



Ricardo
Energy & Environment



The State of Palestine's Nationally Determined Contribution (NDC) implementation plans and policy recommendations: Agriculture – Climate-resilient land planning and management

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



Federal Public Service Public Health and Environment



Environment Quality
Authority



Customer:

The Palestinian Environment Quality Authority (EQA) and The Islamic Development Bank

Customer reference:

ED13581

Confidentiality, copyright & reproduction:

This report is the Copyright of EQA and the Islamic Development Bank and has been prepared by Ricardo Energy & Environment, a trading name of Ricardo-AEA Ltd under contract "Development of Palestine's Nationally Determined Contribution (NDC) implementation action plans in five sectors: (Health, Water, Solid waste, Transport and Gender), and provision of policy recommendation to guide the implementation of the action plans dated September 2020. The contents of this report may not be reproduced, in whole or in part, nor passed to any organisation or person without the specific prior written permission of EQA or The Islamic Development Bank. Ricardo Energy & Environment accepts no liability whatsoever to any third party for any loss or damage arising from any interpretation or use of the information contained in this report, or reliance on any views expressed therein, other than the liability that is agreed in the said contract.

Contact:

Richard J. Smithers
Ricardo Energy & Environment
Gemini Building, Harwell, Didcot, OX11 0QR,
United Kingdom

t: +44 (0) 1235 75 3615

e: richard.smithers@ricardo.com

Ricardo is certificated to ISO9001, ISO14001
and OHSAS18001

Author:

Richard J. Smithers, Afif Hasan, Jamil Harb,
Emelia Holdaway, Gratsiela Madzharova,
Martha Preater, Islah Jad, Clémence Moinier,
Mahmoud Abu-Ebid, Ibtisam Abuhaija

Approved By:

Richard J. Smithers

Date:

27 August 2021

Ricardo Energy & Environment reference:

Ref: ED13581- Issue Number 3

Table of contents

1	Introduction.....	3
1.1	Overview.....	3
1.2	Geographical scope.....	3
2	Relevance of the GCF Country Programme.....	3
3	Reasons for prioritisation of NDC actions	4
3.1	Government support	4
3.2	Benefits for adaptation to climate change	5
3.3	Benefits for mitigating climate change.....	5
3.4	Capacity available.....	6
3.5	Technology available	6
4	Gender mainstreaming	6
4.1	Rationale for mainstreaming gender in this plan	6
4.2	Gender mainstreaming in this plan.....	6
5	Activities.....	7
5.1	Activities to implement greening, afforestation and rangeland development	9
6	Timeframes, indicative costs, existing funding and likely sources of funding ...	15
7	Institutional arrangements	15
8	Policy recommendations.....	15
9	Challenges for implementation	16

List of abbreviations

List of abbreviations	
CSA	Climate-smart agriculture
EQA	Environment Quality Authority
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
GCF	Green Climate Fund
IFAD	International Fund for Agricultural Development
LULUCF	Land use, land-use change, and forestry
MoA	Ministry of Agriculture
MoWA	Ministry of Women's Affairs
NAP	National Adaptation Plan
NDC	Nationally Determined Contributions

1 Introduction

1.1 Overview

This plan for “**Climate-resilient land planning and management**” 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 addresses the following conditional NDC actions that are of relevance to climate-resilient land planning and management:

- Increase carbon stock in plant biomass and soil organic matter, through agroforestry and rangeland development, to support an annual 2% increase in green areas within the State of Palestine
- Afforestation
- Land-use planning and management – greening, afforestation, and rangeland development (West Bank).

This plan seeks to improve land-use planning by defining a new land-use plan, as well as improving land-use management by piloting and implementing new technologies, machinery and other solutions identified throughout the activities. This is to be achieved through completion of five activities, each contributing to the following target that aligns with the NDC actions:

- An annual increase of 2% until 2040 in the total area of forest land, rangeland and upland rehabilitated and sustainably managed.

The indicative total cost of achieving this target is 718.3 million USD. Taking national contributions into account, there is a total funding gap of 717.6 million USD. Achieving the target will provide considerable adaptation benefits for Palestine by reducing the sensitivity of the agricultural, health, water and biodiversity sectors to climate change, in addition to providing large mitigation benefits through afforestation. 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.

2 Relevance of the GCF Country Programme

The Green Climate Fund (GCF) Country Programme includes a funding proposal for the “*Development of agriculture land use planning, sustainable land and forest management system (e.g. landscape and soil restoration, afforestation and rangeland management)*”

This is to be achieved through two outputs, which are relevant to this NDC implementation plan:

- Enhance access to productive agricultural land and water through a range of investments in land development, rangeland development, soil improvements and

rainwater harvesting facilities, which will be undertaken in close partnership with beneficiaries, municipalities, and villages.

- Strengthen small farmers' and livestock keeper's resilience to current and anticipated impacts of climate variability and change, by financing capacity development, and by testing and monitoring adaptation benefits and cost-effectiveness of land development approaches and practices applicable for the conditions of Palestine.

