTPUTS AND RESPECTIVE ACTIVITIES

The project aimed to achieve two main outputs: enhanced reliability of energy supply at the Palestine-Turkish Friendship Hospital for COVID-19 and oncology services in the Gaza Strip, and an improved flood risk reduction plan for JAIP-Phase 2 in Jericho.

The first output involved installing a 142 KWp rooftop solar system at the hospital. The second output focused on rehabilitating, leveling, and constructing a 730-meter stormwater channel to reduce flood risk during winter at JAIP Phase 2. The following section details the budget allocation for each component.

3. ORIGINAL BUDGET

Project Component	Budget in USD	Project site
Improved reliability and sustainability of energy supply of the Palestine-Turkish Friendship Hospital for COVID-19 healthcare and oncology services in the Gaza Governorate	162,500.00	Gaza Strip
Improved flood risk reduction plans in place for JAIP-Phase II	1,000,000.00	JAIP /Jericho
project management, direct project costs	154,330.00	
GMS (8%)	105,346.00	
Levy (1%)	14,222.00	
Grand Total	1,436,398.00	

4. IMPLEMENTATION PROCESS AND RESULTS

This section presents the implementation process, and the results achieved under this project. Subsection 4.1 elaborates on the implementation process while subsection 4.2 provides details on the results, challenges, and lessons learned for each output.

4.1 IMPLEMENTATION PROCESS

The United Nations Development Programme/Programme of Assistance to the Palestinian People (UNDP/PAPP) was responsible for implementing this project in collaboration with the Ministry of Health in Gaza and the Palestinian Industrial Estate and Free Zone Authority (PIEFZA).

For the first component of the project, UNDP and the engineering department of the Ministry of Health in Gaza prepared the detailed design of the proposed rooftop solar PV system. The complete design package was then published and tendered to local contractors in the Gaza Strip for the installation of the solar system.

For the second component, the implementation process involved reviewing the draft detailed design prepared by Japan International Cooperation Agency (JICA) for the rehabilitation of Wadi Marar crossing JAIP Phase 2. Multiple stakeholders' meetings were conducted to ensure that the design aligned with JAIPCo's master plan for JAIP Phase 2 development and with the wadi alignment upstream and downstream of JAIP Phase 2 to maintain water flow through the storm channel. A revised design was prepared by UNDP based on the review, ensuring proper alignment and function of the channel, followed by obtaining necessary clearances from PWA, PIEFZA, and JAIPCo before commencing the construction phase.

The following table summarizes the contracts signed during the project's implementation and outlines the key deliverables associated with the project outputs.

Project output and activities	Contractor/ technical service provider name	Main deliverables
Output 1: Improved reliability and sustainability of energy supply of the Palestine-Turkish Friendship Hospital for COVID-19 healthcare and oncology services in the Gaza Governorate		
1.1 prepare a detailed design for installing PV solar system in the Turkish hospital in Gaza Strip	UNDP in collaboration with the engineering department of Ministry of Health	• A full tender document including detailed design, technical specifications and bill of quantities was prepared in cooperation with the MoH engineering department by June 2022.
1.2 Install a renewable energy system and undertake grid connection and enhancement	Sungate Solutions Co	• A contract was signed with (Sungate Solutions Co) on 25/8/2022, and the order to commence was issued on 1/9/2022. • A 142KWp roof top solar system including steel mounting structure was successfully installed at the Turkish friendship Hospital in the Gaza Strip in March 2023.
1.3 Support the operational and maintenance capacity of MoH and hospital staff including training key staff	Sungate Solutions Co	• The system was successfully commissioned in April 2023 and on-site training for the technical staff of the hospital and maintenance department was carried out with the support of the contractor. • In addition, spare parts package was delivered to the Hospital's store. • Annex 1 presents the initial handing over of the solar PV system to the Ministry of Health in Gaza on 16 April, 2023.
Output 2: Improved flood risk reduction plans in place for JAIP-Phase II		

