

# Elements05

A publication of the Singapore Environment Council, in partnership with the Singapore Green Business Alliance

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## Time to hang up the bag?

You've heard it all before. Plastic bags use up natural resources and consume energy to manufacture. As pollution, they choke to death millions of wildlife, and when they end up as litter, these tacky items blight the landscape.

Yet, nearly three years after the Environment Council first highlighted the problem of excessive plastic bag usage, Singaporeans continue to consume the crinkly carriers as if their lives depended on it.

What would it take for us to hang up our national bag habit for good?

### Socially responsible investment

The next big fund-thing in Singapore?

### Road map to all things green goes virtual after four years

Nature reserves, recycling points, organic stores: find them all and many more online

### ACT | PROTECT | RESPECT

Your lifestyle choices, buying decisions, and disposal methods have environmental consequences. Think about it.

## Message from the Executive Director

Dear Reader,

We hope you enjoy this latest issue of Elements. It is our hope that this newsletter will help publicize the activities and green endeavors of diverse groups including companies, individuals as well as community based organizations. In every issue we also take an in-depth look into a specific environmental issue. In July-September we hope that our feature on plastic bags will deliver clarity on the extent of the problem and encourage all of us to move in a common and positive direction.

Of course we rely on your constant input to keep Elements current and interesting, so feel free to let us know what you would like to see covered and of forthcoming events or activities. Also, from September onwards we will be expanding the publication to include some advertising space, so do get in touch to take advantage of some very reasonable rates.

As usual, please remember to pass Elements to a friend once you're done with it.

**Howard Shaw**  
**Executive Director**  
**Singapore Environment Council**

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The Singapore Environment Council welcomes feedback, editorial contributions, suggestions and recommendations. If you know of any events, happenings or people and places that will help further the green cause, and allow us to live in a more environmentally responsible fashion, please drop us a note at:



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Elements cover story

# Anyway you stack it, plastic bags are a problem

They are free in most instances, and cheap as dirt when they come at a price. Add to that qualities such as waterproof, durable, light, flexible, strong, as well as being ideal for lugging groceries, and containing rubbish, and it certainly looks like the plastic bag is here to stay. But therein lies the problem. Our apparent love affair with the old bag has reached a stage of insufferable dependency. **Elements** ponders what it would take for Singaporeans to give up the bag once and for all.

BAN THEM, tax them, or charge for them: options that several countries, including Taiwan and Ireland, have resorted to in a desperate attempt to stem the spread of the ubiquitous plastic bag. Yet, in Singapore, retailers and government are holding out and opting instead for education and awareness, in the hope that shoppers would choose to voluntarily use less bags, or change their preferred type of carrier to something more environmentally friendly.



**BYOB:** Ikea stopped giving out free plastic bags for a weekend to celebrate Earth Day in April, saving 40,000 bags. Old newspapers and reused bags were used to package goods, instead. Reusable blue bags were sold at a discount of \$1 (U.P. \$2.90).

Arguably the best modern invention since sliced bread, the plastic bag is cheap, useful and handy to boot. No one would deny that. But excessive consumption of plastic bags are an ecological time bomb waiting to go off in Singapore. Not only do they deplete our planet's natural resources - plastic bags are made from ethylene, a gas produced as a by-product of oil, gas and coal production - toxic ash from the incineration of plastic bag waste eventually ends up in Singapore's only landfill that, incidentally, has a finite amount of space. Then, there is the fact that many plastic bags are not disposed of

properly, thus finding themselves in the litter stream, and causing death and destruction to the ecosystem and its inhabitants. In April, an Earth Day mangrove cleanup organised by The Hantu Bloggers collected some 230 kg of waste in less than two hours at the Kranji mangroves. Almost half of the 3,674 items of rubbish were plastic bags. During the nationwide International Coastal Cleanup last year, three quarters of the 88,000 items of rubbish picked up at Singapore's beaches and mangroves were plastic bags and containers.

So, why hasn't the Government meted out deterrents such as fines and other name-and-shame penalties for the excessive use and wastage of plastic bags, as it has done for decades with the problem of littering? Why not make examples of people who take more bags than they need? Or slap a fine on stores that employ cashiers who start filling a new bag even before the previous one is packed to maximum capacity? Or make plastic bag addiction a crime punishable with a "collective" work order of 365 days of mandatory mangrove and beach cleaning?

Why not? Simply because people should have the option to choose to be environmentally responsible and



to decide whether to protect the environment, or not. But sometimes free will needs a firm nudge, and all the better if that prod comes from the powers-that-be in a country accustomed to a Government that deems some environmental issues important and others not. It can't have helped that in 2002, when asked if it would consider imposing a levy similar to Ireland's PlasTax of 15 cents (\$0.31), the Ministry of the Environment and Water Resources (formerly the Environment Ministry) said it was not against the use of plastic bags. What the authorities could have said was that it was against the unnecessary and excessive use of plastic bags, and then defined what it meant.

Granted, and to their credit, some merchants have been proactive in reducing the amount of plastic bags that they give out to consumers. Supermarket chains such as Cold Storage and NTUC FairPrice have started selling reusable cotton bags. Ahead of World Environment Day in June, the latter gave away 35,000 Green Bags to customers who spent a minimum of \$50 in one receipt. A small step but "better than not doing anything at all", said a FairPrice spokesperson. But whether customers have used the free bags instead of plastic ones is anyone's guess. "Lifestyle changes will take a long time before we see tangible results, but we know that we have to start somewhere," the FairPrice spokesperson noted.

The sad fact of the matter is that Singaporeans love their plastic bags in any shape, size, colour and form. Double-bagged and overflowing with shopping or just holding that single, precious item, or takeaway lunch, we experience the bag on so many consuming levels that it is no wonder it is such a hard habit to break. Sure, in-store campaigns to encourage paying customers to take fewer bags have gone some way to reducing numbers, but they are still a relatively random and ineffective way to change behaviour permanently.

Until now only one retailer, a German-run store in Bukit Timah Road, has been plucky enough to charge for plastic bags. The common credence is that making customers pay for plastic bags would be tantamount to commercial suicide. Said executive director of the Singapore Retailers Association Lau Chuen Wei: "It's very easy for us to sit here and say, 'Charge'. The plight of retailers is not this whole environment thing, but about making money. Margins are very slim and competition is rife. And I don't think people would patronize a store just because it set itself apart by being environmentally friendly. People aren't educated enough in that sense to appreciate it."

Miss Lau thinks that environmentalists should recognise that retailers are stuck between a rock and a hard place, with only so much that they can do. "It's a business decision and it's also about meeting consumers' expectations and appeasing them," Miss Lau said. "It'll be very hard for a checkout person to tell the customer to use less plastic bags. They'll end up being abused by the customer who'd say the service was shoddy." And abused they were when Ikea carried out its "Bring your own bag" (BYOB)

**Bag sense:** Retailers are starting to sell alternatives to the plastic bag. Carrefour's trolley bag (below) at \$7.90 comes in striking red and blue, can hold a decent load of groceries, and folds up conveniently into a pouch.



We would like to thank Carrefour and Ikea for allowing us to take photos on their premises.



**The time to stop is now:** Singaporeans are taking more than one million bags a day, and using some 40 billion a year. 66% of the 260 shoppers the SEC surveyed in June use up to three bags a day, another 13.4% use double the amount. 92 per cent say that they would support measures to reduce our consumption, but think that the issue of usage and wastage is best tackled by retailers (51%) and the Government (43%).

