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Water Conservation in Food Services

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Introduction & Background

Food Services (FS) **uses a large amount of water daily**. From food processing (washing of ingredients, thawing of food, etc.) to food production (cooking) and cleaning (equipment, crockery, kitchen, etc.). In FY 2016, FS **used a total of 15,747 cu m^3 of water**.

Aims

The main aim of this Kaizen is **to reduce water consumption in FS** and thus contribute to lowering utility cost for KTPH.

Methodology

PDCA/PDSA methodology was used to identify areas for improvement. "**Water recycling**" initiatives is also in line with our efforts towards **environmental sustainability.**

During the assessment of the problem, we identified that there are opportunities to reduce and reuse water usage by using the **SCAMPER techniques**.

S – Substitute

Use a spray gun water hose instead of a knob-turning water hose

C – Combine

A – Adapt

Chefs to carry out "spring cleaning" at their own sections to instill "less dirty, less washing" mentality

M – Modify, Maximise or Minify

Ensure there is at least a 50% load in the dishwasher, instead of washing used crockeries immediately upon return

P – Put to other uses

Use water from vegetables/fruits washer and Bain Marie for the first wet wash in kitchen

E – Eliminate

Thaw manually to reduce running water from the tap, if possible

R – Reverse or Re-arrange

Rearrange the used crockeries to be washed in open-top washer if the load is little

Staff were brief on the project during roll call and feedback were collected bi-weekly to instill the sense of "ownership" in them.

As Is

Dirty crockery being washed whenever arrived in the kitchen

Clean water used for first wet wash

Manual thawing done under running water

To Be

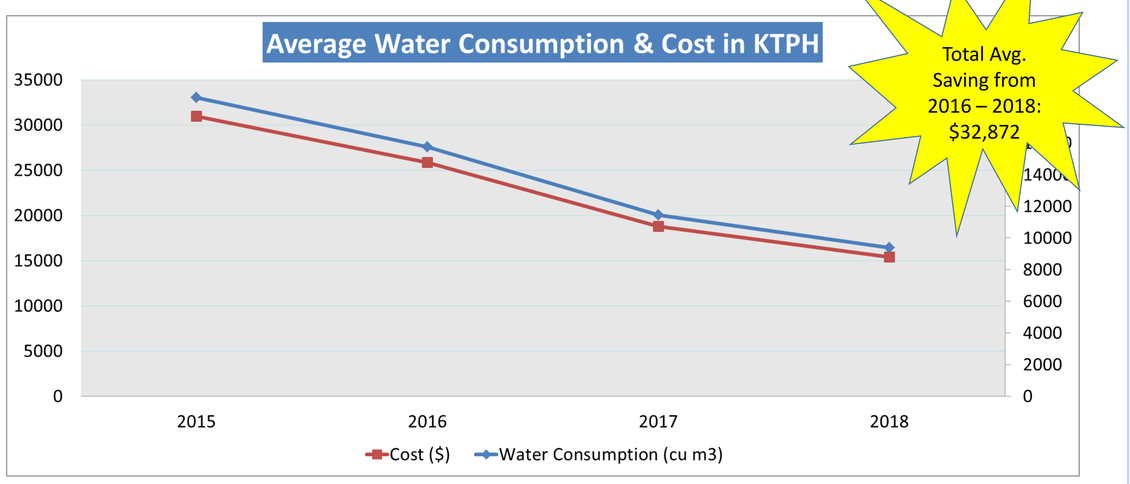
At least 50% load for dishwasher washing. Low volume washing to use open top washer

Water from veg/fruit washer used for first wet wash

Normal thawing in chiller

Results and Project Impact

The result was evaluated using the consumption data retrieved from Facilities Management. A run chart was used to monitor the results. Based on the data, there was a ***reduction of 50%*** in water consumption from 2015 to 2018, amounting to a **total average savings of $32,872.**

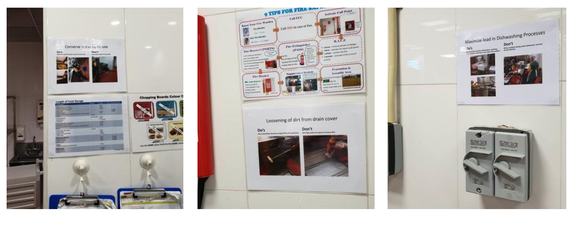


Year	Water Consumption (cu m^3)	Cost ($)	Saving ($)
2015	18,873.6	30,952	0
2016	15,747	25,825	5,127
2017	11,441	18,763	12,189
2018	9,388	15,396	15,556
		Total Savings (2016 – 2018):	$32,872

Sustainability & Follow-up

To ensure sustainability, this process was implemented as part of the **cleaners' induction programme by our business partner** (Clean Solutions). Posters had been displayed at work areas to remind staff on the good practices.

Visual Reminder



Staff Training

Conclusion

This Kaizen allows Food Services to have a **lower operational cost by reducing water consumption.** Staff are **motivated** to play a part in environmental sustainability. We also learned that while reviewing existing new processes, be bold to **change the norm** and look at the opportunities beyond the challenges.