2.1 Review and solicit stakeholders' approval of the detailed design of the construction of the storm water channel	UNDP	• The draft detailed design was prepared by JICA and discussed with stakeholders on 4 July 2022. Two issues were discussed in the meeting to complete the design. These were: 1) extending the scope of work of the rehabilitation of the wadi up to the agreed connection point with the Wadi inlet at the intersection of Hussein's land, upstream of JAIP 2) getting the approval from PWA, PIEFZA and JAIPCo on the final design. • A follow up meeting including site visit to the wadi inlet was organized by IPIEA. All stakeholders agreed on getting the consensus of Hussein landlord on the proposed Wadi Inlet and to update the design according to the agreement between IPIEA, JIPCO and Hussein Landlord. • Following a meeting between RoJ, UNDP and JICA held on 21 December 2022, JICA promised to submit the final design by end of December 2022. • The design and tender documents were finally revised and approved by PWA, PIEFZA, and JAIPCo in May 2023.
2.2 undertake excavation, levelling work to widen the wadi channel and achieving the desired slope of the wadi sides.	Al Saif Contracting Company	• Following receiving the approval from PWA, PIEFZA, and JAIPCo, UNDP proceeded with the procurement notice for the rehabilitation of the Wadi. The invitation to bid with a site visit for participating contractors was launched on 06 June 2023. • A pre-bid meeting and site visit were conducted on 6/6/2023. Three bidders attended the said site visit.

		• The tender was closed on 20 June 2023. The procurement process was completed in July 2023 with the recommendation to award the contract to the lowest price and complaint bidder, Al Saif Contracting Company • The construction contract was signed on 25th November 2023. • Route alignment, excavation, levelling and back filling to the desired level as per the approved design were completed by March 2024.
2.3 construct reinforced concrete stormwater open channel	Al Saif Contracting Company	• Following the completion of land levelling, excavation and backfilling, the construction of a 730-meter long, 2.5-meter high, and 5.5-meter-wide structure kickstarted and completed by October 2024. The contractor initially handed over the project to the handing over committee on 10th December 2024. The committee, formed by the Minister of Industry, included PIEFZA, JAIPCo, JM, PWA, Palestinian Land Authority, and the Ministry of Public Works and Housing (MoPWH). • Annex 2 presents the substantial completion certificate (initial handing over of the project) issued on 10 December 2024 • Annex 3 presents the final completion certificate, issued on 23 December 2025.

4.2 RESULTS OF THE PROJECT

UNDP/PAPP, in collaboration with various stakeholders including the Ministry of Health in Gaza, the Palestinian Industrial Estate and Free Zone Authority (PIEFZA), Palestinian Water Authority (PWA), Jericho Municipality (JM), and Jericho Agro Industrial Park Company (JAIPCo), successfully implemented the project yielding significant results.

The installation and successful commissioning of a 142 KWp solar energy system at the Palestine-Turkish Friendship Hospital in the Gaza Strip was one of the major achievements of the project. This renewable energy initiative greatly improved the reliability and sustainability of the hospital's energy supply, essential for its COVID-19 healthcare and oncology services. Despite a two-month delay from the original timeline, this component was completed effectively on 16 April 2023, marking a substantial improvement in energy resilience for critical healthcare infrastructure.

In parallel, the project's second key result was the enhancement of accessibility and safety within the Jericho Agro-Industrial Park (JAIP) Phase II. This was achieved through land leveling and the construction of a reinforced concrete stormwater channel. The new infrastructure not only mitigates flooding risks but also paved the way for JAIPCo to proceed with additional infrastructure development in JAIP Phase 2, which is expected to be completed by the second quarter of 2025.

These achievements demonstrate the successful realization of project objectives, focusing on infrastructure resilience. The following table presents the progress made and lessons learned.

Output	Output Indicators	Deliverables achieved	Narrative on progress made, challenges and lessons learned
Output 1: Improved reliability and sustainability of energy supply of the Palestine-Turkish Friendship Hospital for COVID-19 healthcare and	Capacity of renewable energy system installed (in KW)	142 KWp solar energy produced and integrated to the power system of the Turkish Palestinian hospital.	Status: Completed with two-month delays from the original plan. A 142 KWp rooftop PV solar roof top system was installed at the Turkish Friendship Hospital in the Gaza Strip by March 2023. Commissioning of the system and handing over to the Ministry of Health in Gaza took