3 Reasons for prioritisation of NDC actions

The three NDC actions that can be implemented through this plan seek to improve climate-resilient land planning and management. 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 action	Government support	Adaptation benefits	Mitigation benefits	Capacity available	Technology available	Total
Increase carbon stock in plant biomass and soil organic matter through agroforestry and rangeland development, to support an annual 2% increase in green areas within the State of Palestine	10	10	10	2.5	2.5	35
Afforestation	10	10	10	2.5	2.5	35
Land-use planning and management -greening, afforestation, and rangeland development	10	10	10	2.5	2.5	35

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

3.1 Government support

The NDC action to "Increase carbon stock in plant biomass and soil organic matter through agroforestry and rangeland development, to support an annual 2% increase in green areas

within the State of Palestine” is reflected in the National Policy Agenda (2017-2022)¹ and the National Food and Nutrition Security Policy (2019-2030)².

The NDC actions on “Afforestation” and “Land-use planning and management – greening, afforestation, and rangeland development” are also reflected in the Agriculture Sector Strategy (2021-2023)³ and the National Food and Nutrition Security Policy (2019-2030)⁴.

Governmental institutions are currently implementing projects addressing afforestation alongside NGOs, and the Ministry of Agriculture (MoA) is undertaking several reforestation projects to protect soils from erosion, which illustrates their support for these actions.

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.⁵

The events and slow-onset changes are expected to disturb soil quality and stability, water quality, biodiversity, and overall ecosystem health. This will lead to negative impacts on all sectors relying on ecosystem services, in particular agriculture, human health and water.

All three NDC actions addressed in this plan reduce vulnerability of ecosystems to these events and slow-onset changes through improved land-use planning and management. Adaptation benefits of agroforestry and rangeland development include increased water resources and improved water quality, reduced diseases, and improved habitat connectivity of terrestrial ecosystems. The adaptation benefits associated with afforestation also include reduced soil erosion, water quality, water regulation, and associated health benefits.

3.3 Benefits for mitigating climate change

Palestine’s forests were assessed in 2011 as the only sector representing a net carbon sink. They occupy approximately 102 km² (1.7% of the country) and were estimated to absorb just below 32 MtCO₂eq. per year⁵.

The NDC actions that are the focus of this implementation plan have the potential to increase this contribution to climate mitigation by increasing the absorption capacity of the forest area. Increasing forest area by 200 hectares per year over a five-year period could potentially absorb an additional 9,000 tonnes CO₂ equivalent per year over that period, and continue to provide long-term mitigation benefits at a lower rate thereafter⁵.

¹ “... Keep Palestine green (conserve biodiversity, establish nature preserves and expand green space...”

² “... address agrobiodiversity conservation investing in ex-situ and in-situ conservation of genetic resources for food and agriculture;”

³ “... Natural and agricultural resources are managed sustainably and better adapted to climate change.”

⁴ “... promote integrated farming systems, which include mixed cropping, crop livestock, agroforestry, tree-crop-livestock as well as aquaculture; address agrobiodiversity conservation investing in ex-situ and in-situ conservation of genetic resources for food and agriculture...”

⁵ State of Palestine Environment Quality Authority (2016). National Adaptation Plan p.109-110. Accessible [here](#).

3.4 Capacity available

Farmers are familiar with the concepts and techniques involved in agroforestry and rangeland development, afforestation and land-use planning and management⁶. However, many projects suffer from inadequate maintenance.

3.5 Technology available

Some technologies for climate-resilient land planning and management are already available in Palestine. For example, a system of terracing is widely adopted in the West Bank. Systematic greening and afforestation activities are already being implemented under the initiative "Greening Palestine"⁶.

4 Gender mainstreaming

4.1 Rationale for mainstreaming gender in this plan

The impacts of climate change are not gender neutral⁶. 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 inequalities⁷. 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, noting that gender-responsive implementation of climate policy and action can raise ambition, enhance gender equality, and promote a just transition of the workforce⁸. Integrating gender equality into development leads to better outcomes in terms of economic efficiency, productivity and policy choices⁹. Gender responsive solutions can help to tackle poverty and inequality while providing better community representation and technical solutions¹⁰.

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

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

⁷ Climate 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](#).

⁸ Report 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](#).

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

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

“gender-relevant” were devised to ensure that they are at least gender-sensitive¹¹ and at best gender-transformative¹².

