



The State of Palestine's Nationally Determined Contribution (NDC) implementation plans: Water – Improving water networks infrastructure

Report for Palestine's Environment Quality Authority and the Islamic Development Bank under the NDC Partnership's Climate Action Enhancement Package



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List of abbreviations

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AECID	Agencia Española de Cooperación Internacional para el Desarrollo
AFD	French Development Agency (Agence Francaise de Developpment)
BMZ	Ministry for Economic Cooperation and Development (Germany)
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GIZ	German Development Cooperation
IKI	International Klimaschutzinitiative
JICA	The Japan International Cooperation Agency
JWU	Jerusalem Water Undertaking
KfW	KfW Development Bank
MoLG	Ministry of Local Government
MoWA	Ministry of Women’s Affairs
NAMA Facility	Nationally Appropriate Mitigation Action Facility
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NRO	Netherlands Representative Office
NRW	Non-Revenue Water
PWA	Palestinian Water Authority
UK	United Kingdom
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WSRC	Water Sector Regulatory Council
WB	World Bank

1 Introduction

1.1 Overview

This plan for “**Improving water networks infrastructure**” is intended to enhance Palestine’s opportunities to access climate finance and thereby facilitate successful implementation and delivery of Palestine’s Nationally Determined Contribution (NDC). Details of the methodology used to develop this plan are provided in Annex 1.

The plan lays out steps to deliver the following NDC actions originating from Palestine’s National Adaptation Plan (NAP) that are conditional on being able to secure international funding:

- Control of leakage from distribution systems
- Develop and improve stormwater systems and drainage infrastructure.

Leakages are due to aging pipes, old water meters, illegal connections, tank overflows and the absence of maintenance programmes (with technical staffing and funding both lacking). Hence, to reduce leakages, activities under this plan expand the scope of the NDC action by addressing issues regarding the governance of water networks, as well as their maintenance and infrastructure.

This plan is to be achieved through the completion of six activities, each contributing to the following targets that align with the NDC actions:

- Non-revenue water is reduced by 15% by 2032
- 5% of rainwater in priority urban areas is drained and collected by 2032.

The indicative total cost of achieving these targets is 71 million USD. Taking national contributions into account, there is a total funding gap of 67 million USD. Achieving the targets will provide considerable adaptation benefits for Palestine by reducing the sensitivity of the water sector to climate change through reducing the amount of water that is lost due to leakages or illegal connections. It will also increase the adaptive capacity of infrastructure to prevent flooding through provision of better drainage. There is strong government support to undertake these activities, which feature in national and sectoral strategies.

1.2 Geographical scope

Activities in this NDC implementation action plan are an equal priority for the whole of the Occupied Palestinian Territory, i.e. the West Bank, including East Jerusalem, and the Gaza Strip. However, the consequences of Israel’s military actions during May 2021 have major implications for the water sector, related infrastructure and the capacity of the Palestinian Water Authority (PWA) to provide services to the Palestinian people living in Gaza. As this plan was developed in the months immediately prior to Israel’s military actions, there is an urgent need to re-assess the water sector’s needs for rehabilitation before implementing specific activities in Gaza. Hence, the activities laid out may need to be revisited to address resultant damage to the infrastructure.

2 Relevance of the GCF Country Programme

The Green Climate Fund (GCF) Country Programme includes a priority project for “Addressing climate-related water scarcity, through the enhancement of water resources.” This is to be achieved through several outputs that seek to balance supply of water with demand, including through the improvement of the water networks infrastructure. One output is particularly relevant to this plan: “Enhance water use efficiency (e.g. prevent leakages, metering, awareness raising)”¹. In addition, this plan also focuses on stormwater drainage network infrastructure.

3 Reasons for prioritisation of NDC actions

The NDC actions that can be implemented through this plan seek to improve the efficiency of the water networks infrastructure. National stakeholders scored the relevance and feasibility of these actions based on: the extent to which the Government’s existing national and sectoral policies, strategies and plans already acknowledge their importance (High = 10, 5, 0 = Low); their adaptation and mitigation benefits (Very positive = 10, 5, 0, -5, -10 = Very negative) and the capacity and technology available to achieve them (High = 5, 2.5, 0 = Low).

The capacity scores reflect that the activities in this plan are not currently being implemented, although this plan aims to increase the capacity available, as necessary, to address constraints. The results are shown in Table 1.

Table 1 Priority scores for NDC actions

NDC actions	Government support	Adaptation benefits	Mitigation benefits	Capacity available	Technology available	Total
Control of leakage from distribution systems	10	10	0	5	5	30
Develop and improve stormwater systems and drainage infrastructure	10	10	0	5	5	30

These scores draw upon and are justified by information in the following sub-sections that address each of the priority criteria.

3.1 Government support

Although the NDC action is not specifically identified in strategic documents, the National Policy Agenda 2017 – 2022 seeks to “manage, protect and promote sustainable use and conservation of natural resources (land, water and energy)”. Controlling leakages from distribution systems is an effective way of promoting the sustainable use of water.² Policy

¹Climate Resilient Transformation with the Green Climate Fund (2019), p.72. Accessible [here](#).

