MOMENTUMLABS

Engaging the Palestinian Private Sector for Climate Justice

Environmental and Climate Justice Programme

| WeEffect

2 December 2021

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Executive summary

The Environmental and Climate Justice Programme (ECJP) aims to enhance environmental & climate justice in Palestine with the specific goal of building the capacity of civil society organizations and right-holders to address structural barriers to environmental & climate justice. With support from the Swedish International Development Agency (SIDA), the program will be implemented by We Effect in partnership with the Palestinian Agricultural Institutions Coalition (PAIC) and will span 36 months from 2021-2023.

As a part of this program, Momentum Labs has been contracted to develop this strategy document to advise WeEffect and the partner organizations on best approaches to engage the private sector in the overarching strategy and goals for the ECJP. As part of this process, we have conducted an extensive literature review on the local landscape surrounding climate-justice, as well as a global review on the best practices of engaging the private sector in climate-related projects and programs. In order to further contextualize the strategy to the Palestinian private sector we also conducted a number of key informant interviews with various stakeholders including startups, SMEs, Agribusinesses, industrial companies, large corporations, cooperatives, financial institutions, and other support organizations. Our methodology allowed us to create a comprehensive engagement strategy and plan,, a landscape analysis of donor activity, private sector activity, and general climate-related activities and vulnerabilities in the West Bank and Gaza.

Climate change in Palestine has disproportionately affected certain regions more than others, most notably the Gaza Strip, the Hebron governorate and the Jordan River Valley. As with other countries in the region, the main source of climate-vulnerability is related to water scarcity and increased temperatures. As a country that heavily depends on the agricultural sector, this can have a severe impact on certain Palestinian communities especially ones that are already marginalized. As such, taking a climate-justice approach to climate adaptation is essential in the context of Palestine.

Climate action in Palestine has largely been donor-driven, and most significantly by the EU and member countries. Donor priorities and projects have largely overlapped those of the Palestinian Authority's, focusing on water and energy issues. While our research has shown that regulatory frameworks have not been a key driver in climate adaptation projects in the West Bank and Gaza, the government's intentions to increase their efforts in climate adaptation are made clear through key agenda documents.

Through discussions with private sector actors and support organizations we assessed the role currently played by the private sector in climate action, and how different actors can best be incentivized to take on a more proactive role. In the analyses, the private sector actors were divided into five main categories that play a critical role in the landscape: SMEs (broken up into input/ service providers and agribusinesses), large corporations with a CSR program, industrial companies that are significant polluters, financial institutions, and cooperatives and other support organizations. We also divided their roles into five main focus areas: financing, innovation, service provision, awareness, and coordination. The main strategy of engagement for each of these focus areas also identifies the private sector categories which are key partners. Furthermore, a detailed engagement plan for each of the private sector actors (29) includes their main barriers, needs, and potential interventions with indicative budgets where possible.

Out of the 29 engagement plans we conducted, 5 were shortlisted based on the preliminary cost-benefit analysis. The criteria of the preliminary cost-benefit analysis which was conducted on all 29 plans included:

1) alignment of objectives of the actor, 2) intersections with PAIC activities, 3) Capacity of the actor, 4) inclusiveness of the intervention, 5) feasibility of the intervention, and 6) the impact of the intervention. The 5 that were shortlisted are cross-cutting interventions that could have potential synergies. They are:

1) Green Demonstration Facility
2) Loloat Al Aghwar for packing and marketing
3) MNJM for recycling of household waste
4) PalTel/Fikra for Hackathons and Awareness campaigns
5) Al Reef for financial services

A more detailed cost-benefit analysis was conducted on these 5 potential interventions that shows promising signs of feasibility, sustainability, and potential impact. In order to measure the costs and benefits of each intervention, a set of assumptions was taken into consideration as well as references from studies conducted by well-established institutions and information collected from the local stakeholders. Overall, all 5 interventions proved to have benefits that outweigh the costs, as well as positive net-present values (NPV) and cost-benefit ratios. A theory of change table (see figure 1) was conducted to show how these 5 interventions have synergies between each other and can together and individually benefit the environment and Palestinian communities. A more detailed cost-benefit analysis and feasibility study would likely be necessary as WeEffect and the consortium move forward with these partners and get more advanced information on granular costs and potential benefits.

Figure 1: ***Theory of change table***

Focus Area	**Intervention**	**Partner**	**Target**	**Outputs**
Innovation	Climate Justice hackathons startup competitions	PaltelGroup/ Fikra Innovation Hub	Agri-tech and environmental technologies startups	3 winning service providers (water, energy, greenhouse) Agritech tools
Knowledge transfer	Establish demo centers in 3 locations (Gaza, Hebron, Tulkarm), with installed technologies	PAIC organizations, MoA, hired staff	Smallholder farmers	Build facilities 20-30% of farmers in that received demo and extension to upgrade their tech and practices
Financing adoption	Loan guarantee to extend loans to farmer adopting green tech	Microfinance and banks (Reef, BoP)	Smallholder farmers	40 - 60 loans year with an average of $ 4,000 each
Scaling distribution channels	Linking farmers with sales and marketing channels	Lo'lo'at Al Aghwar and other distributors	Smallholder farmers	Eco-friendly packaging and Selling of 1700 tons of fruits and vegetables annually to international markets

To ensure sustained impact, We Effect and the consortium must take a comprehensive and multi-faceted approach to help establish foundations for the private sector to build on. It is recommended that the

prioritized list of interventions from the engagement plan take into consideration all of the key focus areas. WeEffect and PAIC organizations are well-suited to lead such a program and the advocacy for climate-justice in Palestine. They are also well positioned in geographic areas that are considered the most marginalized, and have existing activities in vital sectors that are most affected by climate change: water, energy, food, and waste. With WeEffects support, the consortium can build the necessary frameworks, implement and manage programmes, and direct the Palestinian private sector towards climate-justice activities.

1 Introduction

1.1 Background

The Environmental and Climate Justice Programme (ECJP) aims at enhancing environmental and climate justice in Palestine with the specific goal: "By 2024, civil society organizations and right-holders have the capability to address and challenge structural barriers to environmental and climate justice in Palestine." With support from the Swedish International Development Agency (SIDA), this program will be implemented by We Effect in partnership with the Palestinian Agricultural Insitutions Coalition (PAIC) and will span 36months from 2021-2023. The three main components of the Programme are:

1) Capacity Development
2) Advocacy/Social Accountability
3) Community resilience through innovative and smart approaches

The inter sectionality of climate justice as a framework for understanding and addressing climate change is key for the context of Palestine. In recognizing that climate change goes beyond the environmental impacts and relating the causes and effects to broader ethical, political, and social issues, the framework of climate justice in Palestine allows for the consideration of the impact of the complex socio-political situation. The program aims to use a "gender mainstreaming and human rights based" approach which would further allow for the inclusion of the rights of marginalized community members (especially women, youth, and smallholder farmers), and lead to a comprehensive understanding of the complete landscape surrounding climate change and justice in Palestine. Furthermore, by considering human rights law, gender equality, and the empowerment of women and youth, this approach is more suited to guide policy recommendations, procedural responses, and adaptation measures to climate change and justice.

1.2 Assignment Objectives

Our assignment as consulting partners in this project is to develop a strategy document for WeEffect and the partner organizations on how to best engage the private sector in the overarching strategy and goals for the ECJP. As such recommendations will span across the three main components of the project and the various outcomes and sub outcomes listed in the project document. The objectives of our report are to:

1) Provide a complete analysis of and recommendations for the private sector and climate justice landscape through literature review, the review of laws, policies, and regulations, as well as interviews with key public stakeholders.
2) Map key private sector players' attributes in relation to climate justice, environmentally friendly practices, advocacy work, key social work (with a special focus on women, youth, and smallholder farms), and other activities that are in sync with the project objectives. This will also include potential individuals and companies with the ability to impact project activities.
3) Develop a list of potential interventions and areas of cooperation at the strategic level

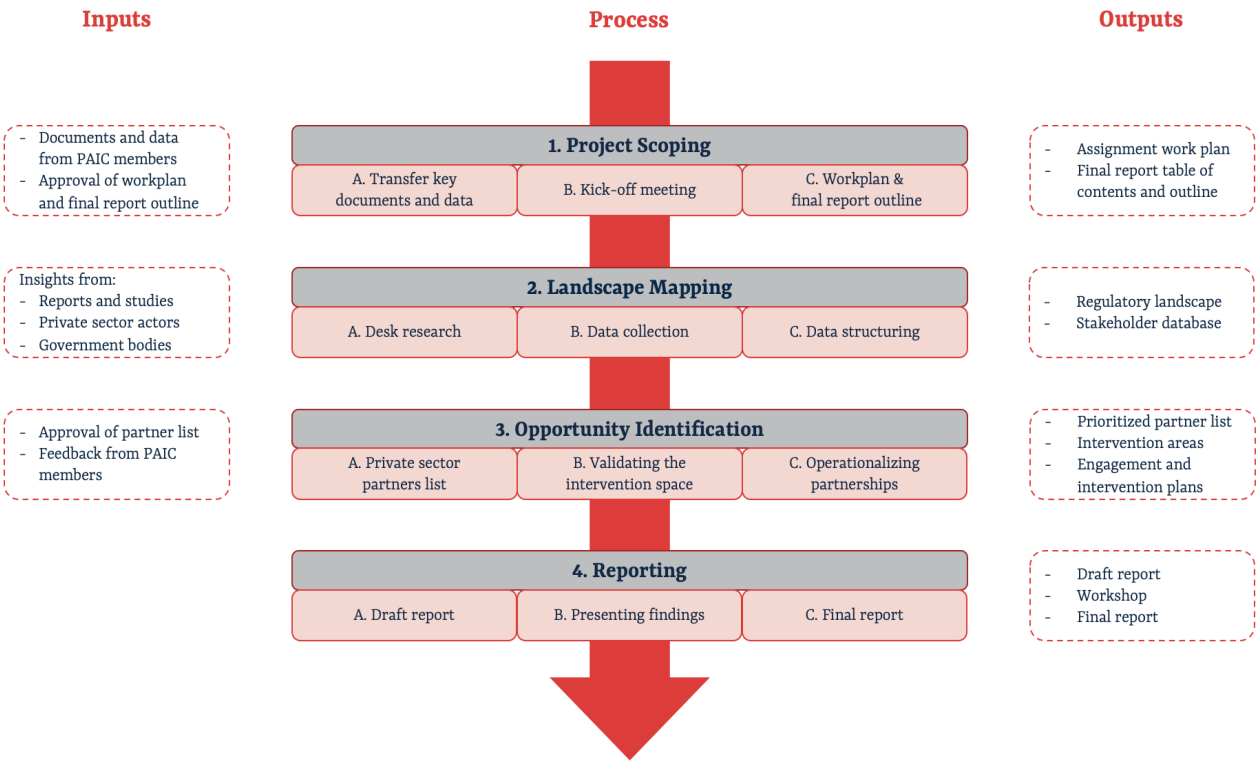
4) Conduct a cost benefit analysis of the suggest interventions and using the analysis to develop a prioritized final list of private sector players to engage
5) Design an engagement plan for a list of private sector players approved by PAIC and WeEffect, which would include a list of suggested interventions per partner and an implementation plan and an indicative budget for each.

Due to the nature of the ECJPs outcome-oriented results framework, the strategy document on how to best engage the private sector to achieve these outcomes mostly focuses on the sub-outcomes and targets proposed under outcome 3: community resilience through innovative and smart solutions. For example, output 3.2: *Innovative and smart solutions to environmental/climate/agricultural/ecosystems and biodiversity preservation challenges developed and piloted with vulnerable communities in participation*, and the associated indicators: *Number of innovative piloted initiatives adopted for scaling and number of phone applications/warning system developed* will most likely have to involve a range of private sector actors. This however does not mean that outcomes 1 and 2 will not include private sector engagement. For example, output 1.3: *creating synergies, networking, coordination, and cooperation between PAIC, programme partners, and other stakeholders*, as well as output 2.3: *rights holders engage and participate in environmental actions and decision-making processes* could both include private sector engagement from various actors. A more detailed approach on how our strategy document will consider the various outputs, indicators, and targets listed in the results framework will be provided in the next section of this report.

1.3 Assignment Methodology

The assignment was executed in four phases, according to the process summarized in Figure 2 below and further explained in the subsections. The outlined process enabled the collection of information and insights from different sources, the triangulation *(Triangulation is a technique to analyze results of the same study using different methods of data collection. Triangulation helps validate research findings by checking that different methods or different observers of the same phenomenon produce the same results)* and verification of findings, as well as development of a private-sector engagement strategy and plan. By focusing on disadvantaged areas and communities throughout the assignment, the approach followed in this report maintains the human rights, gender equality, and women and youth empowerment lens where possible..

Figure 2: assignment methodology



1.3.1 Scoping

The scoping phase includes meetings that have already been organized, as well as the creation of the Inception Report and any other follow-up meetings to finalize the scope of the project and agree on methodology and deliverables.

1.3.2 Landscape Mapping

In the second phase, the goal was to provide an analysis of the local climate action landscape and develop a comprehensive mapping of actors and potential interventions. The consortium project team will have an important role in this phase, as it needs to provide access to documentation as well as to all necessary contacts and introduce the consultant to the involved actors. The landscape mapping phase consists of:

A. Desk research: a thorough study was conducted on mechanisms to engage the private sector to deliver climate justice. To achieve this, our team first conducted a desk review of:
   - Literature on relevant local, regional and international experiences in engaging the private sector in climate action
   - Laws, policies and regulations in Palestine related to climate action
   - Existing donor involvement and contributions in the field of climate change
   - Databases of SMEs and MSMEs operating in the field of climate action, including those in the Water, Energy, Food and Waste sectors (see Annex I - Mapping of the Climate and Environment Sector in the OPTs)

B. Field data: in addition to desk research, insights were collated from existing key actors, with a focus on identifying main challenges and areas for development. The data collection was conducted through interviews that focused on larger stakeholders that have national coverage, smaller actors, in addition to groups of actors that have similar characteristics, namely SMEs, cooperatives and

regional councils that work in specific sectors relating to climate justice (water, energy, agriculture and waste management). Our interviews and discussions focused on the following actors:

- Private-sector (See Annex II - list of interviewees):
    i. SMEs and MSMEs. Focusing on businesses that work in sectors related to climate and environment, water, energy, agriculture and waste management
    ii. Cooperatives and farmer organizations; with a focus on actors that operate in the focus areas of We Effect and the PAIC organizations
    iii. Corporations; these include both: key corporate social responsibility contributors and large industrial companies working in fields related to climate action
    iv. Financing institutions; including traditional banks with existing exposure to climate action interventions, microfinance institutions and insurance providers.
    v. Industrial companies: including marble and stone companies, pharmaceuticals and other significant polluters.
- Government bodies: relevant government bodies were also interviewed including the Ministry of National Economy, Ministry of Agriculture and the Environment Quality Authority

Following the data analysis phase, the information collected through desk research, the various interviews and discussions were analyzed to identify key opportunities for PAIC organizations to partner with private sector actors. The analysis followed roughly the following stages:

- *Understanding the context*. Analysis of the context to identify gaps in the current climate action landscape, with a focus on marginalized areas and communities. This includes the analysis of climate vulnerability in the OPTs, policy and regulatory frameworks, the role of donor agencies and private sector involvement.
- *Exploring international approaches*. Analysis of international experiences and literature relating to private sector engagement in climate action. This contributed to the identification of key focus areas where the private sector could be involved.
- *Identifying focus areas*. Combining the learning from international experiences with the insights collected from stakeholders, key focus areas are identified for potential cooperation between PAIC members and various types of private sector actors.
- *Identifying key initiatives*. Based on the insights gathered through the interviews, a number of potential interventions are identified in discussions with key stakeholders. These interventions were assessed and prioritized based on pre-agreed criteria; inclusiveness, feasibility and impact.
- *Selecting private sector partners*. Based on the nature of selected interventions, the types, sizes and incentives for businesses required for each intervention are identified. Different types of private sector actors are then assessed and prioritized based on pre-agreed criteria; alignment with ECJP, intersections with PAIC activities and capacity to implement ECJP activities.
- *Planning engagement*. Based on all the above, an engagement approach is developed based on the key incentives of each type of private-sector actor. This approach is also verified through the interviews held with stakeholders.

1.3.3 Opportunity identification

In the third phase, our team worked to identify opportunities for the consortium members to partner with the private sector on impactful climate action interventions. We identified both the private sector partners

and the interventions based on a clear criteria. Once identified, we developed a detailed engagement plan for each partnership. The opportunity identification phase consists of:

A. Private sector partners list: based on the database and assessment criteria developed in the 'landscape mapping' phase, our team used a cost-benefit analysis to develop a prioritized final list of private sector players to engage, and broad areas of potential interventions. Potential private sector and other related partners will be assessed based on the following criteria:
    a. Alignment of objectives: alignment with the objectives of the WeEffect Programme, and the existence (or lack thereof) of climate environmentally-friendly policies
    b. Intersections with PAIC activities: the presence climate actions currently being conducted and/ or the potential for new ones
    c. Capacity: the ability and willingness to participate in climate justice activities

Criteria	Focus areas
1) Alignment of objectives	1.1) Social and environmental mandate
	1.2) Alignment with WeEffect programme objectives
	1.3) Alignment with PAIC organizations objectives
2) Intersection of Activities	2.1) Current activities relating to social and environmental responsibility
	2.2) Willingness to engage in social and environmental activities/ programmes
	2.3) Potential synergies with core operations
	2.4) Target groups
3) Capacity	3.1) Financial Capacity
	3.2) Human Resources
	3.3) Partnerships
	3.4) Access to information
	3.5) Legal and regulatory considerations

B. Validating the intervention space: our team then met with every member of the consortium separately to assess their current capacity and define their priorities in terms of potential interventions. Potential interventions were assessed based on the following criteria:
    a. Inclusiveness: selected interventions will need to demonstrate clear participatory approaches (and project targets) that ensure the use of a gender mainstreaming and human rights based approach, and include marginalized community members, especially women, youth, and smallholder farmers.
    b. Feasibility: selected interventions will need to be feasible to startup and operate, and sustainable to maintain to all stakeholders.
    c. Impact: selected interventions will need to include specific impact targets to ensure maximum reach.

1.3.4 Reporting

In the fourth phase, the report is prepared based on the research, analysis, and feedback developed and collated in the previous phases. To make the report more reader-friendly, we aim to make the report as lively and easily digestible as possible. The reporting phase consists of:

A. Draft report: our team will develop the draft report along the lines of the agreed outline (see Annex I). Once a first draft is finished, it will be shared with the consortium (We Effect and PAIC) project team. We expect that the consortium team will collect feedback and communicate this feedback to our team in a consolidated format.
B. Presenting findings: to effectively introduce and present the draft report, we will prepare a presentation that visually summarises the report. We will deliver this presentation to the consortium (We Effect and PAIC) management and any other actors (e.g. supporters, partners, etc.,) during a workshop. Walking through the report's findings using slides will facilitate and improve the discussion, which in our experience is as valuable as the report itself.
C. Final report: based on the feedback we will adapt the draft report and presentation to final versions.

2 Current Status of Climate Justice in the OPTs

Prior to designing and implementing any private-sector engagement plan for climate-justice-related projects and programmes, it is essential to have a full understanding of the status of climate justice in Palestine. Climate justice, as previously defined, refers to the ethical dimensions of climate change. As such, not only is it important to understand the reality of climate change and its impacts in the Palestinian case, but also how climate change is disproportionally effecting certain people and regions more than others. By understanding how climate change is impacting Palestinian society, and more importantly who and where it is having the greatest impact, which marginalized communities are most at risk, and which geographic areas require the most attention, we can then identify which sectors are most vulnerable and which private sector actors can be best leveraged to have the greatest impact in these sectors and geographic regions. This chapter takes a look at the climate-related landscape in Palestine, including current vulnerabilities and disproportionate impacts, as well as the current non-private sector initiatives being taken.

2.1 Climate and Environmental Vulnerability in the OPTs

Like other countries in the region, the OPT is exposed to climate vulnerabilities largely associated with a projected reduction in water availability and increased temperatures, with severe implications for the Palestinian economy, living standards and the environment.

