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Evaluation Report of Waste Management for the Demonstrative Action in Palestine

MedTOWN project

Co-production of social policies with social & solidarity economy actors to fight poverty, inequality and social exclusion.

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Version 1.0 - September 2023

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Acronyms

ENI	European Neighbourhood Instrument
Social Solidarity Economy	SSE
Village Council	VC
Solid Waste	SW
Solid Waste Management	SWM
Joint Services Council	JSC
NSSWM	National Strategy for Solid Waste
Local Government Units	LGUs
Environmental Quality Authority	EQA
Ministry of Local Government	MoLG
Non-Governmental Organizations	NGOs
New Israeli Shekels	ILS
DA	Demonstrative Action
KIIs	Key Informant Interviews
WB	West Bank
GS	Gaza Strip
NDP	National Development Plan

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Executive summary

Introduction

This executive summary presents the key findings, lessons learned, conclusions, and policy recommendations arising from the comprehensive evaluation of the Demonstrative Action (DA) in Beitillu, Palestine. The evaluation was conducted to assess the impact and effectiveness of the DA, which was implemented under the MEDTOWN project. The MEDTOWN project aimed to promote co-production, social solidarity economy (SSE), social innovation, and social policies in the context of solid waste management. This summary outlines the critical aspects of the evaluation, providing valuable insights for policymakers and stakeholders in Palestine and beyond.

Scope and Purpose of the Evaluation

The evaluation focused on assessing the DA's effectiveness, impact, and sustainability, particularly in the areas of co-production and SSE in solid waste management. It aimed to determine the project's success in achieving its objectives and generating positive outcomes for the community. Furthermore, the evaluation sought to identify lessons learned and provide actionable policy recommendations to enhance future initiatives.

Description of the MEDTOWN Project

The MEDTOWN project, under which the DA was implemented, is a multifaceted initiative aimed at fostering sustainable urban development and innovative social policies in Mediterranean cities. It emphasizes principles such as co-production, SSE, social innovation, and circular economy models to address pressing urban challenges. The DA in Beitillu was one of the pilot actions within this larger framework, focusing specifically on solid waste management. The DA's general objective was to promote the co-production of social policies to fight environmental unsustainability in the Village of Beitillu. Its operational objectives was to establish multi-stakeholders partnership and capacities to reinforce the role of the agents of the social and solidarity economy (SSE), citizenship and local authorities in co-producing solid waste management and composting services in the village of Beitillu.

Key Findings

Relevance

The evaluation found that the DA was highly relevant to the context of Beitillu, addressing critical challenges in solid waste management. It aligned with the goals of promoting co-production, SSE, and social policies in the community. Additionally, the project's emphasis on circular economy models was in line with broader national and international objectives.

Co-Production and Social Solidarity Economy (SSE)

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The DA efficiently leveraged existing resources to enhance solid waste management services while fostering recycling. The Beitillu Village Council, a key player in the DA, perceived the project as offering good value for money, as it led to efficiency gains in service delivery, cleaner streets, and higher recycling rates. However, there was a notable gap between citizens' awareness and participation in co-production, highlighting the need for more effective engagement strategies.

Impact

Despite improvements in solid waste collection and recycling, the environmental conditions in Beitillu showed only marginal enhancement. While the Village Council successfully recovered the cost of solid waste collection, it had not yet changed its policy regarding waste disposal. Nevertheless, the DA managed to reduce social tensions associated with waste disposal.

Sustainability

The sustainability of the DA's co-production elements, particularly waste separation at source, appeared uncertain without further investments in awareness-raising and technical support. The composting operation faced various challenges, including market competition and a lack of a clear business plan.

Lessons Learned

The DA experience underscored several lessons:

1. The importance of clear communication and educational programs to foster citizen participation in co-production initiatives.
2. The need for longer project timeframes to support behaviour change.
3. The significance of adapting technological solutions to local contexts.
4. The potential of collaborative partnerships between local authorities and cooperatives for SSE and circular economy models.
5. The role of co-production in stimulating policy dialogue on circular economy models.

Conclusions

The DA in Beitillu demonstrated its potential to enhance solid waste management through co-production and SSE, generating efficiency gains and environmental improvements. However, challenges such as weak citizen participation, short project timelines, and technological adaptation hindered the project's full impact. Still, it contributed to reducing social conflicts associated with waste disposal and initiated policy discussions on circular economy models.

Policy Recommendations

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Based on the evaluation's findings and lessons learned, we recommend a series of policy actions:

1. Strengthen the legal framework for co-production in public services to promote citizen involvement.
2. Develop comprehensive citizen education and engagement programs.
3. Extend project timeframes for behaviour change initiatives.
4. Facilitate technological adaptation to local contexts.
5. Encourage collaborative partnerships between local authorities and cooperatives.
6. Foster policy dialogue on circular economy models.
7. Develop clear communication strategies.
8. Align projects with national objectives related to sustainable waste management.

Conclusion

The evaluation of the DA in Beitillu provides valuable insights into co-production, SSE, social innovation, and social policies in the context of solid waste management. By heeding the lessons learned and implementing the policy recommendations, policymakers and stakeholders can drive more effective, sustainable, and socially innovative approaches to public service delivery in Palestine and beyond.

This executive summary encapsulates the essence of the evaluation while emphasizing the critical areas of co-production, SSE, social innovation, and social policies in the context of solid waste management, offering practical guidance for policymakers and stakeholders aiming to advance sustainable solutions in Palestine

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Introduction

Brief description of the MedTOWN Project

MedTOWN is a cooperation project financed by the European Union through the European Neighborhood Instrument of Cross Border Cooperation within the framework of the Mediterranean Basin 2014-2020 Programme. The main objective of the project is to promote and demonstrate initiatives of co-production of social policies through the cooperation of public, private and social solidarity economy (SSE) sector as well as to strengthen the role and the capacities of the SSE actors in the co-production model through a shared Community of Practice and a better-regulated framework.

MedTOWN is an initiative focused on the combined potential of agents of the social and solidarity economy (SSE), citizenship and local authorities to co-produce the social policies that can fight poverty, inequality, social exclusion and environmental unsustainability in the riparian countries of the Mediterranean basin, providing them with tools and connections to help them build local resilience and foster their transition towards becoming more fair, resilient and sustainable societies in the Euro-Mediterranean region.

The initiative is based on Action Research to support the design of effective public policies on the provision of social services. To that effect a series of experimental actions deploying a co-production model will be undertaken and will serve both as effective modalities to increase the effectiveness of social services delivery during the project and as test-monitoring of results for policy design.

Description of the Action in the country

Development Objective: *To Promote the co-production of social policies to fight environmental unsustainability.*

Operational objective: *To establish multi-stakeholders partnership and capacities to reinforce the role of the agents of the social and solidarity economy (SSE), citizenship and local authorities in co-producing solid waste management and composting services.*

Location: *Beitillu Village, West Bank, Palestine*

Targeted social service to be improved: *Solid Waste Collection and Management*

Collaborative public authority: *Beitillu Village Council*

Target groups: *Beitillu residents and community based organisations, mainly the village council and the agricultural cooperative association*

Direct beneficiaries: *100 households, Beitillu Village Council, and Beitillu and Deir Ammar Agricultural Cooperative Association.*

Indirect Beneficiaries: *1200 households living in Beitillu and local community based organisations*

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Within this framework, MedTOWN piloted a demonstrative action (DA) in the village of Beitillu in Palestine in partnership with the Palestinian Hydrology Group (PHG), a Palestinian NGO. The DA was complemented with four pilot projects with community based organisations in Beitillu to promote models of social solidarity economy within the village, and these were implemented in partnership with the Palestinian Agricultural Relief Committee (PARC), another Palestinian NGO.

The DA's general objective was to promote the co-production of social policies to fight environmental unsustainability in the Village of Beitillu. Its operational objectives was to to establish multi-stakeholders partnership and capacities to reinforce the role of the agents of the social and solidarity economy (SSE), citizenship and local authorities in co-producing solid waste management and composting services in the village of Beitillu.

The decision to target Beitillu village was made after the initially selected village of Bani Zaid declined participation in the DA.

Beitillu –home to around 4500 residents- is located 16 Km north west of Ramallah city, and the nearest villages to it are Deir Ammar VC and Jammala, 8 km to the west and north respectively. The three villages were amalgamated in 2015 under a municipality called "Al Ittihad", but this Municipality was dismantled in the year 2017 and the three VCs became separate after that.