²State of Palestine: 2017-22 National Policy Agenda (2016), p26. Accessible [here](#).

interventions under the National Policy Agenda also include planning and investing in “strategic infrastructure [for] water, electricity, transportation and telecom networks, airports, seaport and industrial parks.”

The NDC action to “Develop and improve stormwater systems and drainage infrastructure” is embedded within several national policies and sectoral strategies, such as the National Water Policy 2013 – 2022 and National Policy Agenda 2017 – 2022. In particular, the National Water Policy aims to “increase stormwater infiltration at upper elevations to recharge the aquifers.”³

3.2 Benefits for adaptation to climate change

Future climate scenarios for Palestine project an increase in temperature and a decrease in average annual rainfall, translating into an increase in the risk of drought. The wettest days may also become more frequent, leading to an increased risk of flood.⁴

These events and slow-onset changes are expected to cause a decrease in the availability of water resources, while simultaneously leading to an increase in the demand. Efforts to meet this demand may lead to a reduction in groundwater quantity, which would damage ecosystems and soil health. On the other hand, not meeting the demand may lead to significant health impacts on the population, including dehydration and heat stress. The quality of water resources may also reduce as a result of runoff following heavy rainfall events and floods. This may lead to contamination of water and food resources, leading to impacts on people’s health. Floods may have further impacts on all other sectors of the economy, damaging infrastructure and increasing the risk of landslides.

Controlling leakages from the water distribution network will increase the amount of water available for consumption, hence, improving access to water and preventing health impacts, as well as reducing pressure on water resources that are sensitive to the warming climate. Likewise, efficient drainage and collection systems will help to increase the resilience of Palestine to climate change by (1) protecting urban areas from flooding and (2) reducing loss of water that can be used in agriculture. Both NDC actions will, therefore, provide strong adaptation benefits.

3.3 Benefits for mitigating climate change

No mitigation benefits were identified for this NDC action. Improving Palestine’s water networks infrastructure will have no impact on greenhouse gas emissions.

3.4 Capacity available

The skills and knowledge for improving water networks infrastructure are already available in Palestine. For example, the municipalities that supply water are already experienced in the detection of leakages. Likewise, consulting engineers and construction companies in Palestine has the capacity to design and implement improvements to stormwater systems and drainage infrastructure.

³Palestinian Water Authority, *National Water Policy and Strategy* (2013), p.14. Accessible [here](#).

⁴ State of Palestine Environment Quality Authority (2016). National Adaptation Plan p.109-110. Accessible [here](#).

3.5 Technology available

Where possible, implementation of these NDC actions will draw upon existing technologies available in Palestine, for both the development and improvement of stormwater, drainage and distribution systems. “Some of the necessary equipment and technology for rain-water harvesting is [already] available in Gaza.”⁵ However, to control leakage from distribution systems, the Jerusalem Water Undertaking (JWU) only has one set of leak detection tools: a pipe locator, pipe correlators and leak-point detectors. Therefore, additional detection equipment for each governate will need to be purchased (such as a meter test bench). Relevant technology that is unavailable in Palestine can be imported, and this is not expected to cause any challenges to the delivery of this plan.

4 Gender mainstreaming

4.1 Rationale for mainstreaming gender in this plan

The impacts of climate change are not gender neutral.⁶ Globally, women and girls are disproportionately affected by the impacts of the climate crisis, as existing vulnerabilities are intensified and intersect with a range of social, economic and political inequalities.⁷ A business-as-usual approach is likely to exacerbate existing inequalities and limit the opportunities for gender-sensitive and, where appropriate, gender-responsive adaptation actions that may improve gender equality.

At the UNFCCC’S 25th Conference of the Parties in 2019 the Enhanced Lima Work Programme on Gender and its gender action plan acknowledged the need for gender mainstreaming through all relevant targets and goals. It noted that gender-responsive implementation of climate policy and action can raise ambition, enhance gender equality, and promote a just transition of the workforce.⁸ Integrating gender equality into development leads to better outcomes in terms of economic efficiency, productivity and policy choices.⁹ Gender responsive solutions can help to tackle poverty and inequality while providing better community representation and technical solutions.¹⁰

4.2 Gender mainstreaming in this plan

All activities and targets under this plan have been reviewed by a team of gender experts, including a representative of the Ministry of Women’s Affairs (MoWA). Activities identified as “gender-relevant” were devised to ensure that they are at least gender-sensitive¹¹ and at

⁵Smithers, R., M. Harrison, Z. Mimi, K. Hardan, S. Abdelall and A. Hasan, *National Adaptation Plan (NAP) to Climate Change* (2016), p.49.

⁶Toolkit for a Gender-Responsive Process to Formulate and Implement National Adaptation Plans (NAPs) (2019), p.2. Accessible [here](#).

⁷Climate change, agriculture and gender in Gaza: Assessing the implications of the climate crisis for smallholder farming and gender within olive and grape value chains in Gaza (2020), p.5. Accessible [here](#).

⁸Report of the Conference of the Parties on its twenty-fifth session, held in Madrid from 2 to 15 December 2019 (2019), p.6-15. Accessible [here](#).

