

Journey to zero waste

It was Shell Jurong Island (SJI)'s first ever trip to Pulau Semakau and we had young friends from LFS accompanying us there!



You'll be surprised to see how green Semakau is.

As the ferry lurched over a rolling wave, there came a squeal from 10-year-old Kang Zi Yi, who was trying to contain her excitement from taking the ferry for the very first time. Sitting all around her were fellow friends from Lakeside Family Services (LFS), and accompanied by colleagues from SJI, all of us were off on an exciting expedition to Semakau Island!

About the Semakau landfill

Covering an area of 350 hectares, the Semakau landfill joins two of Singapore's southern islands – Pulau Sakeng and Pulau Semakau – into a single, larger island. These islands are located next to Pulau Bukom, where the Shell refinery is located.

By the late 1980s, it was clear that Singapore's only landfill at Lorong Halus was unable to cope with the increasing volume of solid waste. A new offshore landfill was then developed to meet the country's waste disposal needs. The Tuas Marine Transfer Station was built concurrently to transfer the waste from mainland to Semakau.

Both the transfer station and landfill began operations on 1 April 1999 – a day after the Lorong Halus Dumping Ground was closed – and were built at a cost of \$610 million dollars.



*Left: HSSE Advisor Winston Ng giving a safety briefing to the participants and
Right: Having a hearty lunch together!*

Organised by SustainABLE committee and the Social and Community Engagement Team, the trip to Singapore's first and only landfill situated offshore among the southern islands was meant to be an educational tour. The day started at the LFS centre where we were first introduced to our "charges", and got to know them better over lunch. Amanz, Production Specialist from PU1, said, "I enjoyed the company of the young ones the most, especially Cheryl, who was assigned to my care. Interacting with Cheryl and her best friend, Renee, made me feel young again!"



Boarding the ferry safely and enjoying their first ferry ride together!

As a restricted offshore facility, it is no easy feat getting to Semakau. Participants had to sign an indemnity form and clearance had to be obtained from the National Environment Agency (NEA). A ferry was specially chartered to bring all 50 of us to the island. The minute we landed, we were greeted enthusiastically by the official tour guides who took us on a tour of the island.



Thick with flora and fauna, the students and SJI folks had fun exploring the island!



*Left: Listening to the tour guide on how the island operates and
Right: Exploring the displays on their own.*

Did you know we send about 200,000 tonnes of solid waste and all incineration ash to the Semakau landfill every year? And at this rate, we will run out of space by 2035? Did you also know it takes about six hours to empty each fully loaded barge when it reaches the island?

Ten-year-old Shenny Quek got to learn this and other facts as she sat in the mini bus, in a tour around the island. She also expressed surprise that it doesn't smell, contrary to popular misconception. The young ones were especially taken with how scenic the island was and exclaimed loudly when they saw a monitor lizard darting about.



We left with unforgettable memories and newfound friends!

It was a day of 'firsts' for many – some in taking a ferry, some in playing 'nanny' to a child, and some in seeing a monitor lizard for the first time. But it was a unanimous first for all us in paying scenic Semakau a visit and understanding Singapore's continuous journey towards the goal of zero waste. We left with a stronger commitment to play our own role in reaching that destination.

Overview to Semakau Landfill operations



It is about 33.3km from mainland Singapore to Semakau.

Upon arrival at the Semakau landfill, the tugboat pushes the barge into the enclosed

building before disengaging itself and returning to the Tuas Marine Transfer Station with another empty barge.



Large excavators with specially designed, interchangeable grabs unload the solid waste from the barge directly into 35-tonne payload off-road dump trucks.

It takes about six hours to empty each fully loaded barge.



The dump trucks make their way to the designated tipping site and unload the solid waste into an active cell. Bulldozers and compactors then level and compact the solid waste.

When a cell has been filled to ground level, it is covered with a layer of earth. Grass and trees then take root to form a green landscape. A new tipping cell is then activated by sealing off the concrete pipes that connect the cell to the sea during low tide.