Average minimum and maximum temperatures have increased over the past hundred years.[1] Water availability has also been impacted by an decrease in rainfall patterns and increase in summer temperatures, resulting in increased water scarcity, with existing local water resources (groundwater wells and local springs) already able to only meet around 60% of the total Palestinian demands in the West Bank. Whilst this figure is higher in Gaza (where local resources can meet 95% of the demand), the quality of water is extremely poor due to high water salinity that has developed because of over extraction.[2]

[1] Environment Quality Authority (2016). *National Adaptation Plan to Climate Change*. Available at: https://bit.ly/3mcWOTB
[2] Palestinian Water Authority (2012). *Annual Status Report on Water Resources, Water Supply, and Wastewater in the Occupied State of Palestine - 2011*. Available at: https://bit.ly/2ZxiP6H

Changes in temperatures and water availability also have a significant impact on the agricultural sector. The importance of the agricultural sector in Palestine arises from its contribution to Palestinian households' food security. Agriculture is also considered an important driver in the Palestinian economy due to provision of work opportunities in the Palestinian local market. However, despite its importance to the Palestinian economy and society, the agricultural sector has been shrinking. Fluctuations in rainfall amounts, extreme weather conditions, as well as the collapse of agricultural holdings have had a direct effect on agricultural production. This results in reduced efficiency and profitability,[3] in addition to variations in the production of some of the most important Palestinian agricultural goods, including as olive, fruit tree and vegetables.[4]

In addition to challenges introduced by climate change, asymmetric Israeli control over water resources leaves Palestinians significantly more vulnerable to shortages in water supply, both for household use and agriculture. Only around 13% of the water resources in the West Bank are used by Palestinians (around 82% of the population of the West Bank), while around 87% are extracted by Israel.[5] In addition, the development and maintenance of key water infrastructure in the OPT is heavily restricted by Israeli authorities, including the digging of wells for water harvesting.[6] The inability of Palestinians to maintain and improve water infrastructure in Area C is wasting water (physical water losses reach 50% in some areas).[7] For example, although application efficiency of irrigation systems in the OPT is good according to FAO, ranging between 75-90% for drip and 65-75% for sprinklers, most of the losses occur in the water conveyance systems, indicating shortcomings in the available water infrastructure.[8]

2.1.1 Climate vulnerability projections

Key climate projections in the OPT are summarised from the National Adaptation Plan (2016):[9]

- Future climate scenarios assume a temperature increase of 2.0-4.0°C by the end of the century.
- Studies show conflicting predictions of both increasing and decreasing rainfall.
- Sea level rise and sea surface temperatures both appear to be variable in time.
- An increased frequency of intensely hot days, very hot days, heatwaves, and extreme temperatures and increasing risks of drought are likely for the region, but the evidence for the OPT is limited.
- Increased likelihood of intense, short periods of rainfall, as opposed to an extended wet season, resulting in increasing risks of flooding, as well as less efficient capture and use of rainfall water.[10]

The water sector is expected to be the most exposed to the adverse consequences of climate change in the OPT. Water availability depends almost entirely on underground water resources mainly fed by rainfall. With lower rainfall and higher evaporation, the sector will have to cope with recurrent water shortages due to increased storm water flooding from greater rainfall variability.[11] It will also be challenged by insufficient

[3] Applied Research Institute - Jerusalem (2015). *Palestinian Agricultural Production and Marketing between Reality and Challenges*. Available at: https://yplus.ps/wp-content/uploads

[4] PCBS (2014). *National Accounts Report – 2013*. Available at: https://www.pcbs.gov.ps/Downloads/book2097.pdf

[5] PCBS and PWA (2021). *The Palestinian Central Bureau of Statistics (PCBS), and the Palestinian Water Authority (PWA) Issue a joint Press Release on the Occasion of World Water Day* . Available at: https://bit.ly/3pPlnYo

[6] Dai, L. (2021). *"Implementation Constraints on Israel–Palestine Water Cooperation: An Analysis Using the Water Governance Assessment Framework"*. Water 2021, 13, 620. Retrieved from: https://doi.org/10.3390/w13050620

[7] Transnational Institute (2008). *'Water Management Challenges in Palestine'*. Available at: https://bit.ly/3bp1C1l

[8] Food and Agriculture Organization of the United Nations. *Water efficiency, productivity and sustainability in the NENA regions (WEPS-NENA)*. Available at: https://bit.ly/3Gw1viO

[9] IPCC, 201: National Adaptation Plan 2016. Available on https://bit.ly/3pzoZxD

[10] Ibrahim Fares and Yasmin Mansour (2020). *Water Issues and Climate Change in the Israeli-Palestinian Conflict*. Published in The Jurist on 16 July 2020 at 02:00:17 AM. Available at: https://bit.ly/3w2q02w

[11] Applied Research Institute - Jerusalem (2012), "Water resource allocations in the occupied Palestinian territory: Responding to Israeli claims". Retrieved on 10 May 2021 from: https://bit.ly/3Cn6tMu

rain to recharge aquifers, increased salinity of the coastal aquifer, reduced surface and groundwater quality, and a lower supply of water from Israel. These changes are expected to increase competition for scarce water resources, intensify food insecurity due to increased agricultural vulnerability to climate change, and increase social instability because of poverty and unemployment.[12]

It is also anticipated that climate change will increase energy demand because of the need to cope with more temperature extremes, as well as rising fuel demands to cope with water shortages (fuel and transport associated costs).[13] A lack of diversity of energy sources and an overreliance on Israel exposes Palestinians to inflated energy costs, heightening the need for renewable energy investments. Limitations on energy generation can have severe consequences for water availability and food security. With decreases in rainfall levels, the OPT will need to invest in developing alternative water sources through wastewater treatment and reuse and desalination, both of which are heavily reliant on the availability and cost of energy supply.

2.1.1.2 Disproportionate climate impact

Current and expected adverse effects of climate change are likely to exacerbate socio-economic inequalities among the different regions of the West Bank and Gaza. This, to a large degree, is because the impact of climate change is likely to disproportionately impact communities already living in socio-economic adversity. As shown in Figure 3 below, regions already suffering from low rainfall levels are also suffering from Israeli restrictions, being located in Area C where building structures and digging wells is prohibited, and higher levels of poverty and unemployment. While a chronic economic problem all over the OPTs, unemployment is more severe in areas such as the Gaza Strip, the Hebron governorate, and the Jordan Valley, which are also the most threatened by climate change. Unemployment has a disproportionate impact on women and youth.

To add to the complexity, the political and socio-economic conditions restrict the coping and adaptive capacities of Palestinians, with the space for effective climate strategy design and implementation constrained by the realities of the Israeli occupation.[14] Political factors mean that the PA lacks full authority over its natural resources, especially in Area C, with consequences in terms of effective management and implementation of climate initiatives and policies.[15] As a result, the limited mitigation and adaptive readiness to climate events undermines overall resilience and increases exposure to climate risks for the most vulnerable communities.

Figure 3: the climate-poverty-unemployment-conflict nexus

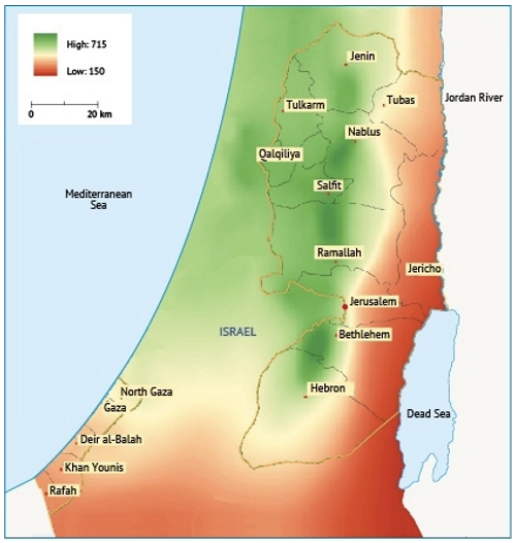
Average annual rainfall levels in Palestine, 2017	**Map of Areas A, B and C**

[12] Dai, L. (2021). "Implementation Constraints on Israel–Palestine Water Cooperation: An Analysis Using the Water Governance Assessment Framework". Water 2021, 13, 620. Retrieved from: https://doi.org/10.3390/w13050620

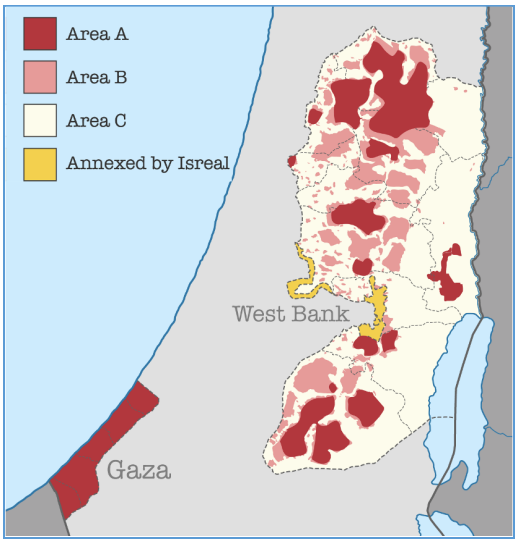
[13] Ministry of Foreign Affairs of the Netherlands (2018). Climate Change Profile: Palestinian Territories 2019. Availabe at: https://reliefweb.int/sites/reliefweb.int/files/resources/Palestinian%2BTerritories.pdf

[14] Mason, M.; Zeitoun, M.; Mimi, Z. *Compounding vulnerability: Impacts of climate change on Palestinians in Gaza and the West Bank*. Journal of Palestine Studies. 2021, 41(3), pp. 38–53. Available at: https://bit.ly/3wcknxx

[15] Expert interview with the Environmental Quality Authority (EQA)

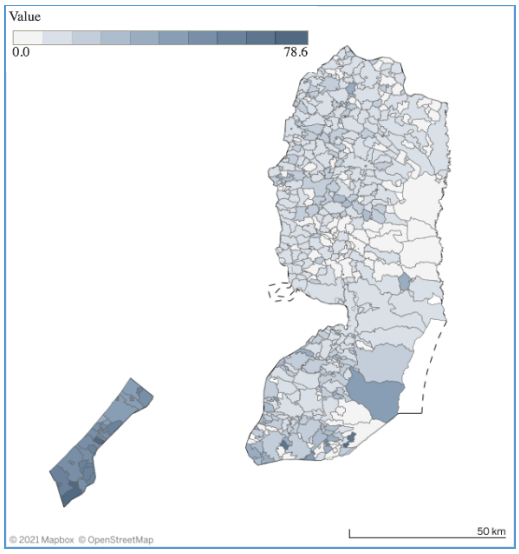


Source: *Fanack after ARIJ*



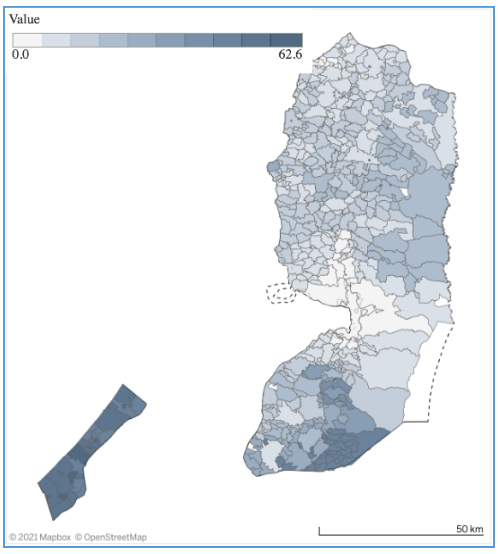
Source: UN OCHA

Unemployment rate, 2017



Source: *Palestinian Central Bureau of Statistics*

Small-area estimation of poverty, 2017



Source: *Palestinian Central Bureau of Statistics*

2.2 Governance and Policy Landscape in the Climate and Environment Sector

2.2.1 Climate Action Governance

The governance of climate change in the OPT involves a wide range of actors including Palestinian ministries and authorities, the private sector, international stakeholders, civil society/ NGOs and academia.[16] The Environment Quality Authority (EQA) is the central authoritative body for all environmental issues in the OPTs. It is the umbrella under which all environmental regulations, projects and strategies are created and implemented.

[16] Environment Quality Authority (2016). *National Adaptation Plan to Climate Change*. Available at: https://bit.ly/3mcWOTB

To coordinate among the various actors, the main body responsible for the development of climate-related policies is the National Committee on Climate Change (NCCC), which is a cross-ministerial expert advisory committee that acts as the mandated national platform supporting the PA in pursuing and evaluating its climate policies. The NCCC comprises representatives of the ministries/agencies, the private sector, academia, and civil society, and is supporting the PA in the development, implementation, and achievement of its climate policy; advises on where attention is required on risks; and what the GHG mitigation and adaptation needs are. The NCCC is chaired by the EQA, which acts as the permanent NCCC Secretariat and is responsible for the coordination between the NCCC and the executive bodies. The ministries part of the NCCC are responsible for climate policy in Palestine as part of their assigned mandates, including outsourcing and overseeing the implementation of related activities by the local governments and service providers at the national and local levels, and in coordination and consultation with the EQA – recognising its leading and key coordination role.

Through our analysis, it became increasingly clear that the policy framework in Palestine is not very effective as a tool to either incentivize private sector actors towards implementing climate-friendly practices, or disincentivize them from polluting practices. While there does exist a number of incentives (especially in the energy and food sectors) and a number of laws regulating pollution, the existence of these laws does not entail that they are actually being enforced by the relevant authorities - or that these relevant authorities are capable of enforcing them. While high-level strategies and action plans show the good intentions of the government, the lack of actual laws and the lack of enforcement of whatever laws exist shows the reality on the ground for the private sector and can advise our engagement plan accordingly. Both the high-level strategies and specific laws are further analyzed in the forthcoming sections.

2.2.2 Climate Action Policy Framework

The policy framework which sets out the vision for climate action in Palestine is defined by a series of policies which inform the PA's climate governance at the national, sub-national and local levels, and caters for the implementation of effective climate-related initiatives in the short, medium, and long-term. This framework defines the PA's increasing ambition to address climate change, centred on key priorities of increasing resilience and strengthening adaptation capability, despite recognised political, institutional, and technical challenges.

Recognising that responding to climate change is particularly important in the OPT, the PA has taken several proactive steps to pursue its climate agenda, starting from the 2016 National Adaptation Plan (NAP)[17] and in the Nationally Determined Contributions (NDC),[18] which articulated the PA's climate commitments and were later integrated into several sectoral strategies and plans such as in the water, energy, agriculture, and health sectors. In addition, the PA initiated a series of climate-related initiatives which define the current national policy landscape following its accession to the United Nations Framework Convention on Climate Change (UNFCCC) in 2016. These climate-related commitments are also referenced in the recently approved National Development Plan (NDP) 2021-2023[19] and in the previous National Policy Agenda (NPA) 2017-2022 under the Sustainable Development Pillar in the form of

[17] Ibid

[18] United Nations Framework Convention on Climate Change (2016). *Nationally Determined Contributions of the State of Palestine*. Available at: https://bit.ly/3CpA9Zr

[19] State of Palestine (2020). *National Development Plan: Resilience, Disengagement, and Cluster Development towards Independence (2021-2023)*. Available at: https://bit.ly/37Tg93I

sustainability and resilience objectives. This is one of three pillars in the NDP/ NPA, and encompasses economic independence, social justice, education, health, and resilient communities.[20]

These high-level strategies underscore the PA's appreciation that effective policy making and planning around climate change in the OPT are intrinsically tied to and serve as a vehicle for achieving broader socio-economic development and sustainability goals. The objectives are to be achieved by building community resilience at several levels (economic, social, and environmental), improving the PA's capacity to implement mitigation measures (i.e., monitoring capacity and controls on various actors) and through the implementation of effective adaptation strategies.

The key national policies which define the PA's climate agenda are listed below:

- **Climate Change Adaptation Strategy and Programme of Action for the Palestinian Authority (2010):** the Environmental Quality Authority (EQA), with support from the UNDP, issued the Climate Change Adaptation Strategy and Programme of Action for the Palestinian Authority in 2010.[21] This strategy articulated a series of adaptation options across all sectors in Palestine, prioritised according to the 'no-regrets' and 'low-regrets' options. These were based on the identification of key sectoral vulnerabilities against existing national-level capacities to deal with them.
- **National Adaptation Plan (2016):** The National Adaptation Plan (NAP) was developed based on a vulnerability assessment which looked at the climate sensitivity and adaptive capacity of 12 economic sectors, considering both historic trends and future climate scenarios.[22] Sectors identified by the NAP as vulnerable to climate change are agriculture, coastal and marine, energy, food, gender, health, industry, terrestrial ecosystems, tourism, urban and infrastructure, waste and wastewater.[23] Water and food security had previously been identified as the most vulnerable sectors, with knock-on implications for all other sectors. The Plan prioritises adaptation options and identifies costs for each sector in line with the vulnerabilities identified, future plans to participate in climate-change modelling research, monitoring and evaluation, as well as related technical and financial support required by the PA to fully institutionalise and implement its climate-related initiatives. The NAP is intended to be a living document, to be regularly reviewed by theme and sector, and in line with the implementation of related policies, including the National Development Plan/ National Policy Agenda, the sector strategies and roadmap for the implementation of sector-specific adaptation initiatives.
- **Nationally Determined Contributions (2016):** In 2017, the PA submitted its NDC to the UNFCCC along with a corresponding implementation roadmap. The NDC outlines all proposed mitigation and adaptation actions to reduce the impact of climate change and achieve the Sustainable Development Goals, split between conditional and unconditional measures. In the NDC, the PA confirms its commitment to contributing to ambitious climate change action under the UNFCCC but also reaffirms its belief in the principles of equity and climate justice, recognising the importance of common but differentiated responsibilities in line with responses commensurate to mitigation requirements and in line with states' capabilities.[24] Through the NDC, the PA commits to implementing certain mitigation measures in addition to adaptation measures for the first time. While some aspects of the PA's mitigation commitments were unconditional, conditional mitigation was planned under the two

[20] State of Palestine (2016). *National Policy Agenda: Putting Citizens First and the Sector and Crosscutting Strategies (2017-2022)*. Available at: https://bit.ly/37VawSK

[21] UNDP (2010). *Climate Change Adaptation Strategy and Programme of Action for the Palestinian Authority*. Available at: https://bit.ly/3soWp1m

[22] Environment Quality Authority (2016). *National Adaptation Plan to Climate Change.* Available at: https://bit.ly/3mcWOTB

[23] Ibid

[24] United Nations Framework Convention on Climate Change - UNFCCC (2016). *Nationally Determined Contributions of the State of Palestine*. Available at: https://bit.ly/3CpA9Zr

scenarios: (i) the PA's achieving independence, and (ii) status quo, with planned GHG reductions of 24.4% and 12.8% by 2040 under the independence and status quo scenarios, respectively. Conditional mitigation means that the PA's ability to implement the Plan and meet the global requirements relies heavily on securing international support and increasing autonomy. This is specifically in the form of addressing substantive needs for technology transfer, training, capacity building and finance.[25] The EQA is currently focusing on enhancing the overall quality of the NDC, updating it considering the latest developments and progress against their stated commitments and related actions. Updates are also aimed at fine-tuning the NDC targets to ensure the NDC remains fully aligned with the latest National Development Plan 2021-2023 and updated Sector Strategies.[26]

- **The Cross-Sectoral Environmental Strategy (2017-2022):** Recognising the interlinked nature of climate change impacts, the Cross-Sectoral Environmental Strategy 2017-2022 sets out the PA's vision for achieving a sustainable environment and is a key framework for mainstreaming climate change and environment action across all economic sectors. Implemented and overseen by the EQA, the strategy is aligned with the NPA and other relevant national frameworks and policies, and recognises the need for holistic, intersectoral approaches to ensure the effective implementation of the NDC. A vision of the strategy is to achieve a "protected, clean, and sustainable environment." To do so, it outlines five objectives that encompass broader environmental themes. In line with these priorities, the strategy outlines 48 specific cross-sectoral strategies and policies to be implemented by mandated institutions across relevant sectors, in collaboration with other stakeholders, under the leadership of the EQA.
- **National Development Plan (2021-2023) / National Policy Agenda (2017-2022):** Under these plans,, as well as the 19 sector strategies and 3 cross-cutting strategies, the PA outlines its commitment to serve the Palestinian people and sets out its vision and national priorities to pursue the overarching goals of improving the living standards of Palestinians and strengthening the state-building process, over the period 2017-2022. This vision is structured around three pillars: (i) Path to Independence, (ii) Government Reform, and (iii) Sustainable Development. These documents lay the foundation for increasing climate adaptation mainstreaming in the PA (at national, sub-national and local levels), although they do not articulate any climate-specific strategies. Pillars 1 and 3 of the policy recognise climate change and environmental sustainability as integral to achieving the OPT's development objectives. Pillar 3 identifies the need for "ensuring a sustainable environment and adapting to climate change" as a key national policy, included under the 5th National Priority of building "Resilient Communities."[27] The policies also further elaborate on related policy interventions necessary to meet identified climate priorities. Charting the strategic direction of the PA over six years, each pillar further outlines national priorities and sector-based policy directions. These are intended to be operationalised through 19 sectoral and three cross-sector strategies, prepared by the PA to mainstream the NDP/ NPA vision and related objectives at the sector level.[28]

2.2.3 Sectoral Legal Frameworks: Potential Incentive Structures

The Palestinian climate landscape is largely defined by four main sectors: Water, Energy, Food, and Waste. In this section, we analyze the different laws and regulations that can be used to either incentivize private sector actors to take certain actions ("carrots") or disincentivize these players from committing harmful actions ("sticks").

[25] Ibid
[26] Expert interviews: EQA
[27] Environment Quality Authority (2016). *National Adaptation Plan to Climate Change*. Available at: https://bit.ly/3mcWOTB
[28] Green Climate Fund (2019). *Country Program - State of Palestine*. Available at: https://bit.ly/2ZHNjmh

2.2.3.1 Water

The water sector in Palestine is one the most effected by climate change and pollution, but is also largely controlled through negotiated agreements with Israel and is out of the Palestinian Authority's jurisdiction as water resources tend to be located in Area C. In Gaza, this problem is significantly more severe as the water there has been deemed undrinkable by various actors, and recent studies show that only 4% of the yearly supply of water in Gaza meets global standards for drinkable water.[29]

In 2014, the Water Law was designed to clarify accountabilities and establish autonomous utilities. However, due to an incomplete legal structure, lack of financing and lack of clarity in the law itself, implementation has been stagnant. Furthermore, under this law the Water Sector Regulatory Council (WSRC) was established as an independent legal entity that reports directly to the Cabinet of Ministers. The WSRC is responsible for all monitoring and regulation matters regarding the operation of water and sanitation including approving tariffs, licensing, and regulating service providers and protecting consumers. However, most of these statutory functions have not yet been legally transferred to the WSRC, and since neither the PWA nor the WSRC has technical or administrative control over LGUs, there is a governance gap in this sector. The reality on the ground is that the technical control of water supply falls to the LGUs but water service delivery is loosely supervised.

In Gaza, similar problems of lack of clarity and responsibilities persist. However, Gaza's geographic position allows for the potential of desalinated water to be used. In 2015, 154 reverse osmosis plants were reported in Gaza with no proper monitoring on water quality. These are usually run by private businesses who also own a fleet of trucks to distribute the water.

Overall, the lack of clarity of laws, accountabilities, and responsibilities in the water sector has essentially turned the water sector in Palestine into an informal one with very little oversight. In addition, the fact that most water resources and infrastructure development is located in Area C, means that the policy space is even more limited. This has created a situation where implementing incentive-based mechanisms to promote effective and efficient water services is extremely difficult.