⁹World Development Report 2012: Gender Equality and Development (2012). p.3-6. Accessible [here](#).

¹⁰Implementation of gender-responsive climate action in the context of sustainable development (2016). Accessible [here](#).

¹¹Gender-sensitive programmes and policies are Level 3 in the WHO Gender Responsive Assessment Scale and is defined as “Considers gender norms, roles and relations; Does not address inequality generated by unequal norms, roles or relations; Indicates gender awareness, although often no remedial action is developed”. Accessible [here](#).

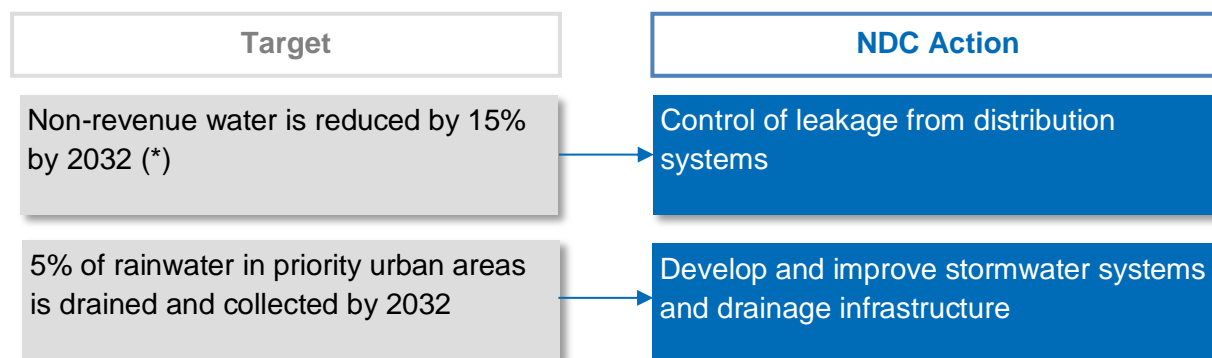
best gender-transformative.¹² More specifically, this implementation plan addresses the following gender issues identified in the water sector:

- Increased flood risks related to climate change can have gendered impacts by disproportionately affecting vulnerable people, including children and, therefore, women, as caregivers. By building drainage systems to prevent floods, this plan will reduce such climate sensitivities
- Women have less access than men to resources and may have no other alternative than to connect illegally to the water supply network, as a means of obtaining water for household consumption. By specifically identifying the factors that drive illegal connections to the water network (such as poverty and gender inequality), this plan ensures that women are not disproportionately penalised.

5 Activities

Two targets were set by national stakeholders in order to facilitate implementation of this plan and achieve its focal NDC actions, as outlined in Figure 1.

Figure 1 Targets for improving water networks infrastructure



(*) Non-revenue water is delivered but not paid for by consumers, creating water imbalances. Water imbalances may be due to physical losses due to leakages, black losses¹³ and/or unauthorized consumption of water. It is expected that payments for a certain amount of water will never be paid, including water delivered to refugee camps, mosques, schools, etc.

In total, six activities were identified in order to achieve these targets. They are listed in Figure 2 and Figure 3 for each NDC action. Further details are provided in the subsequent sections.

¹²Gender-transformative programmes and policies are Level 5 in the WHO Gender Responsive Assessment Scale and is defined as “Considers gender norms, roles and relations for women and men and that these affect access to and control over resources; Considers women’s and men’s specific needs; Addresses the causes of gender-based health inequities; Includes ways to transform harmful gender norms, roles and relations; The objective is often to promote gender equality; Includes strategies to foster progressive changes in power relationships between women and men” Accessible [here](#).

¹³Black losses refer to unauthorised consumption of water.

