



Forum for the Future

fashioning

A review of
the sustainability
impacts of the
clothing industry

March 2007

sustainability

Marks & Spencer is one of the UK's largest retailers of clothing and we've been delighted to work with Forum for the Future on producing this Report.

Questions about sustainable production and consumption within the retail sector have been steadily growing in importance for a number of years and broke through into the way the industry markets itself to consumers during 2006. To date, however, the debate has been largely focused around food. Most members of the public can provide a 'top of the head' list of food sustainability issues and what they look for when out shopping but there has been limited investigation of clothing.

Over the years we've made significant moves to address many the issues highlighted in this Report. We operate industry-leading standards on fabric dyeing, we're members of the Ethical Trading Initiative, we label all our clothing with the country of origin and we sell ranges of Fairtrade certified cotton. But we know that this is only the start of a long journey and we believe that with the help of Forum for the Future we can start a debate amongst opinion formers, M&S customers and the public to develop a clearer understanding about how we can make clothing more sustainable.

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Forum for the Future is a UK-based sustainable development charity. We aim to show that a sustainable future is both possible and desirable. We work with forward looking organisations – in business and the public sector – to find practical ways to build a future that is environmentally viable, socially just and economically prosperous.

www.forumforthefuture.org.uk

Our thanks to all those who contributed to the production of this report, in particular our interviewees: Simon Ferrigno, Organic exchange; Kate Fletcher, Eco-design Consultant – Fashion and Textiles; Rowland Hill, M&S; Soren Ellebaek Laursen, Institute for Manufacturing, University of Cambridge; Quincy Lissaur, BSI; Safia Minney, People Tree; Phil Patterson, M&S; Steve Trent, Environment Justice Foundation; Volker Turk, Wuppertal Institute for Climate, Energy and Environment; Bill Vorley, International Institute for Environment and Development; Garth Ward, Salvation Army.

Contents

Executive summary	2
Introduction	3
Key sustainability challenges for the fashion industry	4
Ways forward	12

At Forum For The Future we work with forward-looking organisations on sustainable development. The main focus of our work is on finding innovative solutions. However, first it is critical to understand the issues. This report is intended as a first point of call for anyone wanting to know about the social and environmental impacts of the clothing industry. It is a comprehensive overview rather than a detailed analysis, but will point you in the direction of more in depth information.

Sustainability challenges in the clothing industry are not new. There has been a flurry of media attention around fair trade fashion and a number of new niche clothing labels emerging. But to make sustainable clothing mainstream there are some overarching aspects of the industry that need to be tackled. We have identified eight key issues:

- 1 Fashion consumption – the increasing number of fashion items that we buy and then dispose of.**
- 2 The intensity of cotton production requiring lots of energy, water and pesticides.**
- 3 Working conditions across the supply chain from cotton production to sweatshops.**
- 4 Energy consumed when we are washing our clothes contributes to climate change.**
- 5 Chemicals in the working environment can be toxic and damage workers health and the local environment.**
- 6 Unsustainable man-made fibres can take longer to degrade in landfill sites.**
- 7 Fashion miles that burn carbon as fabric and clothing are transported around the world.**
- 8 Animal welfare – ensuring that good standards are upheld during leather and wool production, and avoiding fur.**

Throughout this report we highlight ways forward towards sustainable fashion. The sustainable garment of the future would be designed carefully and made from renewable material. It would be pesticide free and produced by workers in decent working conditions. It would be washed at low temperatures and have fashion upgrades to extend its fashionable life. Finally it would be recycled, reused or composted. To make this vision a reality all the industry players need to act, including the consumer. The headlines for action are:

Raising awareness amongst key industry players. There needs to be a shared understanding within the industry of the whole picture – the breadth of sustainability issues that need to be addressed.

Transparent supply chains are a must. Brands and retailers need to be able to trace the origins of their stock. This will ensure they can enforce high standards of sustainability.

International standards need to be developed and enforced. This will help create a level playing field so that brands and retailers can differentiate on other issues – for example fabrics used, design and responsible practice.

Training and support is needed along the supply chain. As well as a fair price and terms of trade, suppliers need support, time, encouragement and incentives to convert to sustainable practices.

Empowering consumers is a priority driving demand for sustainable clothing. Also, research shows that most of the carbon footprint of an item of clothing tends to be in its washing, ironing and tumble-drying. Raising awareness to change behaviour will make a big impact.

Designers are crucial to making sustainable fashion work. They play a key role in promoting sustainable solutions for clothing, and making ethical fashion appeal to the mainstream consumer – ensuring it is desirable, functional and stylish.

This report is intended as a first point of call for anyone wanting to know about the social and environmental impacts of the clothing industry. It covers UK consumption and global production. It is a comprehensive overview rather than a detailed analysis, but will point you in the direction of more in depth information.

At Forum For The Future we work with forward looking organisations on sustainable development. Whilst the focus of our work is on finding innovative ways forward it is critical first to understand the issues. This report aims to draw a line in the sand for the clothing industry to be able to move forward and seize opportunities.

The key sustainability issues for the clothing industry are outlined in **section 2**. These are the focus for improvement. Where there are already solutions we highlight these to encourage further take up. Where there aren't any we offer some suggestions. A summary of suggested ways forward – towards a sustainable clothing industry – are outlined in **section 3** of this report.

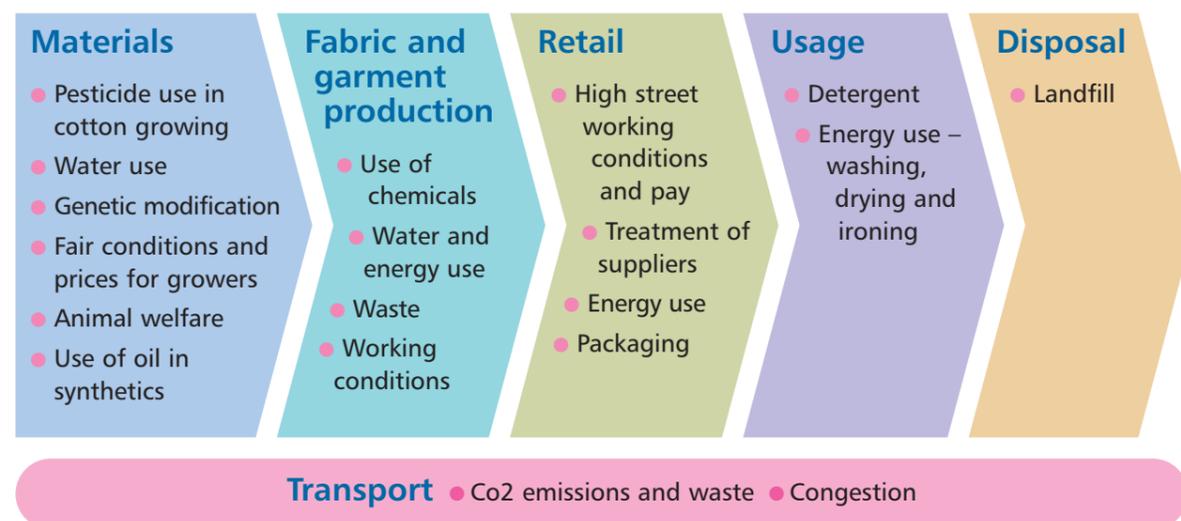
The clothing industry and (un)sustainability

The clothing and textile industry is huge. Worth over US\$1trillion worldwide, it contributes to 7% of world exports and employs approximately 26 million people.¹

In the UK, the average person spent £624 on clothes in 2004. This UK spending totalled £38.4 billion in 2005.² But are we spending wisely? Who benefits most and who loses out? And what are the consequences for the environment?

