

# Development of User Pay System (Prepaid Garbage Bags) for Waste Management Service in Vanuatu



The Republic of Vanuatu  
Port Vila

## # KEY WORDS

User Pay System/Prepaid Garbage Bag Collection System/Economic Instruments

## Type of Document

A good practice fact sheet

## Target Audience

National and municipal officials of Pacific Island Countries and Territories (PICTs) working in the solid waste management sector and international donors

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How does Vanuatu achieve to ensure the financial sustainability in municipal solid waste management?

The Prepaid Garbage Bag Collection System is a User Pays or Pay as You Throw (PAYT) System, which is one of the typical economic instruments for sustainable Solid Waste Management (SWM). The system is founded on the common understanding that people have to pay for the services involved with the collection, transportation, and disposal of their waste. It is one of the fairest user pay systems as the households or businesses are charged based on the amount of the waste they put in the bag for collection and disposal. The more the waste a household generates, the more bags to buy. It gives an opportunity to the public to practice waste minimization measures to reduce their waste management costs.

In Vanuatu, the Port Vila City Corporation (PVCC) and the Luganville Municipal Council (LMC) introduce their own prepaid garbage bag collection system to make the waste management financially sustainable. In PVCC, the prepaid garbage bag collection system known as the “Yellow Bag” was introduced in 2010, but has failed once due to problems such as stock-outs by lack of procurement. The system was reintroduced in 2015 to remedy these issues and is now in use by about 90% of residents according to the social survey in 2017. LMC had also introduced the prepaid garbage bag collection system known as the “Red Bag” since 2014.



*\* In 2019, the prepaid garbage bag collection system known as the “White Bag” was newly introduced in Malampa province. Because there is little information in this regard, this document is focusing on PVCC and LMC.*

## Leading Agency(s)

PVCC, LMC, and J-PRISM II

## Location/Geographical Coverage

Port Vila City is the capital city of Vanuatu. Luganville Municipality is the second major city.



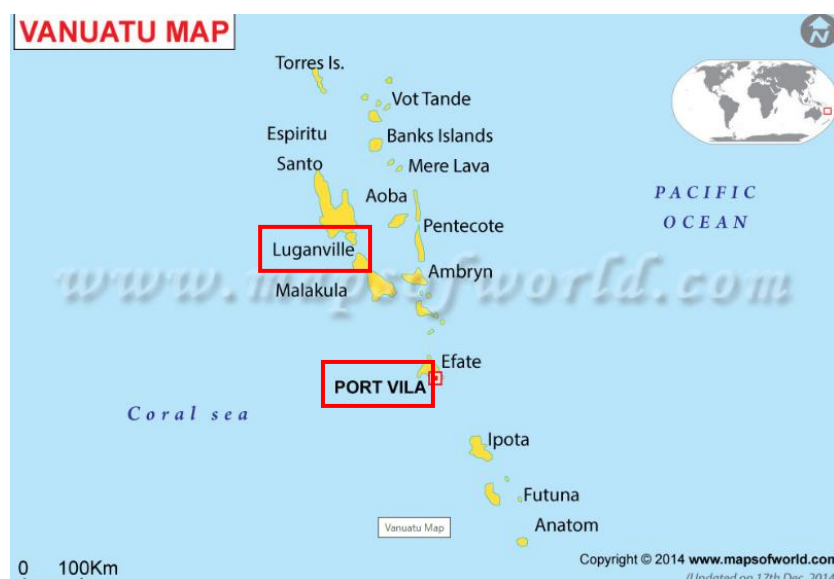


Figure 1: Map of Vanuatu

## Measures/Approach

### 1. Financial scheme of the pre-paid bag collection system

In PVCC, there are two bags available: large (70 liters) for 100 VUV/bag and small (45 liters) for 70 VUV/bag at the retail price. PVCC contracts out the procurement of yellow bag, and wholesalers can purchase yellow bags from the supplier. Wholesale prices are 80 VUV for 70-liter bags (instead of 100 VUV), which includes 40 VUV commission fee to PVCC, and wholesale can earn 20 VUV profit per bag. Same as 60 VUV for 45-liter bags (instead of 70 VUV) including 30 VUV commission fee to PVCC—10 VUV profit per bag. From the PVCC's point of view, PVCC receives 40 VUV for each 70-liter bag sold and 30 VUV for each 45-liter bag sold. This price structure is stipulated in the procurement contract between PVCC and the supplier.