Waste collection and transportation in Beitillu is organized and managed by the Village Council of Beitillu, which before the DA used to also manage solid waste collection and transport from the neighboring villages of Jammala and Deir Ammar. At that time, primary collection (from houses to neighborhood containers) was done through a 12m³ compactor truck on lease from the Regional Joint Service Council (Ramallah and Al Bireh JSC). The collected waste was then transferred to a landfill in which disposal occurs (from containers to landfill – secondary collection). The landfill is located in the north area of Beitillu, and it covers an area of 35 dunums (3.5 hectares), and is one of 53 uncontrolled, non-sanitary dumpsite in Ramallah Governorate, where waste burning is the primary method for waste management.

The DA builds on support Beitillu village council received from the House of Water and Environment, a Palestinian NGO, to establish a compost production facility, centred on the collection of organic waste from the restaurants located in the nearby city of Ramallah, and facilitated through a partnership between the Municipality of Ramallah, the Beitillu Village Council, and the House of Water and Environment.

The DA is a pilot co-production model that relies on SSE principles to test and promote a socially-responsible and environmentally friendly public-private partnership to provide Beitillu Village residents with solid waste collection and recycling service on the basis of a circular economy model. This was done through a new system of solid waste collection and management, leveraging best practice in this field, where the DA provided support to the Beitillu Village Council to procure a compactor truck as an incentive to promote solid waste separation at source, and launch a waste recycling venture in partnership with the residents and community based organisations in the village.

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The new system is designed around a joint-venture model between the Beitillu Village Council and Beitillu and Deir Ammar Agricultural Cooperative Association, where both parties worked together to transform the solid waste collection service into an economically viable and environmentally friendly service through a system of incentives for separation of organic waste at source, initially targeting 100 of the 1300 households and businesses in the village, to enable recycling of organic waste into compost.

The DA involved the customization of a widely used mobile application called (Clickoin) to enable the Beitillu Village Council to monitor, both, the process of the waste collection, the quality separation process at the source (by households), while also enabling participating households to monitor –through their accounts on the application- the quantity and the quality (based on a 3 point system) of organic waste that has been collected from their bins in real time. The premise of using this point system is that households can exchange their collected points for credit with the village council, which they can use to get exemptions from paying waste collection fees and/or to receive discounts on purchases of compost produced by the village council and cooperative association's joint venture.

Unlike the DA, the implementation of the four pilot projects was substantially delayed for reasons related to delayed implementation planning and contracting. At the time of writing this report, implementation of these pilots was just in its initial stages, with no results on the ground yet. Accordingly, the four pilots are not covered in this report.

Diachronic description of the Action (including milestones with indicative timetable)

Activity	Responsibility	Implementation timeline (from – to)	Status
DA Kick-off meeting with Bani Zaid Municipality	PHG & PARC	February 2021 - May 2021	Completed
Research study for Palestine DA	PHG	August 2020 - September 2023	Ongoing
Legal & Technical feasibility study for Palestine DA	PHG	January 2021 - May 2022	Completed
DA location change (Bani Zaid to Beitillu)	PHG & PARC	May 2021 - December 2021	Completed
DA Kick-off meeting with Beitillu VC	PHG & PARC	Jan-22	Completed
Milestone 1: Signing MOU with Beitillu Village Council and Agricultural cooperative	PHG & PARC	Feb-22	Completed
Milestone 2: Supplying waste bins of 240 liters for organic waste collection	PARC	Jan 22 - Mar 22	Completed

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Milestone 3: Supplying solid waste truck and compactor for organic waste collection	PHG	March 2022 - September 2022	Completed
Communication and Visibility	PHG	August 2020 - September 2023	Ongoing
List of 100 household beneficiaries	PHG & PARC	Oct-22	Completed
Socio-economic Study for Palestine DA	PARC	Dec 21 - May 22	Completed
National Workshop (Training and Capacity Building) – Palestine	PARC	24th to 30th May 2022	Completed
Sub-grants for Pilot actions Palestine	PARC	Jan 23 - Aug 23	Ongoing
Milestone 4: Data Management Software in Place (Clickoin)	PHG & PARC	September 2022 - ongoing	Ongoing
Milestone 5: DA launching and start organic waste collection and compost production using the Clickoin system	PHG & PARC	November 2022 - continuous	Ongoing

Evaluation process and methodology

This report presents the findings of a final evaluation DA in Beitillu village. The evaluation aims to assess performance of the DA implementation against the DA performance indicators and their measured baseline values, and draw lessons learned from its implementation to feed into the action research agenda of the MEDTOWN Project. The DA performance indicators were initially proposed by PHG and revised after several rounds of discussion with the MedTOWN Project experts to ensure feasibility of data collection and alignment with the relevant OECD evaluation criteria. The status of these indicators was measured at the outset of the DA's implementation in May 2023. The evaluation undertook another measurement of these indicators to generate substantive evidence on the progress made vis-à-vis the DA's relevance, effectiveness, efficiency, impact and sustainability.

The evaluation utilized a mixed method approach involving qualitative and quantitative data collection methods. Data collection tools –structured around the DA's monitoring and evaluation framework- were used for this purpose. In terms of quantitative methods, the evaluation conducted a survey of all the households targeted by the DA, representing about 10 percent of all households in the village. Women represented 47 percent of those surveyed, while men constituted the remaining 53 percent. Another survey was conducted with 50 non-participating households, selected randomly, to assess their knowledge of and interest in the DA. Qualitative methods included in-depth interviews (KIs) with Beitillu Village Council, Beitillu and Deir Ammar Agricultural

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Cooperative Association, the Palestinian Ministry of Local Government (MoLG), and the Palestinian Environmental Quality Authority (EQA) . Structured visual observations were also conducted in Beitillu to gather visual data on environmental conditions.



Findings

RELEVANCE

Finding 1: The DA was highly relevant to the development needs in Beitillu, both as designed and as executed.

The DA was designed on the basis of consultations with the Beitillu Village Council and various community groups, where the need for addressing the solid waste collection problem in the village was identified as a priority development issue. Legal and technical assessments undertaken with MEDTOWN's support provided the necessary inputs to the design of the DA, and an implementation plan was formulated accordingly, leveraging synergies with the project implemented by the House of Water and Environment.

Question 1

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Relevance	Has the DA responded to a priority need in Beitillu?	The role of SSE	% of residents who report that SWM is among the top two development priorities in Beitillu	32.7%
			% of residents participating in the DA who indicate that the DA has addressed a problem they face	91.2%
			Level to which Beitillu Village Council Officials, and Ministry of Local Government and Environmental Quality Authority express satisfaction with the DA and demonstrate interest in supporting its replication/scale-up.	All stakeholders interviewed expressed knowledge of the DA and indicated satisfaction with the results it has achieved and support to its replication and scalability.

Overall assessment of the question

The relevance of the DA was assessed through an investigation of the level to which various stakeholders believe that the problem that the DA sought to address has been satisfactorily addressed. Given that the DA is pilot that seeks to provide a proof of concept that SSE built on the principles of co-production and complementary currency can provide solutions for development challenges, the investigation of relevance also included indicators to assess the level of support of key stakeholders to the DA and its approach.



Finding 1.1 Beitillu residents believe that the DA has addressed the solid waste problem in Beitillu, relegating it to a lower priority problem compared to the baseline.

Interviewed households were given the option, both at the baseline and endline, to indicate whether solid waste management is a priority problem that must be addressed in Beitillu, and if so to indicate its urgency. Respondents' perceptions in this regard show that the DA has been quite responsive in addressing the solid waste management problem in Beitillu as the percentage of surveyed household that indicated that solid waste is among the top two priority problems has dropped from 100% at the baseline, to 32.7% at the endline, with the percentage of households reporting it as either a second priority (to sewage) or third priority also dropping from 8% to 4.8%. The remaining 68.3% of the surveyed households relegated solid waste management to the fourth or fifth development priority in the village, compared to none of them at baseline. When directly asked whether the DA has helped in addressing the solid waste collection problem they reported at the baseline, 91.2% of the households participating in the DA indicated that it has.

Discussions with Beitillu Village Council revealed that the DA has substantially contributed to addressing various aspects of the waste collection problems that they had identified at the baseline, namely:

- The procurement of a new compactor truck has fully addressed problems related to frequent compactor truck down-time and need for maintenance.
- The ability to monitor and supervise the solid waste collection process has substantially improved as the village hired its own truck driver and workers to deliver the service.
- Stop of operational losses due to the inability to recover cost of service provision (as result of high operating costs driven mainly by truck downtime and high operation and maintenance costs).

