



WATER TRACKER

• FOR NATIONAL CLIMATE PLANNING •

COUNTRY REPORT

Application of the Water Tracker
for National Climate Planning



PALESTINE



Ministry of Infrastructure
and Water Management



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Acronyms

AGWA	Alliance for Global Water Adaptation
BUR	Biennial Update Report
CBO	Community-based Organisation
CRI	Climate Risk Index
EQA	Environment Quality Authority
FCDO	Foreign, Commonwealth and Development Office
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GWL	Global Water Leadership
GWP	Global Water Partnership
INCR	Initial National Communication Report
MCM	Million Cubic Metre
MDB	Multilateral Development Bank
MoA	Ministry of Agriculture
NAP	National Adaptation Plan
NPA	National Policy Agenda
NAPA	National Adaptation Programme of Action
NC	National Communication
NDC	Nationally Determined Contributions
NGO	Non-Governmental Organisation
PC4	Provincial Climate Change Coordination Committee
PWA	Palestinian Water Authority
SWA	Sanitation and Water for All
UNFCCC	UN Framework Convention on Climate Change
VRA	Vulnerability and Risk Assessment
WAM	With Additional Measures
WASH	Water, Sanitation and Health
WECS	Water and Energy Commission Secretariat
WEM	With Existing Measures
WG	Working Group
WT	Water Tracker
WTT	Water Tracker Team

Executive Summary

The Occupied State of Palestine has a total area of 6 020 km². 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 is separated by Israel, the occupying power. Neighboring countries include Jordan to the east and Egypt to the south. 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.

The climate in the Palestinian territory is Mediterranean in its basic pattern and varies from semi-arid in the west to extremely arid in the east and southeast. The mean annual rainfall in the West Bank varies from about 650 mm in the western part to less than 100 mm in the east; the long-term annual average is about 454 mm¹. The water resources are mainly groundwater, with some supplementary surface water. Following the 1967 Israeli occupation, Israel has controlled all shared water resources including surface and groundwater and has utilized more than 85% of these resources, leaving only 15% for Palestinian use. The surface water consists of several seasonal wadis, as well as the Jordan River – however the Jordan River is currently controlled and used exclusively by the Israelis.

Agriculture in Palestine is a family business where women play a major role in manual agricultural practices. It is important to investigate both irrigation efficiency and water productivity. Application efficiency of irrigation systems is good ranging between 75-90% for drip and 65-75% for sprinklers. Most of the losses occur in the water conveyance systems. Rain-fed agriculture is dominant representing 81%, while irrigated areas cover 19%, mainly located in the Gaza Strip and the Jordan Valley.

Palestine presented its Updated Nationally Determined Contributions (NDC) to the UN Framework Convention on Climate Change (UNFCCC) in October 2021. They replace Palestine's First NDCs, which were submitted to the UNFCCC on 21 August 2017, and include amendments and additions to actions to 2040 that are conditional on receiving international support.⁴ A National Adaptation Plan to climate change was elaborated in 2016 as a guiding framework to orientate adaptation actions, currently an updated version of the National Adaptation Plan is under preparation. While Palestine's contributions to global emissions are negligible, it is one of the most vulnerable countries to climate change considering its location in the Mediterranean region. Consequently, Palestine's overriding priority must be adaptation to ensure climate change impacts do not hinder Palestine's sustainable development. Nonetheless, despite our minuscule contribution to global emissions, Palestine has increased its ambition to mitigate greenhouse gas (GHG) emissions, beyond the targets in the First NDC in 2017, and is committed to climate leadership.⁴

The Water Tracker for National Climate Planning was developed to promote a shared vision and understanding of water resilience across sectors, institutions, policy frameworks, and levels of governance. The Water Tracker acknowledges the complex role that water has in climate change and development planning, and guides water resilience thinking within the national climate plans. The initial application of the Water Tracker includes three phases: (i) applying the Water Tracker questionnaire (Water Tracker Implementation Matrix_23Aug 2022); (ii) identifying synergies and gaps in planning revealed by the Water Tracker; and (iii) identifying and applying relevant tools in guidance document and AGWA Water Tracker Framework August 2022.

A focal point and members of a team working group representing PWA were identified to support the implementation of the Water Tracker. The Water Tracker was applied to seven national documents that were selected and prioritized by the Water Tracker team to work on. Periodic meetings were also held with the PWA focal point to review progress. The Water Tracker demonstrated that all documents reviewed reflect the clear commitment of Palestine towards climate action and include water considerations to some degree. They each have important initiatives, but none present them all at once. Valuable principles and ideas are mentioned throughout the documents, but sometimes they are not strongly reflected in the proposed

actions. The key findings by section are presented in the results section and detailed in the results presented in Annex 2. Some gaps were assessed and highlighted in Annex 1 “Recommendations”. The Water Tracker outcomes will contribute to developing and implementing water resilience national climate plans and address climate change concerns in water resources policies and plans to promote climate-resilient water resources development.