oncology services in the Gaza Governorate.			place in April 2023. The newly installed system is synchronized with the existing generator and the main power supply from the national grid to minimize dependence on fossil fuel. The solar power generation from this project at the hospital has resulted in around 15% savings on using diesel for generating electricity. Issue: The project encountered two-month delays to secure the needed solar panels required for the project. Lesson learned: It is important to install solar system as a reliable and dependent source of energy to maintain functions of health care services. However, the availability of material within Gaza Strip remains a critical challenge and would require extensive coordination in advance to avoid any potential delays.
	Number of hospital staff trained in operation and maintenance of renewable energy system installed	2 technicians and 2 engineers were trained on operation and maintenance	Status: Two Ministry of Health engineers and two technicians participated in all phases of project implementation including the design of the steel structure and then received hand-on-hand training for the operation of the system and maintenance of the components. Lesson learned: The involvement of project counterparts in the design, construction,

			and operation was beneficial in facilitating the project handover and successful commissioning. The training on operation and maintenance was an integral part of the project to ensure sustainability beyond the expiry date of the project.
Output 2: Improved flood risk reduction plans in place for JAIP-Phase II.	Flooding was avoided following heavy rainfall.	A revised approved detailed design for the rehabilitation of the Wadi	Status: completed with around 14-month delays from the original plan As part of the review process, several meetings were conducted with JICA, who prepared the draft detailed design, PWA, PIEFZA and JAIPCo. Two issues were mainly identified that are critical to the functionality of the Wadi. These

			were: 1) completing the design up to the agreed connection point with the Wadi inlet up to Hussein's land, upstream of JAIP, and 2) getting the approval from PWA, PIEFZA and JAIPCo on the final design including the proposed alignment of the wadi. • A follow up meeting including site visit to the wadi inlet was organized by PIEFZA on 1st September 2022. All stakeholders agreed on getting the consensus of Hussein landlord on the proposed Wadi Inlet and to update the design according to the agreement between IPIEA, JIPCO and Hussein Landlord. • In addition, following a meeting between RoJ, UNDP and JICA held on 21 December 2022, JICA promised to submit the final design by end of December 2022. • The Revised design and tender documents were finally approved by PWA, PIEFZA, and JAIPCo, on 15th and 17th May 2023 respectively Issue: incomplete detailed design for the wadi rehabilitation
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			Lesson learned: the project encountered 14 months delays in getting the final approval of the key project counterparts in the final design mainly due to lack of consideration of the work that was taking place upstream of JAIP Phase 2 which is critical to the flow of the storm water. Consultation with all stakeholders should be part of the design phase to ensure all stakeholders' concerns are reflected in the design. This will avoid any conflict during the implementation.
		A 730-meter-long storm water concrete open channel to mitigate flood risk during the winter season across JAIP Phase was successfully completed.	Status: completed with around 4 months delays from the originally planned. The project was successfully completed and initially handed over to the PIEFZA on 10 December 2024. • UNDP procurement department issued an invitation to bid in the local market on with a site visit

			• for participating contractors done on 06 June 2023. The tender was closed on 20 June 2023. • The procurement process was completed in July 2023. • construction contract was signed on 25 November 2023 and a commencement note was issued to the contractor on 05 December 2023. • land levelling work and construction of a 730-meter long, 2.5-meter high and 5.5-meter wide of storm water channel were completed by end of October 2024. • The initial handing over of the project from the contractor to PIEFZA was done on 10th December 2024, the handing over committee was formed by the Minister of Industry, included PIEFZA, JAIPCo, JM, PWA, Palestinian Land Authority and the Ministry of Public Works and Housing (MoPWH • The committee issued the contractor a substantial completion of work certificate along with a snag list to be completed no later than 25 December 2024, Annex 2 presents a copy of the substantial completion
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			certificate issued on 10 December 2024 • The project's final inspection took place on 19 November 2025, with only minor comments; the contractor was asked to resolve them within two weeks, annex 3 presents the final completion certificate, issued on 23 December 25 confirming all comments were addressed. Issue: Project delays encountered as a result of a dispute with the downstream landowner regarding the stormwater channel outlet at the Wadi. Lesson learned: there is a need to get the consensus of the landowner downstream of the Wadi in the design phase to avoid any delays
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5. PUBLICITY OF THE PROJECT