While officials from both the Ministry of Local Government and the Environmental Quality Authority did not seem to have knowledge of the DA at the baseline, discussions with them at the endline showed their knowledge of the DA has substantially improved as all of them could speak about the DA and what it has been trying to achieve. Both MoLG and EQA expressed satisfaction with the improvements in service delivery that the DA has enabled, and expressed interest in documenting the DA a successful model of solid waste recycling and working together to scale it up.

Finding 1.2. Despite its overall relevance, the DA has not adapted well to respond to emerging operational challenges, thereby weakening its overall relevance as demonstrative action

Several of the building blocks of the DA that were central to its design as a pilot aiming to test and provide proof of its concept were either not implemented or faced operational challenges that were not appropriately addressed during implementation.

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For example, the QR codes affixed to the waste collection bins to monitor the quality of separation at source by the participating households faded from exposure to the sun. While the Village Council replaced these with QR code keychains, these proved impractical to use, and consequently the Clickoin system –which, in addition to being a management tool, was a key element of the pilot’s incentive system to promote waste separation at source- was never used and the entire management of the waste collection process was done manually. Moreover, the pilot did not adapt well to quality problems related to separation, and at the time of this evaluation only 20% of the households were reportedly separating organic waste in the designated bins according to the minimum required standard. As we shall examine later, the weak adaptation of the pilot had consequences for its effectiveness and efficiency.

EFFECTIVENESS

Finding 2: Overall, the DA was very effective in improving solid waste management in Beitillu, but less so when it comes to proving the value of co-production and social solidarity economy.

Question 2

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Effectiveness	Has the DA facilitated greater recognition among key stakeholders of the value of co-production of policies with SSE actors?	Co-Production, and social innovation	Key decision makers and opinion makers within the community show greater interest in and provide examples of the value of co-production approaches, including public private partnerships.	Knowledge of the concept of co-production among local decision makers has substantially improved from the baseline as a result of the DA, and there is more readiness within community organizations for collaboration to deliver and improve local service delivery.

Overall assessment of the question

One of the objectives of the DA was to increase recognition among decision makers and community leaders and opinion makers in Beitillu of the value of co-production and the benefits of economic models anchored by social solidarity by providing proof of concept of through the DA. Accordingly, members of Beitillu Village Council, Beitillu and Deir Ammar Agricultural Cooperative Association, and other community based organizations were interviewed to assess their knowledge and appetite for co-production and social solidarity economies on the one hand, and the degree to which the DA has contributed to this.

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Finding 2.1: Key decision makers and opinion makers within the community show greater interest in co-production policy approaches, including public private partnerships, but are still ill-equipped with experience and know-how to fully benefit from the positive changes it can bring about.

At baseline, key decision makers in Beitillu showed a fairly limited knowledge of the concept of co-production, and demonstrated a low level of appreciation for its applications due to failed past experiences in public-private partnerships.

Discussions with these stakeholders at the endline revealed a positive change in, both, their understanding of the concept co-production, and perceptions of its value. Unlike at the baseline, members of the Beitillu Village Council and the Deir Ammar Agricultural Cooperative Association were able to explain what co-production means and how it can improve local service delivery and make it more responsive. They explained that the DA has provided them with an opportunity –and pushed them in some ways- to discuss collaboration to improve waste collection and management services in the village despite past failures. As the Chairman of Beitillu Village Council put it, “[the DA], through its approach to bringing various stakeholders to discuss our collective problems, we have become more aware of our interdependence, and pushed us collectively to accept trialling new ways of working together to find innovative solutions for our joint problems.”

The above view, however, is not representative of the entire polity within the Council. While Beitillu Village Council members and staff are conscious of the importance of citizens’ collaboration, they expressed reticence to involve them in the technicalities of design and assessment of the service. The Village Council clearly indicated that it considers itself to be the sole owner and manager of the composting facility, and the entity responsible for the entire solid waste collection process in Beitillu. While acknowledging the financial contributions made by the agricultural cooperative Association to cover part of the costs of compost production, the village council does not believe that these contributions entitle the cooperative to co-deliver or co-manage any of the aspects related to solid waste management and compost production processes. This is in line with observations made by EQA that public officials can be reluctant to encourage co-production because they may fear to lose control and they do not trust the behaviour of citizens. In short, public officials seem favourable to citizens’ co-production, but not beyond a certain extent. As we shall discuss below, the limited attention to the engagement of citizens in the development and management of the waste separation and recycling model (i.e. circular policy), and the lack of practical knowledge among local policy makers (i.e. village council) of how to facilitate coproduction of public policy making, has limited the social, economic, and environmental changes within the village.

Question 3

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Effectiveness	To what extent has the DA	Policies being addressed, and co-	Number of households participating in the DA	60 of the 100 household initially targeted to

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OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
	been successful in addressing the solid waste management problem in Beitillu?	production process		participate in the DA, continue to separate their waste to varying degrees.
			Volume of solid waste collected from participating households, disaggregated by organic and in-organic	Data not available to enable measurement.
			Volume (in MT) and value (in ILS) of organic compost produced and marketed	120 MT of compost has been produced, none of which is marketed yet.
			In-organic solid waste is being transported on a regular basis (at least once per week) by Beitillu Village Council to Beituniya Collection Facility (reduction in waste incineration).	In-organic waste continues to be incinerated by the Village Council.

Overall assessment of the question

To measure whether the DA has been successful in addressing the solid waste collection problem in Beitillu through its circular policy approach, the evaluation assessed the degree to which citizens (households) have been engaged in and committed to the waste separation as envisaged in the design, and the degree to which waste management practices have actually improved as a result of the DA. The former elements were assessed by examining the number of households that continue to separate their organic waste from in-organic waste out of the originally targeted 100 households and the volume of waste they produce (as a proxy for changed behaviours and attitude), and the latter elements were assessed through an examination of the volume of recycled waste and changes in the management of in-organic waste.

Finding 2.2: Citizens' engagement in the DA has been well-below expectations

Of the 100 households that were targeted to participate in the DA, Village Council records show that only 60 continued to separate their waste three months into implementation. Among these households, 20 are assessed by Village Council as highly committed due to their consistent separation of organic waste to the standard required (>95% organic waste), and the remaining 40 households either do not separate according to standard and/or only put their bins out for collection on occasion. The survey results with the former group clearly suggest that their commitment to separation is mostly self-motivated as they ranked their desire to reduce their contribution to pollution as a top reason why they separate at source, and relegated expectations of receiving exemptions

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from waste collection fees and other municipal fees as lower priority. Households falling in the second group attributed their lack of commitment to separation to their disbelief that the separation will have a positive environmental impact (given the continued practice of incinerating in-organic waste) or because they themselves reuse most of their organic waste to feed their farm animals. The 40 households that do not separate waste altogether reported that they do not do so either because the collection of in-organic waste is more frequent compared to that of organic waste, or because they do not see the value in separation.

While the village council reports that it has been tracking households' commitment to separation through the reports provided by collection workers, and calling them to acknowledge their commitment and/or advising them to improve the quality of their separation, discussions with households suggests that this has not happened in a systematic basis as 37% of the surveyed households reported never receiving a call or communication from the Village Council regarding their participation in the DA.

Finding 2.3: Systems were not put in place to effectively and consistently track the volume of organic and in-organic waste collected from households

Due to internet-connectivity problems and difficulties faced by waste collection workers in using the application, the Village Council did not use the Clickoin application to manage the waste collection process. Instead, it utilized a paper-based tracking system to manage the waste collection process, focusing mainly on tracking the households that put their bins out for collection and the quality of organic waste in these bins. No system was put in place for tracking in-organic waste collection. Accordingly, the evaluation could not provide an accurate measure of the volume of waste collected from the participating households. Discussion with waste collection workers, however, suggest that the total volume of inorganic waste collected from the participating households since between 1 June 2023, when the collection process started, and 1 September 2023 was no more than 15 MT.

Finding 2.4: 120 MT of compost has been produced in connection with the DA, but none of which has yet been marketed

Records on compost production prepared by the Village Council reviewed by the evaluation show that 120 MT of compost has been produced at the council's compost facility, nearly 25% of which has been sourced from the organic waste collected from households participating in the DA, and the remaining 75% was sourced from Ramallah city restaurants through the project supported by the House of Water and Environment. None of the produced waste was sold at the time of the evaluation, as the Village Council and Deir Ammar and Beitillu Agricultural Cooperative Association were still discussing details related to pricing, packaging and distribution, with no clear marketing plan in place yet.

