



Reusable Laundry Bags replacing 112,000 Disposable Plastic Bags for Mop Pads used annually by housekeepers in SKH

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Introduction

On a daily basis, 308 pieces of plastic bags are disposed after fulfilling their purpose of carrying soiled and clean mop pads in the hospital. Soiled plastic bags require effort to tear in order to remove the soiled mop pads for laundry while plastic bags used for clean mop pads are not easy to reuse due to the flimsy nature of the plastic bags.



Annually, about 112,000 disposable bags weighing 2.3 ton of waste is generated, equivalent to the weight of 2 passenger cars. This amount of waste would be incinerated, leading to carbon emission and competition for finite landfill space in land scarce Singapore.



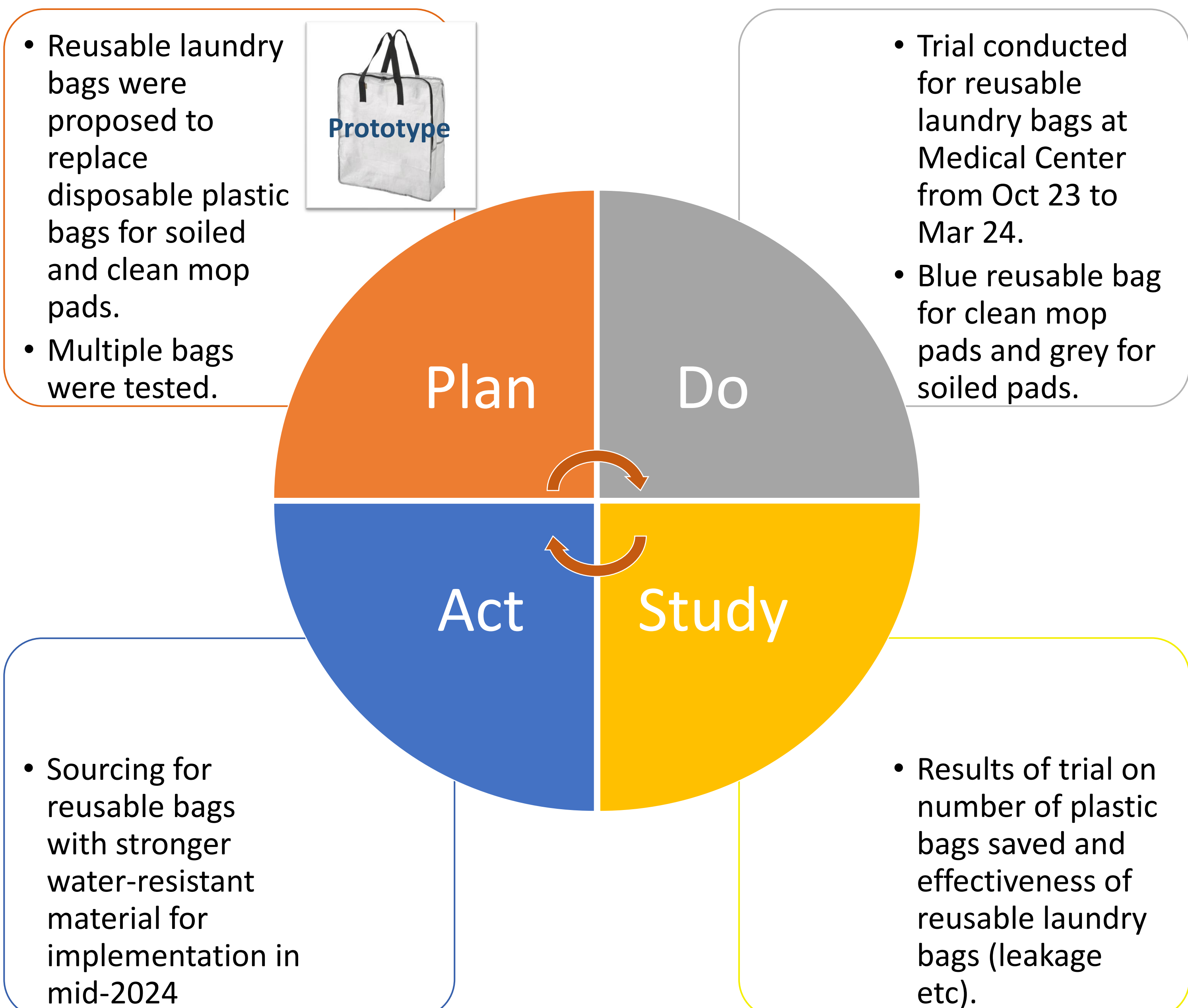
Aim & Objectives

This project aimed to adopt a circular approach in managing the huge amount of plastic waste. The objectives were:

- Eliminate 112,000 pieces(pc) of plastic wastes annually;
- Achieve cost savings by 50%;
- Improve handling of carrier bags ergonomically and via color coding.

Methodology

The project team adopted PDSA cycle before implementing the required improvement.



