

REFLECTIONS

LESSONS FROM EVALUATIONS: UNDP SUPPORT TO WASTE MANAGEMENT

INTRODUCTION

The COVID-19 pandemic is the defining global crisis of our time, with devastating social, economic, and political consequences worldwide, and a tragic loss of life. As a central actor in the United Nations Development System, the United Nations Development Programme (UNDP) is playing an important role in shaping and driving the United Nations response to the crisis.

To support the UNDP response to COVID-19, the Independent Evaluation Office (IEO) has undertaken a review of lessons from past evaluations of UNDP's work in crisis contexts. The purpose is to provide evidence-based advice to UNDP country offices that are responding to requests to help prepare for, respond to, and recover from the COVID-19 pandemic, focusing particularly on the most vulnerable.

This paper – which focuses on support to waste management – is one in a series of knowledge products from the IEO focusing on important areas of UNDP support to countries in crisis.

METHODOLOGY

This is a rapid evidence assessment, designed to provide a balanced synthesis of evaluative evidence posted to the UNDP Evaluation Resource Centre over the past decade. Country-level¹ and thematic evaluations conducted by the IEO were an important source, given their independence and high credibility. Additionally, high-quality decentralized evaluations commissioned by country offices were considered.² Relevant sections of evaluation reports were coded, applying a snowball sampling technique to both keyword search and categorization. Within each review, the emphasis was on identifying consistent findings, conclusions and recommendations that capture relevant lessons for UNDP. For ease of reference, most relevant sources have been included in footnotes and at the end of the paper.

CONTEXT

Waste management plays an important role in environmental resources conservation and the reduction of threats to human health and climate change mitigation that can derive from inappropriate practices with hazardous substances. Economic and demographic growth, combined with rapid urbanization processes around fewer and larger agglomerates as well as displacements induced by human and environment-related crises, are putting increasing pressure on national and local governments' capacities for adaptive and innovative waste management practices that promote healthy livelihoods and a more sustainable use of limited resources.

Waste management can, at the same time, provide a valuable source of income and green jobs for vulnerable communities. With adequate technology available, agricultural waste can also offer an alternative, low-cost, and

sustainable source of energy for local communities in rural areas. UNDP waste management support to local and central governments in crisis-affected contexts encompasses: i) providing emergency employment creation through cash-for-work schemes; ii) building/rehabilitating infrastructures; iii) developing small-scale business opportunities and re-establishing markets for waste-derived products; iv) strengthening capacities for local service delivery, including through public-private partnerships; and v) enhancing policy and regulatory frameworks.

AT A GLANCE – LESSONS LEARNED

1 Waste management can benefit the most vulnerable and promote social inclusion and cohesion.	2 Risk management built on previous projects' lessons learnt and the establishment of capable project units in vulnerable areas promote efficiency.	3 UNDP support to waste management is most effective when a capacity development approach is adopted, promoting positive systemic changes and sustainability.
4 Support to the disrupted capacities of local councils for waste collection and disposal can contribute to enhanced decentralized governance.	5 Public Private Partnerships and tariffs for improved service delivery provide valuable avenues to recover costs.	6 Economic and proximity incentives can help the sustainable management of the higher quantity of medical and electronic waste likely generated by the COVID-19 pandemic.

LESSONS LEARNED

1 Waste management can benefit the most vulnerable and promote social inclusion and cohesion.

In the aftermath of crises, UNDP support to debris removal provides immediate relief and much-needed income to vulnerable populations through cash-for-work. To foster social inclusion as part of the recovery efforts, the involvement of local authorities (including religious leaders) and partnerships with other United Nations agencies have helped to target initiatives so that benefits accrue to the most vulnerable.³ Relying on the existing networks of national employment programmes can be an efficient solution, although attention needs to be paid to avoid payment disbursement delays when directly working through them.⁴

Gender bias and cultural sensitivities affect the involvement of women in some waste management activities, particularly around debris removal and construction. The percentage and experience of women involved in cash-for-work and waste recovery activities varied across countries, with higher sensitivities reported in Indonesia and Syria than Haiti or African countries (e.g. Malawi, Gabon, Ethiopia). When planning interventions, it is important to consider how local cultures, practices, and biases around women's involvement in waste management can generate stigma, or instead propel their employment as a fallback solution when men consider it 'dirty work'.⁵ When the gender lens is appropriately applied, the waste sector can, however, represent an important avenue to enhance women's economic livelihoods and strengthen their empowerment. Dedicated attention needs to be paid to ensuring equal working conditions, supporting female workers' negotiation skills, and promoting the use of technology suitable to women's capacities.⁶

As geopolitical realities continue to strongly influence the effectiveness of development cooperation, technical solutions (including around waste management) represent important avenues to foster dialogue around the needs of vulnerable populations. In the communities that host Palestinian gatherings in Lebanon, for example, the involvement of different groups in activities – such as waste collection and sorting – proved effective in promoting collaboration through practical work.⁷ Encompassing community clusters that have been negatively affected by the additional

garbage accumulation in landfills following the influx of Syrian migrant groups in Jordan was also key to preventing any further tension that the reliance of a higher number of people on limited local service provision can generate.⁸ This experience showed that, in vulnerable contexts and prolonged crises, damage and needs assessments can be used to preserve social cohesion when they extend beyond beneficiaries' vulnerabilities and cover a crisis' externalities to proximate (host and neighbouring) communities.