Figure 2 Summary of activities to control leakages from distribution systems

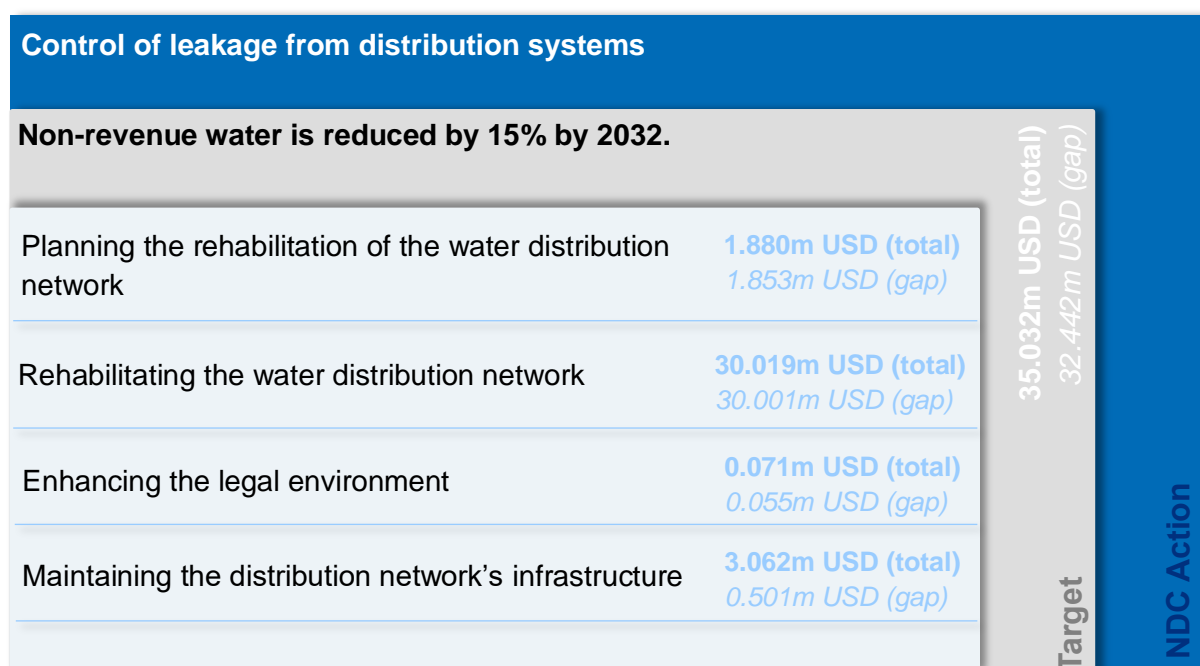
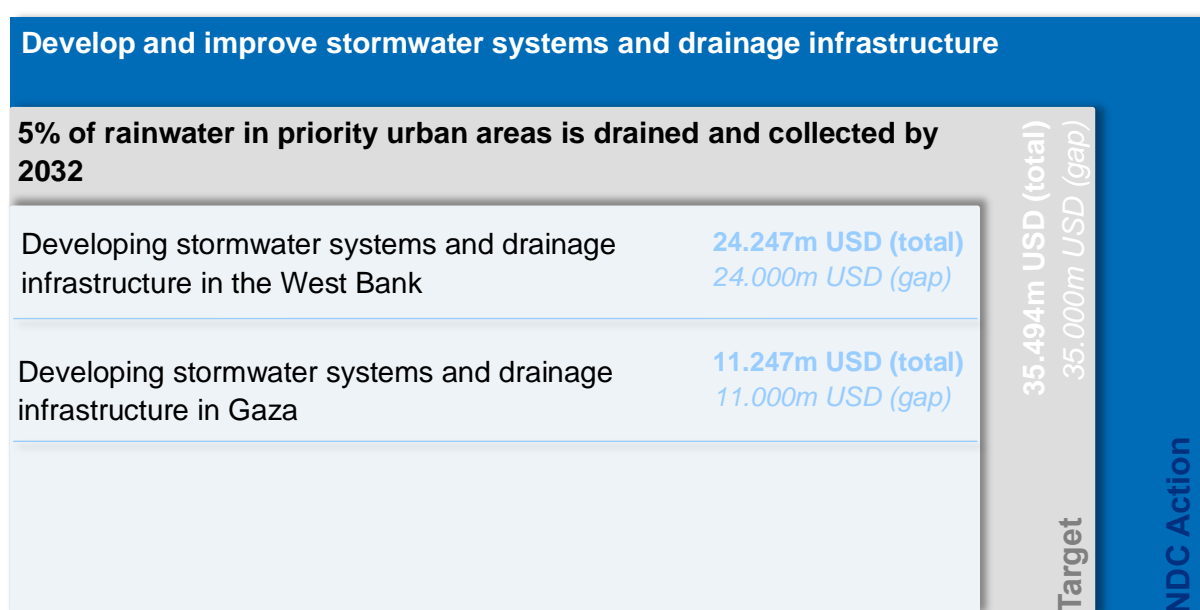


Figure 3 Summary of activities to develop and improve stormwater systems and drainage infrastructure



5.1 Activities to reduce water losses

The Water and Wastewater Service Providers Report (2017-2018) indicated that, of the total amount of water distributed for public and private consumption during 2018, losses reached 34% in the West Bank and 36% in Gaza. National stakeholders have identified the specific activities that need to be undertaken to achieve the target “Non-revenue water is reduced by 15% by 2032” and reduce water losses that are caused by physical losses due to leakages, black losses and/or unauthorized consumption of water. These activities are:

1. Planning the rehabilitation of the distribution network

In order to reduce losses, several preliminary studies are needed to identify the areas where most losses are happening, and the cause for such losses. This will ensure that future maintenance activities and management of distribution systems are targeted to the most problematic areas. The location and cause of water losses will be identified through the following sub-activities:

a. Locating where water losses are occurring

This activity involves conducting surveys in four localities in the West Bank and six in Gaza. Once specific areas suffering from high water loss have been identified, the exact volume of water lost will be measured using water meters and pressure reducing valves.

b. Identifying the cause of losses

The purpose of this activity is to prepare a preliminary action plan tailored to the specific causes of losses in specific locations. The cause of the losses will be determined by assessing whether losses are due to (1) a leak needing to be repaired at a specific location, (2) the overall age, location, and material of the network, which may mean the entire network requires maintenance and/or that some parts require replacement, and/or (3) a lack of meters to monitor consumption, meaning that water may be used without appropriate payment.

c. Installing water meters

Where needed, customers authorised to consume water at no cost will have meters installed to ensure that their water consumption is not incorrectly ascribed to black losses (i.e. unauthorised consumption). Such customers include refugee camps, mosques, schools, etc, which do not have to pay for the water that they consume.