Despite the difficulties, a few wastewater facilities have been developed, including some that are operational and showing success. However, the supply capacity of these facilities is still small, and more can be done to build on existing efforts. Since water resources are generally a "public good" the involvement of the private enterprises in the water sector is likely to be increased if there was a clear framework for Public-Private Partnerships (PPPs).[30]

2.2.3.2 Energy

The energy sector in Palestine is the most supported by the surrounding legal framework. As many international donors and NGOs are interested in promoting investment into renewable energy in Palestine (especially into solar power), the government along with the Palestinian Investment Promotion Agency (PIPA) have established a set of laws and regulations that incentivize private sector investment into solar energy.[31]

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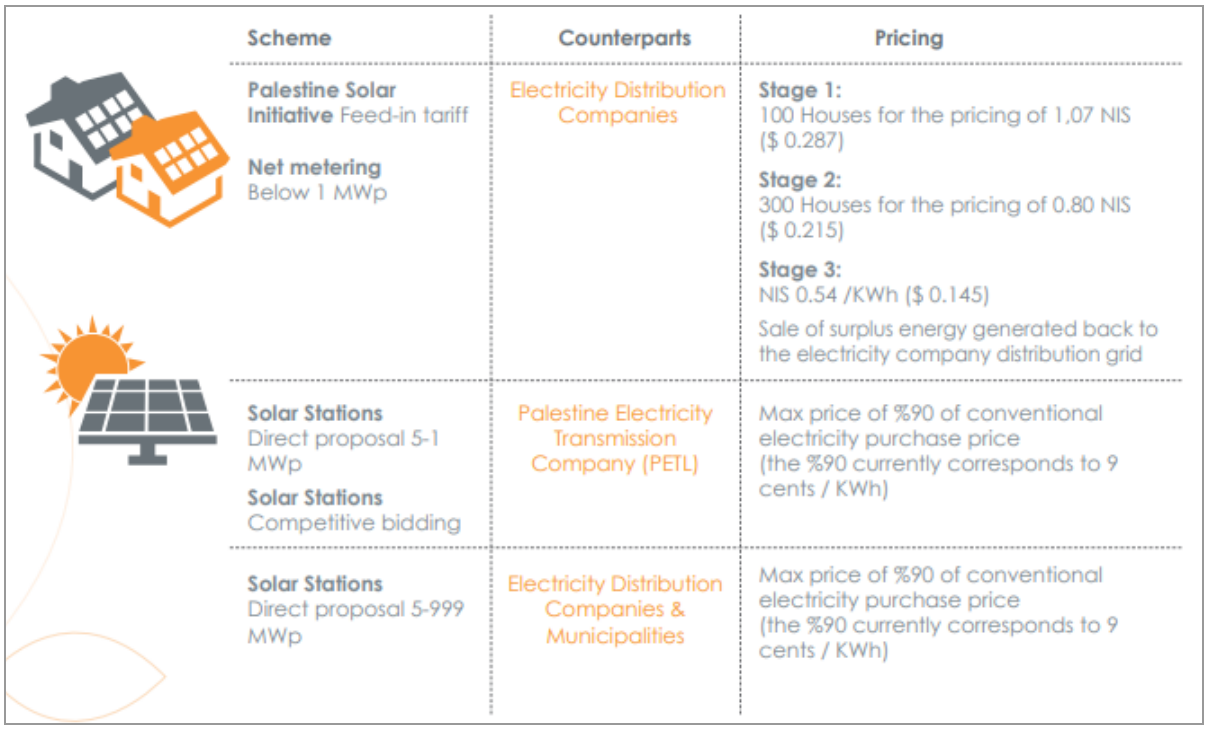
[29] World Bank Group (2018). Securing Water for Development in the West Bank and Gaza. Available at: https://bit.ly/32HNlM6

[30] Please see box X below.

[31] http://www.pipa.ps/page.php?id=272e14y2567700Y272e14

The 2015 Renewable Energy and Natural Resources Law promotes the exploitation and development of renewable sources to increase the proportion of its contribution to the total energy mix. The incentives stated in this law are as follows:

Figure 4: Incentives for the businesses operating in the renewable energy sector



Source: Palestinian Investment Promotion Agency

Utility scale projects (more than 1MWh):

1) Stage 1: 0% income tax for seven years starting from operation
2) Stage 2: 5% income tax following stage one for five years
3) Stage 3: 10% income tax following stage 2 for three years

Feed-in Projects with less than 1 MWh:

1) Current projects that enjoy incentives receive addition extinction if they generate power as follows:
    a) 20 KW/h power generation receives 1 year extensions
    b) 40 KW/h power generation receives 2 year extension
    c) 60 KW/h power generation receives 3 year extension
2) Projects that never received incentives or their incentives period expired and generate 40 KW/h are subject to 5% income tax for two years.
3) Loans that finance electricity power generation from alternative resources receive the same treatment as finance of SMEs as per the income tax law and regulations.

This has created a situation where there are a few success stories about private sector implementation of solar powers. There have been a few licenses for utility scale projects granted and are in the pipeline for a capacity of 30MWp in different areas of the West Bank while other projects are currently being assessed. Since distribution is usually handled by the public sector in Palestine, many of these utility scale projects are Private Public Partnerships (PPPs). It is important to note however that one of the main

barriers to utility scale solar power projects has been the Israeli military's activities and regulations in area C that limit the feasibility or the implementation of such projects.

On the other hand, rooftop PV systems have been more successful where we see a number of private sector actors in various industries install such systems. These include Royal, Pharmacare, Coca-Cola bottler, and Aziza, as well as smaller institutions such as hotels, schools, and office buildings. In our interviews however, we found that the current incentives in place for the projects that are larger than 1MW have actually disincentivized certain private sector actors from scaling up their solar power because they do not want to be considered a "utility scale" generator and would prefer to maintain the incentives for the smaller systems. Furthermore, we have seen that there is a lot of confusion on both the client and service provider sides on what exactly these tax incentives are and whether or not they are properly being implemented.

2.2.3.3 Industry and Waste Management

Waste, like other sectors, has its own strategic level agenda found in the National Strategy for Solid Waste Management in Palestine which was adopted in 2017.[32] This document lists out a number of indicators that are supposed to be met. However, on the ground these high-level strategy documents do not translate to actionable items. At the municipal and local government level, article 15 of the Local Authorities Law No. 1 (1997) places responsibility of waste management to local authorities in their own jurisdiction: the collection of solid waste in public spaces, its transportation and disposal, the management of a landfill facility as well as the option to provide services through a private contractor or to join with other municipalities through a joint service contract.

The environmental law No. 7 (1999, revised in 2003) establishes the general framework for solid waste management in Palestine, including hazardous waste management. It aims to protect the environment and public health, and increase cooperation and awareness. The most important articles include:

1) Article 1: definition of the notions of solid waste and hazardous waste;
2) Articles 7 and 9: the national role of the Environment Quality Authority (former Ministry of Environmental Affairs-MEnA) as the responsible entity to set up a strategic plan and to technically specify disposal sites;
3) Article 8: Relating to the 3Rs (reduce, reuse and recycle), this article asks for the reduction of SW generation at the lowest level possible, as well as implementing reuse and recycling measures where possible; 12 PNA, 2014, p.158. 13
4) Article 10: asks the relevant actors for precautionary measures in storage and transportation of construction and demolition waste; Regarding hazardous waste: Article 11 proposes a listing of hazardous waste;
5) article 12 forbids the use, treatment, storage and disposal of any type of hazardous waste, except under certain conditions
6) article 13 forbids any importation and limits crossing of hazardous waste on the OPT; ñ Article 23: forbids dumping waste in non-designated sites;
7) Articles 74 and 76 refer to the « polluter pays » principle

The public health law no. 20 (2004) defines the Ministry of Health as the institution responsible for licensing solid waste management facilities. It also places the responsibility on the Ministry to take charge of all necessary and precautionary measures and confiscate all contaminated or potentially contaminating materials. It is also in charge of regulating the collection, storage, transport, and disposal

[32] CESVI (2019). *SOLID WASTE MANAGEMENT IN THE OCCUPIED PALESTINIAN TERRITORY: West Bank including East Jerusalem & Gaza Strip*. Available: https://bit.ly/31nqLHW

of hazardous wastes. Furthermore, the Medical Waste Management Bylaw (2012) specifically defines medical waste as well as instructions and procedures related to its separation and collection, storage, transportation, and treatment measures.

The new bylaw of 2018 has made some changes. Most importantly, special conditions are required for landfills regarding operation, closing and rehabilitation (art. 12, 15, 16, 17) and for automated burning (articles 19,20,21), whereas random burning is forbidden (art. 18). Reuse and recycling shall be encouraged (art. 27). Waste management fees shall be proposed by service providers and approved by the MoLG (art. 35). Hazardous waste should not be mixed (art. 33) and its import submitted to the approval of competent authorities (art. 34); ñ Municipalities and Joint Service Councils submit waste management fees to the Minister for approval (art. 35); The Ministry of Local Government is entitled to give fines (art. 36) (PNA, 2018).

However, like other regulatory frameworks in Palestine, the existence of such laws does not entail their enforcement. There is a general deficiency in the enforcement of these laws but especially in the waste service fee collection and in the remedy of any waste politician. The "polluter pays" principles mentioned in the laws are hardly controlled and are very much repressed on the ground. Furthermore, the current legislation governing the solid waste management sector are still limited, they are governed by standalone articles in various laws, and these articles are incomplete and at a relatively high level of generality.

In general, the private sector participation in these processes is limited. There are some agreements with private companies to run transfer stations, compositing plants or landfills. This is usually in the form of public-private partnerships (PPP) such as the one established in 2013 between the Hebron & Bethlehem JSC and a Greek consortium, which covers the operation and maintenance of the Al-Minya Landfill, the Hebron and Tarqumiya transfer stations, as well as the transportation services. However, surveys have shown that all JSCs were dependent on waste collection fees as the only income source and 80% of LGUs were lacking the financial resources to promote PPPs.

Furthermore, there is no significant private facility dealing with recycling: the market is currently informal and risky and the legislation still does not provide incentives for the private sector to take a long-term interest in this sector.

These laws are most relevant to industrial sector companies that produce a lot of waste. They must adhere to the laws and regulations of the relevant Ministries in order to maintain their registration certificates. This has shown to be a major incentive for such companies to maintain certain standards. However, the use of any "sticks" of the law in order to disincentivize polluters or incentivize the adoption of new technologies is not a very useful tactic. Not only are the laws not being properly enforced, but it is from our findings that using such a tactic may alienate potential partners that are willing to implement climate-friendly practices given the correct incentive structure.

Setting the grounds for PPPs in Palestine

While Public-Private Partnerships (PPPs) are essential for establishing key infrastructure projects, including in the water, energy and waste sectors, their success in the OPTs has been limited.[33] Nowadays PPPs are increasingly considered an attractive development instrument; yet, the PA only has few diagnostic tools available to determine when and how PPPs represent a preferred institutional

[33] Palestine Economic Policy Research Institute - MAS (2017). Background Paper Roundtable (3): Investment Opportunities within Public-Private Partnership. Available at: https://www.mas.ps/files/server/20172105154053-1.pdf

arrangement. Parameters that are believed to facilitate PPPs include the development or updating existing laws and regulations, facilitation of licensing procedures, and activation of the Investment Promotion Law.[34]

Building capacity within the PA to make more decisions about PPPs and develop a strong pipeline of projects is essential for the involvement of the private sector in climate action. This must include developing the PPPs legal framework and establishing incentive schemes, which are needed to attract the private sector to PPPs. An effective PPP approach would improve programme management, implementation efficiency and effectiveness and would support transparency on climate change action. Lobbying the PA to establish a public investment management and engagement system, which would allow upstream project appraisal and create a systematic approach for investment projects to enter the PPP pipeline, ensuring that projects are fiscally affordable for the PA.

Case study: Jordan's successful PPP ecosystem[35]

Jordan had early successes promoting PPPs to advance important infrastructure projects, such as transforming their national airport, installing wind farms throughout the country, implementing solar and thermal energy projects, and improving ports. Jordan demonstrated strong government commitment to build an enabling environment for PPPs, which has been achieved by putting in place a public investment management system that allows upstream project appraisal, creates a systematic approach for investment projects to enter the PPP pipeline, and ensures that projects are fiscally affordable for the government. This enabling 'ecosystem' is reflected in the PPP Law enacted in 2020.

In response to capacity challenges when screening projects and preparing feasibility studies to expand the PPP model, the Government of Jordan developed a specialised Project Preparation Development Facility (PPDF), with help from the International Finance Corporation (IFC) and the World Bank. The PPDF builds capacity within the government to make more informed decisions about PPPs and develop a strong pipeline of projects. With this support, the government can design projects that are more bankable, attract more bidders, and enhance competition.

2.2.3.4 Food

The Palestinian agriculture sector is characterised by the long absence of the State's role in the management and administration of this sector. Palestinian farmers are among those who receive the least direct or indirect support and subsidy from their government. Additionally, Palestinian farmers have paid exorbitant prices for the unfair actions and distortions resulting from the occupation.

The Law on Agriculture No.2 of 2003, in addition to 14 bylaws, constitute the basic legal framework that regulates agricultural activity.[36] Since then, the laws have continually been updated and adapted in order to be more comprehensive and to respond to the changing needs of the sector. The Agriculture Law No. (2) of 2003 (amended in 2005) provides general regulations for the registration and use of pesticides (Title Four, Chapter II) and fertilizers (Title One, Chapter V), stipulating that later definition of types of permitted inputs and specific procedures for their registration must be developed in liaison with other

[34] Saadeh, D., Al-Khatib, I.A., S Kontogianni, S. (2019). '*Public-private partnership in the solid waste management sector in the West Bank of Palestine*'. Environmental Monitoring and Assessment, 191:243, Available at: https://bit.ly/3oepewQ
[35] World Bank (2020). Jordan: A pioneer in investing in its PPP capacity. Available at: https://bit.ly/3ruCzTK
[36] State of Palestine (2013). *National Agriculture Sector Strategy: Resilience and Development - 2014-2016*. Available at: https://bit.ly/3DkYQFP

competent authorities.[37] This law also delineates the consequences for breaching any of its articles; of note is that the penalty for smuggling agricultural imports was increased in recent amendments to the law as one measure to combat this phenomenon. Health and environmental laws also address the pesticide and fertilizer supply chain. The Palestinian Environmental Law No. 7 of 1999 includes two relevant articles: Article 14 designates the responsibility of the Ministry of Environmental Affairs to play a role in regulating the import, distribution, manufacture, use and storage of pesticides and fertilizers that may be hazardous to the environment; Article 15 stipulates that guidelines and standards for agricultural chemicals must be developed with other competent authorities. Public Health Law No. 20 of 2004 (Article 42) also addresses the usage and exchange of pesticides intended for both agricultural and public health purposes.

In response to these laws and regulations, the Palestinian government issued Council of Ministers Resolution No. 9 of 2012 in order to form the Pesticide Scientific Committee for regulating pesticides in the Palestinian market. This executive regulation decision has great importance in managing the pesticides sector in Palestine. Specifically, Article 4 of this resolution states that it is prohibited to register any pesticide of the following pesticides:

1. Pesticides banned in Palestine
2. Pesticides banned in the country of origin for health or environmental reasons
3. Pesticides classified by the World Health Organization or the US Environmental Protection Agency as containing chemicals that cause cancerous tumors, congenital malformations, genetic mutations or those that are highly toxic to humans or animals
4. Pesticides that cause contamination of groundwater

Since this time, a registry has been developed for pesticides, which has been distributed to suppliers and traders. The Scientific Pesticides Committee includes members of the MoA, MoNE, PSI, the Environment Quality Authority and MoH. In Palestine, about 249 types of pesticides are licensed under registration: 110 are insecticides and nematodes, 74 are fungicides, 25 are herbicides, 6 are rodenticides, 3 are soil sterilizers, 13 are hormones and 18 are biocides and organic. There are 34 pesticides that are banned and 6 are allowed at restricted use.

In terms of fertilizers, the Agricultural Fertilizers Law No. 27 from the year 1938 has been used as a reference for both the Agricultural Law No. 2 of 2003 (and its later amendments), in addition to a new regulation from 2011 addressing importing and use of fertilizers. The regulation stipulates that a technical written approval must be obtained for the introduction of fertilizers and soil improvement into the Palestinian Authority. It also dictates that all technical instructions on fertilizers should be in Arabic when traded in Palestinian markets. Additionally, it was decreed that importation and circulation of agricultural fertilizers or soil conditioners in the areas of the PA should be done only by a direct and authorized Palestinian agent from the producing company in the country of origin. In order to build on the successes of regulating the pesticide licensing procedures, the MoA is currently in the process of drafting further legislation and a procedures manual for licensing and use of fertilizers, according to the 2017-2022 strategy. A committee similar to that of the Scientific Pesticides Committee has already been established, but a fertilizer registry has still not been developed to date.

Of note is that the restriction or prohibition placed by the PA is specified for the active ingredient in the product, but does not take into consideration the inert materials that are also included in most products.

[37] Palestinian Farmers' Union - PFU (2018). Policies Regulating Agricultural Inputs in the West Bank. Available at: https://www.pafu.ps/uploads/articles/99d0aec51e1e36801603d22815241065.pdf

Although these ingredients are not directly hazardous, long-term and overuse of them may deteriorate the soil and groundwater quality.

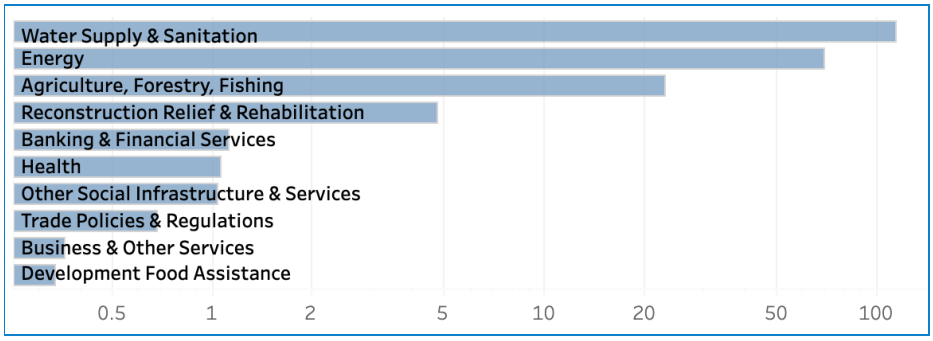
While there are laws and regulations that should in theory be leveraged to ensure more climate and environmentally-friendly practices in Palestine, their enforcement and monitoring remain weak. Unlike the energy, water and waste sectors, which rely on large infrastructure investments, the agriculture sector comprises many smaller players, many of which are in the informal sector. This reality makes it more difficult for regulators to use laws and regulations as incentives or disincentives to motivate agribusinesses and other relevant businesses to implement and comply with climate-friendly practices. In order to properly instrumentalize laws and regulations to ensure climate justice, the Government should work to ensure increased awareness of current regulations and monitoring of compliance (see Annex VIII below).

2.4 Donor Landscape in the Climate and Environment Sector

Under the climate and environmental umbrella, donor priorities and interventions largely overlap with the PA's national priorities enshrined in existing policy documents and regulations, including the NDP/ NAP, sector strategies, sector-level NDC implementation plans developed by the EQA (namely, for the energy and agriculture sectors and extended recently to Health, Solid Waste, Water and Transport) and overarching regulatory frameworks, including the Palestinian Environment Law (No. 7/1999).[38] Both the PA and donors view these plans as central to the development of the Palestinian economy at large, to advance wider developmental objectives, including economic growth, sustainability, and poverty reduction. As shown in Figure 5 below, the climate-related target sectors include (see Annex V for overview of donor strategic priorities and interventions by sector):

- Water and sanitation and water security
- Energy and renewable energy, primarily on the supply and partially on the demand side
- Agriculture, including initiatives to facilitate a transition towards climate-smart agriculture, in line with the recognised need to improve sustainability, as well as improve food security
- Solid waste management, yet with only a more limited emphasis on waste reuse and recycling

Figure 5: top ten sectors supported by donors on commitment basis, million USD, 2019



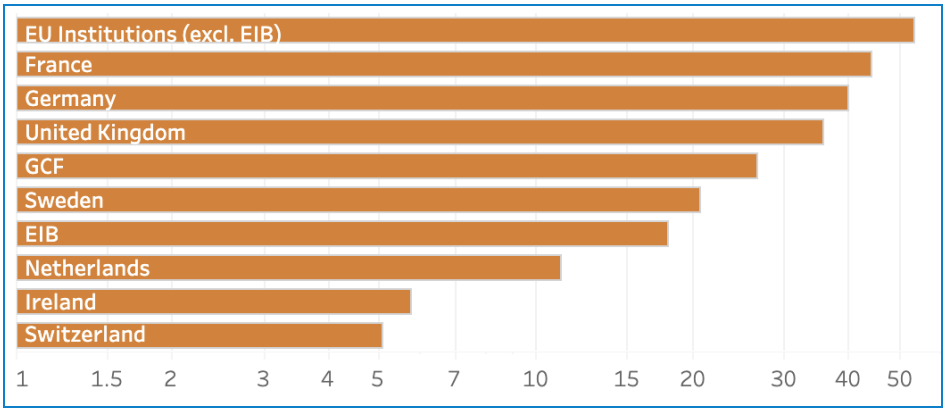
Source: OECD Development Assistance Committee (DAC)

As shown in Figure 6 below, the main supporters of climate action in the OPT in terms of Official Development Assistance (ODA) are European countries and EU institutions. The main financial instrument

[38] The Palestinian Environment Law (No. 7/1999). Available at: https://bit.ly/3bcijxa

used is grants, which constitutes 93% of total climate-related development finance in 2019, followed by debt, constituting the remaining 7%.

Figure 6: top ten donors in terms of climate-related finance commitments, million USD, 2019



Source: OECD Development Assistance Committee (DAC)\

3 Partnering with the Private-sector for Climate Justice

This section will provide an overview of climate and environment action currently being taken in Palestine, and will dive deeper into the role that the private-sector has had so far in climate-related activities. Furthermore, it will look into global literature in order to come out with an understanding of what the greatest barriers and incentives have been. Studying the lessons learnt from the global experience helps us in shaping the engagement plan for the Palestinian private-sector.