Elements cover story  
CONTINUED from page 3

campaign from April 22-24 to celebrate Earth Day. While most customers supported the furniture retailer's decision not to give out free, unused bags over the three days, there were a few who violently objected. One customer deigned, "I don't care what day it is; father birthday, mother birthday, whatever. Just give me a bag." Another put it more succinctly, "I don't give a crap." And some just demanded, "I'm paying for the items, why should I pay for the (brown) paper bag?" Still, Ikea is not covering. The store is keen to repeat the campaign in the future, said Mun Ping, secretary of Gang Green, Ikea's green projects committee here, and added that the idea of charging for plastic bags is "an interesting option" which it would "explore".

In a country where money talks and dollars and cents still have the biggest sway over buyers' decisions, one initiative that has not been explored is for retailers to entice people to reuse and recycle plastic bags, and to start saying "no" to free plastic bags by bringing their own reusable totes. Miss Lau thinks that rather than charge for bags or ban them outright, offering incentives would have a greater effect on where it counts most: the wallet. "For example, if you bring your own bag and don't use the retailer's bags, then you'll get a discount. It sounds more positive," she said.

Still, for this long-drawn issue to be resolved at a much faster pace than has been the case so far, would require a firmer foot from a higher place. With greater backing and support from government agencies, Singapore's retailers would have the impetus and credence to drastically reduce plastic bag usage right at the source of the problem: the point of purchase.

That is not to say we should expect our government to solve this problem, but rather to help expedite it. Retailers for their part should stop assuming that consumers are not ready for more radical, sweeping measures, but to find out exactly what would work in the best interests of all parties: the environment, the customer, and the company's bottom line. What is evident, though, is that Singaporeans are a law-abiding bunch. So incentive or punishment, perhaps it is time to dangle a carrot so irresistible, or wield a stick so frightful as to permanently distract shoppers from the stack of fresh, mint-clean plastic bags at the checkout counter. e



Fast facts and effects of plastic bags



\* Plastic bags don't biodegrade, they photodegrade; breaking down into smaller and smaller toxic bits contaminating soil and waterways. They don't readily break down and it's estimated that it takes between 20 years to up to 1,000 years to decompose on land and 450 years in water.

\* Consumers use between 500 billion and 1 trillion plastic bags per year worldwide, or almost 1 million per minute.

\* Plastic bags in the ocean can choke and strangle wildlife. According to environmental group Planet Ark, about 100,000 whales, seals, turtles and other marine animals worldwide are killed each year after being entangled by or ingesting plastic bags.

\* Worldwide, an estimated 4 billion plastic bags end up as litter each year. that's enough to circle the earth 63 times tied end to end. Approximately 46,000 pieces of plastic are floating in each square mile of our oceans.

\* When burned, the inks and additives found in plastic bags can create dioxins and emit heavy metals. The ash is toxic and should be disposed in toxic waste dumps.

\* Almost nine plastic carrier bags contain enough embodied petroleum energy to drive a car one kilometre.

Visit [www.reusablebags.com](http://www.reusablebags.com) for more facts.

Role call:  
Who's doing what,  
where



**PAY FOR a plastic bag?** The mere thought, no suggestion, is completely alien if not outrageous to the majority of Singaporean shoppers. As our retailers, citizens and beauraucrats wrestle with the idea of putting the bag out of business, there are countries that have shown just what can be done, if even for starters.

**Australia (6.9bn used/year)** Federal government is serious about controlling plastic bag waste, and is considering a tax on single-use High Density Polyethylene (HDPE) bags. Over 90 per cent of retailers have agreed to cut usage by 50 per cent before the end of this year. A handful of retailers have gone one step further and started charging for bags. Several towns have also banned the distribution of free bags.

**Bangladesh (10m disposed/day)** All polyethylene bags were banned in Dhaka after they became the primary cause of the 1988 and 1998 floods that submerged two-thirds of the country. Bags littering the city were responsible for choking the drainage system.

**Ireland (1.2bn used in 2001)** In 2002, the Republic of Ireland led the way on all fronts by becoming the first country to introduce a plastic bag consumption tax, or the PlasTax, of 15 cents (\$0.31) per bag.

Retailers are required by law to pass on the charge to customers at the check-out for all plastic bags except smaller bags used to contain fresh meat, fish, poultry, loose fruit and vegetables. Since introducing the tax, consumption has dropped by over 90 per cent, saving about 18 million litres of oil as a result of reduced production. As of end of last year, the environmental levy had raised some 37.3 million euros (\$75.8m), which is paid into an Environmental Fund.

**Taiwan (20bn used/year)** Free distribution of plastic bags in supermarkets and stores have been banned. The amount of bags used has dropped by 80 per cent since a levy of HK\$0.30 (\$0.06) was introduced in 2002.

Bag less, or pay for it - as told  
by N. Sivasothi

WHEN I TOOK a student to the mangroves a few years ago, he asked, "What are those light-coloured leaves, or flowers on the mangroves trees?" I nearly choked but answered, "Those are plastic bags that floated in with the high tide and were stranded on the branches." I choked because I realised I hadn't pointed them out. I was so used to them, I ignored them like ads in a newspaper.

Plastic bags make up a quarter of the 10 tonnes of items we remove from shorelines each year during the International Coastal Cleanup Singapore (<http://coastalcleanup.nus.edu.sg>). Volunteers can attest to the fact that there are a mind-boggling number floating around. Working in the mangroves at high tide recently, I spotted a jellyfish and warned the others with me that if they saw something that looked like a plastic bag under the boardwalk, it's a jellyfish!

Plastic bags are just about everywhere, aren't they? I use them as much as anyone else. Gleeefully, I keep them for reuse later, but after a few battles to close a drawer full of them, I realised enough is enough. Since then, I almost always have a large bag, and try to use it instead. But I had to overcome a formidable foe - supermarket checkout staff. Realising it was a matter of timing, I now keep an eagle-eyed vigilance. Over time, I've become fast enough to intervene when staff pack my groceries. Once, after persuading the cashier to consolidate my purchases into one plastic bag, my feelings of satisfaction were robbed at the eleventh hour when she double-bagged my bag even as I lifted it.

These days, thankfully, less skill is needed as checkout staff and cashiers are more receptive to the idea. I've even had them unpack stuff with me once or twice. It's a skill best exercised by Jedi masters. I'm happy to see the debate about reducing our consumption. But, it's probably best that we have to pay for plastic bags; we'll certainly get imaginative about alternatives quickly.

*The writer is a biologist and naturalist, who has dedicated nearly 20 years to conservation work.*

Elements cover story

# Who said planet-friendly bags had to be green?

## \* Hey Jute!

LONG ASSOCIATED with the prickly, coarse material of gunnysacks and the rustic brown hues of traditional funeral garb, jute has had an image problem. None of this, however, has deterred businesswoman Jyoti Goenka from promoting and selling bags and totes made from the eco-friendly and durable fibres of the jute plant. Indeed, few would have been caught dead toting a jute carrier just three years back, but these days, you'll find plenty of converts on the streets of Singapore.

Sure, jute isn't exactly high fashion, but it's gained a reputation for being fun, practical, long-lasting, elegant, and, dare we say it, even stylish. Nowadays, Mrs Goenka says she sells an average of 1,000 to 1,500 pieces a month. And there is everything to like about the low-cost and highly adaptable "Golden Fibre". Farmed in countries such as India, Bangladesh and China, jute is biodegradable, breaking down naturally when mixed with soil, leaving nutrients behind. When burnt, jute emits non-toxic fumes and doesn't produce residues.