As an industry the clothing industry is locked into a cycle of unsustainability. The relationship between productivity (added value) and resource use has entered into a chronic and unsustainable pattern.

The general stages in the life of any common item of clothing are shown below. There are social, environmental and economic impacts at every stage. Studies show that energy use at the 'usage' phase dwarfs that of any other stage so focusing on how we care for our clothes will have a significant impact.³ That said, impacts can be reduced at every stage.



Why is the clothing industry unsustainable?

The reason that social and environmental factors are poorly considered in clothing is complicated. But there are two main factors that have arguably pushed the sector towards 'unsustainability'.

One is the high street dynamic. Fierce competition has been blamed on driving costs and standards down. And fast fashion turnarounds means that clothing has become more disposable.

The other is the complex and opaque global supply chain. The clothing industry has different stages of production (see above), often taking place in different parts of the world. Retailers can either buy clothing directly from known suppliers or through agents and vendors. Prior to that, most fabrics (wool, cotton etc.) are bought on global commodity markets. High stock turnover also means that keeping track of items can be difficult.

If brands or retailers don't know the origins of their materials or stock, it is impossible to identify and ensure standards of sustainability throughout the supply chain.

These two challenges may also hold the key to creating a more sustainable industry. We are seeing some mainstream brands embrace more sustainable options such as organic or fair trade products – and reap the benefits. Better traceability of the supply chain will allow responsible retailers to procure more ethically and will allow customers to make more informed choices. This report unpicks these, and related challenges, and offers some possible ways forward.

Consumers do care

Customers are a critical driver for greater sustainability in clothing. Whilst price remains the key differentiator, there is increasing evidence that customers do care more about how their clothes are made. This is a great opportunity to inform and catalyse improvement. Brands and retailers that grasp this trend earliest will benefit most. Add this to the potential resource and efficiency gains along the supply chain from more sustainable production and the incentive to take action is clear.

“Last year our business grew 40% on the year before. The Fair Trade movement globally is growing at 40% a year. Organic cotton is also growing at about 40%... it shows that the consumer is very much behind sustainable clothing.”

Safia Minney, People Tree

Retail power – a force for good

Retailers and brands, at the top of the supply chain, usually hold the power and are the interface between production and the public. They play a key role in driving sustainability along their supply chains, although collaboration with others is clearly needed.

There are lessons to be learned from the food industry. As the debate has gained momentum consumers are aware of the key issues – with an increasing demand for healthy food, fair trade and organic products – standards are driving up performance and supermarkets have entered a phase of competing on who is the greenest / most ethical. This debate is needed in the clothing industry.

Key sustainability challenges for the fashion industry

With such complex supply chains and so many sustainability impacts along the way, it is difficult to know where to focus effort to improve things. We have used desk research and interviews with sustainable fashion experts to identify the top challenges at each stage of the clothing life cycle. These then provide the basis for recommended improvements.

The issues

- Pesticide use in growing cotton
- GM
- Water use
- Fair conditions and prices for growers

Today clothes are made from combinations of a wide range of natural, man-made (made from cellulose from timber, e.g. viscose) or synthetic fabrics (where oil is used to create polymers, e.g. polyester, acrylic and nylon). **All types of fabric have sustainability impacts** which need to be managed and, where harmful to people and planet, reduced.

We focus here on **cotton** as it is by far the largest single fibre in production, with 24 million tonnes produced in 2005.⁴ The global demand for this amount of cotton, cheaply, encourages **large scale, intensive production**.

Tracing the origin of cotton can be difficult as cotton fibres are blended from different origins around the world and sold on commodity markets. This complexity in the supply chain makes the incorporation of sustainability more of a challenge.

The use of **pesticides** can cause serious health problems to cotton workers, soil degradation and biodiversity loss (see section on *Fashion Chemistry*).

Genetic modification offers a potential to reduce agrochemical use, but may cause other impacts if introduced.⁵ There is little information about possible long-term effects.

If all cotton produced in the USA annually was used in making a single product it would make **three billion** pairs of jeans¹⁰



Cotton is a thirsty crop. A problem made worse by poor agricultural practices, in some cases over 10 tonnes of water are used to grow enough cotton to make 1 pair of jeans – or 6 pints per cotton bud!⁶ The impact of this level of water use can be dramatic. In central Asia, **inefficient water use in cotton production** has all but eradicated the Aral Sea. Once the world's 4th largest inland body of water, it is now reduced to 15% of its former volume.⁷ This will only get worse as water stress increases as a result of climate change.

Social pressures are felt around the cotton producing world. In India crop failures and predatory lending practices are implicated in driving 8,900 farmers to commit suicide.⁸ There have also been reports of **serious human rights abuses** in state controlled cotton production in Uzbekistan, the world's second largest exporter of cotton. These include forced labour, unfairly low wages and violence, imprisonment and intimidation for anyone who tries to opt out.⁹ At the same time cotton provides significant **employment and economic benefits** to the developing countries that produce it, which need to be maximised.

What are the solutions?

Naturally grown raw materials should be produced to the highest **standards of sustainability**, for example, organic, fairly traded cotton. Whilst organic cotton production is still less than 1 percent of total cotton production, it is in increasing demand in the UK.¹¹ As well as niche retailers like People Tree, Hug and Green Fibre, brands like Levi's and many high street retailers have recently added organic lines to their collections.

Water efficiency, particularly during cotton production (including organic), is also crucial. Irrigated cotton can be very efficient when water harvesting and drip irrigation are combined.¹²

There are calls for **country of origin labelling on cotton** so consumers can make an informed choice, based on their awareness of the social and environmental issues in that country.¹³ This would allow retailers to demonstrate that they have a grip on their supply chain and are purchasing responsibly. This would require more direct relationships with suppliers.

An overall solution might be to **substitute cotton for other natural materials**. Hemp, for example, has many redeeming qualities, as a recent report outlines, "Hemp is four times stronger than cotton, twice as resistant to abrasion, and more resistant to mildew, soiling, shrinkage and fading in the sun. In addition, hemp plants need little irrigation and significantly less pesticide or other chemicals."¹⁴ There is also growing interest in 'bio-fibres', which include bamboo, soy, algae, maize, agricultural waste and nettle.

"In total over 75% of the world's cotton is grown in developing countries, with 99% of cotton farmers living and working in the developing world. Reforming the way in which cotton is produced such that producers realise the potential benefits associated with its cultivation would make a profound difference to millions of rural farmers, and their communities, living in poor countries worldwide."

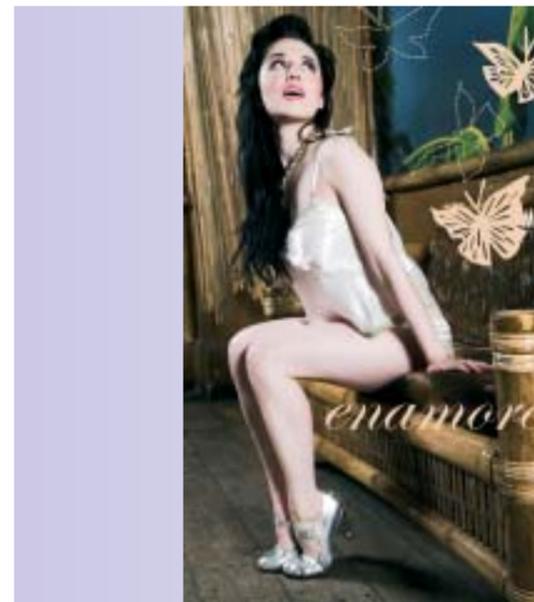
Steve Trent, Executive Director, Environmental Justice Foundation

Taking the hairy out of hemp

Set up in 2004 by Jenny Ambrose, Bath-based clothing label Enamore introduced a range of lingerie in June 2006 that challenges views of hemp as a hairy textile material. The collection, designed by Ayten Gasson, is hand-made in England and most items are made of a 60% hemp and 40% silk blend.

