

Seeds of life

Since the middle of the year, the Selangor Forestry Department has been operating its own 0.2ha nursery for mangrove seedlings. The saplings are then used for reforestation projects along the state's coastline. >M2&3



Growing green

A Forestry Department employee having a closer look at the mangrove propagules (pods) at the nursery in Port Klang.
- By Salina Khalid / The Star

Saving the mangroves

Nursery created to keep costs down

Story and photos
by SALINA KHALID
salina@thestar.com.my

YEARS ago, the coastal areas of Selangor were covered by mangroves.

The roots of the trees there clustered together to form a natural barrier to break strong waves before they hit the shore.

They were also home to various species of marine life, making the mangroves a favourite hunting ground for both fishermen and shore birds.

Yet, over the years, the mangrove forests have been depleted due to human greed and illegal logging.

According to the Malaysian Nature Society, at present, only 1.8% of Malaysia's land is covered in mangrove forests, with over 50% of the mangrove forests lost between 1950 and 1985.

Forestry Department statistics show that Peninsular Malaysia had 85,000ha of mangroves in 2003, down from 86,497ha in 2002.

The Selangor Forestry Department statistics show that in 2008, a total of 18,088ha of the coastal land in the state was covered by mangrove forests.

In realising the importance of preserving the mangrove swamp forests, the federal government and the various state governments have worked with various agencies and NGOs to replant the mangroves along the coastal areas nationwide.

In Selangor alone, the State Forestry Department had planted more than 150,000 mangrove saplings throughout the coastal areas between 2005 to 2007.

"We have required the concessionaires who were given the permit to harvest the mangroves in



Hands on:
Yussainy explaining some of the objectives of the nursery.

approved areas to replace the trees themselves.

"At the same time, we are also carrying out our own restoration activities," the department's enforcement and operations assistant director Mohd Yussainy Md Yusop said.

Yussainy said, previously, the department had purchased the mangrove propagules (seed) from private nurseries at the rate of RM2.50 to RM3 each.

"Usually, when we have a replanting exercise, we have to purchase thousands of these propagules.

"It cost us about RM10,000 to RM15,000 every time when we conduct such programmes.

"Now, we have decided to have our own nursery for such activities," he said.

Located in the Port Klang Forest

Ranger Office, the 0.2ha plot began operations as a mangrove nursery in the middle of the year.

He said the site was chosen since all the mangrove forests are located in the Klang forest district (forestry in Selangor is divided into three forest districts — Hulu Selangor, Central Selangor and Klang. All of the coastal stretch in the state falls under the Klang forestry district jurisdiction).

Yussainy added that with an initial cost of RM50,000 the plot has already produced about 11,000 saplings.

Employees at the nursery will collect the seeds that drop off into the mud.

"It is something that they can do while doing their rounds.

"They will then bring the seeds to our nursery to be planted," he said. He added that manual planting

would allow them to control the type of species they wanted to have at the specific areas. Although allowing natural degeneration will enable the area to have a variety of species, it is difficult to control the more valuable types such as the bakau kurap (*Rhizophora mucronata*) and bakau minyak (*Rizophora apiculata*).

"These two species of mangrove are hardier and have a higher market value as they are commonly used for construction and to make charcoal.

"The species is used for piling when setting a foundation in construction sites," he said.

Other mangrove species like the pokok api-api (*Avicennia spp.*), berembang (*Sonneratia caseolaris*) and tumu merah (*Bruguiera gymnorhiza*) are much less valuable.



Buffer zone: The mangrove swamps offer some protection to the coastlines of Selangor.



Ready to grow: The nursery, which takes up 0.2ha of land, has been operating since the middle of the year.

At the same time, having their own nursery would also help the staff to get hands-on experience and knowledge about the process involved from planting the seed to caring for the trees, as well as carrying out enforcement duties.

Mangroves have one of the most of the plant world. The trees disperse cigar-shaped propagules via water with varying degrees of embryonic development.

The propagules are often found hanging from the tree until mature. Sometimes, the seed will germinate and start growing while attached to their parent tree.

When it falls, the propagule can bore itself deeply into the muddy ground, thus preventing it from being washed away during the high tide. It has to remain in the water to allow it to develop before it starts to shoot.

In some species of mangrove plants, the seedling grows inside the fruits, then the seeds are dispersed when the fruit bursts.

Yussainy said the mangrove saplings were kept at the nursery for about four months before being replanted to replace the lost trees.

The mangrove replanting pro-

gramme is part of efforts to restore the rich bio-diversity of the forests to provide an ecosystem for fish, crabs, birds and other creatures and plants.