I. Country Context

The Occupied State of Palestine is made up of the West Bank (including East Jerusalem) and the Gaza Strip, based on the borders of June 1967. These land areas are separated by Israel, the occupying power. Neighboring countries include Jordan to the east and Egypt to the south. In 1995, the Oslo II Accord, also known as the 'Interim Agreement on the West Bank and the Gaza Strip,' established three distinct territorial zones in the West Bank region. Under this agreement, the Palestinian Government is responsible for public order and internal security in Area A. In Area B, the Palestinian Government takes responsibility for public order for Palestinians, while Israel retains control over internal security. Lastly, Israel retains exclusive control over Area C.

The West Bank is a landlocked territory on the west bank of the Jordan River and has a total area of 5,655 km², surrounded by Jordan to the east and Israel to the south, west and north. Most of the Palestinian territories in the West Bank are in "Area C", under full Israeli control. The Gaza Strip is located on the eastern coast of the Mediterranean Sea, and borders Egypt to the south and Israel to the east and north. The Gaza Strip is governed by Hamas, while the Palestinian Authority governs without Hamas in the West Bank.

Palestine has Mediterranean in its basic pattern and varies from semi-arid in the west to extremely arid in the east and southeast. The mean annual rainfall in the West Bank varies from about 650 mm in the western part to less than 100 mm in the east; the long-term annual average is about 454 mm.¹

Water resources in Palestine are mainly reliant on groundwater, while surface water contributes a limited proportion. Following the 1967 Israeli occupation, Israel has controlled all shared water resources including surface and groundwater. The surface water source includes several seasonal wadis, as well as the Jordan River, which is currently controlled and used exclusively by the Israelis. Palestine is among the countries with the scarcest renewable water resources per capita; average domestic water consumption is only 72 cubic litres per day (L3/d) in the West Bank, and 96 L3/d in Gaza. Water Quality is below international standards.¹ This is far below the per capita water resources available in other countries in the Middle East and in the world, constraining economic development, increasing running costs, and leading to health problems. More than half of the available groundwater is used for domestic water supply, severely limiting the available volume for irrigated agriculture and industry.

The agriculture sector in Palestine contributes to food security and is responsible for around 9% of total employment in Palestine. Women make up approximately 87% of the labor input in livestock production and 54% in plant production (mostly in rain fed agriculture).² Despite their major contribution to agricultural labor, many rural women carry out this work unpaid. Twenty percent of the total area of Palestine is used for agriculture (90% West Bank, and 10% Gaza Strip). Rain fed agriculture is dominant; 81% of agricultural lands are rain fed, while irrigated areas cover only 19 %, mainly in the Gaza Strip and the Jordan Valley. Application efficiency of irrigation systems is good, ranging between 75-90% for drip and 65-75% for sprinklers.²

Palestine's contributions to global emissions are minimal, but it is one of the most vulnerable countries to climate change.³ Consequently, Palestine's overriding priority must be adaptation to ensure climate change impacts do not hinder Palestine's sustainable development. Despite the nominal contribution to global emissions, Palestine has increased its ambition to mitigate greenhouse gas (GHG) emissions and is committed to climate leadership.⁴

II. National Climate Plans

¹ Annual Status Report on water resources, Water Supply, and Wastewater in the Occupied State of Palestine, Palestinian Water Authority, 2011.

² National Agricultural Sector Strategy Update "Resilient and Sustainable Agriculture 2021-2023" Ministry of Agriculture, 2020.

³ The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC, 2014) defines impact as: "Effect on a natural or human system... the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system."

⁴ The State of Palestine's First Nationally Determined Contributions (NDCs) "Updated Submission", October 2021

Palestine submitted its first NDC to the UN Framework Convention on Climate Change (UNFCCC) on 21 August, 2017. The Updated NDC was approved by the National Climate Change Committee on 5 October, 2021. The updated NDC (2021) reinforces Palestine’s commitment to climate mitigation and to supporting the UNFCCC and Article 2.1(a) of the Paris Agreement to limit the increase in global average temperature to below 2°C.