Ambrose can report an increased turnover of nearly 100% since the introduction of the lingerie range. "We're just trying to keep up with demand at the moment and will expand our lingerie range at the beginning 2007. We have appointed a small factory in London that will produce our whole range."

www.enamore.co.uk



The issues

- Animal welfare

Some natural fabrics such as wool, leather and angora are either by-products of the food industry or from animals bred for their coats. This means that standards of animal welfare are important considerations for a large number of people. Some areas of concern are outlined below. For others, see www.rspcagoodbusinessawards.com

Despite a **fur farming** ban in the UK at the start of 2003 the UK remains at the centre for world trade in fur.¹⁵ Recently, fur items have been re-introduced to the catwalks. There are concerns around the conditions in which animals are kept and slaughtered.

Not all **leather** used in the fashion industry is a by-product of the meat industry. The skin from 'exotic' animals like ostriches and reptiles is also used as sources of leather. There are concerns over the welfare during breeding and/or capture, rearing, transportation and slaughter of these animals.¹⁶

Conventional **silk production** gasses, boils or even roasts silkworm cocoons whilst still alive to ensure a high-quality yarn.¹⁷

What are the solutions?

Although no animal welfare certification schemes are currently available for clothing, the industry is beginning to get creative around **raising awareness**. For example, the RSPCA's annual alternative Fashion Awards assesses those companies who are making the greatest efforts.¹⁸

Companies should ensure that their products are **cruelty free products**. For example that the leather and/or skins that they buy are by-products of the meat industry and not on the endangered species lists¹⁹ and that they have a 'no fur' policy.

In the creation of 'peace silk', moths are allowed to emerge from their cocoons to live out their full life cycle. The silk is degummed and spun like other fibre, instead of being reeled.²⁰

1,000 tonnes of fur was imported into Britain in 2005, worth £41 million.

50 million animals die worldwide every year so that their fur can be used by the fashion industry; that is more than **130,000 animals killed every day** just so that someone else can wear their coats.²¹



The issues

- Use of oil in synthetics
- Disposal

Synthetic fabrics, such as polyesters, are often championed as an easy care, arguably more durable alternative to natural fabrics. One of the core advantages of these fibres is the **energy saving**. Although they are more energy intensive in production, they are generally more **durable** and need to be washed at lower temperatures – which can mean energy savings over the whole lifecycle. A recent report showed that, over a lifetime, a polyester blouse uses less energy than a cotton T-shirt.²² This, of course, depends on how the garment is used. See *Fashion Consumption: Design section in this report*.

However, fabrics like polyester are generally made from **non-renewable** by-products of the oil industry.

Oil based products take a **long time to degrade** and are therefore difficult to dispose of.

It would take **30-40 years** for nylon fabric to biodegrade if it was scattered about as litter, compared to 1-5 months for cotton rags²⁴



What are the solutions?

Using innovative **sustainable man made materials** are a popular solution. To reduce the environmental impacts of producing man-made fabrics the focus needs to be on **using renewable materials as the basis for these fabrics**. Cellulose based fibres like Viscose, already make up 11% of man-made fibres and are not synthetic. There are now developments of new man-made fibres of natural origin like Tencel[®] (Lyocell) made from wood and Ingeo[®] (poly lactic acid) obtained from corn.²³ Some commentators question, however, whether the process to turn wood/plant matter into cellulose is itself sustainable, in terms of energy use.

Recycling is also key. As they take such a long time to biodegrade, synthetic oil based fabrics can only be sustainable if they become part of a 'closed loop' recovery and recycling programme to avoid landfill. See *Fashion Consumption: Disposal section in this report*.

The issues

- Use of **toxic chemicals** in pre-treatment (bleaching and washing) and to dye, print or apply finishes to fabrics
- **Water and energy use** during dye, print and finishing processes
- **Untreated waste** from factories
- **Pesticide use** in cotton production

Producing fabrics uses a wide range of chemicals. These can be toxic and have the potential to harm workers and cause irreversible damage to the environment. Small quantities (residues) of some harmful chemicals on clothing can also pose a risk to consumers and reputational damage for the company. A Greenpeace campaign that found traces of hazardous toxic chemicals in Disney clothes is one high profile example.²⁵

Workers in dye factories are most at risk. Dyestuff contains carcinogenic aniline dye and aromatic amines, which cause bladder cancer – the most common cancer in the clothing production workforce. Other chemicals can trigger asthma and allergies or affect fertility and alter neurological behaviour²⁶ and have been linked to breast cancer.²⁷

In addition, **large amounts of water and energy** are used during many of these processes and **non biodegradable waste** effluent is produced.²⁸ Effluent treatment plants are not a legal requirement in many producing countries. Accessibility to **clean drinking water** is an increasingly important issue in many countries where clothing dye houses operate and pollute the drinking water.

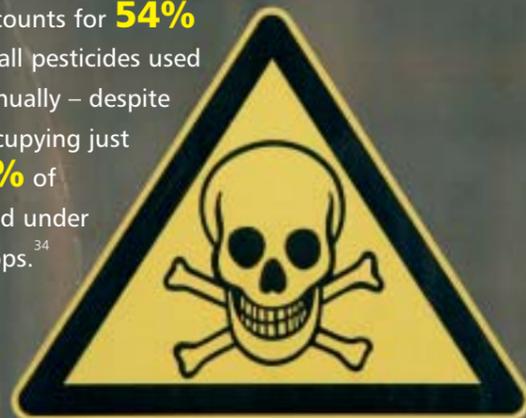
The risks are significantly higher if the **proper health and safety procedures** are not in place, or not followed. The necessary infrastructure is often lacking in developing countries.

Cotton production currently involves the use of some of the most **toxic agrochemicals**. In total cotton accounts for 16% of global insecticide applications – far more than any other crop. The majority of these chemicals are used by farmers in the developing world, where access to safety equipment, training, and understanding of the dangers posed by hazardous chemicals is often lacking. As a result many cotton farmers worldwide experience **acute pesticide poisoning**, which, in extreme cases results in **death**.²⁹

In total, the world's cotton farmers use around US\$2 billion of chemical pesticides, of which at least US\$ 819 million are classified as 'hazardous' by the World Health Organisation.³⁰ Although there are huge variations between and within countries in pesticide use per acre, on average, almost 1 kilogram of pesticides is applied for every hectare under cotton. A recent study revealed that the average Indian cotton farmer suffers three instances of pesticide poisoning over a single season.³¹

On a much lesser scale, but nonetheless something we can easily do something about, **detergents have some environmentally damaging impacts**. As a recent report outlines, "Discharging phosphates to the waste water stream promotes the growth of green algae which, in excess, can harm some water-based organisms."³² The phosphate content of washing powders can be up to 30%.³³

In India, cotton accounts for **54%** of all pesticides used annually – despite occupying just **5%** of land under crops.³⁴



What are the solutions?