Destroying the mangrove forests will significantly reduce marine life such as prawns and mud crabs and would affect the livelihood of man-

from the atmosphere through photosynthesis and converting them into organic material.

The organic materials are then absorbed into trees, mudflats and nearby waterways, reducing the amount of greenhouse gases.

Harvesting mangroves is allowed

standing trees. It means the logging is permitted in zones that have met the maturity criteria.

In Selangor, felling a mangrove tree is only allowed when it has reached a minimum of 30cm in diameter.

With the average growth of about 10 years for a mangrove tree to be harvested. Those who fell trees that are smaller will be fined if caught.

"Logically, they will not chop the trees that are less than 30cm in diameter because they know that it does not have any value compared to those that have reached the minimum diameter.

"And, if they are caught in possession of or felling an immature tree, they can be fined up to RM50,000," Yussainy said.

At the same time, those carrying out illegal logging in the state have to pay a heavier fines. Under Section 15 of the National Forestry Act, 1984 (Amendment 1993) those who conduct illegal logging can be fined up to a maximum of RM500,000 and mandatory imprisonment of 1 year minimum to a maximum of 20 years.

»The concessionaires who have been given permits to harvest the mangroves have to replace the trees that they have felled«

MOHD YUSSAINY MD YUSOP

Studies have also shown that the mangroves could protect coastal areas from rising tides, monsoon storms and natural erosion.

The trees have a high storage capacity for carbon, which helps to regulate the balance and quantity of carbon dioxide in the environment.

They function like carbon factories by absorbing carbon dioxide

mit issued by the relevant state Forestry Department.

The permit for harvesting the trees is granted to the concessionaires under the selective management system to ensure the sustainability of the forest.

It advocates the selection of a cutting regime based on diameter limits and species composition of the

Mangrove areas in Selangor (2008)

Location area	Hectares
1. Pulau Klang	5,611.81
2. Pulau Selat Kering	932.77
3. Pulau Selat Meriam	53.81
4. Pulau Che Mat Zin	1,419.21
6. Pulau Pintu Gedung	741.55
7. Jugra Kelompok 1	418.98
8. Jugra Kelompok 2	85.88
9. Jugra-Kelompok 3	82.0
10. Pulau Tengah	1,415.64
11. Telok Gedong	659.79
12. Kapar	138.20
13. Banjar Utara	1,1011.64
14. Kuala Sepang	160.51
15. Pulau Tongkok	33.65
16. Kuala Bernam	846.50
17. Sepang Kechil	267.98
18. Pulau Ketam Tambahan	2,365.0
19. Pulau Rusa Tambahan	85.0
20. Pulau Klang Tambahan	268.0
21. Pulau Tengah Tambahan	790.0
22. Pulau Selat Kering Tambahan	509.0
23. Pulau Che Mat Zin Tambahan	43.0
Total	18,088.80

Source: Selangor Forestry Department

Nursery operators told to apply for their own TOL

By YIP YOKE TENG
teng@thestar.com.my

THE 40 flower nursery operators in Sungai Buloh, Selangor, will be asked to apply for temporary occupancy licences (TOLs) individually to solve the issue of land status they now face.

Since November last year, the nursery operators have been in limbo as their de facto landlord — the Selangor Agricultural Development Corporation, which held the TOL of 72 lots of about 1,400sq metres each along Jalan Sungai Buloh — informed them that it was no longer involved in the joint venture project.

The operators and the corporation were partners in a joint venture

agreement for a nursery and landscape project called Selangor Greenland, with a renewable three-year contract.

For the past nine years, each operator had paid the corporation a monthly fee of RM400 that was progressively increased to RM800 under the last contract.

Their plight was reported in *StarMetro* in July with the Selangor and Kuala Lumpur Landscaping and Nursery Operators Association lamenting that the operators were left in a lurch and faced the grim possibility of having to shut down the lands they had toiled on for a long time.

Subang MP Sivarasa Rasiah's aide Peter Chong said they would study the background of the situation

again to iron out the technical issues arose.

"In principal, we want the operators to each have their own TOL, why go through a third party anyway?"

"We don't want to see anything that's illegal," he said at Sivarasa's Hari Raya Open House on Saturday at Damansara Damai, Sungai Buloh.

The association also showed documents proving that the corporation paid only about RM15,000 to the Land Office each year for the TOL but the fees it collected from the nursery operators amounted to more than RM380,000 annually.

They demanded an explanation on where the money had gone to as they had not seen any facilities upgraded as desired over the years.



Working hard: Many of the operators have spent money upgrading their premises.