2. Rehabilitating the water distribution network

Since 2008, the Jerusalem Water Undertaking (JWU) has rehabilitated 40% of its 1,200 km long network. The JWU wishes to rehabilitate the remaining 7,200 km of the network and has submitted a proposal to the German Development Bank to rehabilitate a pilot area with 1,000 water connections. This activity focuses on the Ramallah and Al-Bireh Governorate and part of Jerusalem only, which is not part of the pilot area included in the proposal to the German Development Bank.

Based on the preliminary studies from the planning phase, the following activities need to be delivered to rehabilitate the network in other regions:

a. Training of workers in pilot areas of at least 1,000 consumers.

Training will be provided on-site and in workshops to all technicians in charge of repair and installation. It will cover the installation and replacement of water meters and rehabilitation. Training will initially focus on pilot areas, but potentially expand to all distribution network projects.

Training will include both men and women in order to introduce women to this profession and challenge pre-existing norms.

b. Rehabilitation works

These will include replacing water meters and pipes that have deteriorated, as identified in the preliminary studies.

3. Enhancing the legal environment

Sustainable management of the water networks infrastructure relies on the development of an enabling environment. This will involve the following sub-activities:

a. Preliminary study

A comprehensive study will identify necessary enhancements to the legislature, including the development of policies, institutional arrangements, and penalty procedures to reduce water loss. Specifically, it will:

- Identify the factors that drive illegal connections to the water network (such as poverty and gender inequality)
- Seek to address these issues in an integrated approach that aims to improve access to water and reduce poverty
- Determine the need to reinforce penalties.

b. Training the judicial police

This activity will require the development of training programmes and workshops to support the enforcement of the enhanced legal environment, based on the outcome of the preliminary study. Training will address illegal uses of water supplies and cover various kinds of illegal connections to the water network that should be addressed to prevent losses. Training will be inclusive of women in order to introduce them to this profession and break pre-existing stereotypes.

4. Maintaining the water distribution network

To maintain the efficiency of the water distribution system, effective detection of leaks will be required through:

a. Developing procedures, guidelines and benchmarks for operational inspections

Guidelines will be developed for workers of water service providers on: (i) testing and calibration of water meters, (ii) maintenance procedures, (iii) procedure for conducting periodic checks. These guidelines will be applicable at a national scale.

b. Training operational inspectors to detect leaks

Training will be provided on-site and in workshops to all technicians in charge of maintenance. It will cover the use of leakage-detection instruments, as well as how to locate leaks using a Geographic Information System (GIS), and maintenance procedures more generally. Training will initially focus on pilot areas, but potentially expand to all distribution network projects. Training will be inclusive of women in order to introduce them to this profession and break pre-existing stereotypes.

c. Operation and maintenance of the water distribution network

Leakage-detection instruments will be supplied to the technicians following their completion of training. Operation and maintenance will be performed by the PWA to ensure that the system is sustainable. Operational costs will include the salary of workers and usage of electricity

5.2 Activities to drain and collect rainwater

National stakeholders have identified the following specific activities that need to be undertaken to achieve the target “5% of rainwater in priority urban areas is drained by 2032”:

5. Development of stormwater systems and drainage infrastructure in the West Bank

a. Preliminary studies and identification of needs

Preliminary studies are required to:

- Identify the cities that need to be targeted for improvement based on their current rainfall level and harvesting ratio
- Define the baseline and methodology that will be used for measuring improvements in rainwater harvesting.

b. Building works

Building of the rainwater drainage system will involve excavation, laying of pipes, and construction of collection basins and gutters to prevent flooding.

c. Operations and maintenance

To ensure that the stormwater and drainage systems can be sustained, operation and maintenance work will be performed by each relevant municipality. It will involve the cleaning of pipelines, manholes and laterals, preventive maintenance and the replacement of defective parts and accessories.

6. Development of stormwater systems and drainage infrastructure in Gaza city

a. Preliminary studies and identification of needs

Preliminary studies are required to:

- Define the baseline and methodology which will be used for measuring improvements in rainwater harvesting
- Identify the areas that need to be targeted for improvement, and their need and scope for drainage infrastructure, evaluation studies, consultancy services and implementation works.

b. Building works

Building of the rainwater drainage system will involve excavation, laying of pipes, and construction of collection basins and gutters to prevent flooding.

c. Operations and maintenance

To ensure that the stormwater and drainage systems can be sustained, operation and maintenance work will be performed by the municipality. It will involve the cleaning of pipelines, manholes and laterals, preventive maintenance and the replacement of defective parts and accessories.

6 Timeframes, indicative costs, existing funding and likely sources of funding

For each of the activities and sub-activities, Table 2 (below) identifies:

- The indicative implementation period

- Indicative costs
- National contributions, where relevant
- Existing international funding, where specifically relevant
- Any remaining funding gap, and
- Potential international public funding sources that were preliminarily identified as potential support to address the funding gap. Note that international funders' and development partners' priorities are subject to change and negotiation.