Transparency is key. Some retailers and brands publish their standards on chemicals and operate systems to assess the performance of their suppliers. M&S has a supplier requirement to treat effluents. It uses M&S people, garment suppliers and sometimes external auditors to monitor and police production facilities.³⁵

New, more demanding, **safety regulations** covering all products containing chemicals imported into the UK will be introduced over the next few years (see case study). The Oeko-Tex certification scheme covering consumer health & safety is used in some European countries.³⁶ Other certification schemes have been developed for the processing of organic textiles (from production to distribution) such as the Global Organic Textile Standard, EKO Sustainable Textile standards and the Soil Association Textile standards.

Along the supply chain, dye houses could be incentivised to improve their performance, and **focus on efficiency**, for example through a star rating system focusing on worker's health and safety and environmental performance. There is a significant amount of resource wastage during dyeing processes, particularly as a lot of fabric is dyed twice. Many of the harmful impacts (resource use and harmful chemical exposure) could be reduced by small changes earlier on in the process.

Generally there needs to be **ongoing research** into ways to limit use of chemicals and reduce potential harm, translated into consumer and manufacturer education and support.

Agrochemicals companies should back a **global phase out** to end the sale of cotton pesticides classified as being 'Extremely Hazardous' and 'Highly Hazardous' and 'Moderately Hazardous' by the World Health Organisation. This should **start in countries where cotton farmers lack the means to apply them safely** – in line with the existing The United Nations Food and Agriculture Organisation Code of Conduct on agrochemicals, and the policies of the World Bank.³⁷

Consumers should use washing liquids that contain less than 5% phosphates or are phosphate free. Washing liquids normally contain fewer phosphates than washing powders, with tablets having the highest concentration. Eco-labelled detergents do not contain any phosphates and are said to be 100% biodegradable.³⁸

REACH...

...stands for **R**egistration, **E**valuation and **A**uthorisation of **C**hemicals. It is a EU law to update the existing legislation on manufacture, import, marketing and end use of chemical substances.

The REACH Regulation was formally adopted on 18 December 2006 by the European Parliament and will enter into force on 1 June 2007. One of the most important agreed amendments says that chemicals introduced before 1981 would have to be tested for their effect on human health and the environment. In total, about 30,000 chemicals will have to be tested over the next 11 years. About 1 million extra animal tests are deemed to be necessary to test these chemicals.

The EU's chemical industry produces 31% of the world's chemicals and employs 1.7 million people. Millions of others work in industries such as textiles, which are big users of chemicals. The European Commission estimates that the law will cost industry between €2.8bn and €5.2bn over 11 years – and save Europe €54bn over 30 years in healthcare costs: human exposure to chemicals has an established link to cancer, mutation and disruptions to the hormone system.

http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm

The issues

- Working conditions
- Human rights
- Boycotts
- Supplier audit fatigue

Wages in the clothing industry in Pakistan are **\$0.23** per hour. Wages in China are \$0.86 per hour and \$11.16 per hour in USA.³⁹

Fierce global competition has re-located much of the world's clothing industry to low-cost economies, where labour costs are lower. Many trade unions and NGO's are concerned that **working conditions and human rights** may not be maintained in some regions of the world, giving rise to what are referred to as 'sweatshops'. Latest under fire were supermarkets, where we brought nearly a fifth (19%) of all clothing and footwear during 2005, compared with just 11% in 2000.⁴⁰ A recent report claimed that textile workers in Bangladesh get paid as little as five pence an hour to make cheap clothes for UK companies Tesco, Asda and Primark.⁴¹ According to the report, this is largely due to workers being prevented from forming and joining trade unions.

Poor treatment of labour can include people working for **unreasonably low wages, excessive hours** or overtime, in **dangerous conditions** and employing **child workers**. The focus on the use of child labour in the textile industry means that it has decreased significantly in the last 10 years, although it is still an issue in cotton production.⁴² Many of the issues are complex and based on local cultures and so require local solutions.

Consumers are also increasingly concerned (see section on *Fashion Consumption in this report*). **Boycotts** can hit brand reputation, staff morale, high quality staff recruitment and retention, and even sales and share price. However, as our case study shows, boycott campaigns can help bring about a change in practices, leading the charge towards better working conditions for all.

Whilst more likely in some developing countries, poor working conditions can exist anywhere in the world. There is concern over some **high street working conditions** (pay and working hours) for example.⁴³

Even if supply chains can be traced, the auditing, monitoring and enforcement of standards is often weak. Just being compliant is complex for suppliers. Many are suffering from '**audit fatigue**' as they get asked to fill in multiple questionnaires from different retailers and brands, each with their own set of questions.



What are the solutions?

In many ways the UK government took a lead in **raising standards** by setting up the Ethical Trading Initiative in 1998.⁴⁴ This organisation includes trade unions, NGOs and companies who work together improve working conditions. Whilst membership is no proof of actual standards it shows a commitment to addressing the issues. In addition, some companies have adopted the SA8000 standard which covers many aspects of working conditions. To date 968 facilities have been certified

worldwide.⁴⁵ **Many fashion retailers and brands are calling for regulation to enforce their minimum standards** to draw a baseline to be able to compete.⁴⁶ From this baseline, real leaders can seize opportunities by doing more.

Again, **transparency** is crucial. Many retailers and brands now include information on how many assessments they have conducted and what actions they have taken in their annual corporate social responsibility (CSR) / sustainability reports. The Global Reporting Initiative is currently developing an apparel and footwear sector supplement for use in company reporting.⁴⁷

There are emerging **multi-stakeholder processes** to build consensus based industry solutions, including the British Standard Institution's (BSI) community of practice in ethical fashion.⁴⁸

Support for suppliers is key to help **combat audit fatigue** and **improve conditions** along the supply chain. There are various tools emerging that provide suppliers with the know-how to be able to comply with various different codes, for example the e-textile toolbox.⁴⁹ The website provides guidance on setting up very **basic management systems** eg how to measure water use. It **explains the business benefits for improving social and environmental** performance. It is available in English and Vietnamese, with **local solutions** provided.

NIKE Nike illustrates how a company can use corporate reporting to drive change in the supply chain – its 2004 Corporate Social Responsibility (CSR) report disclosed most production factory locations. The report ended a few years of silence after a spate of negative publicity over the working conditions in its factories. It took a daring 'dirty laundry' approach. In the report Nike admits there are widespread problems in its suppliers' factories. Abusive treatment of workers, restrictions in going to the toilet, drinking water and very long working hours are openly discussed. The headlines make statements like "It's grim for workers in our factories" – and Nike wrote them itself.

Another way Nike is raising the bar is through its staff incentives. The performance targets it sets its

buyers will now include one for compliance with codes of conduct in the factories they source from. Their scores will directly affect their bonuses. It's a sure way of driving change, making sure the buyers are red hot not just on quality and cost, but on labour standards too.

Nike didn't go it alone either. A multi stakeholder report review committee advised during the production of the report. This included representatives with backgrounds in labour issues, human rights, environmental, social, economic and diversity issues.