3.1 Overview of Climate and Environmental Action in the OPTs

Despite the many blows dealt to its productive capacity due to restrictions imposed by the occupation, the private sector continues to play a significant role in the Palestinian economy, and potentially in climate-action. However, thus far, climate action in the OPTs has been largely driven by donor aid and implemented by the Government. Actions specifically designed to address climate challenges are relatively rare, partially due to the perceived primacy of other pressing issues such as water and energy. These sectors are vital for Palestinian livelihoods and economy, and therefore focusing on them is perceived by the PA and donors as a priority (for a full mapping of the climate sector in Palestine see Annex I):

- **Food**: The industrial sector intersects with climate action, especially since it plays a significant role in food security in the OPTs. The food processing and agro industrial sub-sectors, primarily relying on the agriculture sector, are the most significant industrial sectors. This includes the production of confectionery, dairy products, processed meats, beverages, pasta, cereals, canned food, oils, and animal feed. The food sector constitutes about 24% of the total industrial sector, with a market size

of about $400 million and employing around 16.8% of the Palestinian workforce.[39] A number of industrial enterprises have capacity to adopt new climate-friendly technologies and practices and compliance considerations, especially if they aim to export to international markets. This is a practice that has already been implemented by some donor agencies, but our analysis shows that there is still room for expansion (see Annex I)

- **Water**: most interventions in the water sector are concerned with addressing issues of water scarcity and increasing access to clean water, especially in the Gaza strip, where the existing mismatch between supply and demand is only expected to increase because of climate change. While significant efforts and financing has been contributed in this sector, the scale of the challenge and the support required is likely to exceed the volume of resources that the international community has been able to commit to date.
- **Energy**: the energy sector is a key focus of the PA's climate and environmental efforts. The prioritisation of the energy sector is not only driven by the desire to increase energy availability and reduce emissions, but most importantly it is linked to the PA's strategic interest in reducing energy dependency on Israel.[40] Despite the shortage of financial resources, the PA has been contributing finances (through the Palestine Investment Fund) and encouraging the local private sector to invest in the development of key energy infrastructure. Similarly, development partners also recognise that increased energy independence is a key precondition for the PA to advance its political agenda, promote economic growth and job creation.[41] As of 2021, there have been a number of success stories in Palestine with private sector engagement in shifting towards solar power. Royal plastics, Coca-Cola Bottler (West Bank), and Poultry Company (AZIZA) have installed significant rooftop systems (approximately 1mw). Furthermore, 7 initial licenses to developers were granted and are in the pipeline for utility scale projects across the West Bank.[42] Other small-scale providers such as 3K Solar (West Bank) and Sunbox (Gaza) have also been successful at providing solar units for rooftop installments on households and small institutions' offices. However, in the case of Palestine and especially in the energy sector, navigating between the public service providers, the private sector, and the occupation authorities, is essential to successfully implement and scale projects.[43]
- **Waste**: This sector has gained increasing traction especially following the Covid-19 pandemic, in relation to management and treatment of medical and hazardous waste.[44] Solid waste management initiatives are closely linked to improving local governance systems and institutional strengthening. They largely include local/ municipal-level development components to improve solid waste management services. While there have been successful examples of waste separation and recycling, these remain small with minimal formal private sector involvement. It is estimated that only 1% of all solid waste is currently being recycled.[45] This percentage is increased to 3% when including recovered or reused materials. Nonetheless, there is an exceptional potential for recycling and composting not only to help solve the problem of the increasing amounts of solid waste but also for

[39] PCBS (2020). *Press Report on Economic Forecasts for 2021*. Available at: https://bit.ly/3vSdtP7

[40] United Nations Framework Convention on Climate Change (2016). *Nationally Determined Contributions of the State of Palestine*. Available at: https://bit.ly/3CpA9Zr

[41] Office of the Quartet (2021). '*Focus Area - Energy*'. Available at: https://bit.ly/3Cp2e31

[42] Palestinian Investment Promotion Agency (2015). '*Invest in Palestine: Renewable Energy Sector - A Leap Toward Green Energy*'. Available at: https://bit.ly/3o1nXZY

[43] Palestine Economic Policy Research Institute - MAS (2019). '*Roundtable (7) Background Paper - The Implications of the Electricity Sector Dilemma between the Public and Private Sectors: The Case of the Jerusalem District Electricity Company (JDECO)*'. Available at: http://www.mas.ps/files/server/20191012104921-1.pdf

[44] World Bank (2019). '*West Bank and Gaza Environment Priorities Note*. Available at: https://bit.ly/3Cywzw1

[45] Nidal Atallah (2020). '*Palestine: Solid waste management under occupation*'. Heinrich-Böll-Stiftung. Available at: https://bit.ly/2ZBR7VI

improving cost recovery and generating new job opportunities. Other private sector activities include the recycling and reuse sectors which are relatively small and informal in nature.[46] These include recycling of glass, plastic and paper/cardboard, producing raw materials for local industry but more so for industries in Israel and abroad. The reuse of metal is also taking place, albeit at a small scale.

3.1.1 Incentives of the private sector actors

In terms of their intersections with climate actions, private sector actors differ mainly based on their size and whether they operate in water, energy, food and waste sectors. Enterprises similar in size share similar incentive structures and consequently environmental and climate practices. This categorization of private actors is also recognized and endorsed by local and international actors.[47] Although different private sector actors have different expectations, for all sizes of private sector entities, the returns must outweigh costs.

- Small businesses make up the vast majority of enterprises in Palestine, accounting for 88% of the total number. Although small businesses employ between one to four people, they represent 50.5 % of all employed people. Micro and small businesses are more sensitive to the high cost of starting a business and production. They encounter problems such as regulatory and business environments, limited access to markets, lack of export credit schemes, absence of a legal framework for operations, and most importantly, limited financial resources.[48]
    - Micro and small businesses have a lesser interest and capacity to modify their internal processes or measure their environmental impact given the multiple constraints they face.
    - The agricultural and water sectors are viewed as the most vulnerable to climate change. Adaptation options are necessary to ensure climate justice within these sectors, reinforcing strategic adaptation aimed at reducing water and food shortages.[49]
- Medium-sized enterprises, employing 5 to 19 people, account for 10% of all running businesses and employ 26% of the overall workforce.[50]
    - Medium-sized businesses in the industry and agriculture sectors have some capacity to adopt new climate-friendly technologies and practices, in so far as these interventions benefit their bottom line. Medium-sized industrial enterprises are also motivated by compliance considerations, especially if they aim to export to international markets.
    - In the context of climate action, some of these entities currently provide technical products and services, technical assistance, and infrastructure building.
- Larger enterprises account for about 1.4 % of all businesses. Given their size, they employ 23.5% of the overall workforce.[51]
    - Through their CSR budgets, national reach and advanced communication and marketing arms, larger companies and corporations can serve as influential drivers of climate awareness and innovation.
    - Larger companies, particularly in the industrial sectors, can play a mitigation role through internal adaptation of their processes, and they are motivated to do so to comply with local and

[46] Ibid
[47] Green Climate Fund (2019). *Country Program - State of Palestine*. Available at: https://bit.ly/2ZHNjmh
[48] MED MSME (2021). *MSME development policies and programmes in Palestine*. Available at https://medmsmes.eu/palestine
[49] Lena Freij (2021). *Climate Change and the Vulnerable Occupied Palestinian Territories*. UCLA Journal of Environmental Law and Policy. Available at: https://bit.ly/3bmGdG0
[50] PCBS (2019). *Economic Forecasts for the Year 2020, in Light of the Current Coronavirus Pandemic*. Available at: https://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3724
[51] Ibid

international standards and regulations, in some cases to qualify for entry to new markets and attract new investors. .

3.3 Private-sector partnerships for Climate Action: a Global Overview

As climate change reform and climate justice becomes increasingly important, the role of the private sector is still debated. However, it is clear that involving the private sector can help in various forms - especially when it comes to their capacity and flexibility to implement new technologies and adapt their processes. Since local or national governments have found it difficult to mobilise the necessary capital and find the political consensus to make effective investments in climate justice projects, the private sector can play a significant role in filling that gap. Furthermore, it has been recommended that the private sector can also be incentivized to mobilize their own capacities through offering rewards. By rewarding voluntary actions from the private sector, it is possible that their actions can contribute to closing the emissions gap.[52]

3.3.1 The Role of the Private Sector: Global Experience

The private sector plays a critical role in climate justice projects, specifically in climate change adaptation and resilience-building. According to a World Bank study, private sectors may contribute to climate-related projects by[53]:

1) Providing finance
2) Providing goods and services that facilitate adaptation, including technology and innovation (i.e irrigation equipment, wastewater treatment facilities, alternative energy sources, weather derivatives, access to information, etc).
3) Adapting internally by ensuring that their own operations and assets are climate-resilient or climate friendly.

The role of the private sector in climate justice projects, especially for the provision of finance and/or goods and services that facilitate adaptation, has been largely manifested through private-public partnerships. Collaborative partnerships between the public and private sectors can create a synergetic business environment that allows for innovative solutions to be implemented and efficiently sustained. This requires not only collaboration, but also a supportive enabling environment, gender-informed approaches, and context-specific incentive structures. Such partnerships can be challenging however as both the private and public sector are attempting to provide weather and climate products and services to beneficiaries but with different incentive structures. While the private sector may be solely incentivized by financial returns, the public sector may have a variety of other incentives that are political, social, or economic. This can potentially lead to an increase in competition rather than collaboration. However, when an environment of collaboration is successfully created it creates an opportunity to strengthen the services provided, increase the range of services available, and generate revenue for both parties.[54]

With regards to private climate finance, it is important to note that it cannot be a substitute for direct public support. It is also especially difficult to deploy responsibility in marginalized communities in developing countries. Furthermore, the lack of information available to private-sector actors, unfriendly regulatory frameworks, and lack of incentives to promote private climate investments, have severely limited the role

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[52] Roudain Alkhali (2020). *Understanding Private-Sector Engagement in Sustainable Urban Development and Delivering the Climate Agenda in Northwestern Europe—A Case Study of London and Copenhagen* . Available on: https://bit.ly/3Gqez9q

[53] World Bank Group. *Enabling Private Investment in Climate Adaptation & Resilience: Current Status, Barriers to Investment and Blueprint for Action*

[54] Ali Blumenstock (2020). *The Critical Role of the Private Sector in Weather and Climate Services.* Available at: https://www.climatelinks.org/blog/critical-role-private-sector-weather-and-climate-services

that the private sector plays in climate justice and climate change projects in developing countries. Even though the private sector will face the consequences of climate change, they have been put in a position that makes it extremely difficult to make actionable changes and mobilize their capacities and capital.[55]

3.3.2 Involving the Private Sector in climate action: global challenges

Using a multi-stakeholder approach in the context of climate justice is key to integrating gender mainstreaming and human rights into climate change adaptation projects and policies. As such, it becomes increasingly important to assess the possibilities of private sector engagement in the process. In the global context, integrating the private sector as a stakeholder in climate change policies and projects is essential to guarantee the sustainability of such endeavours. However, according to various literature on the topic, there are several barriers that the private sector faces when trying to implement climate-conscious policies and projects. The main barriers include:[56]

1) Lack of information
2) Lack of regulatory framework that encourages adaptation
3) Lack of incentives for climate-conscious investments

Examples around the world have shown that when policy, regulation, and markets appropriately incorporate climate change information they create an environment that stimulates financial, environmental, and social sustainability in the private sector through increased resilience and the implementation of solutions. [57]

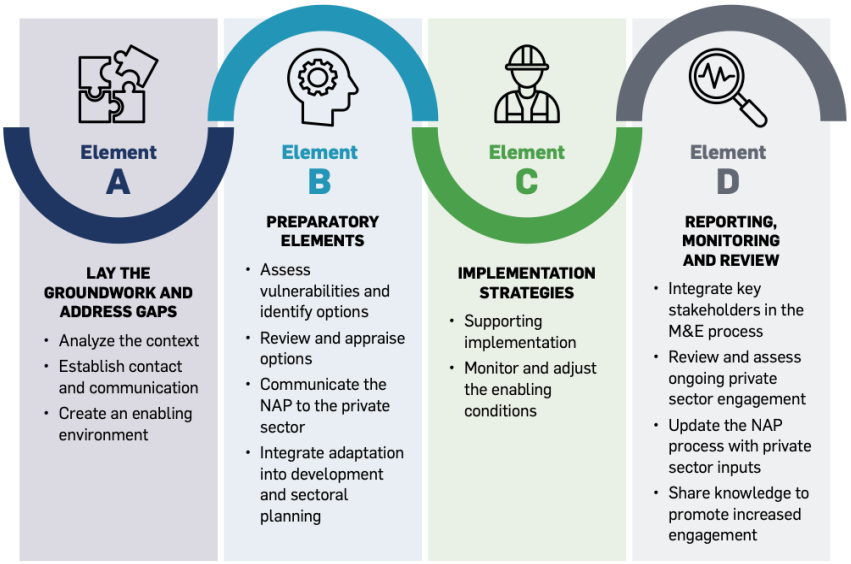
The United Nations Framework convention on Climate Change (UNFCCC) has created a toolkit for engaging the private sector in National Adaptation Plans (NAPs). The toolkit is organized around four key elements (see Figure 7) that can be applied to countries all over the world. However, it is important to maintain that these projects should be contextualized to fit what works in the country of question, Palestine.

Figure 7: Four key elements of the National Adaptation Plan implementation process

[55] Javier Perreira (2013). *Pro-poor Climate Finance: Is There a Role for Private Finance in the Green Climate Fund?*. Available at: https://foe.org/wp-content/uploads/2017/legacy/5-13_Pro-poor_Clim_Fin_-_Role_4_Priv_Fin_in_GCF.pdf

[56] International Finance Corporation (2013) Report. *Enabling Environment for Private Sector Adaptation: An Index Assessment Framework*. Available on: https://bit.ly/3jAITUY

[57] Ibid.



Source: The United Nations Framework convention on Climate Change (UNFCCC)

The first element of the toolkit addresses the main barriers mentioned earlier. Laying the groundwork and addressing the gaps for the private sector's engagement in climate adaptation policies includes taking stock of what climate information is lacking, what are the capacity gaps, analyzing the legal and policy context, and creating an enabling environment. This is the most important element as it provides a basis and contextualizes the issues for the next three elements. The process should be gender-responsive due to the fact that women, and by extension, women-led private sector entities often face greater barriers and reduced influence in political decision-making. The next three elements of the toolkit go on to build on the foundation that the first element aims to provide. These elements are all interlinked as preparation, implementation, and monitoring are all part of an enabling environment where new ideas are continuously being designed, implemented, and tested. Overall, this toolkit addresses the barriers that the private sector faces in implementing climate-conscious projects and policies on a high level. On the ground however, contextualizing the process to the situation in Palestine will be key to understanding exactly what barriers and opportunities need to involve the private sector and be focused on.

The IFC's "enabling environment for private sector adaptation: an index assessment framework" shares many of the views of the UNFCCC. However, the IFC also highlights the importance for companies to be able to finance adaptation that involves considerable upfront expenditures and medium-to long-term benefits, as well as the capacity and expertise to carry out climate-risk assessments and the existence of research institutions and partnerships with governments and scientists. They provide a more detailed list of factors influencing climate change adaptation in the private sector (see Annex VI).

The IFC also provides a list of indicators to evaluate whether a country has enabling conditions to promote climate change adaptation in the private sector (see Annex VII). While similar to the UNFCCC's toolkit, the IFC also puts into focus the financial incentives on top of the enabling environment, provision of information, and the need for collaboration in order to successfully engage the private sector.

Case Study - Bangladesh

Examples from around the world can give us insights into what methods that have been utilized, and what barriers have been crucial to the inclusion of the private sector in climate justice programs. One such

example is Bangladesh which is among the world's most vulnerable countries to climate change while facing multiple social and economic issues.

As Bangladesh is considered to be one of the most vulnerable countries to climate change as it sits on the tail end of a large delta, it has received significant attention from international donors - receiving approximately 7% of all international funding for climate change between 2003 and 2013. Furthermore, much like Palestine, Bangladesh has well-established government and research institutions, a reasonable amount of data/information that can be useful for planning and decision-making, and some economic incentives already in place for the private sector.[58]

However, the barriers that the country faces include the lack of policy frameworks and knowledge to combat climate change in the private sector. As such, while Bangladesh's institutions have the capacity and have received a significant amount of funding, climate justice programs have not been successful due to the significant lack of support for the private sector to engage (especially in terms of policy and the availability of technology and knowledge). Most of the funding that was received by the government went to projects that were then implemented by NGOs, leaving little room for the private sector to be included.[59]

The lack of long-term perspective in the commercial financial institutions has also limited the implementation of infrastructure projects that could benefit the country, leaving the informal water market to keep growing, while the reliance on unsustainable sources of energy continues [60]. Furthermore, the lack of capacity in financial institutions to evaluate projects has severely hindered progress. This lack of understanding has limited banks' ability to structure appropriate financial products with the longer-term outlook that is needed for climate change and social impact investments.[61]

3.4 Focus Areas for Partnership with the Private-sector in the OPTs

Through our review of existing literature on the topic and case studies from the developing world have put together a framework that may be implemented to engage the private sector in climate justice action. While there are many barriers to private sector involvement in climate justice programs, their role in the overarching climate change landscape has been composed of four major categories:

1) ***Financing***: Through CSR, lending, micro-financing institutions, and climate investments, the private sector can potentially be a significant player in climate justice projects as they have the capital and capacities that the public sector lacks.
2) ***Innovation***: Given different incentive structures, the private sector can play a key role in innovating new technology that can promote climate justice as well as provide services to other actors and stakeholders.
3) ***Service provision***: Through private-public partnerships, the private sector can play a significant role in the delivery of services to beneficiaries and marginalized communities. Given a friendly incentive

[58] Ibid.
[59] Asian Tiger Capital Partners (2010). *A Strategy to Engage the Private Sector in Climate Change Adaptation in Bangladesh.* Available at: https://www.preventionweb.net/files/16483_ifcpresccpsv8sep12010ifcsk1.pdf
[60] International Finance Corporation (2013) Report. *Enabling Environment for Private Sector Adaptation: An Index Assessment Framework*. Available on: https://bit.ly/3jAITUY
[61] Asian Tiger Capital Partners (2010). *A Strategy to Engage the Private Sector in Climate Change Adaptation in Bangladesh.* Available at: https://www.preventionweb.net/files/16483_ifcpresccpsv8sep12010ifcsk1.pdf

structure and regulatory framework, they can provide a more efficient provision of services than the public sector.

4) ***Internal adaptation***: The private sector is often the ones bearing the brunt of climate change. As such, many times climate justice requires the private sector to internally adapt. With the correct incentive structure and regulatory framework this can be a tool to reach many of the SMEs in developing countries and marginalized communities.

Building on the global perspective on how to engage with the private sector, we have used our interviews, focus group discussions, and landscape mapping to further contextualize our findings to the Palestinian sector. Doing so has allowed us to identify two additional key focus areas for the Palestinian context:

5) ***Awareness:*** lack of awareness of issues and of available solutions and their benefits plays a major role as barrier to internal adaptation and technology transfer
6) ***Coordination:*** the existence of large-scale organizations that coordinate across different private sector players - especially in the agricultural sector, can play a significant role in incentivizing and mobilizing private sector actors.

According to the literature review and the discussions held with various actors, it became increasingly clear that in order to achieve the desired climate-justice impact in the Palestinian context, these six key focus sectors must be engaged simultaneously to create a harmonious relationship between different players.

4 Engagement Strategies and Plans

4.1 Identifying Key Initiatives

Through stakeholder interviews with various types of private-sector actors, several interventions were identified and analyzed (see list of interviews Annex II).. Potential interventions were assessed based on the following criteria:

A. Inclusiveness: interventions that demonstrate clear participatory approaches that ensure the use of a gender mainstreaming and human rights based approach, and include marginalized community members, especially women, youth, and smallholder farmers. More inclusive approaches have lower barriers to entry, allowing wider reach and larger numbers of participants and beneficiaries.
B. Feasibility: selected interventions will need to be feasible to startup and operate, and sustainable to maintain to all stakeholders. More feasible options would require little initial investment and less intensive facilitation efforts.
C. Impact: interventions that address key challenges identified by related communities at scale. More impactful interventions would have a sizable and sustainable effect on target populations, focusing on marginalized areas and communities.

Table 1: shortlist of prioritized interventions with type of private sector actors required (for the full list of interventions see Annex III)

Focus area	**Type of intervention**	**Type of private sector partner required**
Financing	Green microfinance program	Microfinance institutions and cooperatives/ farmer organizations
	Training and Technical Assistance	Insurance companies, MFIs, experts
Innovation	Climate challenge hackathon	Local startups/ service providers

	Climate innovation technology demonstration facility (200,000 USD Total)	Local startups/ service providers, agribusinesses, Cooperatives/ farmer organizations
	Blue Filter Company Pilot on 5 wells. 2,500USD	Blue Filter Company
	Subsidize pilot project for training 4000 USD	Petrichor Aquaponic
Service Provision	Service providers' partnership with extension providers and local research and development institutions and bodies	Local startups, service providers, and extension providers
Awareness	National awareness campaign	Corporates (CSR), media, influencers
Coordination and Advocacy	Capacity building/ training	International experts, agribusinesses, and cooperatives/ farmer organizations
	Climate justice seasonal forum	Cooperatives/ farmer organizations, PAIC, service providers, agribusinesses, startups
	Advocate on behalf of SMEs for licenses and regulations	Greeners, F&M Packaging, Agropal Company, Baal Company, Gemeco, MNJM, Blue Stone,
	Support in Data collection	Go Global, Agropal Company
	Partnerships with MFIs	Cooperatives/ farmer organizations
	25% Guarantee of MFI Fund = 50,000USD	Al Reef

4.2 Identifying Key Private-sector Partners

In order to ensure a comprehensive and systematic engagement plan, we then further categorized the private sector into five key categories, each containing private sector actors that share the similar incentive structures and consequently environmental and climate practices. This categorization of private actors is also recognized and endorsed by local and international actors.[62] Each of these five categories play a critical role in addressing at least one of the aforementioned six key focus areas. These are:

- **Large enterprises and corporations (with pre-existing CSR programs):** large local corporations that already have an existing CSR program can be leveraged to not only provide seed capital for potential projects and programs, but also as a source of innovation and new technologies. Furthermore, they can play a significant role in raising awareness as they themselves rely heavily on awareness campaigns for their CSR.
- **Financial institutions:** financial institutions such as insurance companies, microfinance institutions, and other banks can play a significant role in financing climate adaptation in Palestine, as well as insuring other organizations that already provide finance to potential beneficiaries.

[62] Green Climate Fund (2019). *Country Program - State of Palestine*. Available at: https://bit.ly/2ZHNjmh

- **Small and medium enterprises (waste management companies, green and agricultural products and service providers, and agribusinesses):** These SMEs play a major role in the implementation of climate action as service providers who can provide their climate-friendly services to potential beneficiaries, and agribusinesses who can implement such services in order to internally adapt. Furthermore, SMEs and startups (agritech startups specifically) can also play a role in the innovation space as they can be key players in the introduction of new technologies and other climate-friendly products and services.
- **Cooperatives and Support Organizations:** Cooperatives and support organizations, especially in the agriculture sector in Palestine, have historically played a significant role in the coordination of activities among farmers (especially in marginalized communities). Leveraging the coordinating and convening power of these organizations is critical for any climate-justice related project or program to maximize its accessibility to potential beneficiaries and partners. Other support organizations can also provide various complimentary activities and services such as waste management, technology transfer, training and capacity building, and awareness campaigns.
- **Industrial enterprises:** Industrial companies are some of the largest polluters in Palestine. When designing a strategy that aims to mitigate climate change, addressing their issues becomes increasingly important. While there are laws and regulations that aim to both incentivize environmentally-friendly practices and disincentivize environmentally-harmful activities, many of the companies in the industrial sector need support in order to maintain their registration certificates (see policy section for more information). Many of these companies also aim to adhere to global standards in order to attract more international investment and growth.

Within these broad categories, a number of different types of private sector actors were analyzed to develop a prioritized list of private sector players to engage. Potential private sector and other related partners were assessed based on the following criteria (see Annex IV for the full list of prioritized private sector partner list):

- Alignment of objectives: alignment with the objectives of the ECJP Programme, and the existence (or lack thereof) of climate environmentally-friendly policies. Higher alignment
- Intersections with PAIC activities: the presence climate actions currently being conducted and/ or the potential for new ones
- Capacity: the availability of financial and operational capabilities, in addition to willingness to participate in climate justice activities

Table 2: Prioritized list of private sector actors to engage in climate action (for full list see Annex IV)

Focus area	**Type of private sector actor**	**Key drivers**
Financing	Banks	Expanding reach and loan portfolio
	Microfinance institutions	Expanding loan portfolio/ reach in target communities
Innovation	Startups (WEF + waste)	Grow business, visibility
	Startup support actors	Visibility, exposure to new innovation
	Corporates (CSR)	Achieve mission, publicity for corporate
Service Provision	Startups (WEF + waste)	Increase sales and reach
Internal Adaptation	Agribusinesses	Increase sales and decrease costs
	Industrials	Maintain registration (adhere to laws), increase efficiency, attract investment, and create new revenue streams.