J's Ecoworld's products are made from fine quality bleached or dyed jute fabrics. These are coated inside with virgin-grade poly granules to make the bags firm and waterproof. Woven, jute is blended with cotton to produce finer fabrics. They come in a variety of colours, designs and sizes. On average, the bags can carry up to 20 kilos in weight, be folded to fit easily into a day bag, and are reusable over 300 times.

### BUY IT

Wholesale: View the extensive collection at [www.jsecoworld.com](http://www.jsecoworld.com).

Discounts of up to 70 per cent for bulk orders. Call 6344-0458.

Retail: Wine Culture (6462-1129), Homespun (6338-4393), ROCKZ (3, New Bugis Street #02-01F), and eZEN Accessories (Blk 41, Holland Drive #01-07)



## Hoitey Totey \*

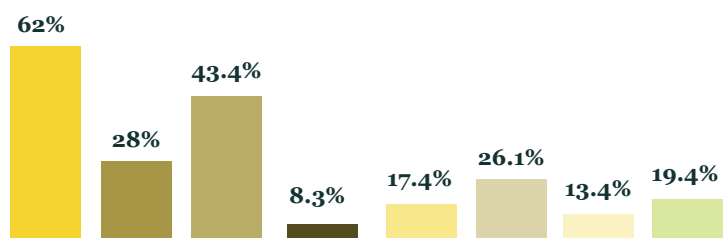


STARTED by a brother and sister team in late 2003, OOTB is the reason why anyone should start a business: to satisfy a demand. Chin Nian said, "We see the tote bag as a very prominent fashion accessory, as they are usually huge and carried over the shoulder." Toting their own creations about town, which they made truly unique by matching colours and adding intricate stitch patterns, friends started asking them where to buy the bags. The rest, as they say, is history. OOTB's range of canvas and PE material carriers are perfect for people looking for alternatives to the plastic bag. Plus you can help save the environment without sacrificing on style and individuality. Not only do the bags look great, they last a long time, and can carry a substantial amount of weight.

photos by OOTB

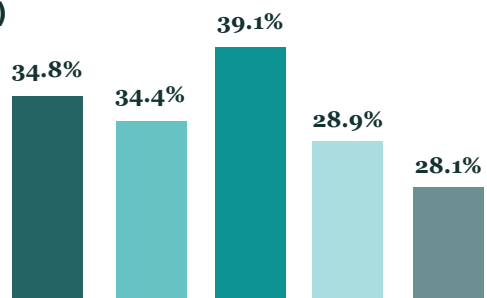
Items are sold online at <http://ootb.wynhost.com> or at selected flea markets. Prices range from \$8.90 to \$39.90 for a large tote bag.

### Some findings from SEC's June 4-5 plastic bag survey (260 respondents)



Measures Supported

- Buy reusable bag from retailer
- Bring my own bag
- Incentives to reuse/recycle plastic bags
- Nationwide ban on free plastic bags
- Government levy on plastic bags, with taxes going to an Environment Fund
- Stop practice of double-bagging
- Alternatives, such as reused carton boxes and crates
- Pay for plastic bags



How retailers can cut usage and increase reuse

- Give one free bag with a minimum amount spent per receipt
- Buy reusable bag from retailer
- Offer discounts to shoppers who reuse plastic bags from the same retailer
- Give away branded cloth/jute bags with min spent & offer a discount when reused
- Start rewards scheme with points/chops per receipt when bring own bag or reuse bag

N.B. For more findings from our survey, please e-mail [info@sec.org.sg](mailto:info@sec.org.sg).

Guest Contributor

# Socially responsible investing still far from gaining ground

Why should Singaporeans take note of socially responsible investment, or SRI, as it is known in the trade? After all, in the last eight years the country has seen far more momentum for hedge funds than anything in the SRI field, so why bother? **Tessa Tennant**, executive chair of the Hong Kong-based Association for Sustainable and Responsible Investment in Asia, tells us exactly why investors should bother.



WHAT HAS SRI got to do with me? A great deal. Step back and think about your investment portfolio, what do you own? Property companies, banks, industrials, mining companies? Then think about what these companies do. Do the banks lend to the companies deforesting SE Asia, does the mining or industrial company do anything to stop pollution leaking into nearby water courses? Perhaps you don't know, or don't care. Or perhaps you do care. If so, you are like the legion of investors choosing SRI funds. People who want to make money and also want to be sure that they are supporting the very highest environmental, social and governance standards in business. These are people who realize that it is pointless to make money if the investment legacy undermines everything which we leave for our children. SRI is spreading across the world, some US\$3 trillion is already invested and the amount is growing.

## Count to 10

According to the UNEP, in this time 3,716 tons of fuel has been consumed globally, 2,000 tons of carbon dioxide has been emitted into the atmosphere, four acres of rainforest have been cleared, 119 tons of toxic and hazardous waste has been generated, and there has been US\$4,100 of pollution damage to coastal waters. This may not sound much but it is happening every 10 seconds. This is the legacy we are leaving for future generations.

Social investors are investing in the clever companies which understand the world's ecological crisis and the need to foster social stability through fair workplace practices. These are companies developing renewable energy sources, conserving water, eliminating toxics, recycling, or are in mass transit, health and education. These are the true industries of the future.

Social investors are also collaborating to raise disclosure standards. For example, the Carbon Disclosure Project (CDP) is a group of investment companies with combined assets of more than US\$20 trillion, who write every year to the world's largest corporations asking them to disclose their carbon emissions and policies. SingTel and DBS Group responded to CDP, last year.

## What's happening in Singapore?

To be honest, not as much as might be expected given the high levels of education and participation in the markets. It seems that although Singapore is a caring nation, many Singaporeans have yet to make the connection between the impact of their investments on the world around them. But there are encouraging signs of change. Singapore is a regional leader in Islamic investing, which is guided by ethical considerations. UOB has a women's fund and ethical fund in their stable. They also run a fund for the ADB with sustainable investment principles.

Other investment companies such as Nikko Asset Management from Japan also have SRI competencies. Elsewhere governments have been keen to support the development of SRI, for example in the UK through legislation, and tax

incentives in Holland. They have seen SRI as a way to temper market excesses and mobilise public support through investment for the common good. Singapore's governors would benefit from supporting the industry too, indeed the country could become South-east Asia's centre of excellence for SRI.

*Tessa Tennant is executive chair of the Association for Sustainable and Responsible Investment in Asia, and we thank her for contributing this article on SRI.*

E-mail views to [info@sec.org.sg](mailto:info@sec.org.sg).

*"SRI is one of the key tools for building a sustainable future for Asia. By bringing environmental and social considerations together with financial ones, SRI allows investors to take more responsibility for their own future...SRI allows investors to take into account wider concerns, such as social justice, economic development, peace or a healthy environment, as well as conventional financial considerations." – [www.asria.org](http://www.asria.org)*

## Practicing the triple bottomline of SRI: What's involved? (information culled from ASRIA's website at [www.asria.org](http://www.asria.org))

Investors consider social, environmental and ethical issues such as the exposure to and impact of corporate activities on:

1. climate change
2. water scarcity
3. water, air (including noise) and soil pollution
4. toxic waste generation
5. biodiversity
6. resource depletion (such as tropical and old growth deforestation)
7. ecological footprint overload.