Nike also rolled out its workforce efforts into other areas of the supply chain. In 2005, the business pledged that by 2010, 5 per cent of the cotton it uses will be organic. www.nike.com

Retailers, at the top of the supply chain, often have the power to encourage social and environmental good practice through:

- **fair pricing policies** – fair trade clothing is an obvious solution, ensuring fair prices for producers (see *Global fashion markets and trade*).
- **lobbying** for other incentives to encourage suppliers to clean up their act (fines for bad practice, rewards for good practice)
- **longer term commitments with suppliers** – working together to address barriers
- **country of origin labelling** on garments, supporting suppliers (particularly small ones) to meet criteria if labelling is a requirement
- knowing, visiting and **auditing garment suppliers** and cascading this approach down to fabric, dye house and component suppliers paying particular attention to key points of production including any outsourcing or homeworking.

The issues

- Subsidies and quotas
- Price pressures
- Fair pay along the supply chain

In order to protect domestic clothing industries and, more recently, to limit the economic impact of clothing produced in China, **the global clothing industry has been locked into a system of subsidies and quotas**. This means that many countries that currently produce clothing are being 'protected' from a free-market that would overwhelm them. As well as developing countries, this includes some parts of Southern Europe such as Italy, Spain and Portugal.

Surveys have shown that US government cotton production subsidies have brought the price down artificially.⁵⁰ This has a significant impact on developing countries.

The ending of the most significant of these global trading restrictions at the beginning of 2005 (known as the Multi-Fibre Agreement) demonstrated the strength of the growing Chinese clothing industry (see case study). As a result the EU has introduced replacement trade restrictions on t-shirts and shoes.



Lack of international subsidisation regulation leads to inequality and the current situation that creates "winners and losers". Africa suffered over 250,000 job losses during the quota removal period, for example.⁵¹

As 'free-trade' is introduced it is clear that **transitions need to be handled responsibly** to prevent the sudden closure of important industries in poor economies.

As with most industries that involve long supply chains there are concerns over distribution of profits. This chart shows that even though most production occurs outside the UK, the largest gross profit throughout the clothing supply chain is for the retailer. This reflects the high costs of operating in the UK but also raises questions over **fair pay** further down the supply chain.⁵²

What are the solutions?

Some argue that lifting subsidies will help counter the ever downward pressures on price. Others suggest incentives to command higher prices may come from **improving fibre quality** and quality control in harvesting and efforts to improve the grade of cotton sent to market.

In November 2005, The Fairtrade Foundation announced **standards for Fairtrade cotton** to help ensure a fair price for cotton producers. As a result a number of UK retailers have started to sell

ranges of Fairtrade certified cotton clothing.⁵³ Fair Trade standards also exist through International Fair Trade Association (IFAT) and reflect the terms of trade between buyer and seller.⁵⁴

Ensuring "free trade" whilst managing the downsides will be very challenging and will require **joined up thinking**. Some retailers and brands are working with NGO's and Trade Unions on 'best practices' as part of the Multi-Fibre Alliance Forum (see case study).

A shift from competing purely on price may also offer a powerful opportunity. Sri Lanka based lingerie manufacturers MAS Holdings market themselves on their strong track record in social



Ethical fashion for the high street:

There are three **types of fashion production**:

- 1 Conventional fashion production**
- 2 Ethical fashion production** – meeting certain **standards**, such as the International Labour Organisation (ILO) convention on labour standards, the Ethical Trading Initiative and other health and safety and environmental standards.
- 3 Fair trade production** – **using fashion as a tool for development**. This is a pro poor trading process with marginalised communities in the developing world, often in very rural areas, using traditional skills such as hand weaving and hand embroidery. The aim is to try and promote livelihoods – the people who make the product are paid 30% more for the product. Profits are reinvested into community development projects such as village development, schools, water saving and micro credit schemes.

The whole high street should aim to move towards ethical fashion production. Conventional companies could adopt some fair trade production, for example adopting villages or regions of poorer countries and working with them.

Working on the ground in Bangladesh and Lesotho

The impact of the end of the World Trade Organisation's Multi-Fibre Arrangement (MFA) on 1st Jan 2005 is being felt across the garment producing world. In Lesotho, exports declined 25% in the first 6 months of 2005 there have been significant numbers of factory closures.

The MFA phase-out spelled an end to quotas on the amount of textiles and garments that could be imported from countries like China and India – countries that have significant competitive advantage through lower labour costs. Whilst there would be winners and losers, the concern was that the phase out could be disastrous for countries like Lesotho, which supplied fabrics when quotas from countries like China had been filled.

As a result of these concerns, the MFA Forum was established in early 2004; a 70+ collaborative, open network of brands/retailers, trade unions, non governmental organisations and multi-lateral institutions working to try to mitigate the impact of the end of quotas in countries whose garment industry could be impacted in the face of open competition and increased uncertainty.

In March 2005, the MFA Forum published 'A Collaborative Framework for Guiding Post-MFA Actions'. It outlines a set of principles and the roles and responsibilities of various actors to address challenges in the global industry. MFA Forum decided to focus initially on two countries facing immediate challenges to maintain the competitiveness and labour standards of their industry: Bangladesh and Lesotho.

www.mfa-forum.net

The issues

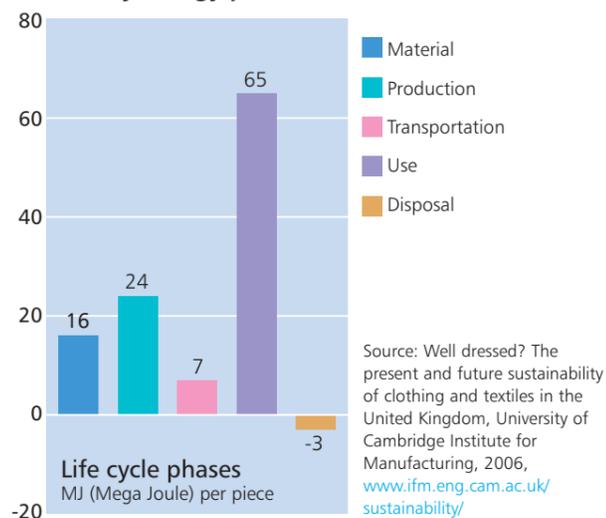
- Energy use during clothing care
- CO₂ emissions

Washing, drying and ironing often accounts for the most significant **use of energy** in the clothing lifecycle. Depending on which materials the clothes are made from, as much as 80% of the carbon 'footprint' of clothing can be caused in its washing and care, contributing to climate change.⁵⁶

This problem is made worse by the way we care for our clothes after we buy them. Most washes are used to freshen rather than clean clothing.

Over the last decade most retailers / brands have worked with the detergents industry to lower recommended **washing temperatures** from 50 to 40 degrees saving around 25% of energy used. However, in the UK, consumers now buy larger capacity washing machines which are used part-full more frequently. This has negated the benefits of the lower washing temperatures.

Primary energy profile for the T-shirt



What are the solutions?

We need to **change our habits**. Consumers need encouragement to **wash full loads at the lowest temperatures**. Eliminating tumble drying and ironing, in combination with the lower wash temperature, leads to around 50% reduction in the climate change impact of a piece of clothing.⁵⁷

This would also help **save money**. Avoiding use of a tumble dryer would save about £25 annually for an average household.⁵⁸

Some brands and retailers are working on highly **innovative techniques to make home laundry easier and less energy intensive**. These include chemical treatments and coatings that may be able to provide resistance to stain and odours which will in turn reduce the total number of washes and may also mean faster drying with no ironing needed.⁵⁹ **Coatings can, however, make clothing difficult to recycle.**

Some of these coatings involve the use of nanotechnology. There are toxicity worries around how particles behave at nanoscale that need to be fully explored before products are brought to market. There are some concerns over worker exposure to nanoparticles and safe disposal.⁶⁰

Transport

The issues

- Global, complex supply chains
- CO₂ emissions
- Poor planning leading to use of air freight

We've all heard about food miles, the distance our food travels from farm to fork. So what about **clothing miles** – or the distance the various components of our clothing travels from field/factory to wardrobe?