Awareness	Corporates (CSR)	Publicity for corporate supporter
Coordination	Cooperatives	Benefit to members, expand membership
	Farmer organizations	Benefit to members, expand membership

4.3 Engagement Strategies

In order to devise an engagement strategy for the private-sector to support the ECJP, multiple interviews were conducted with actors representing various sectors (see Annex II for list of interviewees). The aim of the discussion was to understand the organizations' willingness to participate and take part in climate justice projects and advocacy campaigns. Each organization possesses a different outlook and key incentives. Overall, Palestinian corporates (through their CSR), certain financial sector players, multiple SMEs, cooperatives, industrials, and support organizations expressed great interest in future potential collaboration and partnering with projects and activities conducted under the ECJP.

In this section, we lay out an overarching engagement strategy that focuses on the different types of private sector actors. In the next section you will find a more detailed engagement plan for each individual actor.

4.3.1 SMEs and agribusinesses

Through our research we have come to two key areas of engagement for the relevant SMEs:

1) **Internal adaptation measures:** refers mostly to situations where the service provider or agribusiness has the opportunity to introduce new climate-friendly practices that will benefit the business itself and the environment. This can range from installing new irrigation systems, solar panels, and wastewater treatment, to renewing soil, changing fertilizer, etc. The main incentive that will get the first group of SMEs engaged is of course reduction of costs, increased production, expanding their market, increased operational efficiency, and overall profitability. Many internal adaptation measures already fill this requirement, however, what limits many local SMEs from implementing such measures is the lack of access to financial services that will allow them to take on new projects, the lack of awareness of such services and their potential benefits, or the required training to take advantage of new technologies..
2) **Service provision:** refers to situations where the SME themselves offer climate-friendly services that can benefit other actors and the environment. These are green and agricultural product and service providers as well as waste management companies and include solar power providers, water tech providers, sustainable agricultural input providers, other agritech businesses, and more. Examples of such SMEs (service providers) are further detailed in the engagement plan. The main incentive for this group of SMEs is increasing their sales and visibility. Through discussions with service providers it became increasingly clear that the largest barrier to their growth has been the lack of visibility and access to potential clients that will benefit from their services.

Engagement Approach

In order to engage these actors successfully two goals need to be fulfilled. First, the financial sector or donor agencies need to be willing and capable to provide their support for the **internal adaptation** of a number of these SMEs. Secondly, there needs to be a space created where **service providers** and interested clients can network. Below are some further interventions that can be implemented to engage these SMEs:

1) **Technical upgrading and certification programme:**, providing training programs to both the service providers and agribusinesses on various climate-related processes, as well as certifications (either internationally recognized and/or locally designed) that would help increase the visibility of these companies and help them stand out, expand their markets, and increase their operational efficiency.
2) **Demonstration houses and climate-justice stakeholder forum:** In order to successfully engage SMEs it is recommended to first continue with the multi-faceted approach that has been previously discussed, but to also go through a process of ecosystem building. This can be done by providing a forum where service providers, potential clients, financial service providers, cooperatives, and support organizations can network. Along with this forum, it is recommended for certain product and service providers to build a demonstration house where they can showcase their products and services. The forum can then take place at these demonstration houses (this is further discussed in the Engagement Plan). This would not only increase the visibility of the services available for potential clients, but it would also increase the potential for new partnerships to be formed, new services to be created based on the needs of the clients, and a more synergetic community of climate-justice actors. One potential way of creating this forum is by having a yearly conference or expo where service providers and agribusiness can present their services and products at the demonstration houses, certificates and awards can be given out, and discussions can be held about current problems and solutions outside the realm of politics. This would also increase internal adaptation as many agribusinesses are simply not aware of the services available and this would be an efficient form of providing access to that type of information and technology transfer.
3) **Financial incentives:** In order to successfully engage agribusinesses and other SMEs that have the opportunity for internal adaptation they need access to finance, but more importantly, they can benefit from financial incentives such as tax reduction and a more friendly regulatory framework. In addition to partnership with the private sector, actors advocating for climate justice should also direct their effort at the Palestinian Government, possibly through the the Environmental Quality Authority. It is important to advocate for a more friendly regulatory environment that will further incentivize these actors. Specifically for service providers and agribusinesses, easing the formalization of these companies would allow them greater access to finance and reduce their risk. Also, tax and other incentives can be placed that will further incentivize businesses to acquire climate-friendly services (i.e reduced tax on certain irrigation systems, solar panels, etc). Other forms of financial easing can be used by WeEffect and the consortium such as a matching grant or subsidisation in order to encourage local farmers to adopt technologies offered by local climate-related service providers.

4.3.2 Large enterprises and corporations (with pre-existing CSR programs)

Based on discussions with some of the leading corporations in Palestine, the willingness of these actors to participate in climate action was analysed to identify key drivers and incentives that could motivate them to participate in the activities of the ECJP.

Overall, the interviewed corporates demonstrated willingness to engage in climate action. They also demonstrated considerable awareness of climate and environmental issues, showcasing past and current efforts implemented internally to ensure compliance with global efficiency and environmental standards. Beyond their internal efforts, these actors view their involvement in the climate and environment field as part of their corporate social responsibility (CSR) efforts. To engage further in the space, corporations need to see clear alignment with their current CSR efforts. The leading corporations direct their CSR efforts towards their customer base, leveraging such efforts to gain wider outreach and publicity.

Furthermore, corporations that participated in the discussions indicated their awareness of existing donor-led efforts in the climate and environment field, and expressed interest in working alongside these

efforts as they believe that donor focus on climate and environment-related programmes is increasing. While these actors do not expect to be direct recipients of donor support, they see it as a resource-efficient, and less risky approach to amplify their efforts. According to these actors, the availability of international partners also serves as a guarantee of professionalism and accountability. These reasons partially explain how the availability of external support from donors is particularly relevant when suggesting new initiatives outside the scope of these actors' current activities.

Engagement approach

To develop partnerships with the leading corporations, the focus should be on drivers that can attract their attention to participate in supporting climate justice. These actors' need for more effective publicity, in addition to existing programmes, could be leveraged for the benefit of the climate justice programme.

Below are some of the possible interventions that emerged through the discussions:

1. **Awareness campaigns:** several of the leading corporates in Palestine have sizable outreach capacities, including well-resourced marketing departments that could be effectively leveraged for national awareness campaigns. This would also be beneficial to the corporations themselves, since they can use such campaigns for publicity and wider outreach.
2. **Technology and innovation transfer programme:** a number of large corporations, such as the two major telecommunication companies and banks, already have technology and innovation arms (i.e. Fikra as part of the Paltel Group, Intersect as part of the Bank of Palestine, Ibtikar supported by multiple corporations), which they can leverage to benefit climate justice projects. Activities such as hackathons and startup competitions in partnership with these organizations, can serve as an important platform to utilize emerging technology solutions in solving local problems. This would benefit the corporations as well since it would better position their technology and innovation arms to benefit from donor-support, which they perceive as increasingly focused on climate and sustainability-related issues.

4.3.3 Financial institutions

Based on discussions with different types of financial institutions, the willingness of these actors to participate in climate action was analysed to identify key drivers and incentives that could motivate them to participate in the activities of the ECJP. Different types of financial institutions have varying incentive structures, and consequently the dynamics that shape their willingness to engage also vary from institution to another, as explained below:

- **Banks:** while banks are generally willing to support climate action, they tend to be risk-averse and rigid in their services as a result of the complex operational environment and tight regulation. To expand into new types of financial products, for example those specifically designed to finance climate adaptation and mitigation actions, banks currently rely on the backing of international financial institutions (IFIs) and development financial institutions (DFIs). In partnership with these institutions, a number of the banks have developed programmes to finance climate adaptation and mitigation in recent years, however, these are limited to financing for renewable energy (solar panels). To develop new specialized financial products aimed at marginalised communities, banks will require a combination of training/ technical assistance and access to international financing.
- **Microfinance institutions:** unlike banks, MFIs operating in the West Bank and Gaza specifically target marginalized areas and social segments, making them prime candidates to partner with for the climate justice programme. While MFIs also rely on financing on IFIs, DFIs and local banks, their mandates and financial products are designed to cater for more marginalised segments, allowing for

the use of more innovative tools and practices to manage default risk. Despite the rapid growth of MFI portfolios, they still struggle with expanding their services to marginalized communities, as default rates can be high in some segments (e.g. farmers). MFIs could benefit greatly from collaboration models with representative institutions such as cooperatives and farmer organizations to de-risk their portfolios in marginalized areas.

- **Insurance companies:** the insurance offering in the West Bank and Gaza is traditional. Local insurance providers are heavily dependent on the availability of international re-insurers, and there is very limited development of specialised insurance products locally. The main challenges that local insurance companies face are the lack of expertise in the development of specialised insurance products and access to international re-insurers for such products. To overcome these challenges, insurance companies require capacity building and international guarantees.

Engagement approach

To develop partnerships with local financial institutions, the focus should be on initiatives that can expand their reach and build their capacity to deliver more specialised services.

- **Training and technical assistance:** financial institutions are in need of training and technical assistance to enable them to deliver specialised financial products. Providing the resources and expertise required for can be a major incentive for financial institutions to
- **De-risking climate action:** climate adaptation and mitigation are risky investments in marginalized areas, especially in Area C. For this reason, a key success factor for climate actions in marginalised areas is the development of mechanisms and tools to de-risk investment in mitigation and adaptation measures. This can be implemented through a number of mechanisms:
    - **Guarantee funds:** funds to guarantee loans and insurance for climate actions in marginalised areas have the potential to increase take-up of credit in those areas
    - **Partnerships with cooperatives and farmer organizations:** the design and implementation of effective mechanisms for collaboration between financial institutions and cooperatives/ farmer organizations can help
    - **Expanding Financial Services:** There are a number of services that are already provided by local financial institutions that can benefit from expansions including the green loans program, the green microfinance program, and the agricultural insurance project.

4.3.4 Cooperatives and support organizations

Through discussions with cooperatives and support organizations, two key areas of engagement emerged:

1) **Increasing visibility and awareness:** The first area of engagement refers to similar problems that SMEs and service providers face in that these cooperatives and support organizations feel that not only are they not aware of what services are being offered in Palestine, how these services can benefit them, but also that potential beneficiaries are not aware of the services that the support organizations and cooperatives themselves could provide. As such, a main incentive for these organizations are programs that provide **visibility**.
2) **Coordination:** Cooperatives as representatives of various farmers and potential beneficiaries: cooperatives represent a wide segment of farmers, making them key partners in coordination with producer groups and de-risking financial services for climate actions in marginalised areas. Cooperatives are willing to play this role, if combined with capacity building and support. In addition, cooperatives could themselves be recipients of investments, loans and insurance, since the money is spread across a variety of farmers this can decrease the risk of default and increase the potential for successful ROI.

Engagement Approach:

Below are some methods of engagement that came out of our discussions:

1) **Creating a climate-justice stakeholder forum:** in order to engage actors that are interested in visibility also requires creating the necessary space for networking, a healthier ecosystem where all actors are more aware of each other and the services they provide. As such, this would fit into the aforementioned ecosystem building where these cooperatives and support organizations are invited to events, training, and conferences.
2) **Management training:** in order to ensure the successful scaling of these organizations activities, quality management training can be provided to these cooperatives in order to ensure their capability of managing funds, de-risking investments, and attracting new forms of funding. Furthermore, this could support cooperatives in finding insurance to cover their activities - which many currently do not have.
3) **Insurance:** Since many of these larger cooperatives are uninsured, they do not take on the further risk of growing their portfolio to include climate-justice projects among others. As such, one way of engaging these stakeholders to provide more financing opportunities to SMEs is to provide them with some form of guaranteed funding (or insurance).
4) **Financial Services:** One way of engaging these support organizations is to provide them with greater access to financial services, this can be done through partnerships with MFIs along with the management training and the climate-justice stakeholder forum.

4.3.5 Industrial Entreprises

Based on discussions with different types of industrial companies, the willingness of these actors to participate in climate action was analyzed to identify key drivers and incentives that could motivate them to participate in climate-friendly activities. Most of these industrial companies share a similar incentive structure as they have to abide by the laws and regulations set forth by the Ministry of Health, Ministry of Environment, and the Environment Quality Authority in order to maintain their registration as a formal company in Palestine. The incentives for this sector include:

1) **Maintaining Registration:** As discussed in the governance section, there are a number of rules and regulations that industrial companies need to abide by in order to get their registration certificates. These regulations tend to be focused on waste, especially on contaminated waste. Currently, in order to abide by the laws, industrial companies need to dispose of their contaminated waste through the Ministry of Health and their processes. However, due to barriers previously discussed in section 2.3 “Governance and Policy Landscape”, this has proven to be inefficient and not as environmentally-friendly as expected. As such, some companies have shown interest in finding new methods of waste management that abide by the laws set forth by the Ministries and can help them in fulfilling other incentives below.
2) **Reducing Cost:** Many of these industrial companies use a lot of energy and water in their production lines. In order to increase efficiency and reduce costs, they are interested in adopting (or increasing adoption) in alternative renewable sources of energy and technology that decreases both their energy and water consumption.
3) **Attracting investment:** Some of the industrial companies in Palestine already play a role in the regional and international markets. As such, these companies already have international investors

and/or are trying to attract new ones. They view adherence to global standards of waste management and environmentally sustainability as a key selling point to attract such investors.

4) **Creating new revenue streams:** Through our discussions with some industrial sector companies, they have shown keen interest in recycling or reusing processes and technologies that create opportunities for increased efficiency and the production of new revenue streams out of recycled materials.

Engagement Approach

Below are some of the engagement structures that we have identified through our conversations with industrial companies:

1) **Cost-sharing:** For the larger industrial players, their main concerns tend to be adhering to local and/or global standards in waste management (minimizing pollution) and increasing energy and water efficiency. As such, many of these companies have plans for addressing these issues, either by building new waste management facilities, or buying new technology that will support their goal of reducing waste, or increasing water and energy efficiency. The best way to engage these companies in such endeavours is through cost-sharing as most of these companies have voiced their need for funding on such projects.
2) **Advocacy:** While all industrial sector companies need to adhere to certain laws in order to maintain their registration certificates, the larger companies tend to already have their operations in place and can maintain registration. However, smaller industrial sector players that are new to the sector tend to have a hard time registering their companies. This is especially true for new companies that offer environmentally-friendly products (recycled goods, etc). As such, in order to engage these players and support them as environmentally-friendly companies, it could be possible for WeEffect and the consortium to take on an advocacy role and help ease the process for such companies to register with the relevant Ministries.

4.4 Engagement Plan

This section provides a more detailed engagement plan for each of the private sector actors.

Note: Indicative budgets stated in the engagement plan are indicative estimates of what the budget can be and are not final prices. Companies we interviewed insisted that in order to get a more detailed budget and plan they would require to sit with the project team in order to discuss potential collaborations further.

In order to select which private sector partners we want to engage with, we assessed the list of actors in our database from the landscaping phase based on the following criteria:

1. Alignment of objectives: alignment with the objectives of the WeEffect Programme, and the existence (or lack thereof) of climate environmentally-friendly policies
2. Intersections with PAIC activities: the presence climate actions currently being conducted and/ or the potential for new ones
3. Capacity: the ability and willingness to participate in climate justice activities

Criteria	Focus areas
1) Alignment of objectives	1.1) Social and environmental mandate
	1.2) Alignment with WeEffect programme objectives

	1.3) Alignment with PAIC organizations objectives
2) Intersection of Activities	2.1) Current activities relating to social and environmental responsibility
	2.2) Willingness to engage in social and environmental activities/ programmes
	2.3) Potential synergies with core operations
	2.4) Target groups
3) Capacity	3.1) Financial Capacity
	3.2) Human Resources
	3.3) Partnerships
	3.4) Access to information
	3.5) Legal and regulatory considerations

After choosing a list of private sector actors to engage with, we also assessed the proposed interventions based on the following criteria:

1. Inclusiveness: selected interventions will need to demonstrate clear participatory approaches (and project targets) that ensure the use of a gender mainstreaming and human rights based approach, and include marginalized community members, especially women, youth, and smallholder farmers.
2. Feasibility: selected interventions will need to be feasible to startup and operate, and sustainable to maintain to all stakeholders.
3. Impact: selected interventions will need to include specific impact targets to ensure maximum reach.

We then designed the following engagement plans for each of the private sector actors with proposed interventions that meet all 6 of the above criteria:

4.4.1 'Green' and Agricultural Inputs and Services Providers

Flowless

Description: provides smart solutions to enhance water supply efficiency, utilizing emerging technologies for automated faults detection & process optimization.

Core Operations related to climate: Flawless identifies gaps & potential enhancements in the water network by collecting real-time data on water flow and quality through the use of artificial intelligence. Flawless works to improve wastewater monitoring, comprehensive water network monitoring, and non-revenue water management in order to achieve efficient water reservance, supply, and distribution.

Main barriers: high cost of installation (see table below); installing the system is expensive. Generally farmers do not follow up on maintenance due to the fact that it can be costly and challenging.

Needs: Increase their visibility and sales; increase sales to small farms and small businesses (which currently face difficulty to install equipment due to high cost).

Budget: See cost benefit analysis (section 4.5)

3K Solar

Description: Providers of solar energy solutions.

Core Operations related to climate: 3K Solar provides the design, integration, permissions, installation and warranty service of renewable energy systems.

Main barriers:

1) Lack of clarity in regards to energy measurement systems and financial legislation for electricity sales contracts.
2) Adoption by small and medium farms is costly (estimated at $800-1,200 per kilowatt).

Needs:

1) More clarity from authorities on policy and legislation related to solar energy.
2) Increase their visibility and sales.

Budget: See cost benefit analysis (section 4.5)

Snipe

Description: provides a range of smart agricultural products helping farmers to automate and monitor their irrigation and fertilization processes.

Core Operations related to climate: The sensors and devices contribute to reducing water loss and adjust the quantity of fertilizers according to the needs of the plant. This results in a reduction of fertilizer leaking into the soil.

Main barriers: Lack of awareness among farmers on feasibility of the system, in addition to costly installation prices.

Size of farm	**Description**	**Estimate cost to farmer (USD)**
Small	1-4 dunums	5,000
Medium	7-10 dunums	8,500

Needs: Increase their visibility and sales; increase sales to small and medium farms along with small to medium agribusinesses.

Green Valley

Description: designing and constructing greenhouses and agricultural turnkey projects includes nurseries and packing houses, for all crops and climate conditions.

Core Operations related to climate: their products assist farmers to intensify their production, while decreasing resource use including water.

Main barriers: Limited knowledge in regards to the new technologies provided along with a lack of awareness and visibility amongst farmers.

Needs: Increase their visibility and sales; increase sales to small farms and small businesses.

Budget: See cost benefit analysis (section 4.5)

Blue Filter Company.

Description: Blue Filter is a water purification company headquartered in Gaza strip that specializes in agricultural water treatment. The company offers an efficient chemical-free, environment-friendly.

Core Operations related to climate**:** Blue Filter offers a special filtration device for water purification, both for irrigation and drinking water.

Main barriers: The challenge of importing the necessary laboratory testing equipment into the Gaza Strip. Along with the difficult task of inserting filter mold devices into the Gaza Strip.

Needs: Increase sales in the West Bank.

Intervention:

1) Pilot the device on 5 underground wells in local farms within the 5 targeted areas.
2) Subsidize purchase of the lab equipment that would facilitate testing and product development.

Budget:

Item	**Unit**	**Price ($)**
Filtration devices for the pilot	5	2,500
Desalination Unit (Lab equipment)	1	12,000
Chloride pen detector	1	2,500
UV device spectroscopy (Lab equipment)	1	1,000
Total		**18,000**

Greeners

Description: Manufacturing an eco- friendly fertilizers that aim to save farmers money and provide farmers with healthy and safe food.

Core Operations related to climate: Greeners manufacture natural biological fertilizers. This product has been tested for minimal toxicity compounds and residuals.

Main barriers: Greeners face the challenge of obtaining a product license from the Ministry of Health and EQA, this is due to the long procedural time and bureaucracy at the ministerial level. They also do not own their own packaging machine.

Needs:

1) Obtain a product license and increase customer reach.
2) Increase profitability by purchasing their own packaging machine

Intervention:

1) Advocacy role to facilitate obtaining a license from the Ministry of Health to launch the product in the market.
2) Support the company in manufacturing environmentally friendly packaging by subsidizing the purchase of a packaging machine.

Indicative Budget

Item	Unit	Price ($)
Packaging Machine	1	15,000

F&M Packaging Technology Company

Description: create, design, and provide Flexible Packaging materials especially for food products.

Core Operations related to climate: F&M Packaging Technology Company works on importing environmentally friendly and rapidly degrading packaging materials, such as: biodegradable plastic, paper, and cardboard.

Main barriers: F&M Packaging Technology Company offers free samples to test the products durability in the Palestinian market in hopes to receive feedback; this process is costly and requires support.

Needs:

Increase the company's sales of these environmentally friendly materials, and minimize the cost of testing and feedback.

Intervention:

1) Subsidize the purchase of molds to expand their manufacturing of different sizes of bags.
2) Advocacy role with ministry of economy to enforce Palestinian companies and specifically grocery stores to adopt biodegradable bags.
3) Subsidize the purchase of a nitrogen packaging machine, that would increase the shelf life of packaged products.
4) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Indicative Budget:

Item	Unit	Price ($)
Manufacturing Molds Subsidy	1	6,000
Nitrogen Packaging Machine	1	40,000
Total		**46,000**

Go Global

Description: specialized company in Enterprise Risk Management Solutions, Professional Training and Consultations Locally & Worldwide.

Core Operations related to climate: Go Global is a risk management technology company that can better predict agricultural risk management to develop agricultural insurance for farmers. Mainly, it manages incidents, claims, and deploys the risk-based premium.

Main barriers: The lack of agriculture governance tools; Palestine lacks the agricultural risk management tool which means that agricultural insurance is absent. Also, private and governmental institutions don't trust the local expertise in agricultural insurance of private and governmental insurance providers.

Needs: Increase adoption of agricultural insurance by governmental bodies and outreach to farmers and local markets.

Intervention:

1) Support the company in collecting data related to historical climate data, and agriculture data, through PAIC organizations, and the Ministry of Agriculture. The collected data will be integrated in the software, to enable the company to calculate risk associated with agricultural projects.
2) Seasonal forum to increase visibility and access to new market channels.

Petrichor Aquaponic co.

Description: create, design and install Aquaponics & Hydroponics systems.

Core Operations related to climate: Petrichor Aquaponic offers design solutions for hydroponics and urban farming. They specialize in designing and building hydroponics systems that conserve water and reduce waste.