Results

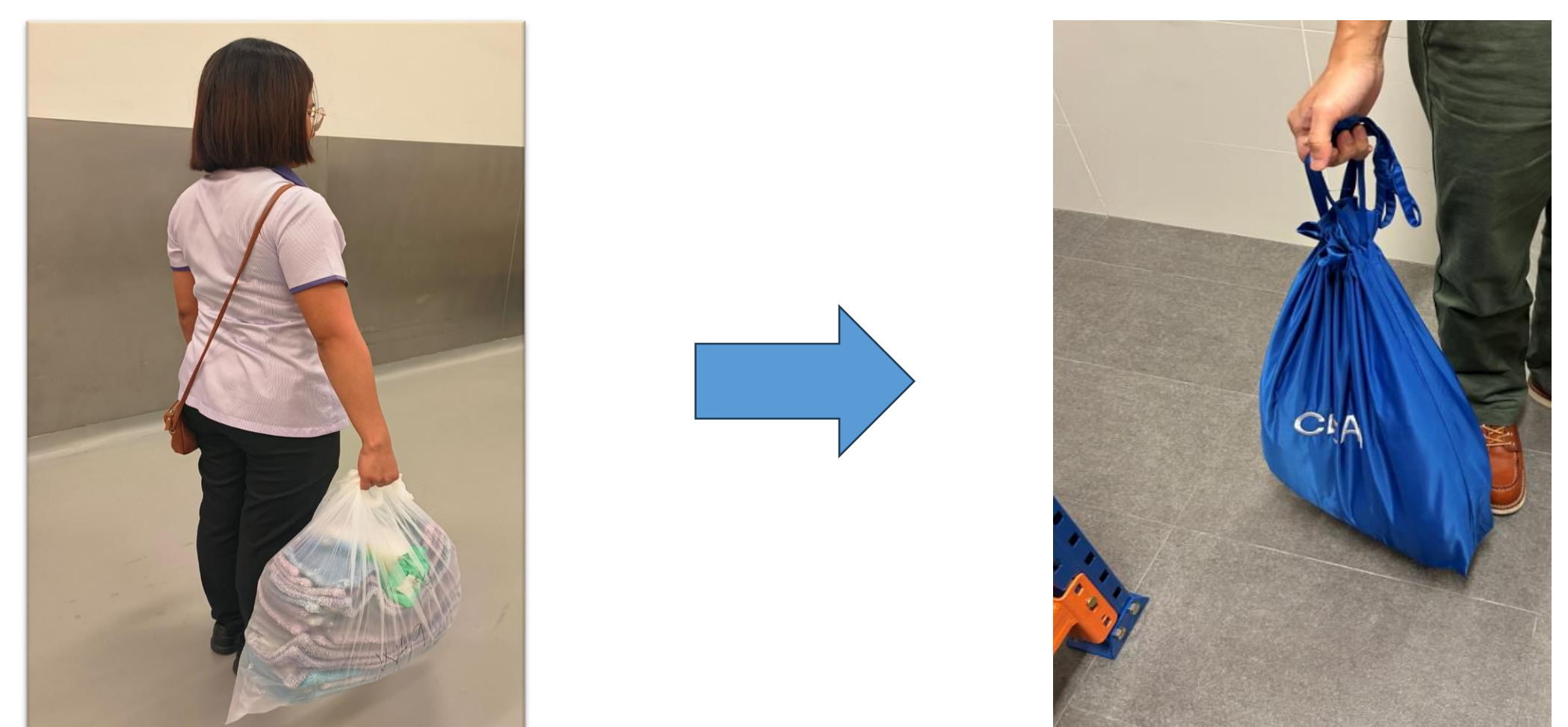
1) The weight and cost of reusable laundry bags were evaluated against disposable plastic bags over a 3-year depreciation cycle in the below table:

Item	UOM	Year 1	Year 2	Year 3	Other Cost	Total	Results
Plastic Bag Required	20.8g	112,420 pc	112,420 pc	112,420 pc	-	7,015kg	100% Reduction
Reusable Bag Required	145g	616pc	NA	NA	-	89.3kg	
Plastic Bag Cost	\$0.08	\$8,994	\$8,994	\$8,994	\$192/yr (Disposal)	\$27,557	75.7% Cost Savings
Reusable Bag Cost	\$8.50	\$5,236	NA	NA	\$483/yr (Laundry)	\$6,684	

2) Colour coding (Blue for clean mop pads; Grey for soiled mop pads) reduces risk of cross contamination and enhances safety to housekeepers.



3) User survey results showed that the reusable laundry bags have enhanced their sustainability and ergonomic experience with a sling design for easier grip. Reusable bags can be repurposed at end of shelf life.



Conclusion

Moving toward circular waste management model, reusable laundry bags not only offer a highly sustainable, cost-effective alternative to environmentally harmful disposable plastic bags but also enhance workplace safety for housekeepers and can be repurposed after the end of shelf-life. It also leads to major reduction in plastic waste and carbon footprint.

Scalable to other housekeeping premises, future research can focus on further reduction of plastic bag wastes in other work processes.