Women in Palestine’s agriculture sector represent a large proportion of agriculture and forestry workers, but still face gender barriers in land planning and management. This can be due to any combination of the following factors:

- Limited access to land ownership which restricts their decision-making power over agricultural practices and land-use
- Limited access to resources and technologies
- Limited time available due to competing roles and responsibilities, including childcare
- Limited understanding of the different barriers women face in the sector, including cultural barriers

This implementation plan addresses these issues in the following ways:

- Defining specific targets that will ensure (i) that the team implementing the activities is gender-balanced; and (2) that the groups benefitting from the activities are gender-balanced. The specific target percentages for women’s involvement in the activities differ proportionally to their current level of access:
 - At least 40% of the members of teams involving government agencies and NGOs should be women. It is expected that women from these organisations will have opportunities to be involved in activities as committee members or to deliver training.
 - At least 20% or 30% of individuals receiving training, attending workshops, being consulted or included in field trials should be women. It is expected that female farmers, traders and stakeholders will face some barriers to access trainings due to cultural and economic barriers. For example, women farmers may have less opportunities than their male peers to attend training due to childcare responsibilities or limited financial resources.
- Providing childcare support during workshops to remove barriers that women may face due to time constraints and childcare responsibilities.
- Disaggregating data collected throughout the implementation of this plan by gender, to highlight gender differences and assess progress.

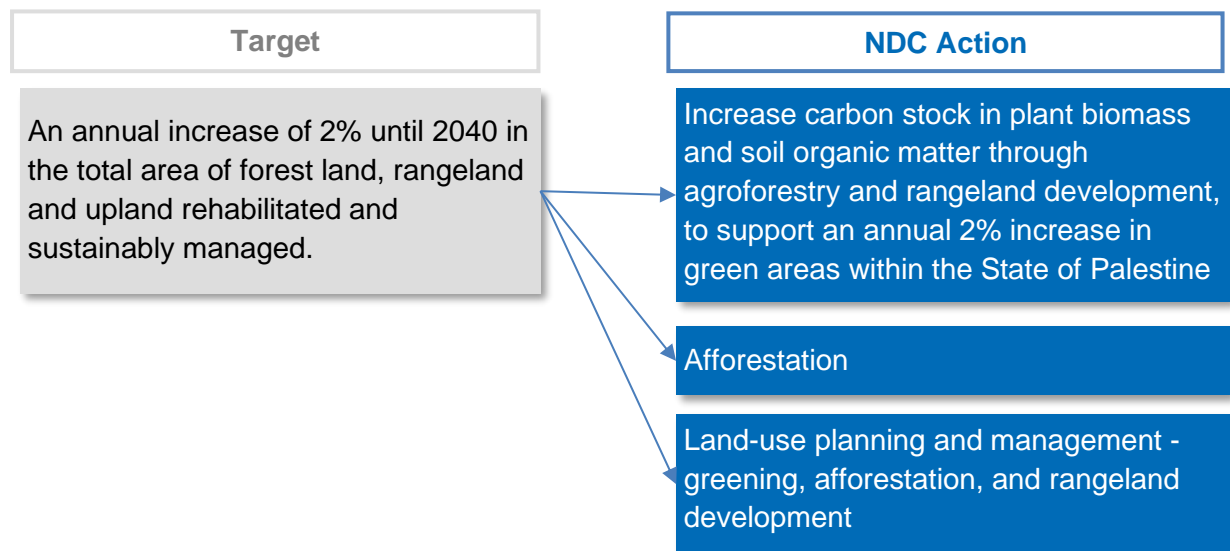
5 Activities

One target was set by national stakeholders to facilitate implementation of this plan and achieve its focal NDC actions, as outlined in [Figure 1](#).

¹¹ Gender-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](#).

¹² Gender-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](#).

Figure 1 Target for greening, afforestation and rangeland development in Palestine



In total, five activities were identified in to achieve this target. They are listed in Figure 2. Further details are provided in the subsequent sections.

Figure 2 Summary of activities for greening, afforestation and rangeland development in Palestine

- Increase carbon stock in plant biomass and soil organic matter through agroforestry and rangeland development, to support an annual 2% increase in green areas within the State of Palestine
- Afforestation
- Land-use planning and management – greening, afforestation, and rangeland development

An annual increase of 2% until 2040 in the total area of forest land, rangeland and upland rehabilitated and sustainably managed.

Developing a future land-use plan to 2040	0.45m USD (total) 0.00m USD (gap)	718.3m USD (total) 717.6m USD (gap)
Promoting the future land-use plan through and awareness raising campaign for the public	1.5m USD (total) 1.5m USD (gap)	
Developing the enabling environment	0.15m USD (total) 0.00m USD (gap)	
Preparing the ground for greening, afforestation, and rangeland development	37.9m USD (total) 37.9m USD (gap)	Target
Implementing greening, afforestation, and rangeland development	678.3m USD (total) 678.3m USD (gap)	

NDC Action

5.1 Activities to implement greening, afforestation and rangeland development

National stakeholders have identified the following specific activities to achieve the overarching target associated with the NDC actions:

1. Developing a future land-use plan to 2040

Palestine's limited land area poses a major challenge for balancing urban development needs with greening, afforestation, and rangeland development. Hence, it is crucial to develop one consistent future land-use plan that addresses all needs, and to secure a common understanding and commitment from all stakeholders.

