

# Establishment on City–City Cooperation programme to enhance Municipal Solid Waste Management



Papua New Guinea

## # KEY WORDS

- Local resources
- Technical transfer
- City–City Cooperation
- Multi-stakeholder partnership
- Self-reliance
- Sustainability

## Type of Document

- A good practice fact sheet
- A case study

## Target Audience

Stakeholders such as authorities, donors, and international organizations engaged in waste management activities and projects

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## Local resources on waste management in PNG

Local governments in Papua New Guinea (PNG) are facing challenges on waste management owing to the institutional, technical, and financial constraints. It is crucial to tackle with these issues in building a sustainable waste management system for PNG. From this perspective, Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM) is making an effort to promote mobilizing local resources such as technical capacities accumulated in Waste Management Division (WMD) of National Capital District Commission (NCDC), which have been developed during the J-PRISM I project (2011–2016), with coordination of national and local stakeholders including Conservation and Environment Protection Agency (CEPA), National Department of Health (NDOH), and urban local-level governments (ULLGs). In March 2020, the project successfully achieved to establish the mechanism to mobilize the local resources effectively through the Minutes of Agreement (MOA) on city–city cooperation programme (CCCP) signed between NCDC and Goroka ULLG (GULLG), and NCDC and Kokopo-Vunamami ULLG (KVULLG), respectively. This program intends to establish the self-sustaining framework for capacity development on municipal solid waste management (MSWM) by the best use of local resources already existing within PNG.

## Leading Agency(s)

- Conservation and Environment Protection Agency (CEPA)
- National Capital District Commission

## Location/Geographical Coverage



## Measures/Approach

The following scheme was set out in the CCCP, and the detailed workplan was discussed among stakeholders such as WMD, GULLG, and KVULLG as well as CEPA and NDOH.

- Dispatch Program (WMD officers will be dispatched to ULLGs to give their technical support on MSWM)
- On-the-Job Training (OJT) Program (ULLGs officers learn from WMD, and vice versa)
- Share information and activities through workshops, meetings, and technical consultations
- Support to develop the proposal or any relevant documents to allocate the necessary budget for MSWM in ULLGs

Some activities have been initiated under the program after the stakeholder consultation and bilateral meetings. The first consultation meeting among WMD, GULLG, and KVULLG was conducted in March 2019 in Port Moresby, and both GULLG and KVULLG have developed the workplans for MSWM activities including landfill rehabilitation, data collection, and market waste compost. Those activities are shown in the below “results/outputs” section.

## Stakeholders/Actors

- WMD is playing a role to provide and transfer their capacities on waste management to officers in local governments.
- CEPA is the overall lead agency responsible for waste management as a regulator stipulated in the Environment Act 2000. CEPA is expected to coordinate the CCCP.
- NDOH is supporting Provincial Health Authority (PHA) to coordinate and supervise MSWM for (U)LLGs to implement projects and activities from the aspect of Public Health Act 1972 in collaboration with CEPA.
- Department of National Planning & Monitoring assimilates the waste management policy into the national development plan and assists CEPA and provincial governments in securing funding through the annual appropriation budget for implementation of projects and activities.
- Provincial government (PG) and (U)LLG are managing MSW in their own bylaws as an implementer in line with the Organic Law on Provincial and Local-Level Governments as well as their own Provincial/(U)LLGs Strategic Development Plan.
- Alotau ULLG (AULLG), GULLG, KVULLG, and Lae ULLG (LULLG) are

selected as pilot sites in J-PRISM II (2017–2022).

## Results/Outputs

### 1. Goroka

#### Consultation

WMD officers joined the stakeholder meeting on MSWM held in Goroka and provided the presentation on their experiences. They also discussed the disposal site issues raised from GULLG bilaterally with the town manager, deputy town manager, and the engineers to identify the gaps and the way forward, followed by the site inspection. The conceptual design of the site rehabilitation is currently under development by the WMD officer.



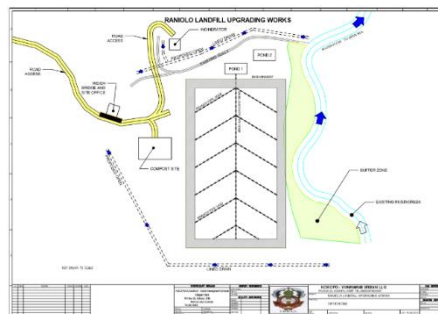
#### Waste audit

Waste audit was conducted in Goroka in November 2019 (i) to identify the waste profile to develop the MSWM plan in Goroka, (ii) to contribute to the proper disposal site operation in environmentally friendly manner, and (iii) to establish the tipping and collection service fee system. WMD officers implemented the waste audit together with Environment Health Officer (EHO) and supervisors in GULLG. The collaboration was made with intention of transferring technical knowledge on data collection from WMD to GULLG. After the audit, the consultation for data analysis between WMD officers and the EHO of GULLG was organized. The MSWM plan in Goroka will be developed based on the waste audit result. In addition, the standard of waste audit in line with the PNG context is discussed to formulate as a common methodology (manual) for PNG in the future.



### 2. Kokopo

Kokopo-Vunamami ULLG (KVULLG) invited WMD officers by their own budget to seek assistance for improvement of Raniolo disposal (dump) site. After the mission visit to Kokopo, WMD officers developed the conceptual design for the site rehabilitation (figure below). According to the consultation meeting, KVULLG developed the workplan of the rehabilitation and initiated related activities.



