

A booth at an NUS Save event with a poster about the textiles recycling programme. An online survey of 4,097 Singapore respondents by research agency YouGov in 2017 found that 73 per cent had thrown away clothes in the past year while 34 per cent had discarded an item after wearing it only once. PHOTO: NATIONAL UNIVERSITY OF SINGAPORE (NUS) STUDENTS AGAINST VIOLATION OF THE EARTH (SAVE)



Eco nightmare of today's throwaway fashion

This is the last of 12 primers on current affairs issues that are part of the outreach programme for The Straits Times-Ministry of Education National Current Affairs Quiz



Ang Yiyang

The Japanese company that owns Uniqlo and other clothing brands gave a media preview last month of a new technology to reduce the amount of water used to give jeans a "worn in" look. It's among greener moves by fashion businesses in an industry increasingly scrutinised for its environmental impact - from the consumption of resources, pollution arising from the production process and beyond, to the creation of clothing waste.

The United Nations launched the UN Alliance for Sustainable Fashion in March to address issues related to the clothing and textile industry. These include the industry contributing 8 to 10 per cent of the world's greenhouse gas emissions and 20 per cent of industrial waste water pollution worldwide.

And as governments and environmental groups are tackling plastic waste and plastic pollution, microplastics from synthetic textiles has also emerged as a problem.

Microplastics, which are plastic particles less than 5mm in size, are considered particularly problematic because their minuscule size makes them hard to remove from oceans and they can also enter the food chain

when fish ingest them. A 2017 report by the International Union for Conservation of Nature found that one of the chief sources of primary microplastics entering the oceans is the washing of synthetic textiles - such as polyester or nylon which are made from chemicals - resulting in plastic microfibrils entering waterways.

But even fabrics from a natural fibre such as cotton come with environmental costs. Cotton, for instance, is water-intensive. The water footprint of a product is calculated by adding up the "virtual water" - a concept known as "virtual water" - required for every stage of the production process.

A 1kg pair of jeans would have used 10,850 litres of virtual water, while a 250g T-shirt would have used 2,720 litres, based on a 2005 report The Water Footprint of Cotton Consumption.

GONE TO WASTE
For all the resources expended and pollution created, clothes may not last long in a typical wardrobe.

The lowest-priced garments could be tossed out after seven or eight wears, indicated a 2016 report by consulting firm McKinsey & Company.

A 2017 online survey of 4,097 Singapore respondents by research agency YouGov found that 73 per cent had thrown away clothes in the past year while 34 per cent had discarded an item after wearing it only once.

Local charity-run thrift shops are on the receiving end too. The Salvation Army Red Shield Industries said clothing made up the bulk of its in-kind donations, which averages 10 tonnes daily

THE STRAITS TIMES Ministry of Education NATIONAL CURRENT AFFAIRS QUIZ

About the Big Quiz

Journalists from The Straits Times have been addressing burning questions and offering Singaporean perspectives on complex issues in a 12-part primer series that began in April in the Opinion section.

The themes and topics in the primer pieces are part of the outreach by The Straits Times-Ministry of Education National Current Affairs Quiz, or The Big Quiz, which aims to promote an understanding of local and global issues among pre-university students.

The primer brochures contain contemporary issues, such as the impact of artificial intelligence on jobs and the workplace.

They include the issue of fake

news and the legislation against misinformation and disinformation, as well as an examination of why national borders are still important in today's globalised world.

For the second year, The Big Quiz will be online, allowing pre-university students to take part in the current affairs competition over three quiz rounds, the first of which began on April 15. The final round started last Monday, on July 29.

Students may attempt The Big Quiz online at <http://str.sg/ozq1>.

The primer pieces have been running on Mondays since April 1 and end today.

The programme is jointly organised by The Straits Times and the Ministry of Education,

MacArthur Foundation. Singapore generated 219,800 tonnes of e-waste and leather waste last year, with only 6 per cent recycled, based on National Environment Agency data.

Though Singapore incinerates textile waste and takes the ashes to the landfill, some countries leave clothes to degrade in landfills.

The amount of time taken for clothes to break down in a landfill depends on the material, or combination of materials, and its molecular make-up, said Republic Polytechnic's School of Applied Science programme chair, Jeremy Kong.

His estimates vary from two weeks to five months for 100 per

cent cotton textile to completely break down, one to five years for wool and 200 years upwards for polyesters, which is made up of synthetic polymers.

ARE CHANGES AFOOT?

The fashion industry itself is responding, said industry experts.

Dr Lee Kyung MI, course chair of diploma in apparel design and merchandising at Temasek Polytechnic School of Design, said sustainability is also taught in curriculum, adding: "Sustainability is a key issue and one of the biggest buzzwords in the fashion industry today."

A growing number of clothing and apparel brands have joined the Zero Discharge of Hazardous Chemicals, a coalition aiming to do away with the use of harmful chemicals in their supply chain.

Since it started in 2011 with six brands, it has grown to 29 signatory brands and retailers backed by partner organisations in the value chain, such as suppliers of textiles, leather or chemicals.

At least 127 retailers and brands, along with more than 1,300 suppliers and manufacturers and more than 20 producers, are on board the Better Cotton Initiative which trains cotton farmers on sustainable agriculture practices and for companies to use "better cotton".