2 Risk management built on previous projects' lessons learnt and the establishment of capable project units in vulnerable areas promote efficiency.

In crisis settings, waste management interventions seldom benefit from a long preparation phase, which has proved to be highly effective in enhancing shared ownership and trust between stakeholders. Learning from past experiences and continued engagement with key stakeholders in the country can enhance the ability of "hit the ground running". Operational lessons learned from interventions in crisis settings that should be appropriately considered when planning include:

- a) Introducing technologies for enhanced productivity in waste management can encounter some resistance by vulnerable populations, who may see a risk of reduced job opportunities. This can be countervailed with capacity-building support to promote skilled work;
- b) Access to pre-certified vendors for debris clearing and personal protective equipment, letters of agreement with local contractors, the use of on-site engineers to oversee and guide unskilled labour, and the adoption of best practices for civil engineering work⁹ can help to mitigate the impact of procurement delays and capacity issues on delivery;
- c) Creating interim landfills can provide safe and controlled waste disposal sites in the medium term, while allowing time for permanent landfill construction and adequate training for relevant personnel;
- d) Sharing not fully used equipment among close disposal facilities, the acquisition of larger vehicles to transfer waste, and use of compactors to extend the life of landfill sites can all improve efficiency.¹⁰

UNDP has engaged more effectively with partners and stakeholders when it established project support functions/units in vulnerable areas. When this occurs, it is important that project teams be given sufficient autonomy to manage the delivery of activities, while ensuring continuous communication with, and guidance from, UNDP central offices. More attention must be paid to ensuring that outposted staff have adequate management skills and are of sufficient calibre to gain the confidence of local stakeholders.¹¹ Assigning project personnel to the country office headquarters can facilitate support and national coordination, reducing the risk of misalignments between field and central functions. Inter-office communication is key to fostering multidisciplinary teamwork required by waste management projects.¹² If the national implementation mechanism is preferred, political will, dedicated national capacities and leadership to guide governance measures across multiple ministries are all factors for enhanced effectiveness.

3 UNDP support to waste management is most effective when a capacity development approach is adopted, promoting positive systemic changes and sustainability.

Several evaluations agreed that UNDP's most value added in the area of waste management lies in working on the capacity development continuum, from absorption to adaptation and transformation.¹³ Infrastructure rehabilitation and cash-for-work to promote emergency employment can be an important entry point to support longer-term economic recovery and development, but need to be thus conceived from the early stages of the response. When this does not occur, debris clearance can appear as an end in itself and unintendedly impedes the pursuit of UNDP's role to foster the restoration of local economies and governance systems.¹⁴ Evaluation recommendations often included the early definition of an appropriate theory of change, based on a sound understanding of what is within the control of UNDP, as enabler for the optimization of gains made from short-term initiatives and enhanced influence at the policy level.

Adopting a flexible project design, recovery interventions can be a relevant platform for longer-term support to sustainable waste management systems, translating emergency employment into market-relevant skills and occupations. The engagement of the same community groups that had been involved in debris clearing activities as livelihood programme beneficiaries has worked well for continuity and to enhance community ownership.¹⁵ Recycled debris was used for reconstruction work and propelled the creation of business opportunities in Iraq.¹⁶ In Indonesia, after the tsunami, coconut husks provided fibre for industrial use, metal cans were used for manufacturing oil lamps, and waste wood supported furniture making.¹⁷ Landfill rehabilitation in Jordan allowed the exploration of opportunities for jobs creation and improved the working conditions of waste pickers.¹⁸ In non-crisis contexts, commercial opportunities around waste re-use can have important benefits for livelihoods and environmental conservation. In Ethiopia, organic waste – including from flower farms – has been effectively used for compost making in support of urban green infrastructures and peri-urban forest development. Composting also allowed saving landfill space, which is becoming scarce in most countries.¹⁹ The use of agro-waste as an alternative energy source can also have a positive impact on gender equality, for it saves mostly women’s time required for fetching firewood.²⁰

4 Support to the disrupted capacities of local councils for waste collection and disposal can contribute to enhanced decentralized governance.