7 Institutional arrangements

Figure 4 (below) sets out the institutional arrangements for implementing the “Improving water networks infrastructure” plan. It identifies PWA as the lead organisation of a cross-ministerial Project Steering Committee, as well as other project delivery partners. Delivery partners will be specific to the activities. They will be identified according to their interests and expertise, and may change depending on the location of the activities. PWA is intended to be the main point of contact for project partners and stakeholders, including international public funders. The committee should also aim for equal gender representation in order to encourage gender mainstreaming throughout plans and activities.

It will be of key importance for PWA to allocate appropriate financial and administrative resources and clearly secure internal ownership of each activity in the implementation plan. In this way, PWA can ensure that the implementation plan is delivered and the Project Steering Committee is functional, delivering the activities to achieve the targets of the plan while adhering to timescales.

8 Recommendations for an enabling environment

The successful delivery of this plan will be ensured by developing a supportive enabling environment where it does not yet exist. This may include updating or developing legislation, regulations, statutory guidance (and standards), national or sectoral policies and strategies, and incentives (including fiscal measures) that will contribute to ensuring the successful implementation of the activities or the removal of potential barriers to implementation.

Overall, the policies in place are sufficient to support this plan's targets, and no existing policies and/or incentives contradict their achievement. PWA already provides incentives to municipalities, such as deducting their debts in return for rehabilitating the water distribution networks. Additional incentives identified that will be given further consideration include:

- A regulation from the Ministry of Local Government (MoLG) and PWA to ensure that all master plans from municipalities have separate rainwater and wastewater networks
- Granting current inspectors in municipalities the legal authority to enforce the law on water use.

Other cross-sectoral recommendations for development of the enabling environment to support the implementation of this plan identified by national stakeholders that will be given further consideration include:

- **Palestine's Environment Law Amendment** that is yet to be enacted **should be used as an enabling context** for the development of the legislation, regulation, statutory guidance, policies, strategies or incentives that are relevant to this plan.
- **Developing regulations for employers** to ensure that awareness-raising and training activities are included within the terms of their employment, so that individuals are paid to attend during working hours. This will improve women's access to such activities by addressing the time and economic constraints that they face. Implementing this recommendation requires securing formal Cabinet approval.
- **Developing regulations and statutory guidelines to enforce gender budgeting**, i.e. analysing all budget lines and financial instruments for climate change adaptation and mitigation from a gender-perspective, to ensure gender-sensitive or gender-responsive investments in relevant programmes (e.g. addressing technology transfer and capacity building), such as this plan. The MoWA can be responsible for taking forward this recommendation and securing formal Cabinet approval.

9 Challenges for implementation

Israeli control over Palestinian territories is no impediment to the implementation of this plan. Palestine's unique geo-political situation since 1995 means that the PWA and its delivery partners have adapted to the requirements and restrictions enforced by Israel's various levels of control and occupation across the West Bank and the Gaza Strip¹⁴. Efficient decision-making and implementing structures have been developed to circumvent restrictions, including by communicating with the Israeli authorities.

Over the years, the PWA has worked with a range of international development partners, including the French Development Agency, KfW, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNWRA), the Islamic Development Bank and others. In doing so, it has assisted them in navigating the administrative procedures required to ensure that programmes can be successfully implemented.

Regarding this plan for improving **water networks infrastructure**, constraints arising from Israel's occupation could include delays in the **entry of engineering materials and delays in approval** processes for building works. These challenges have been considered when developing this plan with PWA, which has been responsible for managing water resources in Palestine under Israeli restrictions since 1995. Its Project Coordination Unit has implemented multi-million-dollar projects successfully in the past, securing approval from the Israelis where required. PWA also sits on the Joint Water Committee¹⁵ and has experience of successfully securing approvals. The same governance structures will be in place to deliver

¹⁴ Palestine constitutes the Occupied Palestinian Territory, which is made up of the West Bank (including East Jerusalem) and the Gaza Strip, based on the borders of June 1967 and are separated by Israel, the occupying power. The Oslo II Accord, formally entitled the 'Interim Agreement on the West Bank and the Gaza Strip of 1995', created three territorial zones in The West Bank: Area A, where the Palestinian Government has responsibility for public order and internal security; Area B, where the Palestinian Government assumes responsibility for public order for Palestinians, while Israel controls internal security; and Area C, where Israel maintains exclusive control.

¹⁵ The Joint Water Committee (JWC) is a joint Israeli–Palestinian authority, created in 1995 by the Oslo II Accord. Its purpose is to manage water and sewage related infrastructure in the West Bank, particularly to take decisions on maintenance of existing infrastructure and approval of new projects.

this plan's activities. The costs and timescales of the activities presented in Table 2 also take account of the potential delays that may be incurred to obtain approvals.

A further challenge for implementation may be MoLG's lack of technical staff with the ability to detect leakages and subsequently rehabilitate the water distribution network in Palestine. However, the plan includes training for operational inspectors and workers to address the lack of technical staff and governance, thereby ensuring that the plan can be implemented and the infrastructure rehabilitated and built can be sustained.