Main barriers:

1) High investment cost
2) lack of knowledge among farmers on the benefits and techniques of aquaponics farming

Needs: Increase company sales and outreach.

Intervention:

1) Subsidize the establishment of a pilot project in one of the demonstration houses, where the company can provide training to farmers.
2) Seasonal forum at the demonstration house to increase visibility and access to new market channels

IndicativeBudget :

Item	**Unit**	**Price ($)**
Aquaponic System on 30 SQM	1	4,000
Total		4,000

Agropal Company & Alsharbaty Ekhowan Company

Description: Palestinian company working in the agricultural field as supplier for all the agricultural implements.

Core Operations related to climate: Agropal is an initiative from Alsharbaty ekhowan company. Generally, Alsharbaty Ekhowan's main function is to import agricultural materials and prioritizes the process of importing organic bio- fertilizers, pesticides, and materials that aim to improve the Palestinian agricultural environment.

Main barriers: lack of awareness among farmers about the importance of maintaining a healthy agricultural environment. The harmful chemicals used by farmers cause damages to the produce. Through the use of harmful chemicals farmers steer away from the ability to provide good produce. Also, farmers are challenged due to the absence of effective agricultural extension centers, research centers, and universities. Furthermore, they face operational barriers such as the high cost and long time needed to license new imported materials.

Needs:

1) Reducing costs and time needed to license new imported materials.
2) Access to research and development facilities
3) Increasing awareness among farmers about the importance of maintaining a healthy agricultural environment.

Intervention:

1) Access to research and development capacity, to test and pilot new products. This can be done through the demonstration houses.
2) Advocacy: Help with licensing from the Ministry of Agriculture to facilitate the process of importing the bio-chem materials.
3) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Indicative Budget: Minor costs for licensing support.

Al-Rwad Company for Agricultural Investment and International Trade

Description: cultivation, packaging and marketing of the Palestinian Medjool Dates to the global markets , especially the American and European markets.

Core Operations related to climate: solar energy investment, eco-friendly agricultural practices in date farming, recycling of packaging materials, have ISO 14000 for internal environmental practices.

Main barriers: Limited dates farms that practice organic and ecological farms and the high cost of investing in primary sorting houses in small farms.

Needs: increase sales of ecological agricultural products and eco-friendly packaging in international markets.

Intervention:

1) Connect the company with dates farmers network who have the willingness to adopt ecological practices in dates farming. This can be done through the forum.
2) Access to funds to accelerate the company's operations in building primary sorting houses for farmers.
3) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Indicative budget:

Item	**Unit**	**Price ($)**	**Total**
Sorting houses in dates farms	15	2,000	30,000

Ramlawi Trading and Plastics

Description: factory that recycles plastic to produce agricultural production requirements, water lines and some plastic products.

Core Operations related to climate: Manufacture of irrigation pipes, nylon bags and plastic used in agriculture from recycled plastic collected from agricultural lands and re-used in manufacturing in Gaza .

Main barriers: Lack of awareness among people and farmers about the recycled products, as they are perceived as less durable and of bad quality.

Needs: Increase the company's sales of these products. Providing plastic materials from irrigation pipes and nylon at a low or no cost to be recycled with a capacity of 200 tons per month through effective promotion among farmers.

Intervention: Seasonal forum at the demonstration house to increase visibility and access to new markets.

4.4.2 Agribusinesses

Loloat Al Aghwar

Description: A productive agricultural company specializing in fruit trees and vegetables cultivation for export, consisting of a grouping of 20 farmers. Furthermore, Loloat al Aghwar converts farm waste into organic fe§rtilizers, it provides ecological agriculture programs, and recycles and manufactures cartons for packaging.

Core Operations related to climate: Loloat Al Aghwar works on the cultivation of various fruit trees, such as: grapes and citrus, and establishes packing houses for these fruit products. In addition, Loloat Al Aghwar exports, sells, and operates to provide products to the international markets.

Main barriers: Since they are targeting regional and international markets, they have a certain quality that they need to maintain that they are struggling to maintain. Furthermore they face barriers in accessing new customers for their products especially with small farmers.

Needs: Increase their visibility and sales by expanding their operations to small farmers.

Intervention: Support the company in connecting with small farmers to manage packaging, sales, and marketing to international markets. This can be done through creating a seasonal forum, in which the demonstration house can be the meeting place. The company's contribution to the intervention is by handling all the packaging and sales processes, in addition to training farmers on required practices and standards for export.

Indicative Budget: See cost benefit analysis (section 4.5)

Baal Company

Description: company producing leafy vegetables with biological control systems.

Core Operations related to climate: An agricultural company that produces and grows leafy vegetables using hydroponic methods ecological farming.

Main barriers: The inability to bring “natural enemies” that are necessary for agricultural biological production into Palestine. Lack of awareness of the environmental value of this type of cultivation. A shortage of manpower.

Needs:

1) Access to a license to introduce “natural enemies” necessary for agricultural biological production.
2) Access to investment and expansion.

Intervention:

1) Facilitate obtaining the necessary licenses. While the company is willing to provide training to raise the awareness of farmers on their practices.
2) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Talia Organic Farm

Description: company producing organic vegetables for the Palestinian market.

Core Operations related to climate: Talia Organic Farm offers organic vegetable production, GlobalGap quality control guidelines, and organic farming guidelines for farmers.

Main barriers: Access water and energy sources, in addition to the high cost of organic agricultural inputs and materials, and the high cost of hiring experts in the organic field.

Needs: Access to alternative sources of energy

Intervention:

1) Access to funding to invest in solar energy systems.
2) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Indicative budget:

Item (Solar Panel Installation)	**Unit (KW)**	**Price ($)**	**Total ($)**
Solar Panel System	40	1,000	40,000

Aljunaidi Nursery Co.

Description: Al-Junaidi Nurseries Company for planting all kinds of vegetable seedlings and planting all kinds of flowers and fruitful and unfruitful trees.

Core Operations related to climate: produces fruit trees that are resilient to salinity, treated waste water and poor water quality (including olive and other fruit varieties).

Main barriers: The lack of awareness of the use of treated water in agricultural operations. Inability to reach customers and promote their products.

Needs:

1) Increasing sales of resilient trees by raising awareness to farmers through demonstrating and promotion.
2) Minimizing cost of collection of animal residues.

Intervention:

1) Marketing campaign to raise awareness of resilient trees.
2) Support the company in selling at cost price 100 dunams of resilient trees, in the city of Nablus and Hebron (the nursery's contribution will be to provide trees (4000 trees) at a cost price for a total of 50,000USD) near wastewater treatment plants. The company is willing to implement training workshops for farmers, and provide compost at cost prices for these farms.
3) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Indicative Budget:

Item	Unit	Price ($)	Total ($)
Trees that can cover a space of 100 dunums	4,000	12.5	50,000

4.4.3 Waste Management

Gemeco

Description: provides engineering and electronic works to preserve the environment and longevity of production assembly lines.

Core Operations related to climate: Gemeco provides consultations to save energy and periodic maintenance of factory machines that do not have maintenance parts in the local market. The company has created a place to dismantle these pieces on a large scale without the need to burn them nor harm the environment to prepare the materials for reuse or recycling.

Main barriers: Difficulties to access electronic waste due to lack of awareness within the community. Also, one of the challenges the company faces is the high cost of buying electronic waste prior to it being jeopardized by burning. Finally, financial difficulties are a main barrier.

Needs:
1. Access to funds
2. Minimize operational costs

Intervention:

Advocacy role:
1) Support by providing tax breaks and overall tax reduction on the company's operations.
2) Advocate for electronic waste management policy within Palestinian businesses by adding a new requirement to the company's annual licensing.

Access to community: Create a seasonal forum where service providers, farmers, and other stakeholders can meet to discuss new challenges and present current solutions. This can create new market channels, access to clients, and increase awareness. The previously mentioned "demonstration house" can be the location of such a forum.

Mnjm

Description: environmental company specialized in collecting household waste to be recycled and replaced with basic household needs.

Core operation related to climate change:

Mnjm works to replace solid waste and household waste, such as: (plastic, books, magazines, newspapers, or damaged appliances and electronics), in return one receives basic home needs, such as: (oil, sugar, salt, soft drinks, mineral water or even shipping cards). This process is completed through a mobile application and a website.

Main Barriers: There is no cooperation by the local municipalities and specifically waste councils to provide solid waste at affordable prices.

Needss: To facilitate smooth operation and to minimize operational costs by accessing sorted solid waste from waste councils.

Intervention: There needs to be advocacy work completed with waste councils and municipalities to facilitate the company's access to solid wastes at affordable prices.

Budget: See cost benefit analysis (section 4.5)

Waste Water Treatment Company

Description: a startup that has piloted their project on several leather tanning companies, doing treatment for the toxic water resulting from chrome use in leather tanning companies.

Core operations related to climate: The company has designed and built a machine that mixes stones' shavings that come from stone and marble cutting, with the chrome water that is used in leather tanning processes. As a result, the chrome would get stuck in stone shavings, resulting in treated water, and reducing leather tanning waste and stone and disposing of marble's waste.

Main Barriers: Lack of interest from both stone and marble

Needs: Access to funds to develop the machine.

Intervention:

1) provide funding to develop the machine, as the machine has been built from iron, which durability is limited, and can get rusty. The startup has a plan to build it from stainless steel.
2) Connect with stone and marble companies, and leather-tanning companies to process the waste of each more efficiently.

Indicative Budget:

Adsorption Machine Development	Price ($)
Stainless Steel Material	15,000

4.4.4 Industrial producers

Dar Al Shifa (Pharmacare) Pharmaceutical Company

Description: Dar Al Shifa operates within the Pharmaceuticals, Biotechnology and Life Sciences sector focusing on the production of pharmaceuticals.

Core operations related to climate: 5 year strategy plan: in 2021 the last plan ended and they drafted a new one (2021-2025). A big component is environmental reservation and protection. They already have 460 kw/h capacity of solar power, building a new building to house a new production line where they are planning to

add another 130 kw/h. They loan from international development banks (if that doesn't work then local banks) to finance this part. Part of it is funded internally, another part by loans. They would like to increase the solar power as much as possible. Another aspect of environmental preservation: Their demand for electricity is more than what the local company can provide. This is a problem when they have multiple production lines working simultaneously (especially for ones that need AC) because they are forced to use a diesel generator in these situations.

They also produce a lot of steam because it is used in production for heating purposes, they have a centralized steam generator that feeds the factory.

Main barriers: Pharmaceutical waste gets sorted into contaminated and non-contaminated.
Non-contaminated waste gets recycled or disposed of in usual ways: Recycling glass and plastic is hard to recycle and they are trying to figure out how to better dispose of it. The problem is that it is hard to sort as sometimes the different types are stuck to each other

Contaminated waste gets dealt with through the ministry of health and their procedures. The Ministry of Health used to put it in landfills. Now they stopped that process but the alternative they offered is to give it to an Israeli settlement to dispose of it for a very high price, now that waste is being stockpiled because the pharmaceuticals denied going to the settlements. There is an incinerator in Ramallah that only fits 30kg that uses diesel, its old not clean and not efficient

Needs: They want to abide by the laws set out by the MoH, but find more cost-efficient ways of disposing of their waste, and as well reducing their use of diesel generators and lower energy demand.

Intervention:

Energy:

1. Solar: the plan is to help fill the gap that the electricity company can't provide. Another solution is to install a high voltage line straight from the electricity company, in that case generators will only be for emergencies.
2. They want to install solar heating mirrors for the steam generator to heat the water before it reaches the generator so they use less energy on the generator to generate steam.(no budget stated)
3. They are increasing their solar capacity by 130kw/h in the new building (no budget)

Waste:

1. Paper , carton, metal – gets recycled as much as possible using typical methods but there is no real solution on the horizon.
2. Contaminated waste: they would like to be a high-temperature incinerator to dispose of the chemical waste – high quality high temperature on global standards – this is something that can be shared with other pharmaceutical companies, pharmacies and hospitals. The idea is to build a new one to global standards. 660,000 euros is their current proposed estimate for a compliant facility.
3. Liquid contaminated waste: water that is contaminated. Solution: evaporator. Big tanks that you put in the contaminated water, the water evaporates – recondensed and can be reused for the gardens in the factory and around it. The remaining contaminated water can then be sent to the incinerator (or sent to the special disposal facility at MoH). 205,000 euros proposed estimate – more work to be finalized.

Funding: they are applying for loans to get all of the funding for the whole plan.

Indicative Budget: Can be decided based on the type of intervention defined by the consortium and through discussion with Pharmacare representatives. The interviewee made it extremely clear that these numbers are simply an estimate in the middle of the range (they can be more and less expensive), but also emphasized their need to adhere to global standards and not just local standards thus coming to these estimates:

Item	**Unit**	**Price ($)**	**Total**
Incinerator for contaminated waste	1	660,000	660,000
Evaporator for contaminated water	1	205,000	205,000

Purex for Manufacturing and Trades:

Description: A factory that produces egg packaging cartons by recycling solid waste (papers , cardboards, cartons) using solar energy for drying.

Core Operations related to climate: Purex is a factory that recycles cardboard and paper and manufactures cardboard pulp again to make products such as egg carton molds. They use solar energy and solar drying to complete this process.

Main barriers: Access to more power supplies (3 phase). Also, Purex faces the challenge of sorting services of cardboard and paper materials for recycling. Nonetheless, the process requires a compressor machine that helps to compress the damaged carton. Moreover, the obstacle of high transportation costs.

Needss**:** to double its production and increase its profits. The enhancement of the overall infrastructure of the factory will allow the company to increase efficiency and increase its production therefore its environmental impact.

Intervention**:** The factory requires restructuring of their energy supplies. They have two options:

1) Work with the local electricity company to extend their network to supply energy voltage (3 phase).
2) Install solar energy systems.

Indicative Budget:

Item	**Unit**	**Price ($)**
Electricity 3 phase infrastructure	1	15,000
Solar Panel System	1	50,000
Total		65,000

Hebron leather factory

Description: company specializes in the field of cattle hide tanning for women, man and children footwear.

Core Operations related to climate: Processing natural leather, using leather-tanning techniques, using chrome, a highly toxic process that results in a significant toxic waste being released into waterways.

Main barriers: An average of 160 litres of water and 8 kg of CO_2 are used to produce 1 kg of leather, which generates 5 kg of organic waste.

Needs**:** Reduce the high cost of dumping chrome water, as every tonne would cost 5,000 ILS to transport and dump in Israeli landfills.

Intervention**:** Install waste water treatment machine (from the WWTC as a provider of the machines) to treat the chrome water, and reduce the amount and cost of disposed chrome water waste. The machine uses adsorption through stone shavings (stone and marble waste) to adsorb the chrome.

Indicative Budget:

Item	**Unit**	**Price ($)**
Waste water treatment machine (from WWTC as a provider)	1	20,000

Blue Stone Company.

Description: Produce eco-friendly interior decoration stones, by collecting and processing glass, paper, and wood waste.

Core Operations related to climate: The production of interior decoration stone products from waste recycling, such as: glass leftovers, papers and wood shavings.

Main barriers:

1) The cost of collecting raw materials from glass and other residues is high.
2) The difficulty of providing the electricity infrastructure to build a factory (the machine of the factory needs 3 phase electric lines but the current infrastructure in site is not available).
3) Difficult entry to market, as recycled products are not in high demand.

Needs:

1) Access to funds
2) Increase reach and sales

Intervention:

1) Support in acquiring a registration license from the Ministry of National Economy
2) Support the company with a sales and marketing strategy to reach out to a wider audience
3) Seasonal forum at the demonstration house to increase visibility and access to new market channels

Indicative Budget:

Item	**Unit**	**Price ($)**
Sales and Marketing Study	1	5,000
Develop assembly line and factory	1	20,000

Manasra Marble & Granite Co.

Description: Manasra Marble & Granite Co specialize in cutting stone and marble.

Core Operations related to climate: Cutting stones, and washing stones shavings with water, resulting in wastewater.

Main barriers: High cost of using water in addition to cost of dumping in landfills.

Needs: Reduce cost and achieve sustainability.

Intervention: Facilitate the establishment of a hydraulic piston (solid- liquid separation machine), to separate water, and turn waste into earthen plaster, through providing 50% the cost of the machine, which costs $70,000.

Indicative Budget :

Item	Unit	Price ($)
Piston machine subsidy (50% of total price)	1	35,000

4.4.5 Corporates

Paltel Group/ Foundation

Description: independent Palestinian non-profit organization that represents the developmental arm of Paltel Group and its companies.

Core Operations: CSR campaigns in education, technology, and innovation. The foundation is currently focusing on coding training and entrepreneurial training for school students.

Activities related to climate**:** Management views environment -related initiatives through one of two lenses; compliance with international standards and certifications, or CSR.

Needs: Increase their visibility and sales; increase sales to small farms and small businesses.

Intervention: Arrange workshop for the consortium and Paltel Group with involvement of SIDA (as requested by the general manager), and the involvement of a wider audience from within the Group; Jawwal, Hadara

Suggested pilots to explore:

1. Climate Justice hackathons startup competitions, partnering with Code for Palestine/ Fikra - Paltel Group's innovation arm
    a. A series of 3 hackathons each with a theme and challenge (i.e water, energy, recycling). The winning startup would be awarded a 50,000USD investment from WeEffect as well as inking services from PalTel/Fikra
2. Awareness campaign about the climate environmental justice program focusing on the rights of marginalised communities to water, energy, wellbeing and connectivity, using Paltel group's marketing channels.

Indicative budget: See cost benefit analysis (section 4.5)

Royal

Description:Palestinian commercial and Plastic industrial company.

Core operations related to climate: Manufacturing infrastructural networks, plastic pipes, plastic fittings, and offering a wide range of sanitary ware. Royal has also produced greenhouses with various systems.

Acquiring ISO 14000, 50000 (ISO standards for environmental impact management, by reducing industrial waste and environmental damage), awareness campaigns on environmental sustainability to college students, Plastic waste recycling, and manufacturing solar panels to fuel their factories energy consumption.

Main barriers: The inability to increase the investment in solar energy systems as the regulations do not allow more than 1MW of solar power. (Energy authority regulations) in addition to the lack of expertise in recycling for all types of plastic waste.

Needs: Leveraging donor funding for activities that support their existing activities Serving their home community, with focus on employees and their families.

Intervention: Arrange for another meeting with the General Manager, We Effect, and the consortium, and the involvement of SIDA would be critical (according to the interview).

Indicative budget: To be defined after meeting with SIDA and the consortium.

4.4.6 Financial Institutions

Bank of Palestine

Description: financial institution that seeks to promote the level of banking services in Palestine.

Core operations related to climate: Eco-friendly internal policies; sorting office waste, and minimizing paperwork.

Main barriers: Lack of guarantee funds to build green loans portfolio.

Needs: Expanding existing green loan programmes Publicity as the main sustainability supporter

Intervention: Meeting with the investor relations unit and the green loans team, SIDA's involvement is critical.

Suggested pilots to explore:

1. Utilize cooperatives' membership networks to mitigate default risk
2. Awareness campaign focusing on the rights of marginalised communities to financial inclusion
3. Lending scheme to assist SMEs in marginalised areas adapt to climate change (will require other potential partnerships; with IFIs/ DFIs, cooperatives, PAIC organisations...etc)

Indicative budget: To be defined after meeting with SIDA and the consortium.

Al Reef

Description: microfinance company that develops and offers microfinance products to different sectors and segments and focuses its services on rural areas, farmers and the poor.

Core Operations related to climate: Microfinance products for unbankable SMEs and individuals, with focus on micro loans for agricultural projects, e.g.: Reefona: Up to $ 20,000 loan, that targets farmers and value chain workers (E.g.: production inputs).

Main barriers: limited financial services provided to new small farmers and businesses as they historically have a high default rate, especially if they're not guaranteed by a fund.

Needs: targeting a wider range of farmers, while reducing default rates/risk, through cooperating with cooperatives in a systematic way, and accessing a guarantee fund.

Intervention: provide a 25% guarantee to $200,000 fund allocated to 20 SMEs and farmers, with a $ 10,000 average loan amount. The fund will be accessible to SMEs and farmers through cooperatives, under Reef's current program "Group Financing".

Indicative budget: See cost benefit analysis (section 4.5)

Tamkeen Insurance

Description: provide insurance solutions that are compliant with the provisions of Islamic Sharia'a through offering a package of new insurance solutions and programs divergent from the conventional insurance available in the Palestinian market.

Core Operations related to climate: Providing insurance solutions to businesses and individuals.

Main barriers: The high risk of the agricultural insurance, and the absence of reinsurance allocated to such activities.

Needs: targeting a wider range of farmers, while reducing default rates/risk.

Intervention: Arrange meetings with WE Effect and PAIC to discuss agricultural insurance programs. Suggested pilots to explore:

1. Provide training to their current staff on agricultural insurance evaluation
2. Guarantee fund to mitigate default risk
3. Programme to connect with cooperatives to utilize membership networks to mitigate default risk

Indicative budget: To be defined after meeting with SIDA and the consortium

4.5 Cost-Benefit Analysis of Prioritized List of Interventions

Based on the criteria mentioned in the methodology **(inclusiveness, feasibility, and impact) and our initial assessment,** we chose five projects that compliment one another to compound the impact of the project.

4.5.1 Paltel Foundation

Suggested pilots to explore:

- Climate Justice hackathons startup competitions, partnering with Code for Palestine/ Fikra - Paltel Group's innovation arm
- Awareness campaign about the climate environmental justice program focusing on the rights of marginalized communities to water, energy, wellbeing and connectivity, using Paltel group's marketing channels.

Cost: to be defined after meeting with SIDA and the consortium. Below is an indicative estimate:
Total: $180,000

- Three hackathons - Investment Fund: 3 x $50,000 (these funds will be provided as prizes to each of the winning hackathon winners to build their part of the demonstration centers
- Hackathon operational costs, 3 x 10,000.[63]

[63] Costs were estimated based on our communication with incubators

Benefit: the impact of this segment of the intervention is mainly intangible in the short-term, investment in long-term technological progress and R&D projects have shown to have significant returns for most economies. According to research in other developing countries, a 1% increase in research investment led to a total factor productivity gain of 0.57%. The impact was bidirectional and causality noticed (increased productivity significantly contributed toward agricultural research). The estimated internal rate of return on research was 73%, which is high compared to other investments. Studies noted that investment in R&D must be made on a consistent basis to reach the above relationships.[64] Intangibles benefits include:

- Increasing investments into environmentally friendly technological innovation and the overall Palestinian Entrepreneurship ecosystem
- Attracting innovators and the tech startups community to the environmental field, an area that is seeing increased attention and investment globally
- Raising awareness amongst the public on environmental issues, tying them to social justice and framing them as addressable challenges that society bears the responsibility for collectively
- Involving national-level corporates in championing the cause of environmental justice, opening the door for increased awareness and financing in the future

4.5.2 Green Demonstration Facilities

Suggested pilots to explore:

- Three medium scale (3 dunums) demonstration houses[65] that include the following technologies:
  - Water solutions system
  - Solar solution for agricultural producers
  - Greenhouse construction firms, and controlled environment providers
- These technologies will correspond with the hackathons mentioned above, to ensure that the selection of the providers is done competitively and on the basis of technological excellence.