Clothing production has always been a global business, with raw materials being produced in parts of the world where the climate suits them best. **Over 95% of clothing sold in the UK is produced 'overseas'**. In the past five to ten years, production has become increasingly concentrated in China, Pakistan, Bangladesh, India, Mexico, Romania, Cambodia and Turkey.⁶² The biggest markets, however, are in the West, meaning clothes travel long distances before they reach our wardrobes.

There are clear **economic benefits** to this global market place. However, this translates into a lot of fashion miles. In total, 4.2 billion tonne-kilometres of freight were required to meet UK demand for T-shirts – equivalent to sending one kilogram of goods approximately 105 million times around the world.⁶³

Transporting clothing and components over such large distances produces carbon emissions contributing to climate change.

Although the **energy used in transport is proportionately lower than energy used in washing and drying our clothes** (see section *Fashion Energy: Usage in this report*), some forms of transportation have more of an impact than others. Transporting 1 tonne of goods over a distance of 100km emits 0.7 kg of CO₂ by ship, or 158.0 kg by air.⁶⁴

Whilst the majority of clothing is transported using road and sea, **poor planning and**

unexpected sales patterns can lead to the use of air freight – which is responsible for much higher levels of carbon emissions per product. For example, unexpected bad weather can lead to manufacturers being told to hold onto stock, and then fly it over quickly when the weather improves. This is an environmental burden.

Although aviation is currently under fire, shipping also needs to take some responsibility for increasing CO₂ emissions. A recent study showed projected emission rises of up to 75% in the next 20 years.⁶⁵



What are the solutions?

Retailers and brands need to plan lead times effectively to **reduce the need for airfreight**.

Buying locally produced food is a common solution to the issue of 'food miles'. Similarly **local production** could be seen as a solution to 'fashion miles'. Spanish retailer Zara sourced 50% of its clothing from Spain, Portugal and Morocco in 2006 despite incurring a cost premium of 10 to 15 percent, as it allows the company to respond to consumer trends more rapidly than competitors⁶⁶ and avoids the cost of air freight from Asia.⁶⁷

However, as with the current food miles debate, there are complex social implications of an only 'buy local' approach. Developing countries potentially lose out from fewer jobs on the production side. Jobs that are critical in bringing people and economies out of poverty.

The numbers

1.7kg of fossil fuel is required to provide all the electricity required for the use phase of a 250g cotton T-shirt. That amounts to **4kg** of CO₂ equivalent emitted into the air (from burning 1.7kg of fossil fuel).⁶¹

The issues

- Unsustainable consumption
- Clothes ending up in landfill when they could be recycled

Over the last two decades **clothing has become increasingly affordable for everyone**. Retailers and brands have capitalised on this affordability by moving away from a 'summer' and 'winter' season to fresh collections throughout the year.

Because of much lower unit costs retailers have to sell significantly more product in order to maintain levels of turnover and market share. This means that the **UK now buys significantly more clothing than ever before**.

The success of retailers and brands currently demands an unsustainable increase in volumes of clothing and apparel. Clothing and apparel is arguably one of the few industries where in order to achieve success, greater resources are required to produce lower returns.

The immediate post-war culture of valuing clothing (re-using fabrics or handing them down through the family for reuse) has ended. **Increasing amounts of clothing is ending up in landfill** when it could be recycled or reused. The relocation of UK clothing production has also removed industries which may have been able to reuse or recycle used clothing. We purchased approximately 1.9m tonnes of textiles in 2005, and in the same year discarded 1.2m tonnes which went to landfill or was incinerated. Only 0.3m tonnes were resold or recycled through charities.⁶⁸

The UK clothing recycling industry currently relies upon selling through charity shops and exporting to developing countries. However some are concerned that recycling doesn't always have the desired impact when shipped to developing countries. Reports examine whether importing second-hand clothes inhibits the development of local industry.⁶⁹

Awareness of the relative importance of recycling clothing is also low. As a recent report highlights, "Most people in the UK believe that recycling is good for the environment and will generally sort out glass or recycling carefully, without recognising that it takes ten times more energy to make a tonne of textiles than a tonne of glass."⁷⁰

What are the solutions?

Raising awareness of the impact of clothing disposal and **making recycling as easy as possible** are critical. This could include promoting clothing hire and other entrepreneurial solutions (see section on Fashion consumption: design in this report).

Taking care of the easy wins is a no brainer, such as **reusing coat hangers and carrier bags** and **reducing packaging waste**.

In the longer term, government / industry could develop a **'producer responsibility' policy** where customers can take used clothing back to where they bought it to be disposed of in the most appropriate way.



1.9m tonnes of textiles were disposed of in 2005 in the UK. **1.2m tonnes** went into the rubbish bin⁷¹

The issues

- Sustainability is seen by designers as an obstacle rather than as an opportunity
- Little consideration of the social value of fashion results in lack of innovation

Clothing fulfils basic physical needs, such as shelter and warmth. Often blamed for unsustainable consumption patterns, it is fashion that fulfils more emotional needs, like expressing ourselves as individuals or 'fitting in'. And so **fashion plays an important social role in the world today.**

It is true that fashion pieces are often only desirable for short amounts of time and so are consumed at a faster rate than other, more basic or classic styles (see www.katefletcher.com/lifetimes/).

However there are some innovative ways that design can play a part in making fashion more sustainable – not only through the materials that clothes are made of (see *section on Fashion materials in this report*) but also through considering how different styles of clothes are used. For example, designing for durability is not always the most eco-efficient option if the garment will quickly go out of fashion, or if it is still going to be washed numerous times over its lifetime – when most of the energy use occurs (see *section on Fashion Energy: clothing care in this report*).

What are the solutions?

In one of the most creative industries, **designers play a key role in creating sustainable solutions for clothing**, and making ethical fashion appeal to the mainstream consumer. Innovations could include:

- Product to service shifts for classic items – hiring desired fashion items for a short period of time (see www.keepandshare.co.uk)
- **Integrated labels that tell a garment's history** – who designed it and who made it, as well as what it's made from as well as details on how best to care for it in an eco efficient way
- A flexible approach to design for different patterns of clothing use. For example **disposable underwear** that comes with wormeries.⁷² Selecting durable clothes for those black trousers and then biodegradable ones for those one offs could offer a more sustainable solution.
- Upgrading clothing by some form of **remanufacturing** – for example replacing certain panels within a dress might allow a sufficient 'fashion upgrade' to give new value to otherwise outdated styles
- Encourage the use of **accessories** or second hand / vintage clothing to show individual style

Again, **raising awareness** as to why clothes are so cheap is key. There is some evidence that attitudes are changing. According to a recent poll **over half (23.1 million) of Britain's consumers think ethical production of the clothes they buy is important.**⁷³ Three quarters feel an end to child labour and sweatshops is very important closely followed by offering producers a fair price (60%) and damage caused to the environment (50%). **Consumers are also increasingly willing to pay more for more 'ethical' products.** The growth of the fair trade and organic clothing market is evidence of this trend.