Table 1: The State of Palestine’s conditional mitigation contribution

NDC	Independence Scenario	Status-quo Scenario
2021	26.6% emissions reduction by 2040 relative to business-as-usual	17.5% emissions reduction by 2040 relative to business-as-usual
2017	24.4% emissions reduction by 2040 relative to business-as-usual	12.8% emissions reduction by 2040 relative to business-as-usual

To supplement the NDC, additional climate planning instruments have been developed, including 14 investment-ready NDC implementation action plans. A National Adaptation Plan (NAP) to climate change was also drafted in 2016, which serves as a guiding framework for adaptation action and is complementary to the NDC implementation plans. The NDC implementation plans address 6 of the 12 most vulnerable sectors identified in the NAP: agriculture, energy, health, transport, waste, and water. These plans include specific activities and SMART targets, detailed costings, institutional arrangements, and policy recommendations. Palestine also drafted an NDC Partnership Plan which has 45 key performance indicators for tracking NDC action drawn from the implementation places and cross-cutting priority activities. As a complementary document, the NDC Investment Plan was also developed which includes Palestine’s strategy to fill the funding gaps for the actions in the NDC Partnership Plan. Outside of climate specific plans, Palestine also has a National Policy Agenda (2017-2022) and National Development Plan (2021-2023), which emphasized sustainable development and effective and citizen-centered governance, with the Development Plan focusing on green and fair recovery efforts after the Covid-19 Pandemic.

The Updated NDC builds upon these planning and policy documents, emphasizing climate adaptation and mitigation measures aimed at reducing Palestine’s climate vulnerabilities and increasing adaptive capacities, while contributing to global mitigation efforts. Palestine recognizes the “adaptation-mitigation” nexus, acknowledging that “if mitigation activities are designed without considering climate vulnerabilities and risks, they may be maladapted or lead to wider maladaptation.”⁵ Adaptation actions included in the Updated NDC are drawn from the NAP and NDC implementation plan, and priority is placed on those adaptation activities which also have mitigation benefits. The Updated NDC also recognizes that NDC actions in specific sectors have impacts on activities and outcomes in other sectors, and thus the NDC Partnership Plan provides support for the development of revised implementation plans which address the trade-offs and synergies between sectors. In the context of Israeli control of the majority of land resources in Palestine, the Updated NDC prioritizes actions that can be implemented despite the occupation.

Palestine’s climate planning instruments were developed in close coordination with key stakeholders and national partners across all sectors. The included climate adaptation and mitigation goals were identified through this consultative planning process, and partners are committed to strengthening the national institutions in Palestine to ensure that the goals and targets of the Updated NDCs are achieved. Palestine is seeking financial, technological, and capacity-building support from international partners to bolster its NDC actions while continuing to pursue sovereignty, freedom, and independence

III. Applying the Water Tracker

Palestinian Water Authority (PWA) and Alliance for Global Water Adaptation (AGWA) met in June 2022 to introduce the Water Tracker. Representatives from the Global Water Leadership Programme led by the Global Water Partnership (GWP) and UNICEF also attended to discuss opportunities to integrate and leverage the activities under the two activities. Following this introductory meeting, PWA secured approval and support

⁵ The State of Palestine’s First Nationally Determined Contributions (NDCs) “Updated Submission”. October 2021. https://unfccc.int/sites/default/files/NDC/2022-06/Updated%20NDC_%20State%20of%20Palestine_2021_FINAL.pdf

from the Minister of Environment to implement Water Tracker activities. The Water Tracker was applied to Palestine's national climate change and water sector strategies, policies, and plans. This section summarizes the Water Tracker and its application in Palestine's climate and water resources policies and plans.

Introducing the Water Tracker: The Water Tracker tool facilitates an understanding of water as a source for the effective implementation of actions to address climate change impacts. The Water Tracker aims to identify the approach and process of including water in climate plans, provide guidance to strengthen water-sensitive adaptation commitments, connect multi-sector water resilience projects to climate finance, promote understanding of water resilience across sectors, institutions, policy frameworks & levels of governance, provide clarity in evaluating the ambition and effectiveness of climate planning & action; and promote tools and frameworks designed to enable water-sensitive mitigation, adaptation and climate-proofing projects across sectors.

The Water Tracker (WT) is developed to help understand climate and water communities to recognise water to reduce carbon emissions, generate renewable energy, sequester carbon, & address climate change impacts, including climate vulnerability. WT provisions and guides water resilience thinking within the national climate plans. WT tool was used in Egypt, Malawi, Costa Rica and Nepal in 2021 and 2022. Experiences of and learning in these four countries has expanded its use in more than 10 countries in 2022. Palestine is one of the pilot countries to benefit from this WT tool and started the work on the second half of the year 2022.

The WT tool contains essentially four components: (i) how is water described in the plan; (ii) what institutional mechanisms exist for plan implementation around water; (iii) how do sectors acknowledge water in planned mitigation and adaptation actions; and (iv) are links to finance processes and plans implementation established?

Application of WT includes three phases: (i) applying the WT questionnaire (part I) (Water Tracker Implementation Matrix_23Aug 2022); (ii) identifying synergies and gaps in planning (part 2); and (iii) identifying and applying relevant tools in guidance document and AGWA Water Tracker Framework August 2022. WT tool includes a total of 132 questions and is divided into four sections.⁶ Section I asks the state of water in national climate plans through 19 questions and informs whether water is dealt as a risk (such as extreme flooding, drought, etc.), a sector (such as domestic supply and sanitation or inputs to economic development), and a resource (i.e., water available for climate adaptation action, and ensure meeting of mitigation commitments, e.g., hydropower generation). With 31 questions, Section II deals with water in national development planning and governance and informs about climate risks and future uncertainty linked to mitigation and adaptation actions including coordination mechanisms and capacity building, water governance, and sustainable development.