This activity will require linking existing land-use maps to the national spatial plan, to create one land-use plan to 2040.

a. Understanding existing land use

A team of experts will be commissioned by MoA to collect and collate any data required to develop a future land-use plan. This will include:

- Evaluating existing land-use maps, considering the gender share for various land-use types. At least 15% of the land included in the review should be owned or

managed by women, to ensure gender challenges with land planning, use and management are reflected in the subsequent land-use plan

- Conducting consultations with communities to ensure that their needs are reflected, seeking a balanced gender representation. There will be a target for at least 30% of respondents to be women

b. Develop and produce a future land-use plan.

The team of experts commissioned by MoA will produce a future land-use plan based on their research. The plan will aim to overcome challenges linked with the expansion of the cultivation of fruits trees, including olives, and conifers that rely solely on rainfall.

c. Review the proposed land-use plan

The MoA team will organise workshops and seminars to review the proposed future land-use plan through expert and stakeholder consultation. At least 30% of attendees will be women, so that challenges due to gender are reflected in the review.

The team will accommodate feedback, as appropriate, and present a final plan for adoption by the Palestinian Authority. The plan will be accompanied by three separate assessments:

- Market benefits of the plan along the agriculture value chain, including for food security
- Non-market benefits (biodiversity, ecosystem services and natural capital)
- New species and varieties (including trees) to be introduced (where and when) that will be tolerant to projected climate changes.

2. Promoting the future land-use plan through an awareness campaign for the public

An awareness campaign will be carried out to facilitate the implementation and help achieve the objectives of the land-use plan. The campaign will be delivered to the wider public, explaining the different features of the plan and its potential benefits for communities and for key individuals.

Components of the campaign will be identified and agreed by governmental institutions, local communities, and various NGOs. A wide range of tools and platforms will be used to maximise the campaign's reach (e.g. including online), though it is anticipated that traditional methods and media will be most effective.

To prepare and conduct this activity, a team of experts will be commissioned by MoA to:

- Develop proposals for an effective awareness campaign that takes socio-economic factors into account, including consideration of gender roles in land use and ownership.
- Consult with stakeholders regarding the proposed campaign and accommodate their feedback, as appropriate. At least 40% of consultees will be women, to ensure that feedback received reflects specific challenges due to gender. The consultation will also take into consideration the age of stakeholders, so that the feedback received also reflects specific challenges due to age.

- Implement the approved awareness campaign with governmental bodies, NGOs, and selected private companies. The campaign will include awareness raising activities delivered by extension officers, of whom at least 50% will be women, so that women involved in land planning and management can be reached more easily. At least 25% of those targeted by the campaign will be women.
- Evaluate the impact of the awareness campaign on an annual basis. Results will be disaggregated by gender and age to understand the demographics reached by the campaign.

3. Developing the enabling environment

Policies and institutional arrangements/links are needed to promote land use, land-use change and forestry (LULUCF) consistent with the future land-use plan. A team of experts will be commissioned by MoA to:

- Evaluate current policies and institutional arrangements/links of relevance to LULUCF, including gender perspectives in the evaluation process.
- Suggest potential revisions and additions to current policies and arrangements consistent with the future land-use plan, including gender perspectives in the revision process.
- Organise workshops and seminars with national stakeholders to review the suggestions. At least 30% of attendees will be women.
- Accommodate feedback and present final recommendations for adoption by the Palestinian Government.

4. Preparing the ground for greening, afforestation, and rangeland development

This activity focuses on preparing the ground for implementing the future land-use plan activities that are relevant to greening, afforestation and rangeland development (the urban development side of the land-use plan is not discussed in this NDC implementation plan). The following activities will need to be implemented:

a. Identifying appropriate technologies and tools

The selection of appropriate technologies and tools for relevant activities and projects will be the responsibility of local universities jointly with the National Research Centre and relevant NGOs, supervised by MoA. Gender and age will be considered to ensure equity and equality in access to resources and technologies.

Specific activities will include:

- Establishing a team to select the appropriate technologies and tools. At least 40% of team members will be women.
- Convening discussions with relevant stakeholders on new technologies and tools. At least 40% of those involved will be women.

b. Identifying nurseries and seed banks for provision of new species and varieties

A large number of “new” plant species and varieties must be tested to identify and select those that will perform well under Palestine’s changing climate. A team (of at least 40% women) will be established to undertake the following specific activities to:

- Test the readiness of existing nurseries and seed banks

- Identify new relevant seeds species and nurseries to grow them

c. Identifying suitable machinery for conservation agriculture

New machinery is needed, particularly for afforestation of mountainous areas. The machinery may need to be modified to account for the limited access to electricity and digital technology of their users. This may involve using manually powered and/or renewable energy powered equipment.

Selection and testing of such machinery will be the responsibility of local universities, jointly with the National Agricultural Research Centre. Gender and age will be taken into consideration when implementing this activity to ensure equity and equality in accessing resources and technologies. A team will be established to undertake the following activities:

- Evaluating the readiness of landowners and other stakeholders to adopt new machinery. At least 15% of consultees will be women and results will be disaggregated by gender and age to understand the demographics reached by the survey and identify potential differences in readiness due to gender.
- Establishing a team to select modified machinery. At least 20% of team members will be women.

d. Piloting solutions for greening, afforestation, and rangeland development

Once selected, new plant species and varieties and the modified machinery will need to be tested. These tests will include pilots and demonstrations. Pilots will be the responsibility of local universities, jointly with the National Agricultural Research Centre. Demonstrations will be the responsibility of the MoA's agricultural directorates working with all national and local NGOs, in close cooperation with local university researchers.