Costs: the estimated costs for constructing and operating the demonstration houses is **$604,165**. This includes a total capital cost of $200,000 and a total stream of operating costs of $404,165. Operating costs were calculated over a span of 4 years, from 2022 through 2026.

- **Capital cost:** 3 medium scale (3 dunums) demonstration houses that include flawless water solutions system, solar solution from 3k solar, and a greenhouse from Green Valley:
  Total: ~$200,000[66]
  - Building high-end greenhouses (Green Valley): ~$45,000[67]
  - Solar energy systems (3k Solar Systems): ~$75,000
  - Water and irrigation systems (Flowless + Snipe): ~$35,000
- **Operating costs** over 4 years, running the demonstration facilities will cost the following:
  Total: $404,165
  - Salaries:[68] $216,000
  - Extension officers:[69] $148,165
  - Utilities: $40,000

[64] Nadeem, Nasir, and Khalid Mushtaq. "Role of Agricultural Research and Extension in Enhancing Agricultural Productivity in Punjab, Pakistan." (2010): MPRA Paper No. 277692

[65] Locations: South of West Bank (Heborn), Gaza Strip (Khan Younis), North of West Bank (Tulkarem); being most concentrated locations with farmers.

[66] Prices of the construction and installment were According to estimates from each service provider.

[67] green valley : small farms : $20K, Medium size : $ 45k, large size starts from $ 60k

[68] 1 supervisor and 1 support staff for each facility for 4 years. Salaries were calculated based on average salary scale of administrative officers in Palestine

[69] One officer per 20 farmers = 4 extension officers per year. Monthly salary per extension officer is ILS 2,400

Benefits:

Benefit type [70]	Benefit value (four years)
Provide the solutions to the demonstration centers	$30,000 (discount of 10%-25%)
Provide maintenance for the systems for free (1st year only)	$5,000
A 20% production increase for farmers adopting new technologies[71]	$873,960
Water savings for farmers adopting water solutions (30-40%)[72]	$1,057,056
Total:	**$1,966,016**

Analysis (over 4 years)

- Total costs: $604,165
- Total benefit: $1,966,016

4.5.3 Al Reef

Suggested pilots to explore:

- Allocating $200,000 per year fund to provide small loans to farmers for 4 years.
- These loans will be specific to technology adoption
- These loans will be guaranteed by 25% of the total fund amount.
- Certified farmers from the demonstration training will be eligible to access loans, if the rest of Al Reef's eligibility criteria apply.

Costs: the estimated costs for establishing this fund is $200,000, which is a 25% guarantee of the total fund, provided from SIDA for 4 years.

Benefits:

Benefit Type	Benefit Value
Farmers' access to finance of $200,000 loans in 4 years	$800,000

Analysis

- Total costs: $200,000
- Total financial benefit: $800,000

4.5.4 Loloat Al Aghwar

Suggested pilots to explore:

- Connect 40 - 50 farmers[73] that grow potato, lemon, and grape with Loloat Al Aghwar as potential clients to repackage their produce with eco-friendly packaging for exporting or local market.
- Training these farmers on international market's standards once a month in the demonstration

[70] Four demonstrations per month, ten farmers each event. Total targeted farmers each year for demonstration lectures: 520 farmers (2,080 farmers in four years)

[71] Average holding size and land productivity calculated using PCBS data from 2008-2018

[72] Adoption rate= 15% (~78 farmers per year, 312 in 4 years). While evidence shows that demonstration and extension to farmers result in an adoption rate of 20-30%, we have assumed that 15% is the adoption rate in Palestine.

[73] Based on average size of holding, 40-50 farmers would be able to supply 1,700 ton of potatoes, lemons and grapes

facilities for 1 year.[74] This can be done by facilitating demonstrations/training in the use of demonstration houses and providing administrative, networking and technical support.

Costs:

- Hospitality and administration costs for using the demonstration houses with an estimate of $ 1,000 over the duration of the year.
- Support the targeted 48 farmers to repackage 1,700 tonnes of vegetables and fruits by $158,250$[75]

Benefit type	**Benefit value**
Using the demonstration space to train farmers on international market standards, including the adoption of eco-friendly practices, and packaging.	$15,000[76]
Reducing lifetime cost of plastic, which is estimated at $3,716/ton[77] (51 tons of plastic packaging for 1,700 ton of produce)[78]	$189,516 of saved plastic
Intangible benefits	
Farmers adopting sustainable packages to export would increase the chances of sales of 1,700 tonnes of potatoes, lemons and grapes in international markets[79]	

Analysis (over 4 years)

- Total costs: $159,250
- Total financial benefit: $204,516
- Intangible benefit: predicted

4.5.5 Mnjm for managing household waste

Suggested pilots to explore:

Facilitate access for Mnjm to take and manage organic and non-organic waste from municipalities, after collection by municipalities and waste councils. Advocacy is required to encourage municipalities to work with Mnjm, and develop an operational and business model for this cooperation. Mnjm's capacity of waste separation and management is 1,000 tonnes per year.

Costs: Minimal cost as the intervention is advocacy work, where the cost will be allocated for the work hours of PAIC staff.

Benefits:

Benefit Type	**Benefit Value**

[74] There's growing demand for greener goods, but it's not an easy sell Studies show an increase in sales when switching to sustainable packaging options:(July 2021) Available on https://bit.ly/3FGvoeB

[75] 616 ILS per ton to package grapes= $77,000 to package 400 tons of grapes, 200 ILS per ton of lemons = $50,000 to package 800 tons of lemons 200 ILS per ton of potatoes= $31,250 to package 500 tons of potatoes .

[76] Rough estimate based on market price rentals

[77] Lifetime cost of plastic: $3,716 per tonne#

[78] Plastic packaging takes 3% of the weight of total tonnes, estimated by grape farmers in the Jordan valley.

[79] Evidence shows increased sales after eco friendly packaging: https://mck.co/3nISStt

Reducing transportation of waste's cost from municipalities to waste councils and transportation cost from waste councils to dumping areas	$200,000[80]

Analysis
Total financial benefit: $200,000
Total cost: Must be estimated by PAIC

5 Concluding Remarks and Recommendations

Reality of climate change in Palestine

Vulnerability in climate change is disproportionately affecting already marginalized areas including area C, and areas with higher poverty and unemployment rates. In terms of sectors, climate change has the most severe impact on water availability and agriculture. Empowering agricultural development in the areas most vulnerable to climate change is the most effective approach to support climate justice.

Most climate action is donor-driven. Donor priorities and interventions largely overlap with the PA's national priorities, focusing on vital sectors such as water, energy, and agriculture. While Palestinian government and local actors have taken steps to address climate change, with focus on adaptation measures, the volume of interventions remain small. Restrictions imposed by Israeli occupation severely limit the capacity of PA and other institutions to advance climate adaptation and mitigation actions, in the most vulnerable areas and communities.

Role of PAIC organizations

PAIC organizations are well-suited to lead the advocacy for climate justice in Palestine. PAIC organizations have existing activities in areas considered to be the most marginalized, including the Gaza Strip, Area C, the Jordan Valley, Hebron and East Jerusalem (the focus areas under the ECJP). These areas are also the most vulnerable to climate change. PAIC organizations also have existing activities in the vital sectors most affected by climate change; water, energy, food, and waste. Each of the organizations has specialized expertise in different fields, covering research, training, technical assistance, and project implementation.

Due to the nature of the ECJPs outcome-oriented results framework, engaging the private should focus on the sub-outcomes and targets proposed under:

- Outcome 1: strengthened capabilities of civil society organisations to effectively promote environmental and climate justice in Palestine and cross boundaries. For example, output 1.3: *creating synergies, networking, coordination, and cooperation between PAIC, partners, and other stakeholders*.
- Outcome 2: Rights-holders hold duty-bearers accountable for environmental and climate outcomes in Palestine and cross boundaries. In particular, 2.3: *rights holders engage and participate in environmental actions and decision-making processes*.
- Outcome 3: community resilience through innovative and smart solutions. For example, output 3.2: *Innovative and smart solutions to environmental/ climate/ agricultural/ ecosystems and biodiversity preservation challenges developed and piloted with vulnerable communities in participation*, and the associated indicators: *Number of innovative piloted initiatives adopted for scaling and number of phone applications/warning system developed* will most likely have to involve a range of private sector actors.

Engaging the private sector

[80] Transportation cost as estimated by North-East Jerusalem waste council from households to dumping areas is 170 ILS per tonne.

The private sector currently plays a limited role in climate action. Actions in line with climate related actions are currently practiced without explicit reference to climate and environmental objectives. Instead, different types of private actors intersect differently with climate actions, with variation mostly depending on the sector and size of company.

- Large companies can be divided into two groups, those intersecting with water, energy, food, and waste sectors, in addition to corporations with national reach but working in unrelated sectors. Larger corporations, which are industry leaders in their fields, can play an important role in promoting climate action in line with the objectives of the ECJP. These corporations have the resources and reach to develop and partner on national-scale initiatives, making them key potential supporters of such interventions. In addition, several of the larger corporates in Palestine run corporate social responsibility (CSR) programmes targeting marginalized communities and social segments. Although only a few of these programmes are structured with clear features, those can be key drivers for climate advocacy if engaged successfully. In addition, a number of large corporations, such as the two major telecommunication companies and banks, already have technology and innovation arms (i.e. Fikra as part of the Paltel Group, Intersect as part of the Bank of Palestine, Ibtikar supported by multiple corporations), which they can leverage to benefit climate justice projects.
- Medium companies can be divided into agribusinesses and providers of agricultural, water, and energy solutions. Medium-sized businesses in the industry and agriculture sectors have some capacity to adopt new climate-friendly technologies and practices, in so far as these interventions benefit their bottom line. Medium-sized industrial enterprises are also motivated by compliance considerations, especially if they aim to export to international markets. In the context of climate action, some of these entities currently provide technical products and services, technical assistance, and infrastructure building.
- Small companies can be divided into agribusinesses and startups innovating in the water, energy, food, and waste sectors. Micro and small businesses have a lesser interest and capacity to modify their internal processes or measure their environmental impact given the multiple constraints they face. However, some of these companies can provide essential products and services that are environmentally friendly and can be substantially supported by WeEffect and the PAIC organizations.
- Cooperatives represent a wide segment of farmers and small and micro agribusinesses, making them key partners in coordination with producer groups and de-risking financial services for climate actions in marginalised areas. Cooperatives are willing to play this role, if combined with capacity building and support. In addition, cooperatives could themselves be recipients of investments, loans and insurance, since the money is spread across a variety of farmers this can decrease the risk of default and increase the potential for commercial success.

Table 7: summary of recommendations

Focus area	**Objectives**	**Interventions**	**Partners**
Financing	Enable more SMEs in marginalized communities to access finance to carry on adaptation measures	● Green microfinance program ● Training/ capacity building	● Coops/ farmer organizations ● Experts ● MFIs + insurance firms
Innovation	Develop and showcase climate technologies/ practices	● Climate challenge hackathons ● Demonstration houses ● Subsidies and advocacy	● Corporates: Paltel Group, Bank of Palestine ● SMEs, startups, service providers.
Service	Involve startups and service	● Service providers'	● Local startups, service providers

Provision	providers in the provision of adaptation solutions locally	partnership with extension providers	• Extension providers
Awareness	Spread awareness about the disproportionate impact of climate change	• Awareness/ media campaigns	• Corporates: Paltel Group, Bank of Palestine
Coordination	Leveraging existing networks of membership-based organizations to facilitate better access to adaptation solutions and finance	• Climate Justice forum • Training and capacity building • Partnerships with MFIs	• Coops/ farmer organizations • Experts • Agribusinesses • MFIs • Startups/ providers

5.1 Recommendation: Prioritized List of Partners and Interventions

After conducting an initial cost-benefit analysis and assessing the interventions based on the criteria mentioned in the methodology (inclusiveness, feasibility, and impact) we have decided on the following shortlist of prioritized interventions and partners (Please see the detailed cost benefit analysis, section 4.5, for more):

Table 8: summary of prioritized list of interventions

Partner	**Intervention**	**Reasoning**	**Budget**
Paltel Group	Workshop to explore pilots: - Climate justice hackathon - Awareness campaigns	Paltel group is arguably one of the companies with the greatest reach in Palestine. As such partnering with them for awareness campaigns of other events such as a hackathon can be extremely inclusive, feasible, and create a significant impact on the environment.	TBD after meeting with SIDA and consortium Hackathon: $180,000
Green Valley, 3K Solar, Flowless, Snipe	'Green' Demonstration House	Creating a demonstration house would allow for increased inclusivity in emerging 'green' technology as it provides more access, trainings, etc. It is also financially feasible and flexible, and lastly it will showcase technologies that have been contextualized for the Palestinian environment and can thus have substantial impact on the environment	Total: $604,165
Loloat Al Aghwar	Workshops and networking	Loloat al Aghwar provides a key service to farmers that would further incentivize their use of 'green' technologies. Paired with the green demonstration houses, this intervention can have significant impact on the environment as it promotes internal	Total: $ 159,250

		adaptation, trains farmers for international standards, and provides eco-friendly services (packaging, etc).	
Al Reef	25% guarantee to a 200,000 USD fund allocated to 20 SMEs and farmers.	Access to funding is one of the greatest barriers to internal adaptation for farmers and SMEs. Al Reef already has programs and reach with many of these beneficiaries however they have a high default rate. As such, a 25% guarantee fund would allow them to expand their current program “Group Financing”	$50,000
Mnjm	Advocacy and Support	Mnjm needs greater access to solid waste at affordable prices in order to minimize operational costs. While it is financially feasible as there are minimal expenses on the consortium, it is highly inclusive as they provide services for all households, and can have a significant impact on the environment as there is a large market gap for recycling services in Palestine.	Minor expenses for advocacy and support (liaison with waste councils, government institutions, etc).

We believe that these five interventions with the relevant partners can have the largest impact, with high rates of inclusivity across different Palestinian communities, and are feasible and sustainable as long-term projects that can scale in the future.

Annex I: Mapping of the Climate and Environment Sector in the OPTs

Sector	Sub sector	Problem	Hebron	Gaza	E. Jerusalem	Area C	Jordan Valley	Partners and beneficiaries
Food Security	Agricultural production	Poor soil management						Supplier: Green valley company (smart agriculture) Cooperative: Bit Hanon Agricultural Coop.
		Poor coordination for vegetable production planning						NGOs: Palestinian Farmers Union , Palestinian Farmers Network Cooperatives: Attuf Cooperative For Agriculture and Irrigation
		Lack of drought resilient crops						Supplier: AlSabaa Nursery (import/ produce various transplant species) Cooperative: An-Nasariya Cooperative For Irrigation Coop.
		Limited investment in agri-technology						Microfinance: Reef Finance Cooperative: Bit lahia agriculture cooperative.
		Limited expertise in smart production						Supplier: Green valley company (soil & smart agriculture)) Agribusiness - Micro enterprise, e.g. Agricultural Machine Development project in jericho.
		Restrictions on imports for fertilizers						Supplier: Maqalda Company (Fertilizers and pesticide production & import company) Agribusiness, SMEs, e.g. Agricultural Engineering Stores
	Animal production	Limited Livestock production						Cooperative: Bani Nu'aim Sheep Breeders Coop Cooperative: Tubas Cooperative For Livestock Development
		Limited Grazing area						NGO: The Palestinian Environmental NGOs Network (Friends Of The Earth-Palestine) Cooperatives: Masafer Bani Nu'aim Coop For Livestock.
		Unavailability of local inputs for animal feed production						Suppliers: The Cooperative Feed Co., Ltd, (animal feed factories) Animal production farmer Cooperative, e.g. Mikhmas Coop. For Livestock Development
	Food processing	Limited refrigerator storage infrastructure						Microfinance: Acad Company for Finance and Development Cooperatives: Association For Berries and Vegetable Cultivation
		Lack of large scale grading and packaging Infrastructure						Suppliers: F&M Packaging Technology Company Cooperative: Alard Cooperative For Agricultural
		Limited Export and import of raw materials						Suppliers: Al-Rwad Company for Agricultural Investment and International Trade (import and export of raw materials). Cooperative: Agricultural Coop. Association For Berries And Vegetable Cultivation
	Marketing and Logistics	Limited capacity of the local market						Corporate: Hasad Company for Agricultural Marketing Cooperative: Salfit Coop For Agri-Marketing
		Lack of efficient marketing and sales channels						Corporate: Anabtawi Group Agribusiness: Micro enterprise, e.g. Mawares (national agricultural product selling point).

		Limited export and access to new markets						Corporate : Canaan Fair Trade Agribusiness: Micro enterprise, e.g. Myriam (homemade palestinian product marketing services)
		Lack of insurance system & Agricultural disaster risk management plan						Tamkeen Insurance SMEs: agriculture, water, food processing, plastic industry Micro enterprise (Food security). livelihoods and Farmer.
Water	Agricultural water	High water salinity						Supplier: Flowless (water solution) Cooperative: Agricultural Engineers Coop in Jericho.
		High nitrate concentration in water						Supplier: Flowless (water solution) Cooperative: Alfukhary Association For Rural Development Agribusiness: Chlorieeter (real time reading of water minerals and treatment from toxins and nitrate).
		Low water-use efficiency in irrigation systems						Supplier: snipe (irrigation infrastructure) Agribusiness: Micro enterprise, e.g. Talia organic farm in north Jordan valley.
	Water reuse	Limited Water harvesting infrastructure						Suppliers: Aljonidy Nursery Co. (agricultural supplies). Cooperative: Hebron Agricultural Coop.
		Limited access to sewage network						Supplier: Ramallah Pipe Industry Company. Cooperatives: Alwafa Agricultural Coop.
Waste	Reduce, re-use, recycle systems	Weak waste collection system						SME: Mnjm (collection + recycling of household solid waste), Abu Rajab Plastic Factory.
		Weak Waste sorting system						Council: Joint Services Council for Solid Waste Management Northeast and southeast Jeursalem SME: Mnjm.
		Limited Recycling activity						Council: Joint Services Council for Solid Waste Management in Gaza and North Governorates SMEs: Paper Industries Co. Ltd.
		Limited Composting of organic waste						SME: Lo'lo'a Alaqhwar Company (Agriculture company have organic waste composting model) Agribusiness & small farmers: Talia organic farm
	Knowledge/ experience	Limited experts						CBO: B-Hub (pool of industrial experts JSC & local Authorities.
Energy	Infrastructure conditions	Lack of energy security						CBO: Palestinian Incubator for Energy (govermental incubator for energy sector development)
		Poor infrastructure						Suppliers: 3k energy solution (energy infrastructure)
		Lack of capacity building and training for commercial and industrial applications						Supplier: Sunbox (training)

Annex II: List of interviewees

Enterprise/ organization	Key Personnel	Position
Corporates		
Bank of Palestine	Hiba Tantash	Head of Social Responsibility Department
Paltel Group Foundation	Samah Abu Oun	General Manager
Royal group	Moteea' Saghier	General Manager
Tamkeen Insurance	Mohammad Rimawi	General Manager
Reef Finance	Hussam Asaad	General Director
B-Hub incubator	Olga Batran	HUB Manager
Ministry of National Economy	Soha Awadallah	Minister's Assistant
Environment Quality Authority	Nidal Katbeh	Minister's Advisor
Ministry of Agriculture	Ashraf Anabtawi	NGOs coordinator
MSMEs		
Hebron leather factory	Nour Alzatari	The owner and general manger
Manasra Marble & Granit Co.	Khaleel Manasrah	General Manager
Pharmacare (Dar Al Shifa)	Subhi Khoury	Contact Person (business development manager)
Al-Rwad Company for Agricultural Investment and International Trade	Khader Zwahreh	General Manager
Lo'lo'a Alaqhwar Company	Samer Hamdan	General Manager
Gemeco	Belal Stiti	General manager
Go Global	Riyad M J Abu Mahmoud	Owner
Agropal Company	Basam Hijazi	General Manager
Alsharbaty Ekhowan Company	Naser Sharabati	General Manager
Mnjm	Aya Khateeb	Co- founder
Green Valley Company	Anas Abu Saada	Executive Director
Aljonidy Nursery Co.	Sameer Aljonidy	General Manager
Petrichor aquaponic co.	Mohammad albayari	Co-Founder

Snip Company	Maysara Abdallah	Ceo
3K Energy Solutions Co. Ltd	Ayman Kalluty	General Manager
Flowless - Sustainable Solutions	Baker Bozeyeh	Ceo
Baa'l Company	Raji Najm	Co-Founder
F&M Packaging Technology Company	Fares Bandak	Owner
Blue Stone Decorating	Rawan Rajab	Owner
purex for manufacturing and trades	Ayham Bader	Owner
Talia organic farm	basheer Khader	Owner
شركة رملاوي بلاستيك للتجارة العامة	Khalil Ramlawi	Manager
Blue filter company	Salah Alsaadi	Owner
Agriotech	Hisham Ali	Owner
Greener	Lina Zahika	Executive Director
Waste Water Treatment Company (WWTC)	Nadia	Founder
Support Groups		
Bateer Cooperative	Khaled Abu Hassan	Administrative Member
Froosh Beit Dajan Cooperative for Livestock	Youssef Abu Awad	Representative
Palestinian Farmers' Union	Abbas Milhem	Executive Director
Rural Women's Development Society	Haneen Zidan	General Manager
Union of Cooperative Associations for Saving and Credit L.L (UCASC)	Randa AbdRabo	General Manager
Gaza Agricultural Cooperative	Ahmad alshafa'e	Chairman of Board of Directors
Joint Services Council for Solid Waste Management Northeast and Southeast Jerusalem	Saed Rabea	Council Executive Director
joint council for services, planning and development (JCSPD)/ Dura	Mohamad Amro	General Manager
Joint Service Council for Solid Waste Management	Abdalraheem abu alkambaz	Executive director
Joint services council for solid waste of Tubas	Jamal abu arah	Council Executive Director

Annex III: Prioritized Interventions List

Criteria

Criteria	***Low (Score = 1)***	***Medium (Score = 2)***	***High (Score = 3)***
Inclusiveness	- *Difficult to apply clear participatory approaches and targets* - *Does not specifically target marginalized community (women, youth, small farmers)*	- *Possible to apply clear participatory approaches, but difficult to measure inclusiveness targets* - *Targets include, but not exclusive to, marginalized (women, youth, small farmers)*	- *Possible to apply clear participatory approaches and measure inclusiveness targets* - *Specifically targets marginalized community (women, youth, small farmers)*
Feasibility	- *High startup costs and no options for co-financing*	- *Medium startup costs or some options for co-financing*	- *Little to no startup costs or options to cover entire costs through co-financing*
Impact	- *Only impacts direct beneficiaries*	- *Impacts direct beneficiaries, but limited indirect impact (within locality)*	- *Direct impact in addition to wide indirect impact (Governorate level, national level)*

Prioritized projects are those scoring 7 or higher.

