



Over 6,000 mangrove saplings have been planted at rehabilitation sites within Lekir. Photos: The Star/Chester Chin

People in this kampung came together to save mangrove trees

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The severe coastal erosion around her village has for years, troubled housewife Normala Abdul Aziz. Married to a fisherman husband with four young kids still in school, her worries go beyond environmental concerns.

The mangrove ecosystem, after all, contains important natural resources for the livelihood of the community at Kampung Sungai Tiram in Lekir, Perak. Most of them rely on in-shore fishing from the area.

Degradation of mangroves translates to loss of income for Normala's family and more than half of the villagers. Part of the problem, according to village head Abdullah Ayob Abdul Rashid, is caused by illegal logging of mangrove trees for charcoal production and boat construction. He attributes the illicit invasion to lack of knowledge among the community on the importance of mangroves.

But awareness has been on the rise since May 2015 with the establishment of Friends of Mangrove Lekir Sitiawan. Better known by the villagers as *Sahabat Hutan Bakau Lekir Sitiawan* (SHBLS), the organisation – a joint initiative between the Global Environment Centre (GEC) and mining company Vale Malaysia – is empowering the local communities to conserve and rehabilitate mangroves.



Housewife Normala Abdul Aziz is among the many villagers of Kampung Sungai Tiram in Lekir, involved in restoring degraded mangroves.

GEC programme officer (forest and coastal programme) Mohamad Muhyiddin Hassan says community involvement is vital for the success of this initiative.

"When you work with the environment, you can't separate it from the community," says the man affectionately known as Encik Midi by the villagers whom he closely works with.

SHBLS is part of a project to conserve mangroves and create alternative livelihoods for the local communities in southern Manjung. The threeyear project – which kicked off in October 2014 – aims to involve the locals in restoring degraded mangroves.

"We share knowledge with the villagers and provide the necessary training. They in turn will keep watch over the environment around them," Muhyiddin explains.

Income-generating aspect aside, he notes that villagers must understand the role of the mangrove forest in coastal protection. The dense root systems of mangroves stabilise the coastline and prevent erosion from storms and tsunamis. Deterioration of this precious ecosystem can result in severe damage during those natural disasters.

"It's important that we plant as many mangrove trees as possible to counter all those environmental threats," Muhyiddin says.

But getting everyone on board proved to be a hurdle initially. A tight-knit community, the villagers were wary of the presence of outsiders having such keen interests on their mangroves.

"The response wasn't great. Only five people attended the first meeting," Abdullah Ayob reveals. Today, the group has 40 members.

A green network

Since the establishment of SHBLS, various activities have been held to get the villagers involved. One event was a visit to the Kuala Gula bird sanctuary in Perak which also has a mangrove conservation initiative.

Hosted by Friends of Mangrove Kuala Gula, the educational visit exposed villagers to mangrove planting and rehabilitation, as well as the socioeconomic benefits of the project.



In September 2015, Friends of Mangrove Lekir Sitiawan (SHBLS) successfully established a mangrove saplings nursery.

"They talked about their mangrove conservation journey and briefed us on ways to make the programme a success," says Abdullah Ayob. He adds that seeing the potential of the programme with their own eyes gave SHBLS members a boost in morale.

Last September, four months after the visit, the villagers of Kampung Sungai Tiram established a mangrove sapling nursery. The nursery has been Normala's second home for the past year. Visiting in the late afternoons after picking up her kids from school, she fills bags with soil and plant mangrove seedlings at allocated plots.

"Joining this effort makes me feel good because I'm helping to make the environment here better," she jovially offers. The woman barely hesitates when identifying the various types of mangrove plants.

"Here we have the *bakau minyak* which is the most common variety here and that one over there is the *pokok api-api*. You can tell them apart because their leaves are different," she says, beaming proudly and clearly pleased by her new-found knowledge.

Normala is one of the many villagers who have undergone training by a botanist appointed by the GEC. According to Muhyiddin, equipping the villagers with the necessary training will ensure the sustainability of the project in the future. The establishment of the mangrove nursery has led to over 6,000 mangrove trees being planted within Lekir.

"The local communities are now capable of monitoring the rehabilitation sites. Through this project, we've managed to instil in them some sense of ownership towards the mangroves," says Muhyiddin.

The next phase of the project will look at the possibility of turning Kampung Sungai Tiram into an eco-tourism destination. Proposed attractions include planting mangroves at conservation sites and demonstrations on turning recyclable items into souvenirs. Muhyiddin says this will provide an alternative livelihood to the villagers.

Waste to wealth

The community empowerment project extends to the Island Ranger Sri Pangkor Community. The three-year initiative – which also involves the University of Queensland and Perak Irrigation and Drainage Department – looks at reducing coastal water pollution by managing waste and water sustainably in Pulau Pangkor.



Plastic waste such as straws, bags and bottles are turned into decorations.

This is achieved through what is billed as the "waste to wealth" concept. The idea is to convert waste into items that could potentially generate income. For instance, plastic bottles are recycled into decorations and used cooking oil is made into candles and soaps.

Although the group's secretary Saripahbi Md Hussain admits that none of the recycled items have been sold since they began early this year, she is not discounting the role of the project in addressing river conservation and waste management issues.

Apart from working on recyclable items, members also monitor the river at Kampung Hujung Kelawai. The physical, chemical and biological components of the stream are tested through a special kit and recorded in River Report Cards.

"The community is now more aware of their river and surroundings," Saripahbi says.

Awar able to learn to love and protect their environment through this, that would be great for the island's future," Pauzi says. Jan.



In Pulau Pangkor, the Island Ranger Sri Pangkor Community is recycling used cooking oil into candles.

"It's bad in the sense that you see waste everywhere," she remarks of the threat in the island. The issue is much more serious here due to the high population density.

While there is an incinerator in Pulau Pangkor, Jagedeswari says that's merely a short-term solution. She notes that the long-term solution is through civic science, where the local communities are encouraged to take charge of their environment. GEC is also working with some kitchens in hotels around the island by auditing food wastage.

Another activity under the initiative is a recycling competition conducted at five schools within the island. Response has been overwhelming, with students and teachers taking part.

At SK Seri Pangkor, headmaster Pauzi Ab Latif recounts how the school collected over two tonnes of paper on the first month of the campaign. The winning school will get a RM1,500 cash prize. "It would be nice if we could win the prize and use it to beautify our school. But if the kids are able to learn to love and protect their environment through this, that would be great for the island's future," Pauzi says.