## Considering the Environment

Environmentally-speaking, companies should have a clear, uncompromised thinking about the environment as a core component of their corporate strategy. They should also be able to show examples of eco-efficiency and the ability to increase the material and energy resource use efficiencies of their operations.

Environmental factors include: impacts; employee motivation to reduce impacts; management commitment; and environmental innovation.

## Socially speaking

From a social perspective, attractive companies show a strong and willing involvement of the entire workforce in the development of the company, and how this is achieved. In the global context, these SRI-friendly companies should also be able to demonstrate their accountability through appropriate corporate citizenship.

Social factors include: profit sharing; civil or employee actions; corporate governance; equal opportunities; and diversity.



## Eco-business profile **RICOH** Setting the "green" benchmark

IT'S NOT just the sweet, little, forest green bench made of recycled plastic that impresses you when you first step into Ricoh Asia Pacific's reception area. It is also how spotlessly tidy and ordered the workspaces are in the sprawling 10,000-sq-ft office. You will not find a stray piece of paper, nor any loose pens, files or staplers anywhere. And if you need to throw something, forget about looking for the individual waste paper bins that are found under every table in the average company. Those are conspicuously missing too. Instead all rubbish is sorted by material into centralised bins located around the office.

None of this, however, should be surprising seeing as Ricoh AP was the first company in Singapore to be awarded the Green Office Label in November, last year. Based on the Eco-Office Rating System administered by the Singapore Environment Council, the award recognises a company's commitment towards environmental protection. According to Tang Khoon Sin, who manages all environment-related projects at the Singapore office, conserving the global environment contributes to the development of a sustainable society. This in turn reduces the environmental impact of Ricoh's business activities, which are caused by carbon dioxide emissions and the use of chemical substances.

Called the "Comet Circle Concept", the Ricoh Group's green manifesto focuses on six areas that fit into the company's overall business strategy. These include: improving environmentally friendly functions and promoting technological development; increasing its



resource conservation rate by improving the productivity of products and materials. Precise targets are then set each year to reduce the consumption of costly resources, such as electricity, paper and water.

Lunch hour at Ricoh AP, for example, is fixed at 12.30pm. Each member of staff, including senior management, is encouraged to go at the same time. With the office empty, lights and office equipment are powered down for at least an hour to save energy, Mr Tang said.

"Setting environmental policy and providing training to staff to encourage green practices is insufficient," Mr Tang said. "It's also important to set clear objectives, to implement a systemic approach (that is) deployed and integrated into daily activities, and to set measures for improvement."

What do employees of Ricoh Asia Pacific make of their employer's fastidious approach to being environmentally-friendly? Did any of them leave because they did not get their own dustbin, or because the company removed all disposable cutlery and plates from the kitchen?

"It's always difficult to initiate new green programmes at the beginning, especially since Singaporeans are usually not very environmentally conscious," noted Mr Tang. "There are initial complaints and lots of questions." But these quickly stop when people become accustomed. Some even miss the practices when they leave. He said, "An ex-colleague told me: 'Now I really appreciate the steps Ricoh took to save paper and energy. In my new company, not a single document is printed on double sides.'" There are stories too of workers who bring in recyclable items from home to throw in the office, and who have extended energy-saving practices into their houses.

Of course, Ricoh recognises that not every person understands nor appreciates immediately the reasons behind the company's environmental conservation activities. Hence, staff are eased gradually into new policies. The removing of all individual bins, for instance, did not happen overnight. It took place over a period of months, starting with two people sharing one bin, then four people, and eventually no bins at all. "Newly joined staff don't understand why we need to do this, or that. In their mind, it could just be another corporate activity."

To overcome reticence, Ricoh has two approaches. The first is to increase awareness through competitions, notices, training, and publishing of environmental results. The second awards certificates and other incen-

**Environmental Health and Safety Committee**  
Clockwise from top left: Daniel Pang, Marketing Executive Product & Solution Marketing; Lee Yee Mee, Executive Environment Management System Service & Solution Centre; Fion Lee Sock Yin, Executive CS & Quality; and Calvin Kow Yoon Loy, SCM Executive

### COMPANY PROFILE

Name: Ricoh Asia Pacific  
No. of employees: 45  
Website: www.ricoh.com.sg  
Awards collected: 2005, eight BERTL's Best Awards for the best devices and software in the digital imaging marketplace; 2004, Green Office Certification; 2003, Gold Medal for International Achievement in Sustainable Development by the World Environmental Centre; 1996-1999 and 2001, Office Equipment Partner of the Year, the US Environmental Protection Agency's highest industry award.

### GREEN PRACTICES

At regional level:

Recycling and reuse through product collection, recycling, PPC reconditioning and toner refilling; Environmental social contribution via forest conservation and green activities with society; Green marketing through publicity of green activities, and sale of green products; Environmental Management System, used as a self-assessment tool to evaluate and identify areas for improvement.

At Singapore head office level:

Projects include environment awareness, paper saving, energy saving, toner cartridges, green procurement, and waste recycling.



tives to motivate employees to work towards common goals. Said Mr Tang: "It's common for staff to be excited and cooperative when they know they're part of a winning team."

All these efforts have paid off, although Mr Tang is quick to stress that the objective is neither to make nor save money. Costs, he said, should not be the first thing to consider when deciding to put in place environmental practices. Return of investment is typically measured only in terms of the amount of brand and staff awareness that is created through the running of programmes. Still, the numbers are tellingly positive. The Singapore office has managed to substantially cut resource consumption, and to switch to using environmentally-friendly products. It saved \$4,000 in the first year of implementation, and a further \$200 in the second year.

As for advice to companies who, for lack of resources, have no plans to go green, Mr Tang recommends aiming for "something small" first, and then moving on to initiatives that "require investment and resources".

### For starters, try these activities:

1. Save energy by removing light tubes from areas that do not require artificial lighting; make use of natural lighting as much as possible, and install light movement sensors.
2. Save water by converting manual taps to automatic ones.
3. Set up a system for collecting paper waste for recycling.

## Green Map goes hi-tech after four years

Lim Soon Chung

FIRST PUBLISHED in 2001, the Map contains a wealth of information on Singapore's eco-resources, ranging from details on walking trails in major nature areas such as Bukit Timah Nature Reserve, to information on shops where one can buy organic food. By placing the map online, this information is now easily accessible to more people, both in Singapore and overseas. The information is also searchable, allowing users of the online map to look for information quickly. Updates can be performed faster, easier and cheaper.

Visitors to the site can either use the search engine to look for resources within a certain distance from their home, or they can browse through the resource lists from a menu, which is directly linked to location maps. The map features a section with descriptions of walking trails found in major parks such as Bukit Timah Nature Reserve and the Botanic Gardens. These concise guides provide the sights along the trails in the major parks, and nature reserves.

The Singapore Green Map is part of the global Green Map System. For more information visit [www.greenmap.org](http://www.greenmap.org). View the Green Map at [www.greenmap.sec.org.sg](http://www.greenmap.sec.org.sg).

### Features of the Virtual Map

**Search engine :** The virtual Map now comes with a useful search engine that allows one to find out if any of the green resources listed (for eg, Nature Reserves) can be found within a certain selected distance from any address or any postal code.

**Guide to Nature Trails:** The guide is comprehensive and includes a map of the park that users can print and bring along for their walk.