Inappropriate collection, storage, and disposal of waste often result from both limited awareness of the risk to human health and sustainability of environmental resources as well as limited capacities to adopt effective measures. To enhance ownership and overcome behavioural barriers to change, it is important to both strengthen the technical and managerial capacities of local governments and promote a more active participation of communities. Technical training has proved more effective when: i) it directly targeted specialists and waste workers and included a certification/accreditation process; ii) it planned for multiple training opportunities, including training of trainers and/or practical sessions where participants have the chance to apply skills learned in the class environment; iii) it was conducted in parallel with operational interventions and was accompanied by the provision of operations and infrastructure maintenance manuals.²¹ Management training (including on planning, procurement, and finance), the development of integrated/cross-sectoral management plans, and the installation of geographical information systems to map routes and coordinate the use of large waste collection trucks alongside smaller carts in narrower roads²² all contributed to enhanced long-term capacity for better service provision, helped to enhance the accountability of local governments as duty-bearers, and allowed some access to funding opportunities.²³ Other incentives that proved effective to promote behavioural change around waste management practices included: the construction of waste banks in schools to influence family behaviours, the organization of separate collection and transportation systems by type of waste, and easing access to sorting/recovery centres.²⁴ Having a site gatekeeper tasked to direct waste also reduced indiscriminate land disposal.²⁵ The creation of mechanisms for communities to report ineffective and polluting waste management can enhance the space for environmental justice for the most vulnerable.²⁶

The following factors can instead hamper the effectiveness and sustainability of UNDP’s capacity development work, if not properly considered during the project’s design and execution: i) the development of general education and communication strategies that do not target the specific needs of municipalities; ii) the absence of political support for decentralization of the waste management sector and/or limited cooperation between municipalities affected by cross-boundary waste issues; iii) the lack of sector-specific budget allocations and risky financial planning only relying on the municipalities’ own resources (see also lesson 5); iv) the absence of secure land titling for areas assigned to host waste management sites; and v) the late development of exit strategies that include key milestones for handing over activities and detailed operation plans for the functioning of waste infrastructures and processes.²⁷

5 Public Private Partnerships and tariffs for improved service delivery provide valuable avenues to recover costs.

In the waste management sector, Public Private Partnerships (PPP) can provide remedial solutions to face the limited availability of local resources to support service delivery in vulnerable communities and promote sustainability.

UNDP's experience in Nepal and Bhutan showed that strong partnerships between the private sector and the Government can lead to more competitive prices and high profit margins for informal waste collectors, as companies in turn benefit from advantageous leasing conditions for their plants. The experience showed that a gradual approach to PPP – which can represent a complex change process – is important for gaining a deeper understanding of institutional relationships, streamlining public decision-making processes, and mitigating any risk derived from possibly divergent interests (profit vs. pro-poor approaches).²⁸ Whether managed by waste producers or specialized waste management firms, regular communication with regulatory Government agencies helps to safeguard the respect for environmental standards. Advocacy for improved occupational health and safety conditions for waste pickers is also an important, but at times neglected/not adequately enforced, element.²⁹ The creation of public waste sector investment policies and funds, as well as investment support facilities for infrastructure and sewage treatment systems, can meet the interest of both private sector and commercial banks, while allowing to keep tariffs low.³⁰

While payment for waste collection fees by households remains a challenge, particularly in vulnerable areas, the introduction of gradual tariffs, combined with awareness initiatives, can help to change prevailing attitudes on community responsibility towards environmental projects, embracing an approach that reinforces the importance of payment for more reliable waste collection services and better land disposal operations, while rejecting free use as a driver of waste and contamination. The reliance on cart men directly collecting fees at the point of service delivery in Nicaragua proved effective in regaining the communities' trust, which was low as a result of general tax collection for public services not resulting in reliable waste pickup.³¹ It must be ensured, however, that vulnerable communities in project areas do not end up paying for waste collection services while more affluent neighbourhoods are served for free by the municipalities.³²

6 Economic and proximity incentives can help the sustainable management of the higher quantity of medical and electronic waste likely generated by the COVID-19 pandemic.

As many countries lack policies and specific guidelines for the management of medical and e-waste, UNDP's support to national regulations is key to promote sustainable practices, increase the volume of waste appropriately processed, and contribute to the formalization of the sectors. In case of medical waste, setting up treatment facilities can significantly contribute to reducing high export costs that can incur when acting in compliance with the Basel Convention. Economic incentives and close engagement with businesses proved effective in increasing the private sector's interest and investments, including for new waste management technology.³³ On the contrary, the low allocation of resources for technology investments can significantly constrain the achievement of project objectives.³⁴

Public awareness to incentivize the release of unused electronic products and the creation of efficient collection models through community-based mechanisms and intermediary collection points can importantly contribute to improve e-waste management.³⁵ In countries where medical waste management initiatives succeeded, teaching hospitals were the best pilot sites as they have highly professional staff and facilities for system experimentation.³⁶

REFERENCES

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² The IEO reviewed a total of 161 (country, thematic, outcome and project) evaluations.