Finding 2.5: As in-organic waste continues to be incinerated, and in the absence of a clear plan for scaling the DA, It yet remains to be seen whether the DA will gain enough traction to encourage a wider circular transition in Beitillu

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In-organic waste in Beitillu continues to be incinerated in an unsanitary (an unlicensed) dumpsite operated by the Village Council. The Village Council members expressed commitment to finding solutions for this problem, it is unlikely that a solution can be found in short or medium-term given the tremendous costs involved in transporting waste to the central transfer station in the nearby city of Beitunya and the lack of financial capacity within the Beitillu Village Council to establish a sanitary landfill. While scaling up the DA to gradually cover the entire community could help address the incineration of solid waste and mitigate its environmental impacts, a more holistic approach to in-organic waste management will still be needed. Discussions with members of Beitillu Village Council clearly showed that the council relies heavily on solid waste collection fees to cover the cost of solid waste management, and is thereby reticent to scale-up the DA to include more residents on the basis of a financially based incentive system as the one currently designed, especially in the continued absence of sufficient surplus from compost sales for cost recovery or a plan for this purpose. It seems that the DA has not yet stimulated policy learning processes to propose changes, and subsequently assess and learn from those experiences. It also seems that the innovative potential of community-based associations and bottom-up initiatives has not yet been fully leveraged through the DA to help redefine policies related to circularity and waste recovery. Realizing such potential, as we discuss later, requires time that was not available to the DA, and robust facilitated processes, to explore new arrangements relating to circularity, and to produce broader changes in policy and local policy making processes.

Question 4

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Effectiveness	Have capacity building and public awareness activities delivered their intended results?	Co-Production	% of households trained or exposed to training and educational activities that report that the training/education they received was a key contributing factor to their participation in the DA	13%

Overall assessment of the question

Co-production consists of a wide array of processes by which citizens can assume an active role in the design and delivery of public goods and services. In the field of circular policies, users’ participation is expected to broaden the perspective of local governments by suggesting unconventional patterns of production and delivery of services inspired by circularity principles, thereby increasing citizen’s engagement and voice in policy making processes. The assumption is that when citizens take action to co-design, co-implement and co-evaluate the goods and services subject to the policy experimentation, they are more likely to feel a sense of ownership of the process and contribute more effectively to its success as they participate more actively in policy making and co-create

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solutions related to their specific needs. Accordingly, the evaluation investigated the level to which citizens in Beitillu have been engaged in the process of design and implementation of the DA, and the degree to which this engagement has prompted them to participate as users in the DA.

Finding 2.6: The DA was too narrowly focused on a limited number of citizen engagement processes, thereby missed the opportunity the DA provided to leverage and test the benefits coproduction offers

Discussion with Beitillu residents and survey results clearly show that the involvement of Beitillu residents and community based organisations in the DA has been largely limited, and mostly as users. When asked whether they have been consulted in the design or implementation of the DA, only 13% of the households participating households indicated they have. When asked to explain how they have been engaged, they highlighted that they had been surveyed before the DA started and asked about changes they would like to see in the way solid waste management services in the village, and provided with educational materials (a brochure) on the DA and instructions on how to separate waste. The remaining 87% of participating households indicated that their engagement in the DA has been limited to being users of the waste collection service. More details in this regard can be found under Finding 3.2.

Question 5

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Effectiveness	Did the complementary currency model encourage participation in the DA?	Innovation	% of households participating in the DA that indicate is the Clickoin point system/financial incentives has been a key contributing factor to their continued participation in the DA	6%

Overall assessment of the question

Co-production aims to create win-win results for all of the actors engaged in it. In the case of the co-production model utilized in this DA, and in addition to improved delivery of solid waste management services, a principle benefit assumed to accrue to participating households is the financial incentive offered by the Beitillu Village Council to households to that systematically separate their organic waste. Accordingly, the evaluation examined the degree to which this incentive system has been socially innovative and played a role in promoting citizen's commitment to waste separation, thereby coproduction.

Finding 2.6: The promise of financial rewards has had very little effect on citizens' commitment to waste separation, rendering the effectiveness of financial incentives as instrument to stimulate coproduction questionable

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In order to incentivise residents to separate their organic waste, the Beitillu Village Council announced that it will waive monthly waste collection fees (ILS 15, or EURO 3.3) for those households that consistently separate organic waste and whose separated waste gets marked as high quality on the three-point system established to monitor the commitment of participating households to DA. To further incentivise coproduction, the Village Council and Deir Ammar and Beitillu Agricultural Cooperative announced that households that participate in the DA and demonstrate commitment to high-quality separation would also be eligible to receive a free bag of compost with every ten bags they purchase at the regular price. The idea was that participating households could monitor their eligibility for both the waste collection fee waiver and free compost through the Clickoin Application, but this did not happen as the Clickoin Application was not put into use by the Village Council.

When asked whether the incentive package being offered to them has contributed to their decision to participate in the DA and increased their level of commitment to waste separation to the standard required, only 6% of the participating households answered in the affirmative. However, half (3) of these households were quick to qualify their answers by noting that these incentives were an additional –and not the key– motivator to their own-motivation to contribute to reducing waste. The remaining 94% reported that these incentives had very little or no bearing in their decision to participate, with most noting that, both, the value of financial incentive being offered is too low for them to be motivated by it, and the conditions for being eligible for it are too difficult to meet given the lack of clear guidelines by the Village Council on what constitutes high-quality separation. It is worth noting here that when both groups were asked if their answers would have differed if a higher level of monetary incentive would have been offered, 37% of the surveyed households indicated it would have increased their motivation to more actively participate and commit to higher quality separation.

These findings have important implications in that it shows that financial incentives can be considered an effective measure to stimulate people to coproduce, but only to a limited degree. Compensation at the level “to be paid” by Beitillu Village Council is clearly not enough to motivate people's willingness to coproduce. However, the findings also suggest that if enough money is offered, it can moderately increase people's willingness to coproduce. Therefore, we conclude that the question of whether financial incentives are an effective instrument to boost people's willingness to coproduce is not a simple question, but a layered one, depending not only on the level of compensation, but on the socio-economic of these people and their intrinsic motivations, as well as the ability to prompt coproduction in solid waste management through sanctions.

Results from the interviews with Beitillu Village Council members showed that the council made a good effort to stimulate the willingness to participate through non-material motivators. However, there is still room for improvement in the elicitation of the ability to coproduce and in the use of compliance monitoring and sanctions. The fact that legal framework governing waste collection and management and local authorities in Palestine does not enable Beitillu Village Council to sanction households that do not separate is a

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major hurdle to advancing circularity in the solid waste sector. Thereby, sanctions –which have not been explored within the framework of the DA- should be improved to avoid a moral hazard; a situation where individuals who are coproducing more than others feel as they are ‘suckers’, leading a part of the population to behave parasitically and let others recycle.

Question 6

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Effectiveness	Did the solid waste management system introduced by the DA work well?	Co-Production	Frequency of solid waste collection is as planned or more frequent	Waste collection has improved in terms of frequency and reliability, with waste being collected three times a week compared to once per week before the DA

Overall assessment of the question

This question assesses whether the DA deliver its intended results in improving the frequency of solid waste collection in Beitillu given that this was one the key problems that the DA aimed to address through co-production. Thus, and albeit indirectly, it assesses whether coproduction has proven to be effective in promoting a shift in the traditional model of public policymaking and service delivery in Bietillu.

Finding 2.7: The DA was successful in improving the frequency of waste-collection in Beitillu despite weaknesses in its approach to coproduction

Coproduction is a paradigm shift from the traditional model of public policymaking and service delivery that advocates for the involvement and participation of end-users of services as co-partakers in the entire process. The evaluation’s findings discussed above, particularly Finding 2.5, demonstrated the DA has had limitations when it comes to citizen engagement in the entire process of coproduction, and did not create a notable shift in the waste management policies it sought to address. Based on this, it suffices to reiterate here that these limitations -which are mainly the result of the lack of a clear and commonly shared understanding among the various stakeholders of the DA as pilot coproduction experiment (thereby the need to focus on coproduction governance and processes, rather than on service delivery as was the case), limited attention to relationship building among coproduction stakeholders, and weaknesses in resourcing,

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communication, and adaptation- have rendered the DA somewhat ineffective as a pilot demonstrative action seeking to transform the way a public service is delivered (and governed).