Specific activities will include:

- Establishing a team to supervise and evaluate pilots and demonstrations of greening, afforestation, and rangeland development technologies (i.e. new plant species and modified machinery). At least 40% of team members will be women.
- Determining a detailed timeline and methodology for piloting and demonstration.
- Organising field days and demonstrations for relevant stakeholders, of whom at least 40% will be women.
- Evaluating the performance of pilots and field trials, ensuring the views of both men and women are considered.

e. Increasing capacity for technology transfer

The State of Palestine currently has insufficient professionals working on greening, afforestation, and rangeland development. This activity will focus on training professionals so that they can themselves deliver future trainings and transfer knowledge to stakeholders locally.

Trainings will be delivered jointly with the local universities and the National Agricultural Research Centre:

- A team will be established to evaluate the current number and qualifications of relevant trainers. At least 40% of team members will be women. To determine

specific gaps and needs related to age and gender, men and women of all relevant ages will be targeted to build capacity for technology transfer.

- A selection procedure will be established to identify suitable potential trainers. At least 40% of selection committee members will be women.
- Responsibilities for trainers will be established, using necessary incentives to ensure that at least 40% of trainers are women.
- New trainers will be assigned to various governmental and non-governmental bodies, and local communities.
- The necessary tools for facilitating training will be provided to the trainers.

5. Implementing greening, afforestation, and rangeland development

Once the pilots and demonstrations have been approved and trainers are ready to transfer knowledge and skills, activities to implement the greening, afforestation and rangeland development part of the future land-use plan will be rolled out. This will be a long-term effort. It is anticipated that locally adapted interventions will evolve from the experience acquired through the adoption of new plant species and varieties, and modified machinery and technologies.

The implementation of these activities will be supervised by MoA, jointly with NGOs and local communities. A joint supervision council will serve as a coordination body that suggests projects, applies for funding and supervises implementation. In addition, an independent team will assess the impact of projects and suggest modifications and changes for better implementation.

The implementation phase will include the following sub-activities:

a. Training key stakeholders from the land planning and land management sector

Training will be provided to all key stakeholders through workshops, field visits and field trials. Trainings will focus on how to use and maintain the modified machinery, how to grow new crop varieties and/or how to operate any additional technologies and solutions identified. The content of the training will differ based on the specific activities of the trainees. The following trainings will be delivered:

- **Training service providers from across government, institutions and NGOs involved in greening, afforestation, and rangeland development (also relevant to Climate-Smart Agriculture (CSA))**

A team will be established to evaluate the current level of knowledge of service providers and subsequently prepare training material and deliver training to them.

Training should be age-appropriate, so that the training matches the level of experience of the attendees (e.g. below 30 for basic training, below 40 for mid-management training levels). At least 40% of trainees will be women. Training will consist of theoretical and practical field work, with assignments provided to achieve certification.
- **Training relevant landowners and others involved in land management**

A team will be established to evaluate the current level of knowledge of landowners and others involved in land management about greening, afforestation, rangeland development techniques and use of climate services,

modified machinery, water-harvesting techniques, etc. At least 40% of team members will be women.

The team will determine gaps and needs, taking into account the gendered roles of landowners and agricultural workers. Landowners and others involved in land management will then be selected for subsequent training, based on the government directory and aided by further information provided by NGOs, taking into account gendered roles and responsibilities in land management, as well as age. Landowners tend to be older and less flexible in readily accepting new technologies, while younger individuals are more likely to accept new tools and technologies, which can save time and money.

- **Training seedbank and nursery staff**

Workshops will be organised with staff from the selected nurseries and seed banks to transfer knowledge about the selected new varieties of seeds.

Facilitators will ensure a balanced share of genders and ages at workshops to promote equity and equality in access to information. At least 20% of attendees will be women.

- b. Raising awareness and marketing innovative solutions across the whole of the value chain**

A team will be responsible for disseminating information about the most promising interventions in land-use planning and land-use management among farmers and other relevant stakeholders, of whom at least 40% will be women.

For seedbanks in particular, governmental institutions, in cooperation with the private sector and NGOs, will promote distribution and propagation of these new plant species and varieties. The private sector will be responsible for propagation of the new plant species and varieties. Currently, nurseries are in a good position to take on this responsibility.

It is anticipated that the use of new land use and management practices will lead to innovative solutions across the whole of the value chain. Support will be provided to developers of these interventions. Specific activities will be implemented to market their ideas, locally and more widely. At least 20% of the developers whose ideas will be marketed will be women.