In LMC, 80-liters bag is available for 80 VUV/bag. LMC receives 20 VUV for each bag sold. Retail price and wholesale price are not clearly mentioned in the contract except the commission fee of 20 VUV for each bag sold.

(Unit: VUV/bag)

Prepaid Garbage Bag	Bag Size	Retail Price	Wholesale Price	Commission fee
Yellow Bag (PVCC)	Large (70 liters)	100	80	40
	Small (45 liters)	70	60	30
Red Bag	80 liters	80	-	20

(LMC)				
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## 2. How to introduce the pre-paid garbage bag system

### (1) Tender process

In PVCC, a Request for Tender was advertised for a supplier and sole distributor of the Yellow Bags in early 2015. This tender was won by local grocery store, Au Bon Marche. The contract was for three years and renewed in December 2018. In LMC, tender process was done, and local hardware shop, Sant Hardware, was selected as a supplier and sole distributor of the Red Bags in 2015.

### (2) Awareness among residents and businesses

The launch of the prepaid garbage bag system was introduced to the residents and businesses of PVCC and LMC via a newspaper, radio, and TV campaign supported by community meetings throughout the year to raise awareness. A minimum of two meetings were held in each ward plus individual meetings as requested.



Awareness Leaflet for introducing Yellow Bag

Dear Householder in Solomon Hill

**Welcome to the Luganville Municipality Red Bag system.**


After this notification all the house of this area, you will be required to put your rubbish out for collection in an official Red Bag. The official Red Bag is a strong, large (approx 80 liter) bag with handles and will **cost 80VT** to purchase. The purchase price of the new Red Bag includes.

1. The cost to manufacture and supply the bag
2. The government taxes(import duties, VAT etc)
3. The cost of collecting the waste(running & maintaining the trucks)
4. The cost of disposing the waste(management of the waste disposal site)
5. The margins for the suppliers and retailers

The Luganville Red Bag makes our rubbish collection a user-pays system; so the less rubbish you produce the fewer bags you will need to buy.

Clean coconut leaf baskets and flattened cardboard boxes can be left beside the Red Bag for collection, but any other rubbish, in anything other than the official Red Bag, WILL NOT be collected.

Remember you now **'pay as you throw'** so the more you compost and recycle the less bags you will need to buy, saving your money. To burn rubbish in not good for health and environment please stop doing.

 **Mekem Stret**  
Sakem toti long stret ples

Example of Awareness Leaflet for introducing Red Bag in LMC

### (3) Distribution

Yellow Bags and Red Bags can be purchased at grocery stores and small shops around the city. One roll includes 10 bags. Both a roll and a bag can be purchased. In PVCC, large size is popular than small.



## 3. Lessons learned: Points to be considered when planning

### (1) Logistical challenges

PVCC faced a series of logistical challenges including incorrect prices printed on the bags and running out of stock in 2010. Therefore, the terms of minimum stock are stipulated for Red Bag contract that “coordinating the import process to ensure minimums stock levels are maintained (4 months minimum).” Both Yellow bag and Red bag contracts stipulate that the contractor is the exclusive and sole importer of prepaid garbage bags, to protect the authenticity of municipality and to prohibit mimics as well.