## Singapore backs International Media and Environment Summit

IN NOVEMBER, the Singapore Environment Council, National Environment Agency, Asian Media Information & Communications Centre and others will travel to Kuching for the first International Media & Environment Summit. Organised by News World International, the event will bring together key figures in the media and the environment from all over the world to discuss the challenges of communicating complex science via the media to a mass audience.

"Nature can be cruel, as the tsunami shows, but it is most of the time benevolent and when it is benevolent it should be cherished more and understood better. That is one of the greatest challenges facing this planet's media whether in print, broadcast or on the World Wide Web," said Chairman of News World International, Richard Peel.

### The Green Debate

The summit will tackle 'green' topics such as human development and wildlife conservation, the media's role in conservation, ecotourism, and corporate and social responsibility. Key supporters include the United Nations Development Programme, the Association of South East Asian Nations, the United Nations Environment Programme and Conservation International.

### Distinguished line-up

The Summit will be chaired by award-winning TV presenter and conservationist, Prof David Suzuki. Speakers include Haroldo Castro, Vice President of Conservation International; Prof Ang Peng Hwa Dean of Communication & Information Nanyang Technological University; Sir Crispin Tickell, former scientific advisor to the UK government; Ong Keng Yong, Secretary General of ASEAN; and Mike Anane, President of the League of Environmental Journalists in Ghana.

Speaker, Professor Ian Swingland, Director and Founder of the Durrell Institute for Conservation and Ecology, Kent University, said, "This initiative will revolutionise our ability to understand the way the world works and improve the way the world will be."

### Strengthening Bridges

Alexander Thomson, Managing Director of News World International, said the event will also engage the participation of both the public and private sectors. "There are three key bridges we are trying to strengthen: media and environment; east and west; public and private sectors," he said.

For further information or to reserve your place at the International Media & Environment Summit log on to [www.newsworldnature.com](http://www.newsworldnature.com).

## Green Business Alliance uploaded and running

Yatin Premchand



AN INITIATIVE of the Singapore Environment Council (SEC), and supported by the National Environment Agency, the Singapore Green Business Alliance (SGBA) is set to launch in the third quarter of this year.

The SGBA has been designed to catapult corporate environmentalism in Singapore to new heights, and to complement existing schemes and initiatives by various government and private entities.

The Alliance will comprise a pool of ISO 14001-certified and like-minded companies with a strong management commitment towards better business practices and transparency. Collectively, members of the Alliance will showcase excellence in corporate environmentalism and enhance Singapore's role in the global green movement. Organisations that have not currently achieved ISO 14001, or the equivalent, are also being encouraged to join as Associate Members to reap the benefits from the exchange of knowledge, teachings and practices with full-fledged Members.

To kick off the awareness-raising activities and application drive for the SGBA, the SEC has created an introductory website that focuses on existing Members who have also been previous winners of the prestigious Singapore Environmental Achievement Award (SEAA). This website includes information on the benefits of being a member, frequently asked questions about the SGBA, instructions on how to apply for membership, and a listing of upcoming events. In addition, detailed micro-sites have been developed to showcase the Members' corporate profiles, missions, environmental performance, commitment, and their plans for activities and promotions.

### Become a member today

Visit [www.sec.org.sg](http://www.sec.org.sg) and click through to the SGBA website. Or contact Yatin Premchand at 6337-6062, or [sgba@sec.org.sg](mailto:sgba@sec.org.sg).

### The Singapore Environmental Achievement Award 2005

Applications for the SEAA are open from July 20 to September 7. Forms are available for download at [www.sec.org.sg](http://www.sec.org.sg).

## It's biologic

Uma Sachidhanandam

IN APRIL, the Council launched the Biologic Series of DVDs for primary and secondary schools at Nan Hua Secondary.

The series focuses on nature conservation and environmental management issues faced by metropolitan cities. Each episode investigates key environmental technologies and management strategies being employed in industries and by local communities.

The series looks at the conflict between development and preserving our natural heritage, and delves into the remaining green areas of highly urbanised Singapore. School environment and green clubs are encouraged to screen the DVD during club activities, and teachers to use the series as part of lesson plans in science and geography.



## Watch it Bird Brain!

IF THE closest you've come in contact with a bird is standing in front of a cage, or fending off a scavenging crow at a hawkler centre, then *Bird Brains*, a [birdwatching club for beginners](#), is the perfect place to educate yourself about our winged friends. Run by the Green Volunteers Network (GVN), its head Grant Pereira said, "Birds are around but we hardly notice them. *Bird Brains* is a fun birdwatching club for beginners. We have knowledgeable guest guides, but none of the hocus-pocus Latin names."



The Blue-tailed Bee Eater

Mr Pereira would like to see more schools take part. With greater involvement, students can start planting plants, shrubs and trees that would attract specific birds to urban environments. "Once you learn to appreciate birds you'll realise how important trees are. Imagine a Singapore devoid of trees; grey, barren and with the only bird around probably the crow," he said.

### Sponsor Appeal

The programme is ongoing, and GVN is looking for a sponsor. Donations are needed to obtain equipment such as telescopes, and to make bird ID cards and posters. Library talks are also planned for early August. Interested parties should e-mail Mr Pereira at [grant@gvn.com.sg](mailto:grant@gvn.com.sg).

## GVN targets disenfranchised youth

Called *City Kids*, Grant Pereira describes his latest project as something for "youth on the fringe".

The aim of the programme, Mr Pereira tells Elements, is to guide these troubled teenagers away from their harmful, and unhealthy surroundings. *City Kids* would introduce these youth to GVN volunteers and a different, more environmentally friendly lifestyle. "We'll bring them overnight camping at our parks or Pulau Ubin. After several camps, we can form an alumni so that perhaps they can form their own groups, and help other kids in trouble, or on the fringe," Mr Pereira said.

### Sponsor appeal

Until a sponsor comes forward to support the programme, *City Kids* remains just a great idea. "Socially responsible people are usually environmentally responsible people," Mr Pereira said. "We are looking for a sponsor to help make our youth more responsible and environmentally aware." E-mail GVN at [grant@gvn.com.sg](mailto:grant@gvn.com.sg).

## Helium balloons, a weighty issue for S'pore environmentalist

The familiar sight of hundreds of red and white balloons being released into the sky during the National Day Parade (NDP) every August 9 will become a thing of the past. Organisers of the annual NDP festivities have agreed to stop this tradition as a matter of good environmental sense.

The decision was instigated by 57-year-old Grant Pereira, head of the Green Volunteers Network. He had written to the NDP committee requesting that helium balloons not be released. Earlier, Mr Pereira had succeeded in reducing the number of balloons that would have been launched at the President's Challenge event this year, by three quarters. The rest will be given out.

Clearly pleased with what he has achieved with just a few letters and some phone calls, Mr Pereira is now looking at getting all helium balloons banned. "Isn't it more meaningful to give out balloons rather than letting them drift out into the atmosphere?" he asked, rhetorically.

Floating helium balloons eventually fall back to Earth, returning as litter and potential

death traps. Marine wildlife, such as dolphins and sea turtles, are often put at risk when they choke on, swallow or ingest balloons and its fragments.