A number of international brands such as H&M have rolled out efforts engaging consumers, such as launching eco-friendly clothes ranges - which use sustainably made or recycled materials - and setting up collection points for consumers' unwanted garments to send for reuse or recycling.

Yet the pace of change may not be fast enough, based on an annual assessment of businesses' sustainability and governance strategy by the Global Fashion Agenda and Sustainable Apparel Coalition, along with the Boston Consulting Group.

The Pulse of the Fashion Industry 2019 Update concluded that fashion companies "are not implementing sustainable solutions fast enough to counterbalance the negative environmental and social impacts of the rapidly growing fashion industry".

WHAT IS IN THE WAY?

Challenges abound. From the production chain to the clothes' "end of life".

Ms Circe Hennessy, head of the School of Fashion at LaSalle College of the Arts, said: "Retailers outsource most of their manufacturing to factories that they don't own. So sustainable processes in the production chain are difficult to track."

Some non-governmental groups have been pushing for fashion companies to take greater ownership and responsibility for the manufacturing process through tracking and asking for greater transparency.

One such group, Fashion Revolution, publishes a transparency index of the biggest fashion brands, with 200 in this year's update.

There is also the issue of dealing with unwanted garments. Reusing or repurposing them is easier than recycling, which is not as efficient a process.

Republic Polytechnic's Mr Kong pointed out that textile recycling consumes energy and requires separating items by fabric type and colour type. Clothes made up of blended fabrics - for instance, a mixed percentage of cotton and polyester - also make separation hard, he said.

"Scientifically, there are existing enzymatic and hydrothermal methods that can be employed to separate most of the blended fabrics. However, the problem is that there is no one standard fabric blend. Every fashion brand carries its own type of fabric blend."

Financial costs play a part too. Ms Semun Ho, chief executive officer of the local Textile and Fashion Federation, said that a manufacturer which adopts greener practices or a company which pays a premium for sustainably-acquired products can incur higher production costs.

"The costs can be passed to the consumer, leading to increased product prices or if they are absorbed by the company, it would come at the expense of a lower margin," she added.

WILL CONSUMERS ACT?
Supply is one side of the equation. But on the demand side, consumers who say they care about the environment may not vote with their wallets.

A survey in March this year of close to 3,000 consumers in Brazil, China, France, the United States and Britain by the Boston Consulting Group showed the gap. While 75 per cent of those surveyed viewed sustainability as "extremely or very important" in fashion, only 7 per cent treated it as a key purchasing criterion.

Asked about local consumers, Associate Professor Sharon Ng, who teaches marketing at Nanyang Technological University's Nanyang Business School, said: "Singapore consumers are more pragmatic. Though they do care about being environmentally friendly, other considerations such as price and features of the products may override sustainability considerations."

A mindset shift about consumption may be needed from the onset.

Fashion Revolution's country coordinator for Singapore, Ms Laura Francois, said: "Buy only what you really need. Search for a second-hand version first. If you can't find it, buy it new and opt for companies that are committed to ethical practices and produce sustainably."

"And finally, wear it and take care of it for as long as you can."

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The Singapore Perspective

Ways to fight clothing waste

Local schools teaching fashion such as Lasalle College of the Arts School of Fashion and Temasek Polytechnic's School of Design say that sustainability is part of their curriculum. Some businesses and groups in Singapore are also trying to make fashion more eco-friendly and to combat clothing waste.

FASHION INDUSTRY

The Textile and Fashion Federation runs The Bridge Fashion Incubator programme to help fashion and fashion-tech businesses with a focus on design, technology and sustainability. Federation chief executive Seman Ho said: "By critically looking at technology solutions that better manage and predict inventory, rethinking traditional business models and scrutinising the way fashion value and supply chains operate today, we hope to create a more environmentally conscious future."

In recent years, clothing rental

businesses such as Style Theory and Style Lease and clothes swapping services such as The Fashion Pulpit have emerged here. These newer models of businesses provide an alternative to buying clothes.

Global retailer H&M collects customers' unwanted garments which are sent to I.CO, a company which recycles used textiles and shoes. In Singapore, H&M has 19 collection bins across 10 stores. The amount of unwanted garments collected here has gone up over the years, from 12.09 tonnes in 2014 to 174.61 tonnes last year, said Ms Wong Xin-Yi, its sustainability manager for South-east Asia.

Wing Tai Retail started an ongoing collaboration with the World Wide Fund for Nature Singapore in March to collect unwanted garments through more than 50 collection points across its brands here such as Dorothy Perkins and Topshop. The textiles will be reused or recycled.

GREEN EFFORTS

Local textiles recycling firm Greensquare, which was established in 2017, works with corporations and schools to collect clothes for reuse and recycling. It estimates it will collect 120 tonnes this year. It also does education outreach and promotes the 3Rs - reducing,

reusing and recycling.

Students Against Violation of the Earth, a National University of Singapore (NUS) environmental group, runs the Green Wardrobes programme where unwanted clothes collected on campus are sent for textile recycling. Since its start in 2013, it has collected more than 18 tonnes.

A newer movement, Conscious Living Collective, by a group of 10 Yale-NUS College students, tackles clothing waste by collecting unwanted clothes from their peers and organising pop-up thrift stores.

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