### (2) Design and size of bags

In general, it is better to provide different size of bags and promote to use smaller one to reduce the volume of waste. However, residents in Vanuatu usually like bigger bag to save their time to go to shops and they believe that bigger bag can save money as well. In reality, more than 70% of prepaid garbage bag sales were large size from 2016 to 2018 in PVCC. In this regard, LMC decided to provide a single size of bag and save the production cost of prepaid garbage bag.

### (3) Financial transparency

Suppliers have to provide monthly report to the municipalities with sales record. Municipalities should cross-check the payment from suppliers at the designated rate of prepaid garbage bag sold to avoid misuse and miscommunication.

### (4) Stability of price

On January 1, 2018, the rate of VAT in Vanuatu was increased from 12.5% to 15%. The retail price of the bags has not changed for either PVCC or LMC, and both municipalities are receiving the full commission for each bag sold. It appears that contracted suppliers are absorbing the VAT increase at this point in time.

## Stakeholders/Actors

- **Residents** of Port Vila City and Luganville Municipality are beneficiaries and users of this good practice.

- **Municipalities** or local governments are the main implementation body of the prepaid garbage bag collection system and beneficiaries as well to make SWM financially sustainable.
- **Suppliers** who are importers and distributors of prepaid garbage bag are the main partners (contractors) of municipalities.

## Results/Outputs

The prepaid garbage bag collection systems are introduced and working properly in both municipalities. Sales of prepaid garbage bags have been constantly increased as well. Yellow bag and Red bag sales and estimated participation rates of residents are shown below.

**Table-1: Yellow Bag Sales and Participation Rates in PVCC**

	2016	2017	2018*
<b>LARGE BAG SALES</b>	276,731	374,056	416,946
<b>SMALL BAG SALES</b>	92,165	131,212	150,812
<b>TOTAL BAG SALES</b>	368,896	505,268	567,758
<b>ANNUAL NUMBER OF BAGS PURCHASED PER HOUSEHOLD (BAG/EACH HOUSEHOLD*/YEAR)</b>	33.5	45.9	51.6
<b>MONTHLY NUMBER OF BAGS PURCHASED PER HOUSEHOLD (BAG/HOUSEHOLD*/MONTH)</b>	2.8	3.8	4.3
<b>WEEKLY NUMBER OF BAGS PURCHASED PER HOUSEHOLD (BAG/HOUSEHOLD*/WEEK)</b>	0.7	0.9	1.0
<b>PARTICIPATION RATE</b>	70%	90%	100%

\*Estimated by J-PRISM II

**Table-2: Red Bag Sales and Participation Rates in LMC**

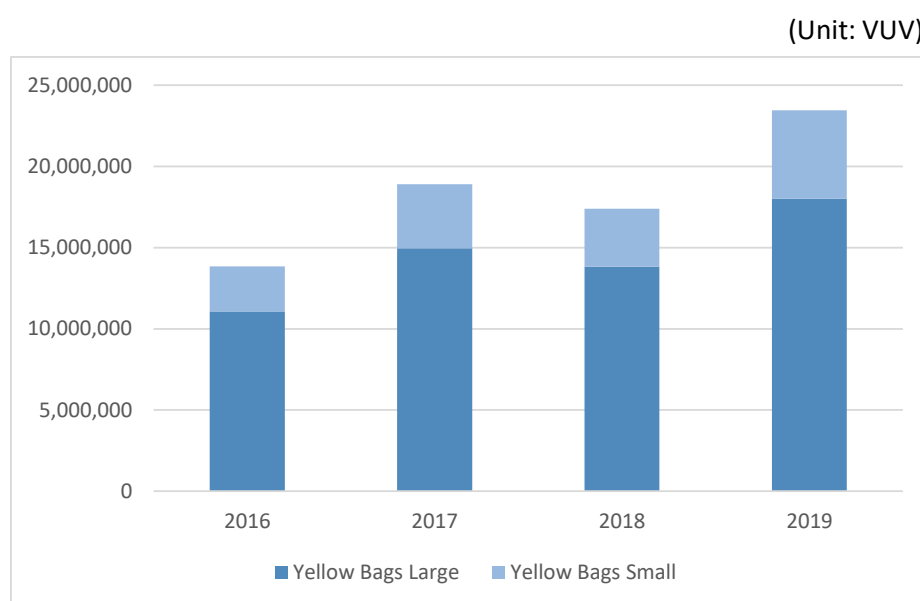
	2015	2016	2017	2018*
<b>BAG SALES</b>	30,380	55,555	59,250	63,977
<b>ANNUAL NUMBER OF BAGS PURCHASED PER HOUSEHOLD (BAG/HOUSEHOLD*/YEAR)</b>	9.9	18.1	19.3	20.9
<b>MONTHLY NUMBER OF BAGS PURCHASED PER HOUSEHOLD (BAG/HOUSEHOLD*/MONTH)</b>	0.8	1.5	1.6	1.7
<b>WEEKLY NUMBER OF BAGS PURCHASED PER HOUSEHOLD (BAG/ HOUSEHOLD*/WEEK)</b>	0.2	0.4	0.4	0.4
<b>PARTICIPATION RATE</b>	20%	40%	40%	40%