Section III focuses on water and climate connections in specific sectors, focusing mainly on water allocation and sector prioritization and sector specific mitigation and adaptation actions, sectors under focus are energy, industry, agriculture, transport, health, etc., and attempts to respond to connections and prioritisation of water in economic sectors through 61 questions. Section IV informs about links to climate financing and project implementation through 21 questions, including a demonstration of gaps and opportunities for linkage between climate plans, project development and finance, and alignment of national climate plans with financial institution strategies such as multilateral development banks.

The WT team tried to assess many documents that might be relevant including NDCs, NAP, water strategies, policies and plans, other strategies, national development plans and national policy agenda, those were undergone a screening process to check whether they are relevant and comprehensive and deserve studying them or not. As a result of the screening process some of them were dropped, seven outstanding documents were selected, three of them were considered as individual documents (NDCs, NAP and the Water Sector Strategy 2021-2023) and three of them, the team deemed to address them as one document Palestine's NDC Implementation Plans under which there are subdocuments (Water-Water treatment and conservation, water sources infrastructure, Water-water networks infrastructure).

⁶ AGWA, 2022. *Water Tracker Implementation Matrix*. Alliance for Global Water Adaptation, August 2022

To optimize the process, the Water Tracker questions were first reviewed in depth. Part of the team was assigned to review the document as an assignment, then, a quick scan of the document to be reviewed was done. This was followed by a reading of the questions in the matrix document with simultaneously answering the Water Tracker each time an answer would come across, the team must agree on the answers to be accepted and accredited. In the end, a revision of the answers and the blank questions was done to improve and complete them. The process became easier with every document that was reviewed, as the Water Tracker became more familiar.

The Water Tracker was applied to the 7 national documents described above. Periodic meetings were also held with the PWA focal point to review progress. The four sections of the Water Tracker were completed without any drawbacks.

IV. Water Tracker Results

All the documents reflect the clear commitment of Palestine towards climate action and include water considerations to some degree. They each have important initiatives, but none present them all at once. Valuable principles and ideas are mentioned throughout the documents but sometimes they are not strongly reflected in the proposed actions. The key findings by section are presented in the following points, and a more detailed summary of the results is presented in Annex 2.

Section 1: Water in national climate plans:

- Generally, climate change impacts on the hydrological cycle and water resources and their impacts are highlighted but prioritization of risks and opportunities are not included.
- Overall climate to become warmer and drier, intensification of the hydrological cycle, i.e., greater frequency and intensity of droughts and floods and more severe droughts, with dry summers beginning earlier and lasting longer.
- Water-related risks to people's health and infrastructure were highlighted along with reducing the quality of water resources.
- The link between hydrological-ecological systems and socioeconomic systems is implicitly embedded in some documents. However, stating it openly could promote the inclusion of identification and prioritization of root causes for water risks.
- There is not always a specific section on the water sector, but it is always considered somehow.
- WASH is implicitly mentioned but not as a subsector. However, stating it openly will heighten the link between water resources and WASH which will inevitably improve water resources management.
- Adaptation activities are always considered and detailed in some CC documents and sometimes mitigation activities too.
- Infrastructure adaptation is mentioned in some documents, especially linked with wastewater treatment and water harvesting.
- The link between proposed actions and the SDG6 is not mentioned. However, stating it openly will improve the SDG6 perception and give more confidence for the CC documents to meet international requirements.
- Water is considered a requirement to achieve adaptation goals, there are some sectors categorized as highly vulnerable to water availability.
- A periodic update of the documents gives targets and actions some flexibility to respond to changes in climate projections and learned lessons.

Section 2: Water in national planning and governance:

- There are no explicit institutional mechanisms and structures that facilitate governance and stakeholders' participation. However, there is a need for establishing a regulatory framework to ensure

stakeholders' participation should be considered.

- Alignment of water resources and disaster risk management plans is generally mentioned.
- Water uncertainty is rarely reflected in the flexibility of proposed actions and water requirements for adaptation and mitigation activities are not recognized.
- Institutional capacity building is usually proposed to improve climate change understanding and management of initiatives. However, institutional, and legal flexibility is rarely discussed.
- All documents are aligned with the carbon neutrality goal of the country. By law, it is stated that all sub-national policies and programs must include climate change considerations, as it is observed in this revision.
- International obligations are often referred to in some way but not specifically named.
- Public consultations are mentioned generally in some documents, as well as local capacity building initiatives.
- While certain documents emphasized the significance of the involvement of the local community and the gender disparities experienced by women, they did not delve into community-based methods.
- The importance of ecosystems is recognized, and an ecosystem-based adaptation approach is adopted.
- The link between ecosystem conservation and water availability is usually stated.
- Establishing protected areas as a nature-based solution are mentioned as an adaptation action .
- There is a need for capacity building comprising an understanding of climate risks and uncertainties mentioned.
- Capacity building is strongly linked with each adaptation activity in the water adaptation plans.