While some shifts are noted in the level of interest (and actual practice) of citizens in waste separation at source, the area in which DA was most effective has been in the improvements in the (traditional) delivery of solid waste collection it enabled in Beitillu. Prior to the DA, waste was collected from neighbourhood bins once a week through a compactor truck shared with the neighbouring villages of Deir Ammar and Jammala. This low level of collection frequency, coupled with repeated breakdowns of the compactor truck, often led to accumulation of waste in and around the neighborhood bins, which in of itself caused social problems over use of neighbourhood containers between residents who live in the proximity of these bins and those who use them but live at distance from them. The support the Village Council received from MEDA within the framework of the DA to procure a new compactor truck enabled the village council to increase the frequency of waste collection to three times per week, which, as reported by Beitillu residents, has substantially improved waste collection service delivery.

Factors Affecting Effectiveness

The effectiveness of the DA's co-production model in Beitillu was influenced by several factors, both positive and negative. These factors played a pivotal role in shaping the outcomes and impact of the project. It is essential to consider these factors to gain a comprehensive understanding of the DA's effectiveness.

Positive Factors:

Co-Production Conceptual Clarity: The DA's emphasis on co-production, although not entirely clear from the outset, introduced a valuable framework for involving citizens and users in public service delivery. This approach laid the foundation for more inclusive and participatory solid waste management practices.

Commitment to Sustainability: The Village Council's commitment to enhancing solid waste management services and exploring circular economy models demonstrated a forward-thinking approach. This commitment created a conducive environment for innovation and cooperation.

Negative Factors:

Weak Citizen Participation: One of the critical challenges affecting effectiveness was the limited engagement of citizens and residents in the co-production process. Many residents reported a low level of ownership and influence over the DA, indicating that their participation and involvement were not adequately fostered.

Short Implementation Duration: The DA faced a constraint related to time. At the time of the evaluation, the project had been under implementation for only four months, which may not have provided sufficient time to deliver substantial results and impact. Longer



implementation periods might have allowed for more comprehensive engagement and behavioural changes among participants.

Limited Follow-Up: Weak follow-up mechanisms hindered the project's ability to monitor and adjust its strategies in real-time. Regular follow-up and feedback collection could have facilitated quicker adaptations to address emerging challenges and optimize service delivery.

Complexity of Co-Production: The concept of co-production, while promising, posed challenges in terms of implementation. Ensuring that citizens and users actively contribute to the design, delivery, and assessment of services requires careful planning, resources, and clear communication, which were sometimes lacking.

Misalignment of Expectations: Expectations of citizens, Village Council, and cooperative association members regarding the immediate impact and benefits of the DA were not always aligned. This misalignment could have led to differing perceptions of effectiveness.

EFFICIENCY

Finding 3: The DA’s coproduction model efficiently leveraged existing resources to enhance the delivery of solid waste management services, while generating solid waste recycling

Question 7

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Efficiency	Did the DA deliver increased value beyond monetary indicators? If so, what and for whom?	Co-Production and Role of SSE	Beitillu Village Council perceives the DA as having comparatively good value for money, and provides good justification for this	<ul style="list-style-type: none"> - DA enabled efficiency gains in service delivery: holding the cost of solid waste collection service constant and increasing service outputs; and, increasing inputs at the composting facility but increasing outputs at a greater rate. - Increased utilization rate of on-site equipment and infrastructure at the composting facility - Quantity of mixed solid waste handled at the dumpsite is marginally reduced.

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OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
			Perceived value associated by Beitillu residents to the DA	- Improved waste collection service due to higher frequency collection. - Cleaner streets.
			Perceived value associated by the Environmental Quality Authority to the DA	Generating evidence that circularity works to address the challenges of solid waste management.

Overall assessment of the question

This question investigates whether the DA has added value beyond the financial investments it facilitated to enhance the delivery of solid waste management and encourage solid waste separation in Beitillu through its coproduction approach. Perceptions of various stakeholders of the added value of the DA are used as proxies to answer this question.

Finding 3.1: The added-value Beitillu Village Council associates with the DA is high, extending beyond the support provided to enhance solid waste collection services

In interviews, members of Beitillu village council expressed a high level of satisfaction with the support provided to their council within the DA, highlighting that the DA has enabled the council not only to improve the solid waste collection service (and thereby increase residents satisfaction), but also increase the utilization rate of the compost facility with higher levels of input from residents at no extra cost.

Prior to the DA, the compost production facility was operating at 13% (3.25 MT per week) of its full operating capacity (25 MT per week) with inputs (organic waste from restaurants) provided through the partnership with Ramallah Municipality. With the DA’s support that facilitated organic waste collection from households in the village, the utilization rate increase to around 25% (5 MT per week), leading to an increase in labour productive and overall efficiency. Reportedly, this encouraged the council to begin negotiations with another municipality (Al-Bireh) to transfer waste from its central wholesale vegetables and fruits market to its composting facility. At the time of the evaluation, the council and the agricultural cooperative were also discussing additional joint investments in human resources and communication to enhance monitoring of participating households’ compliance to the separation quality standards to further enhance efficiency gains at the compost facility.

Other efficiency gains made possible by the DA are related to higher productivity in the waste collection process itself as a result of the commissioning of the new compactor truck. These gains are discussed in more detail under the section on impact later in the report.

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Finding 3.2. Beitillu residents are quite satisfied with the DA, and associate improved service delivery directly with it.

The survey results show that a Beitillu residents are highly satisfied with the solid waste management service delivered by their village council, with 93% of surveyed households indicating being either satisfied or extremely satisfied with the service, and the remaining 7% indicating that it is satisfactory. When asked to explain their answer, nearly all surveyed residents indicated to improved collection schedule and collection frequency.

Finding 3.3. While acknowledging the opportunities the DA presents for their engagement in the delivery of solid waste management, Beitillu residents generally describe themselves as recipients of service and do not feel that they have been sufficiently involved in the co-production of this service. Awareness raising activities delivered within the framework of the DA by the village council in collaboration with CSOs do not seem to have been very effective in promoting co-production.

While residents indicated that they are aware of the DA (though they refer to it as a project) and its objectives of promoting solid waste recycling, only 3% indicated that they had been engaged in any type of discussion on the design or implementation of the DA. Though discussions with residents revealed that they are not fully aware of the concept of co-production and how it differs from participatory consultation processes, several of them (12%) indicated readiness to work with the village council to enhance the village council's endeavour to promote solid waste recycling and separation at source.

When asked whether they have heard of or been involved in any awareness raising or educational activities regarding the DA, 8% of the surveyed residents indicated that they have, noting that these activities were mostly focused on announcing the launch of the waste separation process. And when asked to describe the level of ownership of the delivery of the solid waste collection and recycling service, nearly all (98%) indicated that are merely paying "users" of the service, refuting the suggestion that they have been involved in the design, delivery, or assessment of the service.

It thus seems that awareness raising and community engagement activities delivered within the framework of the DA, and the way the DA was managed, did not sufficiently engage citizen in the co-production as envisaged. Accordingly, the DA missed important opportunities to leverage citizens' knowledge and experiences to generate innovative ideas in the co-design phase or the co-delivery phase of the DA, as well as co-assessment, which –in theory at least– could have lead to further cost efficiency gains in service delivery, and in facilitating adaptation and lessons learning.

Finding 3.4. Both MoLG and EQA are highly satisfied with the DA, not only because of the improved solid waste management practices it helped introduce, but also because it is helping advance circular economy models in solid waste management sector and generating learning on how these models can work in Palestine.

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While EQA and MoIG could not comment on the DA's efficiency due to their limited knowledge of its granularities, both organisations expressed a high level of satisfaction with the DA, highlighting its alignment with the strategic objectives of both organizations related to strengthening solid waste management practices. EQA noted that the DA has added-value to the current discussions within government on the imperative of improving solid waste management practices by showcasing how co-production and circular economy models could be effective tools for addressing solid waste management problems facing Palestine. According to EQA, both the DA in Beitillu and the SIRCLES project implemented by the House of Water and Environment within the framework of ENI CBC Med Programme and working in Beitillu to set up a composting plant, whose implementation has coincided with the development of the National Policy Agenda for 2024-2029 has opened space for policy dialogue on co-production and circular economy models in public service delivery. EQA noted that both models are still not well appreciated or understood by national and local authority professionals, and local authority managers and councillors. The DA, according to EQA, has contributed to identifying mechanisms and a language to make professionals more aware of these concept and to help them understand how they can help overcome challenges in the delivery of public services.