\* Estimated by J-PRISM II

## Impact

There are several impacts on society by the introduction of the prepaid garbage bag collection system.

**1. Stable financial source for waste management:** Yellow bag sales became the fourth largest income in PVCC in 2017.



**Fig.-1: Yellow Bag Sales Report (2016–2019)**

**2. Making cities clean:** High participation rate and high satisfaction rate of residents show the effectiveness of the prepaid garbage bags to make cities clean.

**3. Awareness raising (citizens and private companies):** Exclusive awareness programs (community awareness, cleanup campaign) and public consultations were implemented to introduce these systems.

## Innovation

**South–south cooperation** through the mission tour is an example of innovation of this good practice. The Samoa mission's trip to Vanuatu to learn about the prepaid garbage bag waste collection system as a good practice in PICs was carried out from the 18th of September to the 21st of September 2019. The mission had a fruitful discussion on pros and cons of the system compared with various types of user pay systems, issues to be considered in introducing the system, waste collection methods, etc. with the Department of Environmental Protection and Conservation (DEPC), the Port Vila City Council (PVCC), and the Luganville Municipal Council (LMC). The mission also visited a community, waste collection points, and the Bouffa landfill site for the observation of the actual impact of yellow garbage bags in a real-world scenario.

Through the mission trip, replicability of prepaid garbage bag system to



Samoa was discussed. Voice from Samoa mission and participants are as follows:

**[Voice of Participants of the Samoa Mission's Study Trip in September 2019]**



**Voice #1 Samoa Mission**

**Mr. Afele Faiilagi, Assistant Chief Executive Officer, Ministry of Natural Resources and Environment, Samoa**

The study tour on waste management experiences of, in particular, the Lautoka City Council in Fiji, Port Vila in Vanuatu, and Tongatapu in Tonga was a great opportunity for Samoa to learn from the practical experiences on various aspects of waste management development and financing in those PICs. The experiences shared from Vanuatu regarding its yellow bag system in Port Vila Municipal and the red bag system in Luganville revealed some advantages and disadvantages of the two systems for Samoa to learn from and to consider the challenges/issues for the development of a more appropriate “user pay system” that is fitting for Samoa. Furthermore, the program included a visit to the importer of the yellow bags, observations of the waste collection while on the run, discussions with the community and the local people to learn from their perspective, which is critical information for us to look at for review as we progress into the user pay system development.



**Voice #2 Vanuatu counterpart**

**Mr. Mwetu Serge Sandy, Waste Management Officer, Port Vila Municipal Council**

Waste Management is a big issue in Vanuatu. In this time, we are teacher to share our experience on prepaid garbage collection system but at the same time, during their visit, we also acquired so much information from them, which helps us to improve the yellow bag waste collection system. We can also learn from them once they create their own user pay system in Samoa.