Section 3: Water and climate connections in specific sectors:

- Sector prioritization for water use is rarely mentioned but there are no existing mechanisms to track water allocations. There is no mention of how water rights and allocation arrangements will respond to changes in water availability.
- The plan aims to increase water availability in Palestine by treating and re-using wastewater and by rainwater harvesting.
- Action planning during severe events is not referenced.
- Water and climate institutions are somehow involved in the development of sectoral measures and the EQA is generally leading the process.
- Links between the water sector and other sectors are not always well developed. Water requirements are not specified in sector actions. However, actions to secure or strengthen the water supply are always included. WASH institutions are involved.
- The importance of water resources for the generation of clean energy is not recognized.
- Climate-smart agriculture (CSA), and Climate-resilient land planning and management, also the reuse of treated water and setting a strategy for afforestation for the agricultural sector.
- Establishing a national network of protected areas, including biodiversity hotspots in the West Bank and Gaza are mentioned.
- Some CC documents referenced the inclusion of national water and sanitation on climate adaptation but nothing about mitigation.
- Monitoring water resources information services were generally mentioned along with capacity building needs, but there is no clear existing or planned hydromet.
- The use of renewable solar energy is proposed to replace fuel in water pumping as a measure for CC mitigation.
- The risk of flood water to road infrastructure (closure and collapse) is mentioned.
- Water availability should be aligned with the population increase.
- The impacts of climate change on rainfall water floods might increase water-borne and food-borne diseases.
- Environmental flows are not considered among the strategic actions.

- The importance of wetlands is not recognized.
- Protecting tourism facilities from water flooding is highlighted.

Section 4: Links to climate financing and project implementation:

- The documents are aligned with funding by national and international sources.
- The role of the financial institution is not always clearly stated.
- The finance sector is involved, usually through crop insurances and the PES system.
- Need for the establishment of a Climate Change Financing Framework (CCFF) with an instrument that will allow tracking of investments in climate change risk management is mentioned.
- Need for enabling environment for investment and funding institutions and the potential of public-private investments.

V. Next Steps

A list of recommendations was prepared and discussed with the WT team, the feedback from the team and officials and consultants from the competent institutions who will be engaged in the planned validation workshop in Feb 2023 in PWA will improve them. However, the Palestinians led by the Palestinian Water Authority and the Environmental Quality Authority along with competent institutions in the water sector could work on:

1. The result of the analysis especially those stated in the recommendations (gaps and opportunities) will serve to update the climate plans when Palestine agrees to issue them.
2. Prepare a capacity building program and deliver workshops to governmental officials at the national, subnational, and local levels with a focus on the preparation of bankable projects and application of climate risk analysis tools (this could be implemented through the existing Global Water Leader Programme GWL that is led by GWP and UNICEF).
3. Water Tracker results used support the development of multi-sector projects which can be prioritized and fed into the climate water resilient projects pipeline to connect with climate finance institutions. Eventually, the Water Tracker outcomes would contribute to developing and implementing “water-smart national climate plans” and/or address climate change concerns in water resources policies and plans.

Recommendations

Several documents were considered by the consultant and the technical working group, with the , it was decided to work on the NDCs, NAPs, water sector strategy 2021-2023 and Palestine's NDC Implementation Plans under which there are subdocuments (Water-Water treatment and conservation, water sources infrastructure, Water-water networks infrastructure), which it was decided to treat the three subdocuments as one document.

Capacity development

There is a strong demand for building a qualified team in proposal writing and fundraising to be familiar with International Funding Institutions' criteria to enhance Palestine's opportunities to access climate finance, especially Green Climate Fund and the Adaptation Fund coupled with training on Greenhouses Gas calculation and enhancing understanding of impacts on climate in Palestine. On the job training would be an efficient tool to start with a real case proposal by going through several alternatives upon certain priorities from the NDC action plan and developing the whole document step by step for a final well-designed proposal.

To start fundraising for the Adaptation Fund and the GCF using the existing NDC water implementation plans - Water networks, water conservation and improving water sources infrastructure and improving water networks infrastructure. It will also be valuable to look for alignments with other public and private water and climate financing.

Suggested recommendations for the Palestinian Water Authority

Some general recommendations based on Water Tracker findings are shared below. These are particularly relevant for updating the NDCs, NAPs, and the water sector strategy, among other existing climate and water planning tools.