Finally, illegal connections pose challenges to implementation, because they make it more difficult to determine the efficiency of the water distribution network after leakages. This plan includes the identification and assessment of structural causes of illegal connections to the water network (such as gender inequality and poverty), thereby enabling an integrated approach to these issues.

Table 2 Timeframes, indicative costs, existing funding (USD million) and likely sources of funding

Activity	2020	2026	2031	Unit cost	No. units	Unit type	Total cost	National contribution	International funding	Funding gap	Indicative options to secure international public funding to address funding gaps
	- 2025	- 2030	- 2040								
1a				0.001 ¹⁶	400	Study days	0.400	0.009 ¹⁷	0	0.391	AECID; AFD; BMZ; EBRD; EIB; FAO; GiZ; IKI; JICA; KfW; NAMA Facility; NRO; UK; UNDP; USAID; WB
1b				0.001 ¹⁸	480	Study days	0.480	0.009 ¹⁷	0	0.471	
1c				0.001 ¹⁹	1,000	Meters	1.000	0.009 ¹⁷	0	0.991	
2a				0.019	1	Training days	0.019	0.009 ¹⁷	0	0.010	
2b				0.300 ²⁰	100	Pilot areas	30.000	0.009 ¹⁷	0	29.991	
3a				0.001 ¹⁸	30	Study days	0.039	0.009 ¹⁷	0	0.030	
3b				0.002 ²¹	16	Training sessions	0.032	0.007 ²²	0	0.025	
4a				0.001 ²³	30	Study days	0.039	0.009 ¹⁷	0	0.030	
4b				0.002 ²²	16	Training sessions	0.043	0.011 ²⁴	0	0.032	
4c				0.024 ²⁵	20	Set of tools	0.480	0.009 ¹⁷	0	0.471	
				0.050	50	Localities	2.500	2.500 ³¹	0	0	

¹⁶30 days for conducting the survey and 10 days for reporting (per locality). The most urgent localities are 4 and 6 in the West Bank and Gaza, respectively.

¹⁷Provide office spaces and municipality equipment.

¹⁸30 days per Governorate.

¹⁹Installation of water meters in the identified facilities: 20 meters per locality for a total of 50 localities.

²⁰Implementing 100 pilot areas for reducing leakages.

²¹16 training sessions (10 in the West Bank and 6 in Gaza). Each training session will be for 10-15 operators.

²²Provide the training venue and catering.

²³Number of days to prepare the study.

²⁴Provide the training venue, office space and catering.

²⁵Procurement of 20 set of detection tools.

Activity	2020 -2025	2026 -2030	2031 -2040	Unit cost	No. units	Unit type	Total cost	National contribution	International funding	Funding gap	Indicative options to secure international public funding to address funding gaps
5a				0 ²⁶	0		0	0	0	0	
5b				12.004	2 ²⁷	Drainage systems	24.007	0.007 ²⁸	0	24.000	
5c				0.120	2 ²⁹	Drainage systems	0.240	0.240 ³⁰	0.000	0.000	
6a				0 ³⁰	0		0	0	0	0	
6b				11.007	1 ³¹	Drainage system	11.007	0.007 ²⁹	0.000	11.000	
6c				0.120	1	Drainage system	0.240	0.240 ³⁴	0.000	0.000	
TOTAL							70.526	3.084	0	67.442³²	

²⁶The consultancy service for design will be included in the design, supply and install contract for implementation.

²⁷Design, supply and install contract for laying 20 km of pipelines, manholes and catch basins (12M USD). Design and supervision is 20% of the construction cost.

²⁸Provide office spaces and catering.