EMI Music Singapore

## Coldplay's X&Y carbon-neutralised

MILLIONS love their music. We love their causes even more. Coldplay's ([www.coldplay.com](http://www.coldplay.com)) third LP, X&Y, hit the number one spot on album charts in 22 countries, including the US and UK, barely a week after its June 6 debut. Beyond their success as musicians, though, are four British blokes determined to make a difference to the environment, and other social causes.

Visit Oxfam's "Make Trade Fair" campaign online at [www.maketradefair.com](http://www.maketradefair.com) to find out what Coldplay has been doing in Africa. The band is also working with Future Forests again to absorb all the CO<sub>2</sub> created in the production, manufacture and distribution of X&Y. This time round, Coldplay has picked a forest in Chiapas, Mexico. Fans can help reduce emissions and halt the onset of global warming by dedicating a forest in two of the poorest regions in Mexico ([www.futureforests.com/coldplay](http://www.futureforests.com/coldplay)).

Back home, EMI Music Singapore toed the green line by sponsoring a one-page donation appeal for the Singapore Environment Council in the insert found in X&Y albums sold in Singapore. Help us save and protect the Earth's depleting resources. Donate online at [www.sec.org.sg](http://www.sec.org.sg), or call 6337-6062.

### JULY 2005

**02/07** 3-4pm, Southern Haunt Free Talk, The Programme Zone, Library@Orchard, Ngee Ann City, Contact Gillian at [reefexhibits@bluewatervolunteers.org](mailto:reefexhibits@bluewatervolunteers.org).  
**02/07** 9.30am/10.30am, Free Lower Pierce Boardwalk Guided Walk, Lower Pierce Boardwalk, Contact NParks at [Genevieve\\_CHUA@nparks.gov.sg](mailto:Genevieve_CHUA@nparks.gov.sg) or Call 6554-5127.  
**03/07-06/07** 4<sup>th</sup> International Symposium on Gingers, Contact The Symposium Secretariat at [gingerssymposium06@nparks.gov.sg](mailto:gingerssymposium06@nparks.gov.sg). **03/07** 4pm, Free Bukit Timah Nature Reserve Walk, Bukit Timah Nature Reserve, Contact NParks at [Genevieve\\_CHUA@nparks.gov.sg](mailto:Genevieve_CHUA@nparks.gov.sg) or Call 6554-5127. **09/07** 9am/10am/11am/4pm, Free Botanic Gardens Rainforest Trail Guided Walk, Singapore Botanic Gardens.  
**10/07** 4pm, Free Bukit Timah Nature Reserve Walk, Bukit Timah Nature Reserve, Contact NParks at [Genevieve\\_CHUA@nparks.gov.sg](mailto:Genevieve_CHUA@nparks.gov.sg) or Call 6554-5127. **10/07** 9.30am/10.30am, Free MacRitchie Prunus Trail Guided Walk, Meet at Entrance of Trail, Contact NParks at [Genevieve\\_CHUA@nparks.gov.sg](mailto:Genevieve_CHUA@nparks.gov.sg) or Call 6554-5127.  
**23/07** 9.30am/10.30am, Free Sensory Trail Walk, Pulau Ubin, Contact Pulau Ubin Hotline 6542-4108. **23/07** 9am, Free Evolution Garden Tour, Singapore Botanic Gardens, Call Visitor Services at 6471-7361. **24/07** 8.30am, Free "Painting with Pui San", Sungei Buloh Wetland Reserve, Contact Sungei Buloh Wetland Reserve at [sbwr@pacific.net.sg](mailto:sbwr@pacific.net.sg) or Call 6794-1401. **26/07 and 29/07** 7.30pm, Slide-talk "Plants that Heal, Thrill and Kill" by Dr Wee Yeow Chin, 510 Geylang Road, #02-05, The Sunflower, Contact Nature Society at [contact@nss.org.sg](mailto:contact@nss.org.sg) or Call 6741-2036.

### AUGUST 2005

**06/08** 9.30am/10.30am, Free Lower Pierce Boardwalk Guided Walk, Lower Pierce Boardwalk, Contact NParks at [Genevieve\\_CHUA@nparks.gov.sg](mailto:Genevieve_CHUA@nparks.gov.sg) or Call 6554-5127. **13/08** 9am/10am/11am/4pm, Free Botanic Gardens Rainforest Trail Guided Walk, Singapore Botanic Gardens. **14/08** 9.30am/10.30am, Free MacRitchie Prunus Trail Guided Walk, Meet at Entrance of Trail, Contact NParks at [Genevieve\\_CHUA@nparks.gov.sg](mailto:Genevieve_CHUA@nparks.gov.sg) or Call 6554-5127.  
**27/08** 9.30am/10.30am, Free Sensory Trail Walk, Pulau Ubin, Contact Pulau Ubin Hotline 6542-4108. **27/08** 9am, Free Evolution Garden Tour, Singapore Botanic Gardens, Call Visitor Services at 6471-7361. **28/08** 8.30am, Free "Painting with Pui San", Sungei Buloh Wetland Reserve, Contact Sungei Buloh Wetland Reserve at [sbwr@pacific.net.sg](mailto:sbwr@pacific.net.sg) or Call 6794-1401.

### SEPTEMBER 2005

**10/09** International Coastal Cleanup (mangrove), Islandwide  
**17/09** International Coastal Cleanup (beach), Islandwide  
 For both events Contact N. Sivasothi at [iccs@sivasothi.com](mailto:iccs@sivasothi.com).

### JULY TO SEPTEMBER 2005

**Every Saturday** 9am/10am/3am/4pm and **Every Sunday** 9am/10am Sungei Buloh Wetland Reserve Contact [sbwr@pacific.net.sg](mailto:sbwr@pacific.net.sg) or Call 6794-1401.

# A wasteland? What rubbish.

What's landfill island Pulau Semakau really like? Elements finds out from evergreen nature lovers Grant Pereira, 57, who heads the Green Volunteers Network, and Stephen Lau, 58, a retiree and former engineer with Shell. They share their earliest memories and experiences, as well as hopes for the island which opens to the public in July.

**Elements:** *What were your earliest memories of Pulau Semakau?*

**Grant:** In the 1960s, I used to fish around the Southern islands and know the area well. We used to stay with a Malay family at Sudong when the tides were slack and fish not biting. I stopped visiting these places when reclamation started and the families moved out.

**Stephen:** Bukom was where I worked since 1969 and the sea and islands around it formed my weekend playground till today.

In the 70s, P. Semakau was inhabited like P. Sakeng and P. Sudong. There was a kampong but unlike houses on stilts in P. Sakeng, which stood out clearly from a distance and were mostly built over the water, the houses on P. Semakau were more inland and camouflaged by trees and bushes.

P. Semakau wasn't a popular destination for picnickers and/or boaters (compared to P. Hantu or P. Sakeng) as its narrow tiny pebbly beach on the eastern side could only be approached by small boats at very high tides as it was guarded by a very broad and shallow fringe-reef.

There was mangrove swamp deterring landings in the north and south, and the western approach was also difficult as deeper water between treacherous patch-reefs could only be seen clearly at low tide. The Malay islanders had built their houses and a long wooden jetty facing the west.

During the 70s and 80s, I visited P. Semakau twice with picnickers to swim and explore the deserted beach on the east, once to catch freshwater fish in the brackish ponds on the northern side, once to visit a fisherman friend in the kampong, and half a dozen times for scuba diving at the north-eastern fringe-reef near the watery graveyard of many old tongkangs. After the kampong was cleared in the late 80s or early 90s, there was an old Malay couple who abandoned their family and HDB flat and returned to P. Semakau to stay by themselves. I believe there was a newspaper report on this.