The following measures were implemented over the implementation period to insure the visibility of the Government of Japan:

For the Solar Roof Top PV system at the Turkish-friendship hospital in the Gaza Strip, the following visibility measures were implemented:

- A project signboard was fixed at the entrance of the hospital and below the roof where the PV system is installed.
- Multiple photography sessions were taken to document the progress of the project. Can be found in the link: https://drive.google.com/drive/folders/12sBDdSBnIjFsnUrtksHGWm_j99ThoiWK?usp=drive_link
- Social media posts highlighting the project: <https://www.facebook.com/share/p/1RraMU2Cvz/>



For the Rehabilitation of wadi Marar in JAIP Phase 2 in Jericho, the following visibility measures were implemented:

- A project sign board was fixed in two different locations showing that donation was made by the Government of Japan for the project



- In addition, a final ceremony celebrating the completion of the work is expected to take place in Q3 of 2025.

6. SPECIAL NOTES

1. In Gaza, the installation of the solar system at the Turkish Palestinian Friendship Hospital was completed and successfully commissioned on 16 April 2023. The system was operational for about one year. Following the collapse

of cease fire on the 18th of March 2025. The Hospital according to credible sources report was destroyed on 21 March 2025. The following video documents the destruction:

<https://www.aljazeera.com/news/2025/3/22/israel-blows-up-gazas-only-specialised-cancer-hospital-in-massive-strike#flips-6370325970112:0>

For the Project's component in the West Bank

1. An updated design for rehabilitation of the Wadi was received from JICA team on 13 June 2022, and reviewed at a stakeholders' meeting on 4 July 2022, raising questions about the connection with upstream neighbors and incomplete design.
2. Further discussions about the upstream connection took place on 1 September 2022, and an agreement was reached between PIEFZA and the upstream landowner on 22 September 2022. Accordingly, a final design was completed by UNDP which then was approved in May 2023.
3. The project was completed successfully, with the official handover occurring on 10 December 2024. The handover committee confirmed all work was completed and issued a substantial handover certificate to the contractor.
4. The Defects Notification Period (DNP) will end on 11 December 2025, with a final inspection scheduled for November 2025. If satisfactory, a final handover certificate will be issued, marking project completion.

7. PHOTOS

Photos from the project's component 1



Construction of steel mounting structure



project team site visit



Instalation of roof top solar panels at the Turkish Friendship Hospital



Project handing over to the director of the Turkish- Palestinian Friendship Hospital



Solar system control room

Photos from the project's component 2



Excavation works



Checking the level of blinding concrete before casting concrete



Compaction works under the concrete base for the water channel



Blinding concrete under the channel foundation



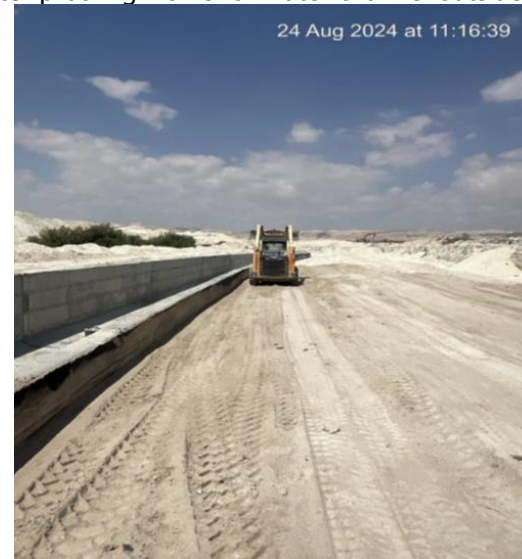
Shutter and steel reinforcement works for the open channel



Water proofing works for water channel outside walls



site supervision by UNDP technical team



Backfilling works on channel sides



Completed wadi rehabilitation including construction of storm-water channel with a total length of 730 meters

8. REPORT AUTHORIZATION BY UNDP/PAPP

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9. ANNEX

- **Annex 1:** presents the initial handing over of the solar PV system to the Ministry of Health on 16 April 2023
- **Annex 2:** presents the substantial completion certificate (initial handing over of the project) issued on 10 December 2024
- **Annex 3:** presents the final completion certificate, issued on 23 December 2025.