Whilst people often say one thing and do another – it highlights an encouraging trend. Those that make it easiest for customers to fulfil these ambitions will capitalise on these trends.

Celebrity endorsement can do a lot for an ethical fashion label – or to raise general awareness of the issues (the Jamie Oliver effect). There are also possible **links into the national curriculum** and education modules for young people on sustainable fashion, textiles and design.

Retailers are also beginning to raise awareness with their own customers – such as the M&S "look behind the label" campaign. According to analysts at Citigroup the campaign achieved a more positive impact on the M&S brand than any other previous ad campaign and that M&S now has at least a six-month lead over main rivals in persuading shoppers it is the most ethical place to shop.⁷⁴ People Tree has teamed up with leading fashion designers through a partnership with Vogue Nippon and developed a collection with Topshop designers, to promote Fair Trade and organic and natural textiles more widely – onto the high street.



Started in 1991, People Tree is a Japanese and UK based fair trade clothing network that has 70 small-sized producer groups and co-ops in 20 developing countries. All of People Tree's collections are based around the producers rather than stemming from existing consumer demand. Founder Safia Minney says "We don't start from a merchandising plan and see where we can supply most cheaply with the lowest margins, we actually start the other way round, from what the producers can make."

People Tree is actively building markets for the collection the producers create. The network regularly talks to journalists and aims to educate consumers about the difference between conventional and fair trade fashion. A successful initiative was the making of TV documentaries in Japan about the contrasts between conventional and organic cotton production. "This hasn't happened in Britain – it's something that needs to be done."

Currently, People Tree is considering putting together information for the UK national curriculum for design education. "There needs to be more work done with young people thinking about design and going into the fashion industry". The educational material would build upon the internal knowledge and convey the key sustainability issues in textile product design and production.

People Tree certainly gains the fruits of consumer awareness raising: last year, the business grew by 40%. And now, the label is even sold in major conventional clothing stores like Topshop on Oxford Street. In addition to raising consumer awareness, People Tree started working with top level people in the conventional fashion industry. These people were encouraged to join Safia Minney on her travels to the producing countries to experience first hand what benefits producers get from fair trade – and how fair trade should look like to maximise these benefits. www.peopletree.co.uk

Numerous solutions have been highlighted throughout this report. Many of these address specific issues. The top issues that need to be addressed are:

- Fashion consumption
- The intensity of cotton production – energy and pesticides
- Working conditions
- Energy consumed during the use phase
- Chemicals in the working environment
- Unsustainable man-made fibres
- Fashion miles
- Animal cruelty

These issues are inter-related and need to be considered in the wider economic context. The clothing industry, regulators, designers, the recycling industry and consumers need to work together to deliver these improvements so that we can continue to enjoy fashion without damaging the environment and people; and the industry can continue to be productive and provide a positive economic contribution.

This section looks at what a sustainable garment might look like and summarises the key recommendations made in the report for the key players.



What might a sustainable garment look like? We've summarised the key learning from this report to provide a glimpse. This is not a definitive list but is intended to start debate and build discussion.

How is this garment made?

Sustainable design

- Sustainability was brought in at the very beginning through innovative design taking into account how the garment will be used (if it needs to be durable, easy care or disposable for example), and easy disassembly.

Sustainable production

- Made from a renewable raw material.
- Produced to the highest standards of sustainability (such as organic, fair trade, rain-fed cotton) and supported by membership to IFAT or independent certification (with support through partnership for small scale producers for whom certification can be a barrier).
- High standards of animal welfare as reflected in the RSPCA's annual awards.
- Is produced as near to the UK as possible (but remember this is far less significant than how the garment is washed!)

Low carbon footprint (pre-sale)

- Energy efficient / carbon neutral production.
- No air transport involved.

Chemical free

- Pesticide free.
- Fabrics produced in accordance with published standards which ban the use of harmful azo-dyes, phthalates and APEOs.
- In the longer term compliance with the new REACH regulations will help.

Global fairness

- Produced by brands/retailers who can demonstrate that they have a robust system for ensuring fair working conditions in factories that supply them.
- Some kind of fair trade certification/membership (eg Fairtrade/IFAT) to show that fair payments have also been passed through to raw materials growers.

How is this garment sold?

- With no unnecessary packaging
- In a sustainable retail outlet/virtually (with low emission delivery)

How is this garment cared for?

- Can be washed at low temperatures (40 degrees or lower)
- Is washed in full loads in washing machines, using phosphate free detergent
- Is line dried
- May have a stain resistant coating so that it needs less washing (if the toxicity testing is ok and it doesn't affect disposal)
- Has several 'fashion upgrades' throughout its life

How is it disposed of?

- Clothing can be taken back to where it was bought from to be recycled
- Nothing goes to landfill
- Supported by an easily accessible network of collection facilities and viable markets to re-use and recycle.
- Resold second hand where possible or fibres are recycled
- Biodegradable/compostable?

What needs to happen to get there?

To make this vision a reality there are some overarching 'unsustainable' aspects of the clothing industry that need to be tackled. The headlines are:

Raising awareness amongst key industry players is essential. There needs to be a shared understanding within the industry of the whole picture – the breadth of sustainability issues that need to be addressed. As has already happened in the food industry, this can create a platform for action.

Transparent supply chains are a must. Brands and retailers need to be able to trace the origins of their stock. This will ensure they can enforce high standards of sustainability.

International standards need to be developed and enforced. Labelling will be important here to keep consumers in the know. This is particularly important for cotton production where the social and environmental issues are a pressing issue. This will help create a level playing field so that brands and retailers can differentiate on other issues – for example fabrics used, design and responsible practice. Emerging multi-stakeholder processes could be a solution, including the British Standard Institution's (BSI) community of practice in ethical fashion.

Training and support is needed along the supply chain. As well as a fair price and terms of trade, suppliers need support, time, encouragement and incentives to convert to sustainable practices. Labelling and meeting standards can be prohibitively costly for small suppliers so long term relationships are key to support a transition towards sustainability.

Empowering consumers is a priority driving demand for sustainable clothing. Also, research shows that most of the carbon footprint of an item of clothing is in its washing, ironing and tumble-drying. Raising awareness to change behaviour will make a big impact – and there are lots of simple things that we can all do (*see below*).

Designers are crucial to making sustainable fashion work. They play a key role in promoting sustainable solutions for clothing, and making ethical fashion appeal to the mainstream consumer – ensuring it is desirable, functional and stylish.

Appendix 1

What should the key players be doing?

Making sustainable garments a reality for high street fashion requires action from all key players. This table summarises the recommendations from this report:

The Clothing Retailers and Brands should:

Embed sustainability along the supply chain

- Get a handle on their supply chain. There is a debate to be had about where their responsibility begins and ends, but as the beneficiaries of the greatest gross profit in the supply chain, they need to drive this agenda.
- Include quality and sustainability issues in risk systems for suppliers.
- Publish standards on their operating systems and supply chain standards on chemicals, labour standards, health and safety and animal welfare.
- Work with suppliers to establish mechanisms by which the cotton used in the manufacture of products on sale in their stores is sourced from locations where state-orchestrated and enforced child labour is not used in the production of cotton.
- Plan supply chains that do not rely on air freight to achieve fast lead times. Consider local production on lines that need a particularly fast turnaround.
- Include information on how many supply chain assessments they have conducted and what actions they have taken in their annual CSR/sustainability reports (see Global Reporting Initiative apparel and footwear sector supplement).
- Support suppliers and encourage social and environmental good practice through fair pricing policies, incentives, longer term commitments, working together to address barriers.
- Develop common questionnaires/IT based platforms across the industry for suppliers to input their data into a common database.