**Elements:** *When was the last time you visited the island? How had it changed?*

**G:** The Semakau then is nothing compared to what it is today. How can you compare an idyllic island village with a dump? The villagers were allocated flats and suffered stress as they never lived higher than sea level and all of a sudden they were made to live in high-rise flats.

Many families unable to adapt would spend the whole day at Pasir Panjang park by the beach and only returned to their flats to sleep at night. One family actually returned to Semakau to live.

**S:** The last I set foot on P. Semakau was in the 80s. However, last year I made an excursion to the "new" Semakau but only walked on the reclaimed sections. I did however scuba dive a few times last year at the southern part of the island next to the newly planted mangrove trees and in less than one metre of water saw many live Stromb shells, Harlequin shrimps and inverted jellyfish. Changes? Not much change if the island is viewed from the west, except all man-made structures no longer can be seen other than the newly constructed retaining wall, which appears from behind the mangrove at the southern end of the island. Inland it's hard to compare since I had always been closer to the fringe.

**Elements:** *Would you go back now? Why?*

**G:** No, I would not go back as I want to remember these islands as they were. The media tries to give the impression that birds and nature have returned to this landfill - they were always there and in greater numbers and quantity than today. What we see are parts and portions that have not been destroyed.

**S:** Yes, I would love to explore Semakau in entirety if permission is granted as there are not many uninhabited islands with mangrove environment for us to uncover. I have explored the rich mangrove swamp in P. Pawai and Senang by boat before the military took over these islands for training. Checking out Semakau's mangrove on foot should be equally interesting.

**Elements:** *As a lover of nature and a champion of environmental conservation, what are your views on the plans for Pulau Semakau?*

**G:** Opening Semakau to guided, regulated nature walks is okay but a free-for-all would impact it - remember Chek Jawa? I am definitely against any form of seaports as it would impact the delicate balance, even canoeists will be tempted to touch or take corals, seaweeds, etc. Singaporeans generally like new things, like Chek Jawa initially there'll be a huge crowd and eventually it will peter out and hopefully the island will be left to rejuvenate and evolve.

**S:** Why Semakau had largely been spared from being completely stripped and levelled like P. Sakeng when this new landfill was created is unknown. Whoever was involved may have cleverly left Semakau intact to preserve the cleansing property of her mangrove swamps, which could help to take care of any toxic leakage from the landfill bunds. It's an unexpected bonus for conservation. Equally important for conservation are the large patch-reefs immediately west of P. Semakau, which were also left intact.

I would support opening part of the island to public for walks if the volume of visitors is kept small and any harm to the environment and/or creatures is minimised.

The intact part of the original P. Semakau should not be used to station a seaports centre. The coastal surroundings of this island is unfriendly to boaters and any changes will impact the natural environment. Seaports is best done on "picnic" islands like Sisters or Hantu.

**Elements:** *What are your greatest hopes and fears for the island?*

**G:** I have no fears and hopes for this island. It's a dump. What hope for a dump is that it would one day grow into an exotic mangrove habitat - only time will tell. I suppose this is what we call progress; the more dumps we have the further we've progressed. Dumps are necessary for the common good of the people - like our 25 golf courses.

**S:** Semakau to remain only an attraction to serious nature lovers or those seeking education in nature. It should never be commercialised especially by those not linked to nature. Also, mauling hordes should never be allowed to trample this "born-again" island.



Mangrove Flower



Spider Conch



Red Egg Crab



Mangrove Flat

<p><b>DEEP SLEEP!</b> You made it to bed first, more sleep for you and a fresher start tomorrow. Congratulations.</p>		<p>Sleep with air-con, and leave light on in living room for emergencies.</p> <p>GO BACK 13.</p>	<p>Switch lights off, and sleep with fan and windows on only.</p> <p>SKIP 4.</p>	<p>Fall asleep with TV and lights on.</p> <p>GO BACK 5.</p>
<p>Drink homebrew instead of imported beer.</p> <p>Skip 3.</p>	<p>Relax playing console games on TV, with stereo and air-con on.</p> <p>GO BACK 5.</p>	<p>Read book to relax, next to standing lamp using energy saving bulbs.</p> <p>SKIP 3.</p>		
<p>Walk, instead of driving, to the corner shop to buy milk for the cat.</p> <p>SKIP 3.</p>	<p>Sort rubbish into recycling bins. Throw food down chute wrapped in newspaper.</p> <p>SKIP 7.</p>	<p>Run dishwasher half empty.</p> <p>GO BACK 7.</p>	<p>Cook dinner using all four electric hobs.</p> <p>GO BACK 5.</p>	<p>Get home, run a warm bath, watch TV and forget bath which overflows.</p> <p>GO BACK 5.</p>
<p>Late for dinner, speed home in car.</p> <p>GO BACK 6.</p>	<p>Car-pool with colleagues to get home.</p> <p>SKIP 2.</p>	<p>Visit \$5 car wash, at least three times a week.</p> <p>GO BACK 10.</p>	<p>Get home, switch on air-con in all rooms, TV, all lights, and go for shower.</p> <p>GO BACK 15.</p>	<p>Get home, head straight for a cold shower.</p> <p>SKIP 4.</p>
<p>Ask for double bagging and an extra two plastic bags at checkout counter.</p> <p>GO BACK 14.</p>	<p>Buy canvas tote at supermarket for shopping. Say "no" for first time to plastic bags.</p> <p>SKIP 4.</p>	<p>Grocery shopping with own reusable bag to avoid taking plastic bags.</p> <p>SKIP 5.</p>	<p>Go to wet market to buy local farm produce.</p> <p>SKIP 6.</p>	<p>Pick up tickets to Hong Kong, second time going in a month because flights are cheap.</p> <p>GO BACK 5.</p>
<p>Switch off monitor and lights before going to lunch.</p> <p>SKIP 4.</p>	<p>Turn on desk lamp when ceiling lights are all on already.</p> <p>GO BACK 2.</p>	<p>Repair shoes at cobbler instead of buying new pair.</p> <p>SKIP 5.</p>	<p>Buy food back to office in styrofoam box, with disposable cutlery in plastic bag.</p> <p>GO BACK 3.</p>	<p>Using own lunchbox to take away food.</p> <p>SKIP 2.</p>
<p>Use recycled paper to print out documents, double-sided.</p> <p>SKIP 4.</p>	<p>Print e-mails out on fresh paper.</p> <p>GO BACK 3.</p>	<p>Get to office, realise computer and monitor left on all night.</p> <p>GO BACK 9.</p>	<p>Park by roadside to get food, leave engine running.</p> <p>GO BACK 8.</p>	<p>Maintain 60km/h, avoid accelerating needlessly, leave windows down.</p> <p>SKIP 1.</p>
<p>Walk to train station instead of bussing.</p> <p>SKIP 6.</p>	<p>Cycle to work.</p> <p>SKIP 10.</p>	<p>Drive 4WD, and fill gas tank to full.</p> <p>GO BACK 11.</p>	<p>Raining, so use public transport instead of driving.</p> <p>SKIP 4.</p>	<p>Stuck in traffic jam, turn air-con on.</p> <p>GO BACK 4.</p>
<p>Avoid lift, and take the stairs for exercise.</p> <p>SKIP 2.</p>	<p>Forget to switch lights and fan off before leaving house.</p> <p>GO BACK 7.</p>	<p>Put on organic cotton or hemp clothes.</p> <p>SKIP 2.</p>	<p>Throw wet laundered clothes into dryer.</p> <p>GO BACK 5.</p>	<p>Use microwave to make coffee.</p> <p>GO BACK 3.</p>
<p>7.30am Rise and Shine! Aim to get to bed first. Roll a dice to start playing.</p>	<p>Leave air-con on in room while dress for work.</p> <p>GO BACK 1.</p>	<p>Switch fan off in room and get ready for work.</p> <p>SKIP 2.</p>	<p>Leave water running while brushing teeth.</p> <p>GO BACK 3.</p>	<p>Water left running while soaping.</p> <p>GO BACK 3.</p>
			<p>Fill mug with water and use to brush teeth.</p> <p>SKIP 2.</p>	<p>Use biodegradable detergent for doing laundry.</p> <p>SKIP 13.</p>