**Voice #3 J-PRISM II**

**Mayu NOMURA, J-PRISM II Expert**

J-PRISM II has conducted successive technical cooperation programs contributing to raising capacity on solid waste management and establishing a sound material-cycle society in nine PICs including Samoa and Vanuatu. Human resource exchange programs among

PICs, like this study visit, are promoted by J-PRISM II as a model of south-south cooperation aimed at capacity development from the aspect of society, organization, and individuals, respectively.

## Success Factors

- Contract condition of supplier has to be designed carefully.
- Awareness activities should be done when the prepaid garbage bag is introduced at least three months before and should be continued for a year.

These details are given in ***Methodological Approach “2. How to Introduce the Prepaid Garbage Bag Collection System”*** and ***“3. Points to be considered in planning through lessons learned.”***

## Constraints

The following are the constraints observed by J-PRISM II.

- Need to identify reliable supplier
- Need to agree on cost share and roles and responsibilities with supplier
- Need to enforce residents to use the prepaid garbage bag and also waste collection vehicle to pick up only waste discharged by prepaid garbage bag
- Need to secure the accessibility of prepaid garbage bag in a rural area
- Need to secure the accountability and financial transparency of prepaid garbage bag sales and income

## Sustainability

The prepaid garbage bag collection system is basically designed as a self-sustaining system. In addition, J-PRISM II has supported to enhance institutional and financial capacity of solid waste management in order to ensure the continuity of the waste management service through this good practice. For example, J-PRISM II encourages PVCC to establish a Waste Management Division and to use the independent account for SWM in supporting the development of solid waste management plan 2021–2030.

## Replicability and/or Up-scaling

It is possible to be replicated in any other cities, including remote islands, in Vanuatu and other PICTs. The essence of yellow bag and red bag experience can be utilized as guidance while some detailed points need to be customized in order to fit the process into the context of the country such as custom, culture, institutional arrangement, and so on.

## Lessons Learned

**Prepaid Garbage Bag Collection System is not a magic bullet but effective if it is managed wisely.**

Lessons learned from the past experience are shown in ***Methodological Approach “3. Lessons learned: Points to be considered when planning.”***

In addition, there are still issues to be modified regarding the special fund for the bag fees collected within the



municipality as the fees collected was channeled to other accounts instead of a special purpose account for waste management. The municipalities are working to resolve this gap.

## Conclusion

### Understanding and cooperation of residents on user pay system is the key to success.

Thanks to the understanding and cooperation of residents, the prepaid garbage bag collection systems are working properly in Vanuatu, and it was a major step toward a sustainable waste management system. However, it would not generate revenue that fully covers the cost of waste collection service, and it still needs to seek other financial source such as tipping fee at landfill site (gate fee) and government subsidy in Vanuatu case.

In addition, user pay systems are not covering fully yet in local area; hence, expanded approach like implementation of awareness activities should be continued.



#### Contributions to SDGs

This good practice highly contributes to the achievement of **Goal 12: Responsible consumption and production.** Especially, it can be reached to ***Target 12.5, Target 12.8, and Target 12.a.***



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#### Relevant Websites/Resources

JICA website "The Samoa mission's trip to  
Vanuatu to learn about the prepaid garbage bag  
waste collection system as a good practice in  
Pacific island countries (PICs)" dated  
September 30, 2019:

<https://www.jica.go.jp/vanuatu/english/office/topics/190930.html>

Facebook page of the Secretariat of the Pacific  
Regional Environment Programme (SPREP)  
dated September 27, 2019:

<https://tinyurl.com/y898pvv2>

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### **Publisher**

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J-PRISM: The Project for Promotion of Regional Initiative Solid Waste Management, JICA: Japan International Cooperation Agency

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### **Acknowledgments**

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SPREP: Secretariat of the Pacific Regional Environmental Programme