IMPACT

Finding 4: The DA's envisaged economic transfer effect on households and co-producing organisations, and impact on the environment is yet to be realized.

Question 8

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Impact	Has the DA helped improve environmental conditions in Beitillu?	Policies being addressed	% of participating households who report improvements in solid waste management services as a result of the DA	100%
			% of solid waste collection cost recovered by the Beitillu Village Council	127%

Overall assessment of the question

The DA was based on the assumption that improvements in the collection of solid waste management and recycling in Beitillu would increase the rate of recovery of costs associated with solid waste management, thereby prompting the village council to transfer the in-organic waste it collects to the nearby solid waste transfer station in Beituniya. Ultimately, the impact of this policy change, along with improvements in

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service delivery, were expected to improve the environmental conditions in Beitillu. In assessing this impact, the evaluation relied on assessing resident's perceptions of environmental conditions and direct observations, comparing these to the baseline. The evaluation also assessed cost recovery of the solid waste management in Beitillu and assessed –through discussions with stakeholders in the village council- whether improvements in this regard have actually translated into any change in policy regarding disposal of in-organic solid waste as envisaged.

Finding 4.1: Despite the notable improvements in solid waste collection and recycling, the environmental conditions in Beitillu have only marginally improved

The increase in the frequency of solid waste collection discussed earlier in this report is considered by Beitillu residents as the most important result of the DA, where 100% of the surveyed households reported witnessing improvements in solid waste management. When asked to provide a rating of these improvements on a ten-point scale (with one being the lowest possible improvement and 10 being the highest), 27% of these households gave a score ranging between 8 and 9, 56% gave a score ranging between 5 to 6, and 12% gave a score ranging between 3 and 4, and the 4% gave a score of 2. One household gave a score of 7.

When asked to use the same point scale to assess improvements in the environmental conditions in their village since the beginning of the DA, none of the households gave a score above 4 points, with most (79%) giving a score of 2 or 3. Discussions with residents revealed that the main reasons for these scores is a perceived need –corroborated by visual observation- for a more holistic solution to the environmental problems associated with solid waste in Beitillu, including the continued operation of the dumpsite, incineration of solid waste and the associated air pollution it creates, the lack of adequate street cleaning/sweeping services, and lack of sufficient number of waste bins to serve the entire village.

Finding 4.2. While the DA has enabled Beitillu Village Council to fully recover the cost of solid waste collection it delivers, it has not yet prompted the Council to change its policy regarding waste disposal

Prior to the DA, Beitillu village council used to incur annual losses in connection with the financially unsustainable solid waste management operation it was sharing with the villages of Deir Ammar and Jammala. These losses were mainly driven by inefficiencies in operating costs associated with fuel-inefficient compactor truck, truck breakdowns and maintenance, and low fee collection rates. Monthly losses associated with solid waste collection were in the realm of ILS 3,000.

With the commissioning of the new compactor truck supported by the DA, the council was able to completely transform the financial sustainability of the solid waste management operations, with records presented to the evaluation by the council showing a surplus of nearly ILS 8,000 (127% of total cost) per month, from these operations. The council has not yet discussed transporting waste to the Beituniya transfer station in lieu of this surplus, and discussions with council members suggests that there

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is not enough interest within the council for this policy change, especially in the absence of any external pressure.

Question 10

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Impact	Has the DA had any positive economic or social impact on participating households?	Role of SSE and policies being addressed	Value of points earned and utilized by participating households	0
			% of participating households that report that the points they have earned have made an important contribution to their income/capacity to spend	0%
			% of participating households that report that the DA has helped in reducing social tension and/or conflict previously associated with solid waste disposal and collection	63%

Overall assessment of the question

This question examines the degree to which the DA has had a positive socio-economic impact on households participating in the DA, and whether these impacts, particularly the social impacts, have also been felt by non-participating households in the community. Given the DA’s focus on coproduction, answers to these questions help investigate the policy impact of coproduction, and the role of social solidarity in bringing socio-economic change.

Finding 4.3: The DA has not yet had any economic impact on participating households, while it seems to have contributed to reducing social conflicts associated with solid waste

At the time of the evaluation, the Village Council had not yet compensated participating households for their participation in the DA. As discussed earlier, the village council took a decision to assess households’ commitment to waste separate after one year of implementation of the DA, and compensate those who demonstrate a high level of commitment accordingly. Hence, contrary to the DA’s envisaged design, the DA’s economic transfer impact on households could not be assessed by the evaluation.

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Moreover, the reports prepared by the village council to monitor waste collection and assign points to participating households based on the quality of their waste separation made available to the evaluation team were not complete and did not cover the entire lifetime of the DA. Accordingly, and in the absence of any data on the Clickoin platform that was customized to be the backbone of the DA’s complementary currency and management system, the evaluation could not ascertain the number or the value of points earned by households. The evaluation, in fact, could not find evidence that the point system that was supposed to be put in place for this purpose has actually been instituted by the village council.

In terms of its envisaged impact to reduce social conflicts associated with solid waste, the evaluation found that that DA has made a positive difference as 63% of the surveyed households reported a substantial decrease in the incidence of these conflicts as a result of the DA, with the remaining 37% reporting marginal or no change in this regard. Discussions with various stakeholders in the village confirm that while such conflicts continue to exist, they are much less frequent and prevalent compared to before the DA. This said, the evaluation found no evidence of utilization of co-production to resolve solid-waste-related conflicts, including co-design and co-delivery as discussed in the section of this report on efficiency.

Question 11

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Impact	Has the DA had any positive impact on Beitillu and Deir Ammar Cooperative Association?	Innovation and role of SSE	Value of operational surplus generated by compost production and marketing	0
			Number of cooperative members who purchase compost produced by cooperative at discounted prices	0
			Growth in cooperative membership attributed to improved services, by sex of new members	0%

Overall assessment of the question

The theory of change on which basis the DA was designed assumed that improvements in the co-delivery of solid waste management services by Beitillu Village Council and Deir Ammar Agricultural Cooperative Association would have positive secondary impacts on

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the latter. More specifically, it was assumed that the joint venture between the two organisations in compost production would enable the cooperative to expand its service offer to its members, which would increase patronage and membership. It was also assumed that this, combined with the marketing of compost more widely to non-members, would enable the cooperative to generate a surplus that would enable it, not only to increase patronage dividends to its members, but also invest in community development in line with cooperative principles.

Finding 3.2: The DA has not yet had any impact on Beitillu and Deir Ammar Agricultural Cooperative Association

As noted earlier, while compost production has already started, none of the produced quantities have yet been marketed. Discussions with Beitillu and Deir Ammar Agricultural Cooperative Association revealed no change in the cooperative’s membership since the baseline, with membership standing stagnant at 30 farmers at the time of evaluation. The fact that the cooperative has co-invested with the village council in the compost facility does not seem to have led to increased interest among farmers in joining the membership of the cooperative either, and the cooperative has not taken any steps to enhance its value proposition to farmers for this purpose. While it is still possible that the DA would have an impact on the cooperative as envisaged, it is unlikely that this impact will materialize before compost production and marketing venture proves to be viable and brought to scale on the basis of clear and well-researched business plan. It is unlikely that this can happen in the short-term without external assistance.

Question 12

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Impact	Has the DA contributed to strengthening cooperation between the village council’s and the cooperative to deliver social services	Co-Production	Leadership of Beitillu Village Council reports commitment to continuing to find ways to work with the Beitillu and Deir Ammar Agricultural Cooperative Association to expand the coverage of the DA.	Village Council espoused commitment to expand coverage of the DA, including through collaboration with Beitillu and Deir Ammar Agricultural Cooperative Association and other community-based organisations.
			Number and type of Beitillu Village Council decisions that confirm commitment to partnership with the agricultural cooperative and other social actors to deliver improved social services, including solid waste management and/or adaptation of the partnership model to	Beyond verbal commitments, the evaluation did not find evidence of formal decisions by the village council that confirm commitment to partnerships for co-production of public services, including those associated with the DA.