Eco-Snakes and Ladders. Suitable for up to 4 players. Ages 5+

N. Sivasothi, 39, naturalist and research officer at the Raffles Museum of Biodiversity Research, National University of Singapore

*Q. Why did you join the environment movement?*

I was always interested in animals and biology, and when I came to the university in my first year I was quite fascinated by the fact that the lecturers knew the names of plants, and about ecological processes. Here were people who opened up my eyes to my surroundings, allowing me to see the details.

*Q. Is there anything left in Singapore to conserve?*

We have several layers of heritage that speak of a very rich history. We always lament the fact that we have nothing to speak of when we talk to a foreigner but the contrary is true. It's because we've gone through so much change that we actually have a lot to talk about, if only we knew it. The eyes of a guide will help you pick it out.

*Q. Are there any particularly poignant moments during your time spent in nature that made you realise this was your calling?*

Not really. I've never had a flash when I said: "This is what I must do." It's been a gradual process where I'm learning non-stop. The most important thing is to embrace new opportunities and experiences.

*Q. What did you discover about yourself in the process?*

I slowly realised that I'm fascinated by stories. In conservation we tell people the first thing is to appreciate. Secondly, become aware, and then start thinking about long term issues like whether to protect an area or not? But if you don't even know the place, there's no awareness and no appreciation, so how can you ask anybody to do conservation, or to explain the reasons why you want to conserve something. You won't know what you're talking about.

*Q. What's your take on the age-old tussle between the need to develop and the necessity to conserve?*

There's a time when people have to think about development because they have to satisfy certain basic needs. Until those are satisfied you can't think about conservation. But there are strategies to think about them side by side. I believe the place to hold a meaningful debate is in Singapore, where we've reached a certain standard of living. It's time to think about these other issues which will become very important to future generations, or it'll be too late, because we've lost everything.

*Q. Getting people to appreciate and to become aware of nature is easy enough. But inspiring them to take action, to conserve and to preserve is really the hardest part.*

They need to have access to information, or information has to come to them. All you have to do to start this process is to guide one person. If they can remember 10, 20 per cent, even 25 per cent if notes are taken, of what the guide said, and later share at least five highlights to someone else, then something very important is happening. What I try to do is share my perspective. You don't even have to preach, they're able to come to their own conclusions. This idea that people are removed from environmental issues is an old one. Now, go to Bukit Timah at 6.45am on a Sunday morning and the carpark is full.

*Q. Still, there's a fine line between appreciating, but not contributing.*

Yeah, but you have to start somewhere. So now they're becoming more aware that these places exist, they're beginning to access it. Also, the Government is more consultative; people are being invited to provide feedback, to take action. A URA survey might ask if you want to have access to nature. The guy who has experienced nature is going to say, "Yes, I want to have some access to it." Previously, he might have said that it's a place of mosquitoes, I want the place concreted. After he's had some interaction he's able to make an informed decision.

*Q. Speaking of access, how much is too much?*

You are talking about bringing nature to urbanites so the compromise has to be made both ways. (There are) three categories of nature areas: inaccessible, minimum access and high access. A total urbanite that's terrified of the moths in the corridor goes to a nature park that's manicured, like Bishan Park or Botanic Gardens. Then goes to a semi rustic place like Bukit Batok or Bukit Timah and stick on the main trail. Then tries the side trails, or Lower Pierce with a boardwalk. Then MacRitchie Nature Trail, and finally tackle the Treetop Trail.

*Q. The environment's in really bad shape. What's your assessment?*

The environment is a patient under intensive care. It's been battered beyond recognition, and it's up to us to nurse it back. Every decade

## Wild about nature

SIVASOTHI has been instrumental in protecting Singapore's biodiversity. But his journey has not been a solo one. The chatty biologist has inspired legions of nature enthusiasts in Singapore with his insatiable passion for the environment. Spreading the green message and increasing the nation's appreciation for nature has meant many hours spent guiding groups to mangroves, forests and coastal areas, as well as taking people on cycling trips to Pulau Ubin. Online, he shares his treasure trove of knowledge and information via a massive portal at <http://habitatnews.nus.edu.sg>. **Elements** meets the man known also as "Otterman".



that's passed, the impact on it has been remarkable. But I'm an optimist, and we don't have to see it as bad a downward spiral as it's been so far. There's a much better global connection now, and a global awareness about issues like climate change.

*Q. Have you ever felt overwhelmed by just how much is wrong with the environment and the amount of work that needs to be done?*

There are a lot of problems in the world, if we feel that within this decade or the next we're going to solve them all then we're just going to be frustrated, depressed, and eventually crawl into a hole and hope for a better world. What you've got to do is to take something, set an objective and try to achieve it. You need to pick a focus, and then begin with small steps. If you don't start doing something now when opportunities knock, would you be able to cope in the future?

*Q. How do you recommend people start the cycle of change?*

In our hands we have the tool to create a lot of change. The avenues for you to take action now are so easy. If you think someone else is going to do it for you then you're wrong. Go and give your feedback to the Singapore Green Plan; they're conducting a three-year review. Go to the supermarket, if the shower foam or shampoo you're using doesn't have refill packs, write to the manufacturer. You can't save the world, just get packaging reduced for the one product. It might take a couple of years but just start writing. Your strategy isn't about achieving a solution immediately. It's about keeping the message high up long enough. As long as we keep communicating the message, the chance of it getting embraced at different levels, at higher levels and creating a more global kind of change is going to be achieved.

*Q. The magic words are patience and perseverance, then?*

Look at the anti-littering campaign. The Government has been running it for about 30 years, and there's still a lot of rubbish. When you go to East Coast there might be 14 bins within your view and people aren't throwing their rubbish in them. Use that to wake up to the realisation that things take time to change, but also realise that the time to do something is now.

*Q. Nature conservationists and environmentalists are seen as troublemakers?*

In the past, yes they were, the approach was confrontational. The Government was heavy handed, and the nature conservationists were aggressive. But ours is no longer the language of a minority group. The politicians have come to terms that there are certain things you can't ignore anymore. There are many leaders who appreciate a nature walk and are beginning to understand that you can't manicure everything. You can't just make a garden. Many conservationists from the old days...they faced a very different government. They had a very tough battle to fight. People looked at them with suspicion, and wondered if they were disloyal to Singapore. Now the Government has said that nature conservationists are amongst the most rooted and the most passionate because we feel strongly for Singapore. No one's eager to go settle somewhere else. These are real warriors of the island. They have a strong connection with the land.