Prioritization

Focus area	**Type of intervention**	**Type of private sector partner required**	**Evaluation criteria**		
			Inclusiveness	*Feasibility*	*Impact*
Financing	Expand green loans programs	Banks, international/ development finance institutions	Medium	Low	Medium
	Green microfinance program	Microfinance institutions and cooperatives/ farmer organizations	High	Medium	High
	Agricultural insurance project	Insurance companies, guarantee funds, and cooperatives/ farmer organizations	High	Low	High
	Training and Technical Assistance	Insurance companies, MFIs, experts	High	Medium	Medium

Innovation	Climate challenge hackathon	Local startups/ service providers	High	Medium	High
	Climate innovation technology demonstration facility (200,000 USD Total)	startups/ service providers, agribusinesses, Cooperatives/ farmer organizations	High	Medium	High
	Blue Filter Company Pilot on 5 wells. $2,500	Blue Filter Company	High	Medium	Medium
	Subsidize purchase of testing equipment. 15,500USD	Blue Filter Company	Medium	Medium	Medium
	Subsidize pilot project for training 4000 USD	Petrichor Aquaponic	Medium	High	Medium
	Pilot of Trees on 100 Dunum 50,000USD	AlJunaidi Nursery Co.	Medium	Medium	Medium
	Wastewater Treatment Machine 20,000 USD	Hebron Leather Factor	Low	Medium	Medium
	Subsidize purchase of molds 6,000USD	F&M Packaging Technology Company	Low	High	Medium
Service Provision	Service providers' partnership with extension providers	Local startups, service providers, and extension providers	High	High	High
Internal Adaptation	Certification programs	International experts, industrial	Medium	Medium	Medium
	Technical upgrade program (also under Innovation)	Local service providers, (possibly: donor bodies to subsidize CapEx)	Medium	Low	High
	Subsidize environmentally friendly packaging machine 15,000USD	Greeners	Low	High	Medium
	Sorting houses for date farms (30,000USD)	Al-Rwad Company	Medium	Medium	Medium
	Solar Panel System 40,000USD)	Talia Organic Farm	Low	Medium	High
	Stainless Steel Wastewater machine (15,000USD)	Wastewater Treatment Company	Low	Medium	Medium
	Evaporator for contaminated water (205,000 USD)	Dar Al Shifa (Pharmacare)	Low	Low	High
	Incinerator for Contaminated Waste 660,000USD	Dar AL Shifa (Pharmacare), and other industrials with contaminated waste	Medium	Low	High
	Solar Panel System (50,000 USD)	Purex	Low	Medium	High

	Electricity 3rd phase infrastructure 15,000USD	Purex	Low	Medium	Medium
	Develop Assembly Line and Factory 20,000 USD	Blue Stone Company	Low	Low	Medium
	Piston Machine Subsidy (50% of total = 35,000 USD)	Manasra Marble & Granite	Low	Medium	Medium
	Nitrogen Packaging Machine 40,000	F&M Packaging	Low	Medium	HIgh
Awareness	National awareness campaign	Corporates (CSR), media, influencers	High	High	Medium
	Sales and Marketing Study (5000 USD)	Blue Stone Company	Low	High	Medium
Coordination and Advocacy	Capacity building/ training	International experts, agribusinesses, and cooperatives/ farmer organizations	High	High	Medium
	Climate justice seasonal forum	Cooperatives/ farmer organizations, PAIC, service providers, agribusinesses, startups	High	High	Medium
	Advocate on behalf of SMEs for licenses and regulations	Greeners, F&M Packaging, Agropal Company, Baal Company, Gemeco, MNJM, Blue Stone,	Medium	High	High
	Support in Data collection	Go Global, Agropal Company	Low	High	High
	Partnerships with MFIs	Cooperatives/ farmer organizations	High	Medium	High
	25% Guarantee of MFI Fund = $50,000	Al Reef	High	Medium	High

Annex IV: Prioritized Private Sector Partner List

Focus area	**Type of private sector actor**	**Key drivers**	**Evaluation criteria**		
			Alignment with ECJP	*Alignment with PAIC*	*Capacity*
Financing	Banks	Expanding reach and loan portfolio	High	Medium	High
	Microfinance institutions	Expanding loan portfolio and reach in target communities	High	High	High
	Insurance companies	Expanding reach and portfolio	Low	Medium	Medium
	Corporates (CSR)	Achieve mission, publicity for corporate	Medium	Medium	Low
Innovation	Startups (WEF + waste)	Grow business, visibility	High	High	Medium
	Startup support actors	Visibility, exposure to new innovation	Medium	High	High
	Corporates (CSR)	Achieve mission, publicity for corporate	Medium	High	High
Service Provision	Agricultural input producers	Increase sales and reach	Medium	Medium	Medium
	Startups (WEF + waste)	Increase sales and reach	High	High	Low
Internal Adaptation	Agribusinesses	Increase sales and decrease costs	High	High	Low
	Industrial producers	Increase sales, decrease costs, Compliance	Medium	Medium	Medium
	Corporates	Compliance with standards	Low	Medium	High
Awareness	Corporates (CSR)	Publicity for corporate supporter	High	Medium	High
	Influencers	Visibility, publicity	Medium	Medium	Medium
Coordination	Cooperatives	Benefit to members, expand membership	High	High	Low
	Farmer organizations	Benefit to members, expand membership	High	High	Low

Annex V: Overview of donor strategic priorities and interventions by sector

Sector	Key donors	Overview of donor strategic priorities
Water[81]	Finland, France, Germany, Japan, Netherlands, Norway, UNICEF, United Kingdom, World Bank (MDTF)	Under the water sector, donor interventions aim to strengthen the resilience of Palestinian communities, especially in the vulnerable areas of Gaza, Area C and East Jerusalem. These efforts centre around: ● Improve the living standards of Palestinians (i.e., access to clean water and water security), focusing on the rehabilitation and development of the water and wastewater systems (supply). ● Capacity building and institutional strengthening of selected Palestinian institutions at municipal level to improve water resource management and service provision (demand). ● Support the PWA to promote local resilience and sustainable local development, with a specific focus on improving the quality and quantity of the water supplied to municipalities (local governance, adaptation). ● Sustainable management of water and environmental resources, i.e., water distribution systems powered by renewable energy sources, improved sewer system, wastewater treatment (mitigation and adaptation).
Energy and sustainable energy production[82]	Belgium, Canada, Denmark, France, Germany, Ireland, Netherlands, Norway, UNDP, United Kingdom, Sweden, World Bank	Donor priorities in the energy sector include: ● Operational and financial support to promote the diversification of power supply and sources, strengthening the energy sector's transition towards renewable energy, focusing on the local level. ● Strengthen the capacity of the energy sector to improve the efficiency of energy production and distribution. ● Technical assistance and funding to help address existing power supply constraints, and promote economic growth and sustainability, job and green job creation, and private sector development. ● Enhance engagement with the private sector to create an enabling environment to assist the country's energy transition, i.e., sustainable development financing (renewable energy, solar, depollution) ● Increase the resilience of local communities by strengthening local governance mechanisms and promote the integration of climate adaptation initiatives into local planning and development.

[81] Palestinian Water Authority (2013), *National Water Policy for Palestine, 2013-2032*. Available at: https://bit.ly/3EwlFHS
[82] World Bank (2016). *West Bank and Gaza Energy Efficiency Action Plan, 2020-2030*. Available at: https://bit.ly/3GAIUGD

Agriculture[83]	Canada, Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Switzerland, FAO, WFP	Agriculture continues to play a key role in the Palestinian economy especially in terms of total exports. Donor initiatives in this sector largely aim to improve the efficiency and productivity of the agriculture sector as an enabler of inclusive and sustainable development. Key priority areas include: ● Enhance agricultural production, productivity, and competitiveness, to promote greater food security and economic stability and growth. ● Improve natural resource management, including land and water for agricultural activities, as well as build efficient capacities and institutional frameworks to improve agricultural services. ● Promote sustainable agriculture techniques, infrastructure development and the reuse of treated wastewater for agriculture. ● Agro-economic development, facilitating synergies with the private sector to enhance productivity and competitiveness and increase resilience of small-scale farmers and producers in key value chains, to be facilitated by integrated market development initiatives. ● Scale up climate-smart agriculture to improve resilience, adaptation, and local food production, with potential opportunities also on the mitigation side (i.e., reduced energy consumption, waste to energy initiatives)
Waste management [84]	Belgium (under development), Netherlands, Norway, Japan, UNDP, WB	This sector has gained increasing traction especially following the Covid-19 pandemic, in relation to management and treatment of medical and hazardous waste. Solid waste management initiatives are closely linked to improving local governance systems and institutional strengthening. They largely include local/ municipal-level development components to improve solid waste management services, through: ● Development of environmentally and socially efficient waste disposal schemes, ● Strategic infrastructure development, ● Technology and skills transfers.

[83] Ministry of Agriculture (2016). *National Agriculture Sector Strategy, 2017-2022*. Available at: http://extwprlegs1.fao.org/docs/pdf/pal174456E.pdf

[84] World Bank. 2019. *West Bank and Gaza Environment Priorities Note*. World Bank, Washington, DC. © World Bank. Available at: https://openknowledge.worldbank.org/handle/10986/33935

Annex VI: Drivers of Climate Adaptation in the Private Sector[85]

TABLE 1: Factors Influencing Climate Change Adaptation in the Private Sector
Data and information
▪ Free and easy access to climate (e.g. temperature, precipitation, sea level rise, solar radiation, wind) and hydrological (e.g. soil moisture, groundwater, runoff, evaporation, flood) *observations* elaborated for specific sectoral and geographic needs.
▪ Free and easy access to climate (e.g. temperature, precipitation, sea level rise, solar radiation, wind) and hydrological (e.g. soil moisture, groundwater, runoff, evaporation, flood) *projections* elaborated for specific sectoral and geographic needs.
▪ Climate/hydrological observation and projection datasets in a temporal and spatial resolution that are relevant to business decision-making (e.g. hourly/daily data, near-term timescales and spatial resolution of 50km^2 or less) and in a business-friendly format (e.g. in the form of indices avoiding the need for data manipulation).
▪ Data/information readily available on select impacts taking into account climate projections (e.g. flood risk maps, surface/ground water hydrographs, fire risk maps, rainfall intensity-duration-frequency curves).
▪ Decision-support tools to understand and assess risks and opportunities, and/or identify and select adaptation actions elaborated for specific sectoral and geographic needs.
▪ Data/information about the climate change risks and adaptation needs of communities, as well as that related to environmental concerns, which enables the private sector to take them into account in its adaptation process.
▪ Data/information about the costs and benefits of climate change adaptation actions.
▪ Data/information on climate-related insurance loss claims and insurance products/premiums for selected climate-related risks.
▪ Data/information about diversification strategies to adapt to climate change (e.g. available options, costs and benefits) elaborated for specific sectoral and geographic needs.
▪ Data/information about trends in operational performance and/or demand for climatically sensitive products or services (e.g. trends in crop productivity vs. trends in climate) elaborated for specific sectoral and geographic needs.
▪ Sector-specific data/information about locations vulnerable to climate change and locations favored by climate change (e.g. sector-specific vulnerability/hazard maps).
▪ Data/information and/or promotion of new products and services where a changing climate creates competitive advantages.
Institutional arrangements
▪ Coordinating agencies made of government, private sector, civil society, NGOs and/or academia with activities focused on climate risk and adaptation, including funding for climate change adaptation in the private sector.
▪ Public-private partnerships dedicated to assessment of climate change adaptation challenges, and provision of solutions.
▪ Brokers and other intermediaries active in environmental trading markets with climate change adaptation benefits (e.g. water markets).[a]
▪ Government and/or industry organizations that, considering climate change risks, provide support to alternative productions/activities and/or relocation in the private sector (e.g. government export agency).
Policies
▪ Building codes and building standards taking into account changing climate conditions and the associated impacts on building design and operations (e.g. insulation for projected changes in temperatures and precipitation, updated intensity-duration-frequency rainfall information for stormwater, drainage, wastewater and flood management infrastructure).
▪ Local zoning regulations incorporating data/information about future changes in climate and their impacts on new and/or existing infrastructure and buildings
▪ Land use/construction permitting rules promoting climate change adaptation measures (e.g. permits used to promote tree planting to cool urban areas or absorb more water where the Urban Heat Island effect or flooding pose risks).
▪ Land tenure policies and laws/regulations that secure over the long-term the land rights of vulnerable populations who may be more at risk from expropriation and/or land loss due to climate change impacts (e.g. more severe floods) or due to actions by other groups (e.g. land purchase or leasing by organizations looking for more climate resilient locations).
▪ Stakeholder consultation and/or engagement requirements promoting disclosure and/or consideration of climate risks, opportunities and adaptation.
▪ Environmental and/or social impact assessment laws/regulations and/or government guidance with requirements to assess the impacts of changing climate conditions and consider adaptation measures (e.g. the European Commission 2013 *Guidance on Integrating Climate Change into Environmental Impact Assessment* and the pending proposal to revise the EIA Directive).
▪ Legal/regulatory obligation on operators of critical infrastructure (e.g. utilities) to incorporate and, where necessary, disclose climate change risks and opportunities in their strategic and operational plans (e.g. supply/demand forecasts, Integrated Resource Management Plans).
▪ Laws/regulations authorizing regulated utilities to offer differentiated tariff/service options making it possible to reflect customer choices on security of supply on cost of water/energy during periods of scarcity.

(continued on next page)

[85] International Finance Corporation (2013) Report. *Enabling Environment for Private Sector Adaptation: An Index Assessment Framework*. Available on: https://bit.ly/3jAITUY

TABLE 1: Factors Influencing Climate Change Adaptation in the Private Sector (*continued*)
Economic incentives
▪ Incentives in support of purchases of climate change adaptation technologies and/or implementation of adaptation actions and/or R&D in the private sector (e.g. water efficiency incentives).
▪ Public and/or private financing instruments (e.g. loans, equity or guarantees) in support of climate change adaptation uptake in the private sector, including purchase of technologies, implementation of adaptation actions and/or R&D (e.g. loans for water efficiency investments).
▪ Microfinance programs for SMEs and smallholders in support of purchases of climate change adaptation technologies and/or implementation of adaptation actions and/or R&D (e.g. microloans for investing in drought-resistant crops).
▪ Charges and/or levies used to fund climate change adaptation works in the critical public infrastructure.
▪ Carbon finance supporting activities that improve climate change resilience while reducing greenhouse gas emissions.
▪ Environmental trading markets promoting efficient use of environmental resources under pressure from climate change impacts and generating additional revenue opportunities (e.g. water markets).
▪ Insurance or financial risk management products that transfer climate-related risks, while incentivizing risk reduction actions.
Communication, technology and knowledge
▪ Professional post-secondary education curriculums incorporating climate change impacts and adaptation knowledge and/or training (e.g. engineering, environmental/social management, geology, biology, business and public administration and economics).
▪ Climate change adaptation technologies and/or process innovation are produced, sold and/or promoted in the private sector (e.g. water-efficient irrigation, hard flood defence structures, drought-resistant crops, desalination, sensor technology).
▪ Information and communication technology infrastructure enabling user applications and software for climate change adaptation (e.g. early disaster warming and climate information can be provided to farmers via mobile phones).
▪ Mechanisms encouraging technology/knowledge transfer and/or sharing of best practices between countries and/or regions, as well as across sectors.
▪ Tools to analyze and compare the effectiveness and efficiency of different diversification options (e.g. different crops or different areas of operations).

[a] Environmental trading markets enable actors to trade environmental entitlements (a set of share of a pool of environmental resources) and/or allocations (an amount of environmental resource given over a timer period) within a market framework.

Annex VII - Indicators for the Index Framework[86]

TABLE 2: Indicators for the Index Framework To Evaluate Whether Countries have in Place Favorable Conditions To Promote Climate Change Adaptation in the Private Sector

Indicator	Description
Data and information	
1. Climate and hydrological projections	National climate (e.g. temperature, precipitation, humidity, solar radiation/cloud cover and wind) and/or hydrological (e.g. soil moisture, groundwater, runoff, evaporation, flood/drought) projections based on calibration and validation of climate and hydrological models
2. Direct and indirect impacts	National data/information about climate change direct and indirect impacts relevant to the private sector and elaborated for specific sectoral and geographic needs
3. Adaptation measures, costs and benefits	National data/information about climate change adaptation measures, and associated costs and benefits, elaborated for specific sectoral and geographic needs
4. Community vulnerability, risk and adaptation	National/local data/information about community vulnerability and risk from climate change and/or adaptation priorities
Institutional arrangements	
5. Institutions and forums	Coordinating national bodies and forums with a role in facilitating climate change adaptation in the private sector
Policies	
6. Building standards and/or codes	Building standards and/or codes incorporating climate change impact and adaptation considerations
7. Public infrastructure	Public and key infrastructure having factored climate change impacts and adaptation into design, operations and/or decommissioning
8. Local zoning rules	Local zoning rules incorporating climate change impact and adaptation considerations for new and/or existing infrastructure/buildings in areas vulnerable to climate change (e.g. floodplains, coastal zones, glaciers)
9. Permitting and impact assessments	National/local permitting (e.g. land use and/or construction permits) and/or environmental/social impact assessment rules incorporating climate change impact and adaptation considerations into developments
10. Investor relations and/or stakeholder management	Incorporation of climate change impact and adaptation considerations in instruments and practices for investor relations and stakeholder management (e.g. disclosure in security fillings, bond prospectuses, stakeholder consultation, community resettlement and compensation)
Economic incentives	
11. Government incentives	Government incentives promoting climate change adaptation in the private sector
12. Finance	Public and/or private finance instruments (e.g. loans, equity, guarantees) for climate change adaptation, including planning, implementation, purchase of equipment and material, and innovation/R&D in the private sector
13. Full-cost accounting for water and energy	Cost accounting and pricing practices in water and energy utilities, which reflect the 'true' lifecyle costs of the impacts of more extreme weather and climate change on water and energy management and services, and which incentivizes increased efficiency, reduced consumption and improved resilience
14. Environmental trading markets	Markets to trade environmental entitlements or allocations (e.g. over water, soil and/or biodiversity resources) under pressure from climate change
Communication, technology and knowledge	
15. Information and communication technologies	Availability and market penetration of information and communication technologies (e.g. internet and mobile cellular)
16. Technology and knowledge	Access to and use of technology and knowledge useful to understand, assess and respond to climate change risks and opportunities

[86] International Finance Corporation (2013) Report. *Enabling Environment for Private Sector Adaptation: An Index Assessment Framework*. Available on: https://bit.ly/3jAITUY

Annex VIII - Summary of laws regulating inputs[87]

Name and Description	Effect on Farmers	Need for reform/action	Expected effect of reform/action on farmers
International Conventions (Stockholm, Rotterdam, Basel)	Banned a number of inputs that are available on the black market; farmers often unaware of their hazards	-More rigorous monitoring, documentation and reporting to international convention committees by PA on illegal inputs that have been transferred from Israel into the Palestinian market. -Awareness raising for farmers on the hazards of internationally banned products.	-Less availability of internationally banned products. -Less drive from farmers to procure internationally banned products.
Agricultural Law No. 2 of 2003 (amended in 2005)	MoA is responsible entity for regulating the inputs sub-sector	n/a	--
Palestinian Environmental Law No. 7 of 1999	Introduces the role of the Environment Quality Authority in regulating inputs	n/a	--
Public Health Law No. 20 of 2004	Introduces the role of the Ministry of Health in regulating inputs	n/a	--
Council of Ministers Resolution No. 9 of 2012 – formation of the Scientific Pesticides Committee	Defines which pesticides are permitted for exchange and use; supervises the import and licensing of pesticides; defines penalties for exchange and use of banned pesticides; unclear to farmers and traders which entity is the focal point of the committee	-Better monitoring of the exchange and use of pesticides, and more comprehensive implementation of penalties for breaching the law. -Awareness raising for farmers on the reasons for banning certain products, and the hazards of exchanging and using them. -Publication of focal point and contact for the committee	-The black market will be reduced in size and accessibility to banned products will decrease. -Farmers will be less driven to procure and use banned products because they will be aware of the dangers of doing so. -Farmers, traders and cooperatives will have better access to information on the work of the committee and the process
Agricultural Fertilizers Law No. 27 from the year 1938 – updated in 2011	Regulates the exchange and use of fertilizers and soil conditioners, but guidelines and lists are	-Finalize the procedures manual for exchange and use of regulated fertilizers.	-The black market will be reduced in size and accessibility to banned products will decrease.
	still not published and distributed.	-Activate the Scientific Fertilizers Committee and disseminate the focal point and contact for it. -Better monitoring of the exchange and use of fertilizers and more comprehensive penalties implementation of penalties for breaching the law. -Awareness raising for farmers on the reasons for banning certain products, and the hazards of exchanging and using them.	-Farmers will be less driven to procure and use banned products because they will be aware of the dangers of doing so. -Farmers, traders and cooperatives will have better access to information on the work of the committee and the process.
Law of Income Tax No. 17 of 2004, amended in 2011 and 2016	-Exempts farmers from income taxes	-Raise awareness of farmers on this policy to combat the misinformed drive for tax evasion	-More farmers will open tax files and will be eligible to collect VAT returns paid on inputs.
Law on the Promotion of Investment in Palestine No. 1 of 1998 (modified in 2011)	-Provides large-scale agribusinesses incentive to investing in Palestine	n/a	--
Tax Returns Policy of 2008	-Allows farmers with an open tax file to collect returns on VAT paid on inputs (except for livestock-related inputs)	-Lobby PA to fulfil this policy by providing returns quickly and through a streamlined process	-Farmers would have increased trust in the policy and the government agencies implementing it, and would be more likely to buy regulated, registered inputs.
Israeli protective tariff policy (indirectly applied in Palestine through the Paris Protocol)	-Raises the prices of imported inputs	-Lobby the Israeli government to facilitate importing processes for Palestinian companies.	-Reduced input prices
Israeli dual-usage policy	-Prevents farmers from obtaining the most effective inputs	-Lobby Israeli government to reduce restrictions on key dual-usage products used as fertilizers and pesticides	-Farmers would have access to more effective inputs, would lower their costs and increase the productivity of the land and crops.

[87] Palestinian Farmers' Union - PFU (2018). Policies Regulating Agricultural Inputs in the West Bank. Available at: https://www.pafu.ps/uploads/articles/99d0aec51e1e36801603d22815241065.pdf