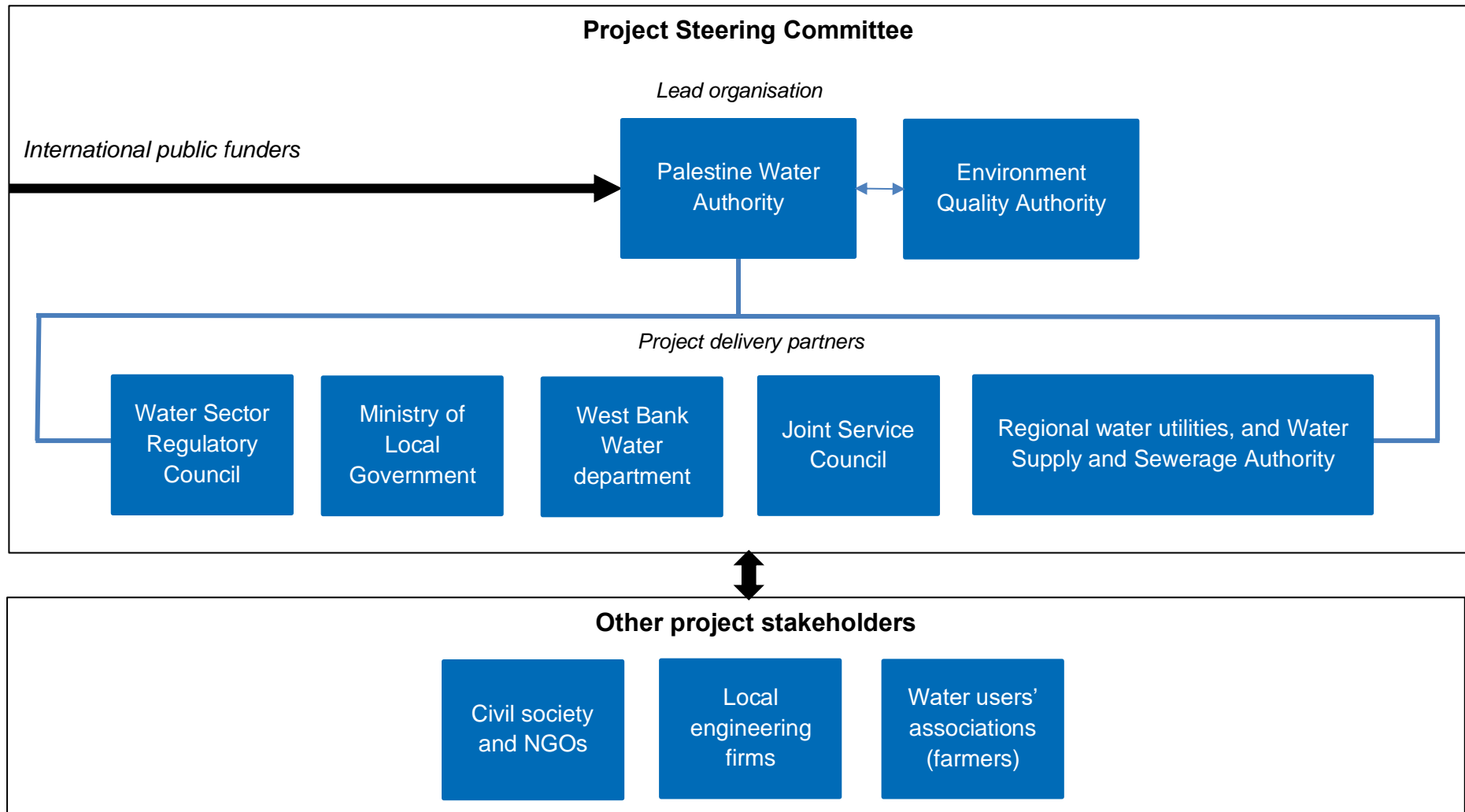
²⁹Operation and maintenance for trunk line (0.12 M USD).

³⁰Maintenance cost will be covered by the municipality.

³¹Design, supply and install contract for laying a 22 km trunk line, manholes and catch basins (12M USD). Design and supervision is 20% of the construction cost.

³² Total funding gap is subject to rounding errors.

Figure 4 Institutional arrangements for implementation³³



³³Note 1: The Water Sector Regulatory Council will work with the Palestinian Water Authority to lead on Activity 1.3c (detecting leaks). Note 2: Project partners will also depend on the locations of the pilots.



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STATE OF PALESTINE
WATER AUTHORITY
Minister's Office



دولة فلسطين
سلطة المياه
مكتب الوزير

2021/08/25

حفظه الله

معالي الأخ / م. جميل مطور

رئيس سلطة جودة البيئة

الموضوع:- اعتماد خطط العمل لتنفيذ المساهمات المحددة وطنياً في قطاع المياه

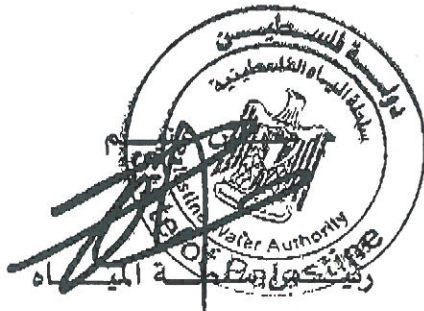
تحية طيبة وبعد،

بالإشارة إلى الموضوع أعلاه وبناء على طلبكم نود إعلامكم بأن سلطة المياه تؤيد وتدعم خطط العمل لتنفيذ المساهمات المحددة وطنياً والتي تم اعدادها بالتنسيق والتعاون مع اللجنة الوطنية لتغيير المناخ والشركاء ذوي العلاقة وذلك ضمن نشاطات المشروع المنفذ من قبل سلطة جودة البيئة وشراكة المساهمات المحددة وطنياً ويدعم من البنك الاسلامي للتنمية.

وفيما يلي قائمة بأسماء الخطط والكلفة الاجمالية لها:-

1. خطة معالجة المياه والمحافظة عليها وكلفتها الاجمالية 198 مليون دولار.
 2. خطة البنية التحتية لشبكات المياه وكلفتها الاجمالية 71 مليون دولار.
 3. خطة البنية التحتية لمصادر المياه وكلفتها الاجمالية 25 مليون دولار.
- علماً بأن هذه الخطط تأتي انسجاماً مع توجيهات مجلس الوزراء وبما يتوافق مع الأولويات الوطنية والاستراتيجية الوطنية لقطاع المياه.

مع فائق الاحترام والتقدير،



دولة فلسطين

سلطة جودة البيئة

وارد عام

الرقم 758-2021

التاريخ 25-8-2021