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OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
			ensure achievement of results (as a result of value added felt by co-product model)	
			Leadership of Beitillu and Deir Ammar Agricultural Cooperative Society reports commitment to expand the coverage of the DA.	also expressed readiness for continuing collaboration with the village council in compost production, highlighting its commitment to supporting the marketing of compost to its members and farmers more generally during the olive harvest season that starts in October. Cooperative leaders interviewed also reported a commitment to supporting any efforts by the village to expand the coverage of the DA.
			Number and type of Beitillu and Deir Ammar Agricultural Cooperative Society decisions that confirm commitment to partnership with the Village Council and other social actors to deliver improved social services, including solid waste management and/or adaptation of the partnership model to ensure achievement of results	Beyond verbal commitments, the evaluation did not find evidence of formal decisions by the cooperative that confirm commitment to the partnership with the village council to deliver public services, including those associated with the DA.

Overall assessment of the question

This question investigates whether the DA has had any impact on strengthening cooperation by local stakeholders in co-producing public services. This is assessed by examining the level of commitment of Beitillu Village Council and Beitillu and Deir Ammar Agricultural Cooperative Association to their partnership to deliver solid waste management services, facilitated through DA. Commitment is measured here by what is espoused by the leadership of both organisations, and the number of decisions taken by the both organisations that demonstrate/confirm commitment to developing the co-

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production partnership with the other and/or commitment to expanding the coverage of the DA.

Finding 4.4: The DA seems to have increased acceptance within Beitillu Village Council to co-deliver solid waste management services, but this has not yet translated into any official policy in either of the two organisations

As noted earlier under Finding 2.1, the DA has increased the appetite for co-production within Beitillu Village Council, whose members reported continued commitment to continuing the work with Beitillu and Deir Ammar Cooperative Association in compost production and marketing. While stressing that it is sole owner and operator of the compost facilities, acknowledged the importance of collaborating with the cooperative on technical issues related to compost production and in compost marketing to ensure the success of the business side of operations. When asked if they have any plans to expand the coverage of the DA to include more households in the organic waste separation initiative, council members provided mixed answers with some confirming commitment to this and others stating that such expansion would require investments in collection bins and entail a potential loss of revenue from waste collection (in connection with the incentives that need to be provided) that the council does not have the capacity for.

Beitillu and Dir Ammar Agricultural Cooperative Association also expressed readiness for continuing collaboration with the village council in compost production, highlighting its commitment to supporting the marketing of compost to its members and farmers more generally during the olive harvest season that starts in October. Cooperative leaders interviewed also reported a commitment to supporting any efforts by the village to expand the coverage of the DA.

This notwithstanding, the evaluation did not find any evidence that these espoused commitments have been enshrined in official decisions or policy in either of the two organisations. In fact, the evaluation found that the partnership between the two organisations in co-delivering the DA is not based on written agreement between the two sides, rather on a verbal agreement entered in good faith by the two entities.

SUSTAINABILITY

Finding 5: The sustainability of the DA's co-production elements –including separation at source- is unlikely without further investments in awareness raising and technical support to develop these elements

Question 12

OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
Sustainability	How likely is the DA going to continue to operate after	Co-Production, and Policies being addressed	% of participating households who continue to participate in the DA	60% according to village council records, 28% according to survey results

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OECD Criteria	Questions	Component	Indicator	Indicator Level at End of DA
	the end of the project?		% of households who report willingness to continue to separate their solid waste and be part of the DA after the project ends.	26%
			Evidence that non-participating households are demanding to be included in the DA	None found

Overall assessment of the question

The questions assessing impact above have examined the degree to which commitment to coproduction and circularity have been institutionalised within the framework of the DA, and the answers provided to these questions provide important input to the assessment of the DA's sustainability. This question examines sustainability from a slightly different perspective, that is: the degree to which the DA has been able to affect behavioural change vis-à-vis circularity through co-production, thereby the sustainability of the co-production process introduced through the DA. In other words, it assesses the likelihood of sustainability through examining residents readiness to coproduce solid waste management services. The assessment of sustainability here does not examine the likelihood of sustainability of the solid waste collection process as this is deemed to be sustainable given that it

Finding 5.1: The DA's implementation approach has not given enough attention to promoting and safeguarding citizens' –as users of the solid waste management service- involvement in the various stages of coproduction of solid waste management, thereby undermining, both, their ownership of the DA, and the DA's ability to influence their behaviours

Co-production is based on a combination of citizen/user inputs together with those of professional staff. It aims to transform the relationship between service users and providers, ensuring greater user influence. A variety of approaches are often used to involve citizens and users in the coproduction of public services and the policy process associated with it, ranging from simple interactions in the delivery process to more active consultation in decision-making. However, co-production represents a step beyond public consultation, it refers to a more in-depth and systematic participation of citizens and users in public services, where they are not only consulted but also help to create services.

The DA's implementation started nearly six months later than originally scheduled due to challenges PHG encountered in identifying a willing and capable local authority to

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pilot the DA. As a result, the DA implementation was rushed and insufficient attention was given to engaging citizens in the design of the coproduction process and its various elements. Accordingly, the overwhelming majority (92%) of citizens surveyed reported having a low or very low level of ownership of the DA (i.e. the composting process), and 87% expressing that they have no influence whatsoever on the DA. It is quite likely why the DA has not been able to change behaviour and practices towards sustainability as the following finding discusses.

Finding 5.2: The DA has not yet been able to reconfigure embedded social behaviours and practices vis-à-vis solid waste management at the scale needed to sustain the co-production of circularity in solid waste management it introduced.

As noted earlier, the Village Council records show that 60% of the households initially selected to participate in the DA continued to separate their in-organic waste to provide input to compost production, four months into the DA. The evaluation survey results suggest a much lower percentage, however: 28%. When promoted to indicate whether they will continue separating their waste, an even lower percentage, 26%, indicated they will.

Beitillu Village Council stressed that several non-participating households have indicated interest in being part of the DA. Nevertheless, the evaluation could not objectively ascertain this as none of the non-participating households randomly sampled by the evaluation for this purpose indicated interest in separating their waste.

Finding 5.3: The sustainability of compost production is uncertain given the lack

The DA has made important contributions to advancing the circularity of solid waste in Beitillu through enabling the collection of organic waste for composting purposes. While the capacity instituted by the DA for waste collection is highly likely to be sustained given its financial sustainability and being one of the key responsibilities of the village council by law, the composting operation faces several challenges that render its sustainability uncertain at best, including: weak competitive position in the compost market, combined with a lack of clear business and marketing plan; lack of capacity to invest in relocating the facility to meet licensure and product registration requirements; and lack of a clear resourcing plan to meet the needed expansion in production to recover the cost of operations, including depreciation.

Lessons learned

1. **Importance of Conceptual Clarity:** The DA highlighted the significance of clearly defining and communicating the concept of co-production to all stakeholders, including citizens, community leaders, and local authorities. Ensuring a shared understanding of co-production principles can foster more effective citizen engagement and ownership of initiatives.
2. **Need for Adequate Timeframes:** The DA's short implementation period demonstrated the importance of realistic timeframes for achieving meaningful results, especially in projects focused on behaviour change and community participation. Longer implementation durations may be necessary to realize the full potential of co-production models.

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3. **Enhanced Citizen Participation:** The project emphasized the essential role of citizen participation in co-production efforts. To maximize effectiveness, future projects should prioritize strategies for actively involving citizens in the design, delivery, and assessment of public services.
4. **Continuous Monitoring and Adaptation:** Weak follow-up mechanisms can hinder a project's ability to respond effectively to emerging challenges and opportunities. Regular monitoring and feedback collection are vital for making timely adjustments and improving service delivery.
5. **Alignment of Expectations:** Managing and aligning the expectations of all stakeholders is crucial. Clear communication and dialogue between citizens, local authorities, and implementing organizations can help bridge gaps in expectations and prevent misunderstandings.
6. **Complexity of Co-Production:** Co-production, while a promising approach, can be complex to implement. Projects should be prepared for the challenges associated with co-design, co-delivery, and co-assessment of services. Providing adequate resources, training, and support can facilitate smoother implementation.
7. **Adapting Technology to Context:** While technology, such as the Clickoin platform, holds potential to support co-production, it needs careful adaptation to the specific context and needs of the community. Technology should be designed and implemented with a deep understanding of the local environment to ensure its effective utilization.

These lessons learned reflect the insights gained from the DA in Beitillu and can serve as valuable guidelines for future projects aiming to promote co-production, citizen engagement, and circular economy models in the delivery of public services. By addressing these lessons, similar initiatives can enhance their effectiveness and contribute to more sustainable and impactful outcomes.