³ [Community-centred sustainable development and early recovery in Samoa and other Pacific Islands \(2011\)](#).

⁴ Draft ICPE Evaluation Barbados and Eastern Caribbean (2020) (Forthcoming).

⁵ [Waste for Wealth Project: Promoting a Zero Waste Environment \(2012\)](#).

⁶ [Promoting integrated sustainable waste management PPP \(2013\)](#) and [Ethiopian NAMA: creating opportunities for municipalities to produce and operationalize solid waste transformation \(2019\)](#).

⁷ [Towards sustainable solutions for improved living conditions of Palestinian refugees in Lebanon \(2015\)](#).

⁸ Draft Evaluation of UNDP support to the Syrian Refugee crisis response (2020) (Forthcoming).

⁹ [International Federation of Consulting Engineers](#)

¹⁰ Among others, sources include: [Solid waste management in Carrefour Feuilles, Port-au-Prince, Haiti \(2011\)](#), [Tsunami Recovery Waste Management Programme \(2013\)](#) and [Towards sustainable solutions for improved living conditions of Palestinian refugees in Lebanon \(2015\)](#).

- ¹¹ [Tsunami Recovery Waste Management Programme \(2013\)](#).
- ¹² [Promoting Integrated Sustainable Waste Management PPP \(2013\)](#).
- ¹³ Uganda emergency response and resilience strategy for refugees and host communities (2017)
- ¹⁴ After Action Review for Philippines Haiyan typhoon (2014).
- ¹⁵ [Recovery and Resilience in Selected Typhoon Yolanda-affected communities in the Visayas \(2017\)](#).
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- ¹⁷ [Tsunami Recovery Waste Management Programme \(2013\)](#).
- ¹⁸ Draft Evaluation of UNDP support to the Syrian refugee crisis response (2020) (Forthcoming).
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- ²¹ Multiple sources including: [Promote peace building through cross boundary wastewater management in the occupied Palestinian territories \(2013\)](#), [ADR Algeria \(2013\)](#), and [Governance of Water and Sanitation in Angola's poor Neighbourhoods \(2013\)](#)
- ²² [Promoting Integrated Sustainable Waste Management PPP \(2013\)](#)..
- ²³ [Lebanon Host Communities Support project \(2018\)](#).
- ²⁴ [Promoting Integrated Sustainable Waste Management PPP \(2013\)](#) and [Ethiopian NAMA: creating opportunities for municipalities to produce and operationalize solid waste transformation \(2019\)](#).
- ²⁵ [Tsunami Recovery Waste Management Programme \(2013\)](#).
- ²⁶ [ICPE Philippines \(2018\)](#).
- ²⁷ Multiple sources including: [Sudan Post-Conflict Community Based Recovery and Rehabilitation Programme \(2010\)](#), [ADR Algeria \(2013\)](#), [ADR Morocco \(2015\)](#), and [Transboundary Wastewater Pollution Control project \(2020\)](#).
- ²⁸ [ADR Nepal \(2012\)](#) and [Promoting Integrated Sustainable Waste Management PPP \(2013\)](#).
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- ³⁰ [Economic governance of the Water and Sanitation sector in Nicaragua \(2010\)](#) and [ICPE Kazakhstan \(2019\)](#).
- ³¹ [Economic governance of the Water and Sanitation sector in Nicaragua \(2010\)](#)
- ³² [ADR Gabon \(2015\)](#)..
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- ³⁵ [Reduction of POPs and PTS release by environmentally sound management throughout the life cycle of Electrical and Electronic Equipment and associated wastes in China \(2016\)](#).
- ³⁶ [Reducing UPOPs and Mercury Releases from the Health Sector in Africa \(2019\)](#).

ABOUT THE INDEPENDENT EVALUATION OFFICE

By generating objective evidence, the Independent Evaluation Office (IEO) supports UNDP to achieve greater accountability and facilitates improved learning from experience. The IEO enhances UNDP's development effectiveness through its programmatic and thematic evaluations and contributes to organizational transparency.

ABOUT REFLECTIONS

The IEO's *Reflections* series looks into past evaluations and captures lessons learned from UNDP's work across its programmes. It mobilizes evaluative knowledge to provide valuable insights for improved decision-making and better development results. This edition highlights lessons from evaluations of UNDP's work in crisis settings.