- c. Rolling-out interventions and activities**

It is anticipated that locally-adapted interventions will evolve from the experience acquired through the adoption of new plant species and varieties, and modified machinery and technologies. Specific actions will include establishing a unit to:

- Supervise and record the interventions and activities
- Support developers of interventions and activities to market their ideas, locally and more widely
- Disseminating information about the most promising interventions and activities among farmers and other relevant stakeholders.

- d. Monitoring and supervising the implementation of greening, afforestation, and rangeland development activities**

A supervision and monitoring unit will be established to monitor progress and alignment with the land-use plan. This will involve regularly seeking feedback from

stakeholders on the training so that it can be improved, as well as on the performance of the new tools and practices being implemented.

To capture any potential implementation challenges due to gender barriers, at least 20% of the interventions monitored should be implemented by women.

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

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

- The indicative implementation period for each activity and sub-activity;
- Indicative costs for each activity and sub-activity;
- National contributions to each activity and sub-activity, where relevant;
- Existing international funding per activity and sub-activity, where 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' priorities are subject to change and negotiation.

7 Institutional arrangements

Figure 3 sets out the institutional arrangements for implementing this plan. The Ministry of Agriculture (MoA) was identified as the lead organisation for a cross-ministerial Project Steering Committee (and intended to be the main contact point with international public funders), as well as project delivery partners and other project stakeholders. The organisations involved will be specific to the activities, as relevant to their interests and may change over time. The committee should aim for equal gender representation to encourage gender mainstreaming throughout plans and activities.

It will be of key importance for MoA to allocate appropriate financial and administrative resources and clearly secure internal ownership of each activity in the implementation plan. This way, MoA 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 Policy recommendations

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 would contribute to ensure the successful implementation of the activities or remove potential barriers to implementation.

Key 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
- **Updating bylaws and regulations with added articles to support climate-resilient land planning and management.** There are currently many articles in law which support soil and land development, but with no direct connection to climate change measures. Some laws and bylaws can be used as the basis for updates relating to climate change, developing new articles in MoA law related to soil and land development. For example:
 - Common guidelines for land and water development,
 - Spatial land plans developed by the Ministry of Local Government (MoLG) and supported by various governmental institutes, which try to reserve agricultural land but need to be backed up by laws.
 - Building outside the master plan bylaw.

Such bylaws and regulations can be updated by adding specific articles supporting climate-resilient land planning and management. For example, the MoA with the Ministry of Finance (MoF) has added an article that ensures VAT is refunded to animal and plant production farmers that implement CSA. This is dependent of the availability of funds, and 25% of the refunded tax will be deducted for the benefit of the Palestinian Disaster Risk Reduction and Insurance Fund (PADRRIF).

It should be noted that most laws related to land planning and management are difficult to implement, as a majority of land and water resources are located in Area C.

- **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 a policy that enables and facilitates public-private partnerships** for the delivery of programmes that provide public benefits. In the case of this plan, this could enable wider promotion of the awareness-raising materials produced by the MoA by allowing them to engage with the media. The Ministry of Welfare can be responsible for taking forward this recommendation and 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-transformative 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 MoA 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 Strip¹³. Efficient decision-making and implementing structures have been developed to circumvent restrictions, including by communicating with the Israeli authorities.

Over the years, the MoA has worked with a range of international development partners, including the FAO, the Belgian Government, the European Union (EU), and the Islamic Development Bank. In doing so, it has assisted them to navigate the administrative procedures required to ensure that programmes can be successfully implemented.

Regarding this plan for implementing climate-resilient land planning and management, constraints arising from Israel's occupation could include land confiscation, restrictions on land management (e.g. preventing construction of stone or bench terraces to minimise erosion), and limitations to land expansion (heightening competition for land use leading to overgrazing and intensive farming practices). These challenges have been considered when developing this plan with MoA, such that activities focus on building upon existing capacities rather than expanding infrastructure or land. The selection of technologies and practices to be rolled out will also account for those potential challenges to ensure that only practical interventions are implemented.

¹³ 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.

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

Activity	2021 -	2026 -	2031 -	Unit cost	No. units	Unit type	Total cost ¹⁴	National contrib'n ¹⁵	Internat'l funding	Funding gap	Indicative options to secure international public funding to address funding gaps
	2025	2030	2040								
1.a				0.000500	300	Working days	0.150	0.150 ¹⁶	0	0	<ul style="list-style-type: none"> • FAO (LULUCF is a priority) • EU (LULUCF is not a current priority but open to a request from government) • IFAD (it has already funded Activity 5a)
1.b				0.000500	300	Nurseries	0.150	0.150	0	0	
1.c				0.000500	300	Nurseries	0.150	0.150	0	0	
2				0.000050	30,000	Attendees and beneficiaries	1.50	0	0	1.50	
3				0.000500	300	Nurseries	0.150	0.150	0	0	
4.a				0.00100	400	Nurseries	0.40	0	0	0.40	
4.b				0.02000	100	Nurseries	2.00	0	0	2.00	
4.c				0.00150	4,000	Machines	6.00	0	0 ¹⁷	6.00	
4.d				0.03000	900 ¹⁸	Solution activities	27.00	0	0	27.00	
4.e				0.00500	500 ¹⁹	Training courses	2.50	0	0	2.50	
5.a				0.00030	4,000	No. of trainees over	1.20	0	0	1.20	