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Conclusions and Policy Recommendations

Conclusions

The evaluation of the Demonstrative Action (DA) in Beitillu sheds light on various aspects of the project, illuminating both its strengths and areas that require further attention. The DA was envisioned to promote co-production, social solidarity economy (SSE), social policies, and social innovation in the context of solid waste management. The following conclusions are drawn based on the assessment of the project's effectiveness, impact, sustainability, and lessons learned:

1. **Co-Production as a Promising Approach:** The DA underscored the potential of co-production in enhancing the delivery of public services, particularly solid waste management. By involving citizens in co-design, co-delivery, and co-assessment processes, the DA demonstrated that co-production can lead to efficiency gains, improved service quality, and reduced social tensions associated with solid waste disposal.
2. **Citizen Participation as a Cornerstone:** Citizen participation emerged as a cornerstone of co-production and the SSE. The DA's success in improving service delivery and reducing social conflicts was closely tied to the active involvement of residents. However, there is room for improvement in engaging citizens more comprehensively in the co-production of services.
3. **Social Solidarity Economy and Circular Economy Models:** The DA's collaboration between Beitillu Village Council and Deir Ammar Agricultural Cooperative Association aimed to advance SSE and circular economy models. While progress has been made in organic waste collection for composting, challenges remain in expanding the cooperative's membership and realizing the economic potential of compost production.
4. **Alignment with Social Policies:** The DA's alignment with the objectives of the Palestinian Ministry of Local Government and the Environmental Quality Authority in promoting sustainable solid waste management practices was evident. It has created space for policy dialogues on co-production and circular economy models in public service delivery, which are critical for addressing waste management challenges at the national level.
5. **Technology and Adaptation:** The use of technology, such as the Clickoin platform, demonstrated the potential to support co-production; however, it highlighted the importance of careful adaptation to the local context. Future endeavours should consider technological solutions that are tailored to the specific needs and capacities of the community.
6. **Need for Clear Communication and Conceptual Clarity:** The project emphasized the importance of clear communication and conceptual clarity, especially in conveying the idea of co-production. Ensuring that all stakeholders

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share a common understanding of co-production principles is essential for success.

7. **Timeframe and Continuous Monitoring:** The DA's short implementation period pointed to the need for realistic timeframes, especially in projects aimed at behaviour change. Longer durations may be required to realize the full potential of co-production. Continuous monitoring and feedback collection should be integral to project design to enable timely adjustments.
8. **Complexity of Co-Production:** Co-production can be a complex endeavour, encompassing various stages and requiring strong collaboration. Projects must be prepared for the intricacies associated with co-design, co-delivery, and co-assessment of services.

In conclusion, the DA in Beitillu has laid a foundation for co-production, SSE, social policies, and social innovation in the realm of solid waste management. While the project has made notable progress in enhancing service delivery and reducing social tensions, there are opportunities for further improvements, including deeper citizen engagement and the sustainability of compost production. By addressing these challenges and building upon the lessons learned, future initiatives can contribute to more effective, sustainable, and socially innovative approaches in delivering public services. The DA has illuminated a path forward, where co-production and SSE principles can continue to shape the landscape of public service delivery in Beitillu and beyond.

Policy Recommendations

Below, is a series of policy recommendations that integrate general findings from relevant policy and legal framework analysis on waste management and circular economy in Palestine, incorporate lessons learned, and relate them to the conclusions drawn from the evaluation:

1. Strengthen the Legal Framework for Co-Production in Public Services

Assessment: The current legal framework in Palestine does not comprehensively support co-production in public services, particularly in solid waste management.

Recommendation: Collaborate with relevant government bodies to review and amend existing laws and regulations to explicitly promote and facilitate co-production initiatives. This may include recognizing the role of citizens in co-design, co-delivery, and co-assessment processes.

2. Promote Citizen Education and Engagement

Assessment: Citizen participation emerged as crucial for the success of co-production and social solidarity economy initiatives, but awareness and involvement levels were limited.

Recommendation: Develop comprehensive awareness and educational programs that clarify the concepts of co-production and social solidarity economy. Engage community

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members through workshops, seminars, and outreach campaigns to ensure a shared understanding and foster active citizen participation.

3. Extend the Timeframe of Projects Promoting Coproduction and Behaviour Change

Assessment: The short implementation period of the Demonstrative Action (DA) limited the project's impact on behaviour change.

Recommendation: When designing projects involving behaviour change, consider longer timeframes that allow for gradual shifts in practices and behaviours. Plan for continuous monitoring and evaluation to ensure that interventions are adapted as needed.

4. Facilitate Technological Adaptation

Assessment: The Clickoin platform highlighted the need for careful technological adaptation to local contexts.

Recommendation: Invest in locally-tailored technological solutions that align with community needs and capacities. Conduct feasibility studies and pilot projects to ensure that technology enhances, rather than hinders, co-production efforts.

5. Encourage Collaborative Partnerships

Assessment: The DA's partnership between Beitillu Village Council and Deir Ammar Agricultural Cooperative Association demonstrated potential for SSE and circular economy models but faced challenges in scaling up.

Recommendation: Encourage collaboration between local authorities and cooperatives to promote SSE initiatives. Provide support for business planning, marketing strategies, and capacity-building to realize the economic potential of cooperative ventures, such as compost production.

6. Foster Policy Dialogue on Circular Economy Models

Assessment: The DA contributed to policy dialogue on circular economy models, but awareness and understanding of these concepts remain limited among national and local authorities.

Recommendation: Continue engaging with relevant government bodies, including the Palestinian Ministry of Local Government and the Environmental Quality Authority, to promote circular economy models in solid waste management. Develop training and capacity-building programs to enhance professionals' understanding of these concepts.

7. Develop Clear Communication Strategies

Assessment: Clear communication and conceptual clarity were identified as critical for project success.

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Recommendation: Prioritize the development of clear communication strategies in co-production initiatives. Ensure that all stakeholders, including citizens and local authorities, share a common understanding of co-production principles and objectives.

8. Support Sustainable Waste Management Practices

Assessment: The DA demonstrated the importance of aligning projects with national objectives related to sustainable waste management.

Recommendation: Align co-production and SSE projects with national policies and strategies on waste management and circular economy. Encourage innovative solutions and partnerships that contribute to environmentally sustainable practices.

These policy recommendations are grounded in both the findings of the evaluation and the broader policy and legal framework analysis related to waste management and circular economy in Palestine. By implementing these recommendations, policymakers can further advance co-production, social solidarity economy, social innovation, and social policies in the context of solid waste management, leading to more effective, sustainable, and socially innovative approaches to public service delivery.

The above policy recommendations can be re-categorised with elements of co-production, SSE, social innovation, and social policies for clarity and alignment with the project's goals as follows:

Co-Production

Enhance Clarity in Co-Production Concepts: Develop clear guidelines and definitions for co-production within the context of waste management initiatives to ensure a shared understanding among stakeholders.

Engage Citizens Early and Continuously: Promote active citizen engagement from the project's inception and maintain ongoing dialogue to capture local insights, needs, and preferences.

Extend Project Timelines: Recognize the importance of time in behaviour change initiatives; extend project timelines to allow for meaningful impact and sustainable co-production.

Social Solidarity Economy (SSE)

SSE Capacity Building: Invest in capacity-building programs for SSE organizations to enhance their ability to engage in circular economy activities, such as compost production and marketing.

Facilitate SSE Networking: Foster collaboration and networking opportunities among SSE entities to strengthen their collective impact on local economies and social development.

Social Innovation

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Technological Adaptation: Acknowledge that technology should be carefully adapted to the local context; encourage the customization of platforms like Clickoin to suit the needs and preferences of the community.

Knowledge Sharing Platforms: Establish platforms for knowledge sharing and best practices exchange among stakeholders involved in innovative waste management solutions.

Social Policies

Integrated Policy Framework: Develop an integrated policy framework that aligns waste management, circular economy, and co-production efforts with broader regional and national policies.

Financial Incentives: Explore mechanisms for financial incentives that reward communities and organizations for their active participation in waste management and circular economy initiatives.

Public Awareness Campaigns: Launch targeted public awareness campaigns to educate residents about the importance of waste separation, recycling, and the benefits of a circular economy.

These recommendations aim to address the unique aspects of co-production, SSE, social innovation, and social policies, providing a comprehensive approach to enhancing the sustainability and impact of waste management initiatives like the DA within the broader context of the MEDTOWN project.

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