- Clearly link water resources management with WASH and Hygiene and to include these as a subsector in the water sector strategy document.
- Mainstreaming of climate change relevant concepts (disaster risk assessment, measurements, and early warning systems). A capacity building workshop with relevant parties to support building a shared understanding of these concepts for policy and planning in Palestine. This would facilitate the integration of climate change relevant concepts into future updates of policies and plans, including the NDC and NAP.
- Analysis of climatic data available in Palestine and integration of these data in the Climate Change CC projections for rainfall. Meaning that when updating the NDC specifically rainfall projections, they should extract projections building on the available recorded rainfall data, this could be integrated more broadly as part of increasing capacity around climate risk assessment, incorporate hydroclimatic information and hydro met services explicitly in future planning.
- Ensure a clear and formal mechanism for stakeholders' engagement in developing the NDCs and NAPs, this recommendation should be adopted by the relevant institutions for all sectors, and not for the water sector only.
- Support future engagement with Fair Water Footprints to track water use in land-based value chains.
- Include climate risk assessment for infrastructure in the NAP implementation plans. PWA, MoA, Ministry of Local Governments and Ministry of Public Works and Housing institutions might be the target audience for capacity building on climate risk assessment.
- Set clear standards for industry effluents to protect surface and groundwater from pollution. Build capacity and understanding for downstream impacts of industrial effluents, and the need for integrated water management for economic resilience.
- Set the operational rules and monitoring to consider the priority of water use i.e., in emergency cases. Specific legislation should be identified to support this.
- Acknowledge the need for an effective enabling environment to unlock new investment towards climate projects within NAPs and Incorporate climate-related investment criteria from International Financing Institutions IFI, the IFI climate related investment criteria should be taken into consideration in proposal fundraising for CC Funds.
- Mechanisms to estimate, optimize, and allocate financial flows to deliver on adaptation commitments should be referenced in the NAPs.
- Tracking financial allocations and expenditures progressively on CC adaptation and mitigation through establishing an instrument that will allow tracking investments in climate change risk

management. The Ministry of Finance and relevant line ministries should be engaged in this respect.

- Consider and implement nature based solutions where applicable, and ensure that climate change policies and plans enable the use of nature based solutions
- The relevant document should include development effectiveness and/or impact investment principles (e.g., effectiveness, efficiency, sustainability, relevance, alignment/coherence, transparency, etc.) and uses these for the prioritization of actions.
- Support the development of an enabling environment for Public-Private-Partnerships. Government policy should be revised to encourage the private sector to participate in all levels of planning.
- Incorporate cost-benefit analysis for the planned actions to confront climate change.
- Ensure flexible mechanisms for revising existing laws, regulations, policies, and institutional structures in the face of new climate evidence.

VI. References

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[National Policy Agenda 2017-2022](#)

[Technology Road Map for Palestine's Implementation of Climate Action Plans \(INCR, NAP and NDC\)](#)

The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC, 2014) defines impact as: “Effect on a natural or human system... the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system.”

The State of Palestine’s First Nationally Determined Contributions (NDCs) “Updated Submission”, October 2021.

United Nations Environment Programme, [Emissions Gap Report 2020](#).

ANNEX 1

1. Water in national climate plans

Sub-section	Nationally Determined Contribution-updated 2021	National Adaptation Plan	Water Sector Strategy 2021-2023	Palestine's NDC Implementation Plans-Water 2021
Water as a risk	Changes to the hydrological cycle and their impacts are mentioned but prioritization of risks and opportunities is not included.	Changes to the hydrological cycle: Overall climate to become warmer and drier, Intensification of the hydrological cycle, i.e. greater frequency and intensity of droughts and floods and more severe droughts, with dry summers beginning earlier and lasting longer	Changes to the hydrological cycle and their impacts are mentioned but prioritization of risks is not included.	Changes to the hydrological cycle are mentioned but prioritization of risks is not included. the water-related risks to people's health and infrastructure were highlighted along with reducing the quality of water resources
Water as a sector	There is a water sector section where adaptation actions are specified. Improving infrastructure is mentioned and is especially linked with wastewater treatment and water harvesting. SDG and WASH are not mentioned	The water sector is explicitly included while there is no section for WASH. specific adaptation activities are included	The whole document is dedicated to the water sector and WASH is not mentioned as a subsector. Some adaptation actions in terms of increased availability of water for use were mentioned. linkages with other sectors were mentioned	The document is prepared specifically for the NDC implementation of adaptation plans for the water sector and WASH is not mentioned as a subsector. The document constitutes different adaptation activities
Water as a resource	Water is considered a requirement to achieve adaptation goals. Mitigation and adaptation actions are not separated because it is considered that both integrated the climate action logic.	Water is considered a requirement to achieve adaptation goals. there are some sectors categorized as highly vulnerable to water availability	Some planned activities were explicitly mentioned as either mitigation or adaptation related to water resources. No water requirements for mitigation were mentioned	Some planned adaptation activities were explicitly and in detail related to water resources.