¹⁴ Information provided by stakeholders based on TRM and GCF country report and former projects cost estimates

¹⁵ Help-in-kind: transportation, arrangements, communications

¹⁶ National grants

¹⁷ Submitted application for funding of USD 0.08 m: Development of organic waste shredding and composting machine for agricultural use

Funder: Dan Church Aid (DCA) and DANIDA, Implementor: Applied Research Institute - Jerusalem (ARIJ)

¹⁸ 15 Agro-climatic zones x 6 demonstration sites per zone x 10 hectares per site x 30,000 USD per hectare (covers establishment costs in the first years, plus maintenance costs for the following 4 years)

¹⁹ Training courses (costs for preparation of training sessions, including preparation of manuals and printing; there will be equivalent numbers of training sessions over five years)

Activity	2021 - 2025	2026 - 2030	2031 - 2040	Unit cost	No. units	Unit type	Total cost ¹⁴	National contrib'n ¹⁵	Internat'l funding	Funding gap	Indicative options to secure international public funding to address funding gaps
5.b				0.00002	10,000	a five year period No. of stakeholders reached over a five year period	2.00	0	0	2.00	
5.c				0.01500	45,000 ²⁰	Interventions and activities	675.00	0	0	675.00	
5.d				0.10000	1 ²¹	Supervision and monitoring unit	0.10	0	0.10 ²²	0.10	
TOTAL							718.30	0.600	0.10	717.60²³	

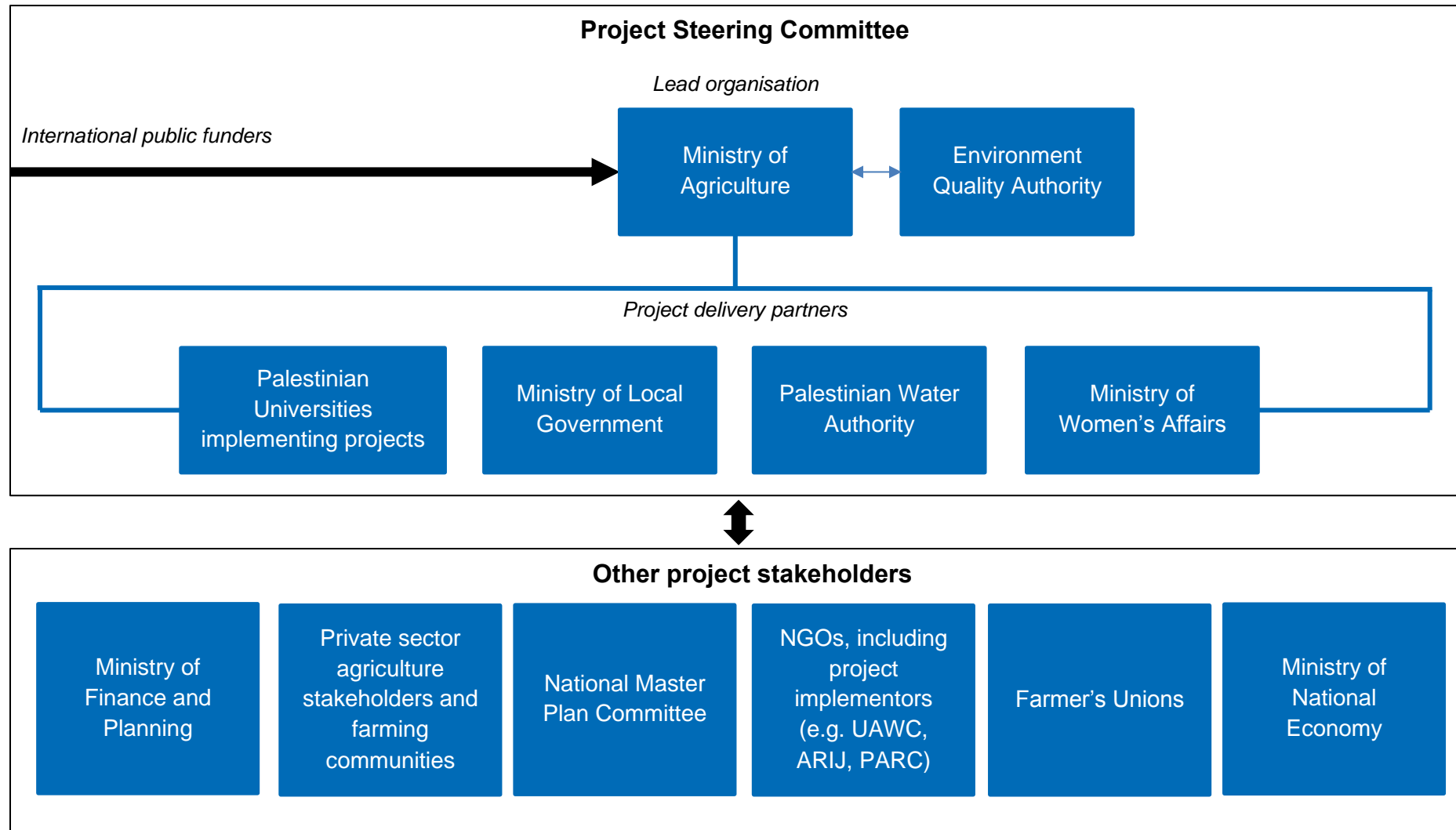
²⁰ 3,000 hectares annually x 15 years x 15,000 USD per hectares – covers establishment costs in the first years, plus maintenance costs for the following 4 years. The total green area in the West Bank and the Gaza Strip is estimated to be 150,000 hectares