Get their own house in order:

- Embed sustainability throughout their business – from buying, operations, to marketing, with a senior management champion.
- Combine this wherever possible with existing systems, for example employee targets, objectives and rewards.
- Improve sustainability criteria in sourcing and purchasing criteria/decision making.
- Incentivise longer lead times – if they are unavoidable, design for easier production (less colours, design etc).
- Research into ways to limit use of chemicals and reduce potential harm.

Product

- Develop, or grow, lines that incorporate sustainability features. Fairtrade, organic cotton products, for example.
- Collaborate on a shared sustainability label for cotton.
- Raise awareness of the issues with customers.

Designers and developers should:

- Design for different rhythms of clothing use.
- Consider using alternative natural fabrics such as hemp.
- Use/develop synthetic materials that are made from renewable resources such as Tencel® (lyocell) made from wood and Ingeo® (poly lactic acid) obtained from corn.
- Design clothing for recycling or disassembly.
- Continue innovating on techniques/coating to make home laundry easier and less energy intensive – but include life cycle analysis to this development to consider toxicological and disposal implications.

The fabric and garment producers

- Focus on efficiencies to reduce chemical usage during dyeing.
- Star rating on health and safety.
- Work with retailers to improve standards (see above).

Governments

- Enforce existing regulations on environmental standards on chemicals, seeking international collaboration.
- Further regulation to create a level playing field in terms of meeting basic ILO convention standards and environmental regulation.
- Government could develop a 'producer responsibility' policy with industry where customers can take used clothing back to where they bought it to be disposed of in the most appropriate way.

Consumers

- Use washing liquids that contain less than 5% phosphates or are phosphate free.
- Wash full loads at the lowest temperatures.
- Do not tumble dry – use a washing line instead.
- Take care disposing of clothes and reuse and recycle whenever possible.

Agrochemicals companies

- End the sale of 'Extremely Hazardous' and 'Highly Hazardous' pesticides in countries where cotton farmers lack the means to apply them safely – in line with the existing FAO Code of Conduct on agrochemicals, and the policies of the World Bank.

Appendix 2

For further information:

Company Standards

Ethical Trading initiative (ETI) – Labour standard for UK companies: covers supply chain working conditions and promotes the improvement and implementation of corporate codes of practice www.ethicaltrade.org

Fair Trade Foundation – the UK member of Fairtrade Labelling Organisations International (FLO), which unites 20 national initiatives across Europe, Japan, North America, Mexico and Australia/New Zealand. www.fairtrade.org.uk

International Federation for Alternative Trade (IFAT) – Fair trade standard: aims to improve the livelihoods and well being of disadvantaged producers by linking and promoting Fair Trade Organizations www.ifat.org

Global Reporting Initiative – voluntary reporting framework: currently developing an apparel and footwear sector supplement for use in company reporting www.globalreporting.org

SA8000 – Social Accountability standard: covers workers' rights including child labour, forced labour, health and safety, freedom of association and right to collective bargaining, discrimination, discipline, working hours and wages. www.sa-intl.org

Consumer Labels

European Eco label – Covers health and environmental impacts of garments. The European Ecolabel on textile products is now under revision (1) to update the scope and the existing criteria, (2) to create a synergy between Oeko-tex and Ecolabel and (3) to take new criteria under consideration, especially as far as environment and sustainable development are concerned.

http://ec.europa.eu/environment/ecolabel/product/pg_clothing_textiles_en.htm

Oeko-Tex Standard 100 – Covers human ecology component of textile products. It evaluates and screens for any harmful substances present within processed textiles intended to come into contact with consumers. Since 1992, about 50 000 Oeko-tex certificates have been attributed to about 6500 companies in 68 countries. www.oeko-tex.com/en/main.html

Ethical fashion initiatives

British Standards Institution (BSI) - community of practice in ethical fashion www.bsi-global.com/responsiblefashion/index.xalter

Ethical Fashion Forum – network of designers, businesses and organisations focusing upon social and environmental sustainability in the fashion industry www.ethicalfashionforum.com

Ethical Fashion Show – a European event centred on Ethical Fashion www.ethicalfashionshow.com

Lifetimes – an investigation of fast and slow clothes and fast and slow rhythms of use. Lifetimes is about the creative connections between fashion clothes, time and sustainability www.katefletcher.com/lifetimes/

Supplier tools

The e-textile toolbox www.e-textile.org/ provides suppliers with the know-how to be able to comply with various different codes. The website provides guidance on setting up a very basic management systems eg how to measure water use. It explains the business benefits throughout for improving social and environmental performance. Available in English and Vietnamese, with local solutions provided.

Campaigns

Clean Clothes Campaign – Advocating better working conditions www.cleanclothes.org

Fair Labor Association – protecting workers' rights and improving working conditions

Labour behind the label – Campaign that supports garment workers' efforts worldwide to improve their working conditions www.labourbehindthelabel.org

No Sweat – Campaign against Sweatshops www.nosweat.org.uk

The Cotton Project Information from the Pesticide Action Network www.pan-uk.org/Cotton/cotindex.htm

The Environmental Justice Foundation – Cotton www.ejfoundation.org

Recycling

Salvation Army – www.satradingsco.org

Online Shopping links and consumer information

Adili www.adili.com

Green Fibres www.greenfibres.com

Howies www.howies.co.uk

Hug www.hug.co.uk

Natural Collection www.naturalcollection.com

New Consumer Fair Trade magazine online version www.newconsumer.org

People Tree www.peopletree.co.uk

The Ethical Consumer Ethical Consumer Research Association www.ethicalconsumer.org

Traid www.traid.org.uk

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4 www.ivc-ev.de: world production of man made fibres, wool and cotton 1970-2005

5 WWF: Table of facts, Cotton

www.panda.org/about_wwf/what_we_do/policy/agriculture_environment/commodities/cotton/table_of_facts/index.cfm

6 Pick your cotton carefully, Environmental Justice Foundation, 2007 www.ejfoundation.org

7 White Gold: The True Cost Of Cotton, Environmental Justice Foundation, 2006

8 Manila Times, 23/04/2006 "Indian government officials have said more than 8,900 farmers had died in four states since 2001, putting the Maharashtra figure at only 980 as opposed to 4,100—a number dismissed as far too low by activists." www.manilatimes.net/national/2006/apr/23/yehey/opinion/20060423opi7.html

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16 Fashion: How to set animal welfare at the heart of your company's ethical policy, RSPCA, 2006

17 www.nps.gov

18 www.rspcagoodbusinessawards.com

19 These websites list endangered species www.iucnredlist.org/ or www.cites.org/

20 See www.aurorasilk.com/info/peacesilk.shtml and www.ahimsapeacesilk.com

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24 www.worldwise.com/biodegradable.html

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28 Safer Chemicals, What are the health threats? Friends of the Earth www.foe.co.uk/campaigns/safer_chemicals

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30 World Health Organisation, www.who.int

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32 Well dressed? The present and future sustainability of clothing and textiles in the United Kingdom, University of Cambridge Institute for Manufacturing, 2006, <http://www.ifm.eng.cam.ac.uk/sustainability/>

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41 Fashion Victims: The true cost of cheap clothes at Primark, Asda and Tesco, War on Want, December 2006

42 White Gold: The True Cost Of Cotton, Environmental Justice Foundation, 2006

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