8 Feasibility Study Type and Costing as per NCDC's Experience				
ITEM	DESCRIPTION	UNIT	UNIT COST	TOTAL COST
1	Environment Impact Assessment			
1.1	Site Investigation			
1.1.1	Biological Survey	each	30 000	30 000
1.1.2	Hydro-geological Study	each	430 000	430 000
1.1.3	Topographical Survey	each	45 000	45 000
1.1.4	Water Analysis	each	60 000	60 000
1.1.5	Stakeholder Consultation	each	20 000	20 000
1.1.6	Develop EIA Report	each	60 000	60 000
			<b>Total</b>	<b>645 000.00</b>

Below are the commonly recommended plant and equipment for the operation and management of a landfill and their estimated costs.

Item	Description	Unit	Unit Cost	Quantity	Total Cost
2	Equipments				
2.1	D7 Bulldozer	each	750 000	1	750 000.00
2.2	PC 220 Excavator	each	700 000	1	700 000.00
2.3	Dump Truck (3 tonnes)	each	200 000	1	200 000.00
				<b>Total</b>	<b>K1 650 000.00</b>

WMD officers conducted the technical consultation with officers in KVULLG for further improvement of market waste management including initiation of the pilot project of market waste compost (MWC). WMD officers shared their experiences on MWC with KVULLG officers. After the consultation, KVULLG developed the workplan on the MWC and initiated related activities accordingly. Those experiences on MWC are replicable to other cities; hence, networking on MWC in PNG will be established in the future, which should be led by the national government such as CEPA and NDOH in collaboration with NCDC and ULLGs.





### 3. Others

#### National workshop

WMD officers participated in the national and regional workshops, conferences, and meetings to share their experiences and lessons learned on MSWM with stakeholders in PNG. They are also facilitating and leading the discussions to derive challenges on MSWM from EHOs of ULLGs to pave the gaps and practical countermeasures.



#### Impact

Those active mutual discussions, communications, and learning with the common local language among locals sometimes seem to be more effective and impactful rather than the ones done by foreign experts and consultants from donor and international agencies. This CCCP framework will contribute to establish self-reliant improvement of waste management in PNG.

#### Innovation

- Promote local resources
- Promote mutual learning and enhance networking
- Promote self-reliant mechanism
- Shake off from donor-dependency

#### Success Factors

The essential factor is to bring up core local human resources who will spread their knowledge through their local network and cooperation system within a country. In this case of CCCP, J-PRISM I has mobilized project resources intensively into WMD to develop their capacities associated with waste management both from engineering and management aspects. In result, J-PRISM II could utilize those local human resources as a trainer to provide trainings and consultations to officers in charge of waste management in other areas of PNG. The core local trainer will raise other core local resources who can transfer their skill and experiences to other officers in the region. This case is the first step to develop this kind of positive spiral of the capacity development chain for local resources in PNG.

## Constraints

The coordination role to promote the CCCP is the key from sustainable point of view. CEPA should be the best authority to do so in collaboration with line ministries such as NDOH and DNPM. The lack of human resources and financial arrangement to promote the CCCP would affect to maintain the CCCP.

## Sustainability

The coordination role with its mandate to promote the CCCP is the key for the continuity and sustainability. In addition, the official documents such as MOA/MOU between cities are necessary to understand mutual benefits and understandings of the activity. The monitoring and evaluation of the CCCP should also be conducted by the coordination agency (CEPA) and stakeholder.

## Replicability and/or Up-scaling

The collaboration of CEPA among NDOH and PHA has been realized. The next step is to expand the MOA between NCDC and AULLG, and NCDC and LULLG, respectively. In addition, a lack of continuous educational and training opportunities on waste management after being assigned as an EHO in respective local governments have resulted in stagnation and lower priority of waste management activities in their mandates and daily duties. Based on the perspective, J-PRISM has initiated discussions with stakeholders such as NDOH, World Health Organization (WHO), Divine Word University (DWU)\*, and NCDC, especially for enhancement of the curriculum on waste management in DWU, providing training opportunities on capacity development on MSWM for EHO strategically including JICA training in Japan.

(\*Most EHOs are graduated from DWU in PNG.)

## Lessons Learned

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### **Bottom-up approach and local networking to promote self-reliant mechanism**

Owing to constraints of national government to provide technical cooperation and practical assistance of waste management on the ground to local governments, the bottom-up approach such as the CCCP among actual implementers was effective and practical to strengthen their relevant capacities through mutual learning and interventions. Those mutual discussion, communications, and learning with using the common local language made participated local staffs encouraged and motivated. In addition, there is an institutional gap between national and local levels for waste management in place. Generally, the EHOs in the PHA, PG, and (U)LLG are in charge of MSWM, in addition to other duties on public health. They usually belong to the (public) health-related division in respective authorities, not a waste management specific division, of which

main responsible ministry is NDOH, not CEPA. The CCCP will also fill such a gap and enhance the multi-layered and multi-lateral coherence and collaboration for sustainable waste management in PNG.

## Conclusion

### Self-reliant mechanism for sustainable waste management in PNG

The interactive consultations among local levels are activated on a voluntary basis after the CCCP. Senior levels such as city managers are very keen to improve waste management through the CCCP. The CCCP is potentially a key to promote self-reliant mechanism for sustainable waste management in PNG.



#### Contributions to SDGs

- Goal 11: Sustainable cities and communities
- Goal 12: Responsible consumption and production
- Goal 17: Partnerships for the goals

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#### Relevant Websites/Resources

- Under development in CEPA portal
- Memorandum of Agreement (agreed on March 10, 2020)

#### Publisher

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#### Acknowledgments

SPREP: Secretariat of the Pacific Regional Environmental Programme