²¹ Establishment of a supervision and monitoring unit

²² Awarded since 2017: Development of the agricultural lands in Area "C" in Hebron and Bethlehem governorates through construction and rehabilitation of agricultural roads, Funder: Islamic Development Bank, Implementor: Land Research Centre

²³ Total funding gap is subject to rounding errors

Figure 3 Institutional arrangements for implementation





Ricardo
Energy & Environment

The Gemini Building
Fermi Avenue
Harwell
Didcot
Oxfordshire
OX11 0QR
United Kingdom
t: +44 (0)1235 753000
e: enquiry@ricardo.com

ee.ricardo.com

STATE OF PALESTINE
MINISTRY OF AGRICULTURE



دولة فلسطين
وزارة الزراعة
ديوان الوزير

Minister's Bureau

Excellency Mr. Jameel Mtour
Chairman
Environment Quality Authority

Subject: Endorsement of the NDC Implementation Plans in the Agricultural Sector

The Ministry of Agriculture sends you best regards and wishes you good health in these difficult days of COVID 19, and would like to thank the EQA for the extended and continued efforts to protect the Palestinian Environment.

Reference is made to the subject and to your kind request for an endorsement letter, and in my capacity as Minister of Agriculture, this is to confirm that the Ministry of Agriculture fully endorse the NDC Implementation Plans for the Agricultural Sector, that was prepared jointly with the Ministry of Agriculture, Environment Quality Authority, and the National Committee for Climate Change and key stakeholders as part of the project implemented by Environment Quality Authority and NDC Partnership and funded by the Islamic Development Banks with an estimated budget as follows:

1. Climate Smart Agriculture with estimated Budget 229.87 Million Dollars.
2. Climate Resilient Land Planning and Management with estimated Budget 718.3 Million Dollars

I would like to reiterate that this plan is in conformity with the National Priorities in the Agricultural sector and the agricultural sector strategy update for the years 2021 – 2023.

With all due respect,

Riyad ATTARI

Minister of Agriculture



cc: Deputy Minister
Assistant Deputy Minister for Administration and Planning
DG. Planning and Policies
DG of Agricultural Water



عطوفة الأخ جميل مطور حفظه الله
رئيس سلطة جودة البيئة

الموضوع: اعتماد خطط العمل لتنفيذ المساهمات المحددة وطنياً في قطاع الزراعة
Subject: Endorsement of NDC Implementation Plans In Agricultural Sector

تحية طيبة وبعد.....

تهديكم وزارة الزراعة أطيب التحيات وتتمنى لكم موفور الصحة والعافية وتتقدم لكم بجزيل الشكر على جهودكم الموصولة والهادفة لحماية البيئة الفلسطينية، بالإشارة إلى الموضوع أعلاه وبناء على طلبكم يرجى العلم بأن وزارة الزراعة تؤيد وتدعم خطط العمل لتنفيذ المساهمات المحددة وطنياً والتي تم إعدادها بالتنسيق والتعاون ما بين وزارة الزراعة و سلطة جودة البيئة وأعضاء اللجنة الوطنية لتغير المناخ والشركاء ذوي العلاقة وذلك ضمن نشاطات المشروع المنفذ من قبل سلطة جودة البيئة وشراكة المساهمات المحددة وطنياً وبدعم من البنك الاسلامي للتنمية، وذلك بموازنة تقديرية على النحو التالي:

1. Climate Smart Agriculture وبكلفة تقديرية 229.87 مليون دولار

2. Climate- Resilient land Planning and Management وبكلفة تقديرية 718.3 مليون دولار

مع العلم بان هذه الخطط تأتي متوافقة مع الاولويات الوطنية في القطاع الزراعي، واستراتيجية القطاع الزراعي المحدثة للأعوام 2021 – 2023.

وتقبلوا فائق التقدير والاحترام

رياض عطاري

وزير الزراعة



نسخة

عطوفة الأخ الوكيل

الأخ وكيل مساعد الإدارة والتخطيط

الأخ مدير عام التخطيط والسياسات

الأخ مدير عام المياه الزراعية والري