2. Water in national planning and governance

Sub-section	Nationally Determined Contribution-updated 2021	National Adaptation Plan	Water Sector Strategy 2021-2023	Palestine's NDC Implementation Plans-Water 2021
Water Governance and Institutional Frameworks	There are no explicit institutional mechanisms and structures that facilitate governance and stakeholders' participation. The document generally mentioned the alignment of water resources and disaster risk management plans. International obligations and relevant values are not identified. Local users are identified as stakeholders and initiatives to develop their capacities exist.	The document mentioned the need for establishing a regulatory framework but there is an agreement that EQA is leading the process while the line institution is leading the discussion related to them. But no institutional mechanisms and structures that facilitate governance and stakeholders' participation are explicitly mentioned	there are existing legal and institutional bodies (water authority, water sector regulatory council, planned national water company and water service providers) and the Ministry of Agriculture where roles and responsibilities are to support objectives into the sector and subnational programs and policies	the document includes updating the legal environment to allow the implementation of different water-related adaptation activities and PWA as the lead organization of a cross-ministerial Project Steering Committee, as well as other project stakeholders and delivery partners. Delivery partners will be specific to the activities.
Sustainable development	Vulnerable populations were not involved in the preparation of this document. The importance of ecosystems is recognized, and an ecosystem-based adaptation approach is adopted.	Representatives from line institutions, NGOs, and others were involved but NOT the vulnerable communities are not involved in the preparation of this document. Structural inequities are addressed. The importance of ecosystems is recognized, and an ecosystem-based adaptation approach is adopted.	-	The document highlighted using gender-inclusive participatory tools designed to engage both grassroots women and men in capacity-building, training and preliminary studies"
Capacity Building	Need for assessing the capacity development requirements of Palestinian Authority institutions with regards to climate adaptation and mitigation involves identifying institutional structures, developing recommendations for an enabling policy environment, and conducting all necessary capacity-building activities in support of the new conditional Nationally Determined Contributions (NDC) actions.	Capacity building needs comprising understanding of climate risks and uncertainties were mentioned in the document	downscaling of international climate change to adapt to the West Bank and to local areas was implemented and installation of equipment and tools for monitoring and evaluation to measure the climate change impact on water resources were implemented in a few places in the West Bank	the document mentioned something about early warning systems and remote sensing which might implicitly be linked to understanding climate risks. Capacity building needs were generally mentioned

3. Water and climate connections in specific sectors

Sub-section	Nationally Determined Contribution-updated 2021	National Adaptation Plan	Water Sector Strategy 2021-2023	Palestine's NDC Implementation Plans-Water 2021
Water Allocation and Sector Prioritization	The priority for some specific sectors (i.e. sanitation, agriculture, ecosystems, industry, etc....) were mentioned but no existing mechanism for sectorial prioritization and allocation). water to meet the needs of specific sectors were mentioned generally but no clear process for assessing water availability to meet development goals	Water to meet the needs of specific sectors was mentioned in general but no clear process for assessing water availability to meet development goals. the priority for some specific sectors is mentioned	The document mentioned the connection between the demand for water as a result of population increase (per capita water) and the need for more water for irrigation to meet the demand for food for the ever-increasing population	The plan aims to increase water availability in Palestine by treating and re-using wastewater and by harvesting rainwater. no clear process and international commitments in risk management and mitigation- were highlighted
Sector specific mitigation and adaptation actions	There are adaptation actions and activities mentioned to be handled under climate change scenarios for specific sectors (Agriculture, Water, health, etc.). the Environmental Quality Authority EQA, the Focal Point for climate change is the leading institution and Water Authority is the support institution. No indicators were selected to track progress on adaptation actions	There are adaptation actions and activities mentioned to be handled under climate change scenarios for specific sectors (Agriculture, Water, health etc.). the Environmental Quality Authority EQA, the Focal Point for climate change is the leading institution and Water Authority is the support institution.	The document mentioned generally the priority for the human right to water	The document includes adaptation activities for domestic water and water for agriculture but NO mitigation and other sectors. Water Authority is leading the Palestinian institutions in the development of adaptation activities in the water sector
Energy	Hydropower generation is not mentioned.	Hydropower generation is not mentioned-	Hydropower generation is not mentioned	Hydropower generation is not mentioned
Agriculture / Livestock / Aquaculture	Two NDC implementation action plans have been developed for the agriculture sector on (1) Climate-smart agriculture (CSA), and (2) Climate-resilient land planning and management, also the reuse of treated water and set a strategy for afforestation	Impacts of climate variability in agriculture fields are mentioned. Climate intelligent technologies are included. Adaptation interventions are included in productive systems (irrigation and smart agriculture). impact on water resources and ecosystems are mentioned.	The document acknowledges the need to increase the water availability and the reuse of treated wastewater for irrigation as an adaptation action more water for irrigation to meet the need for more food	-
	The document mentioned a national	Establishing a national network of	-	-

Forestry and Land Use	network of protected areas, including 50 protected areas and 51 biodiversity hotspots (West Bank), Wadi Gaza and 3 biodiversity hotspots (Gaza Strip).	protected areas, including biodiversity hotspots in the West Bank and Gaza are mentioned		
Water Supply and Sanitation	Three NDC implementation action plans have been developed for the water sector, on (1) water treatment and conservation, (2) improving water networks infrastructure, and (3) improving water sources infrastructure	The document includes national water and sanitation on climate adaptation but nothing about mitigation. the Water Authority is leading the national climate planning for water. the water and sanitation infrastructure were at the heart of climate actions. Building local capacities is considered.	This document is aligned with national climate plans.	The document includes the implementation of the adaptation actions for water services, treatment and reuse, and water sources rehabilitation. PWA is leading the preparation of the adaptation process
Water Resources	Improving hydrological monitoring is proposed. Nothing is mentioned about wetlands as there are no wetlands known in Palestine, it mentions only the establishment of the national network for protected areas.	Monitoring water resources information services were generally mentioned, but there is no clear existing or planned hydromet. capacity building needs were highlighted.	Improving hydrological monitoring is proposed along with the need for capacity building	Improving hydrological monitoring is proposed along with the need for capacity building
Industry / Mining / Manufacturing	Use of renewable solar energy is proposed to replace fuel in water pumping as a measure for CC mitigation.	-	-	-
Transport	The risk to road infrastructure (closure and collapse) and the quality of water because of heavy rainfall and floods is mentioned	Roads and drainage systems were highlighted	-	-
Human Settlements	-	New development in the sector was generally mentioned	The document linked the future water demand with population growth and insist on the need for water for agriculture, for more food production to meet the need of more population and standards of living-	The document expressed implicitly the need for water for new growth

Health	The runoff from floods may contaminate soil and water bodies, making water unsafe for human consumption, and/or contaminate crops and livestock, thereby increasing water-borne and food-borne diseases	Climate impacts on health and protecting gender equality were considered.	-	The document implicitly mentioned the effects of water-related climate impacts on health
Tourism	Identify, design, and implement flood management schemes for cultural heritage sites as part of risk assessment process	Protecting tourism facilities from flooding	-	-

4. Links to climate financing and project implementation

Sub-section	Nationally Determined Contribution-updated 2021	National Adaptation Plan	Water Sector Strategy 2021-2023	Palestine's NDC Implementation Plans-Water 2021
General	<p>Palestine has also produced an NDC Partnership Plan containing proposals to develop further NDC implementation action plans for priority actions within these sectors and for other priority sectors, as well as cross-cutting priority activities that support all sectors.</p> <p>Need for the establishment of a Climate Change Financing Framework (CCFF) with instruments and measures to ensure accountability over the use of climate finance to the public and to beneficiaries</p>	<p>adaptation actions, with ranks and scoring and the estimated cost for the project and/or policies (capacity development) were highlighted.</p> <p>Need for enabling environment for investment and funding institutions and categorize the activity in vulnerability scale</p>	<p>The document is aligned with funding from national and international sources. Co-investing is considered.</p> <p>the document generally mentioned the need for an effective environment for investment towards the treatment of wastewater and reuse and other considered climate adaptation projects. Ranges for financing options were generally mentioned</p>	<p>the document builds on adaptation interventions articulated by the NDC and related to water and linkages between policy priorities, actions and targets</p>

5. Appendix-Climate Risks and Future Uncertainty

Sub-section	Nationally Determined Contribution-updated 2021	National Adaptation Plan	Water Sector Strategy 2021-2023	Palestine's NDC Implementation Plans-Water 2021
General	<p>Future climate scenarios for Palestine project an increase in temperature and a decrease in average annual rainfall, without no scientific evidence-based.</p> <p>Palestine's temperatures are projected to increase by 1-1.5 degrees C by 2025.</p> <p>The projections include that the wettest days may also become more frequent, leading to an increased risk of flood. an increase in saltwater intrusion is anticipated in Gaza Strip</p>	<p>Increase in the number of droughts, the frequency of extreme events has increased, minimum and maximum summer temperatures have increased, while winter temperatures have declined, and the probability of very hot summer days has increased. Saltwater intrusion was pointed out for the Gaza aquifer. Future projections lack of concrete scientific base</p>	-	<p>The document mentioned in general terms that there will be an increase in the average temperature, decreasing in the average rainfall and the frequency and intensity of extreme events will increase</p>