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Sustainable Textiles



Sustainability for the textile industry

By Max W. Sung

To sustain" as derived from the Latin *sustinere* means "to persist, endure, last." Hence, "sustainable" textiles from this definition would mean textiles which are durable and long lasting. "Sustainability" as currently used has very broad meanings and there is no universally accepted definition. "Sustainable" development, according to the Brundtland Commission of the United Nations (1987), means development that meets the needs of the present without compromising the ability of future generations to meet their own needs. A "sustainable" global society, according to The Earth Charter (2000), is founded for nature, universal human rights, economic justice and a culture of peace. At the World Summit in 2005, the "three pillars of sustainability" were defined as the reconciliation of environmental, societal and economic demands.

It is in the spirit of the latter that "sustainability" in textiles is now accepted. "Sustainable textiles" no longer refers just to the use of renewable natural fibres as opposed to non-renewable materials such as petroleum (rayon, nylon, polyester). "Sustainability" in the textile industry now includes economic, societal and environmental considerations:

- Eco-friendly by reducing the use of pesticide and toxic dyes, and by effectively removing toxic chemicals from waste water effluents.

- Conservation of energy and water resources, given the increasing shortage of water and the reliance of energy on non-renewable resources.

- Avoidance of employment practices which adversely affect worker health and well-being.

It is a tribute to the textile industry that the concepts of sustainability have been embraced on many fronts. It will however take time before these concepts will be put into practice on a global scale. A step in this direction was taken on March 1 when a group of major apparel and footwear brands joined together with leading environmental and social organisations to launch the Sustainable Apparel Coalition (SAC). SAC is based on shared beliefs that environmental and social challenges affect the entire global apparel supply chain and reflect systemic issues which no individual company can solve alone; that pre-competitive collaboration can accelerate improvement for the entire industry and reduce costs for individual companies, enabling them to focus more resources to product and process innovation. To do this, credible, practical and universal standards and tools for defining and measuring environmental and social performance will be developed.

The 33 founding members of SAC are based in North America, Asia, and Europe: Adidas, Arvind Mills, C&A, Duke University, Environmental Defense Fund, Esprit, Esquel, Gap Inc., H&M, HanesBrands, Intradeco, JC Penney, Kohl's, Lenzing, Levi Strauss & Co, LF USA (a division of Li & Fung), Marks & Spencer, Mountain Equipment Co-op, New Balance, Nike, Nordstrom, Otto Group, Outdoor Industry Association,

Patagonia, Pentland Brands, REI, TAL Apparel, Target, Timberland, US Environmental Protection Agency, Verite, VF Corp and Walmart. Many of the members have already developed robust sustainability improvement tools; SAC will draw especially on the work of the Outdoor Industry Association (OIA) and Nike's "Environment Apparel Design" tools.

OIA, through its 47-member eco working group, had developed an Eco-Index tool to assess the environmental impact of individual products, from cradle to grave. The Eco-Index includes product design guidelines, indicators and metrics on materials, packaging, manufacturing and assembly, transportation, usage, and end of life. The Eco-Index, which started pilot testing last year, provides a common framework for companies to benchmark their sustainability practices, internally and, eventually, against one another. Through a scoring system designed for each step in the product life cycle, companies can identify changes which could improve the sustainability performance of their products. Over 100 companies have participated in the pilot program. Frank Hugelmeier, president of OIA, stated: "OIA is proud of the outdoor industry's foundational contribution of the Eco-Index to the work of the Sustainable Apparel Coalition. We are gratified to be a member of this larger coalition that shares our values and desire to reduce the environmental and social impacts of apparel and footwear products around the world. This effort reinforces our belief that global, industry-wide collaboration leads to advances in sustainability that no one company, region or sector can achieve on its own."

Version 1.0 of the SAC Index, which is also based on a life cycle view of apparel products covering raw materials, packaging, manufacturing, transportation, consumer use and service, end of life impacts, will be released publicly in mid-2011 after completion of pilot testing and member review.

Textile Asia had the opportunity to interview Delman Lee, president of TAL Apparel. TAL, a leading Hong Kong based apparel manufacturer, is one of four manufacturers in Asia to be part of the SAC initiative. The interview is on page 4.

Will the Eco-Index and SAC Index enable consumers to view the sustainability index of the textile products they are considering for purchase, and compare it with other competing products? Not at this time. To begin with, validation of the scoring indices for each individual product and process will need to be conducted and periodically updated by independent reviewing bodies. The utilisation of benchmarks and metrics for performance improvement and comparisons has already gained considerable momentum in other fields, such as the healthcare industry. Benchmark data of healthcare organisations and providers are now accessible to patients.

When accurate and objective sustainability scores are eventually available, it will enable consumers to make informed decisions on their choice of textile products. ■

An Asian perspective on Sustainable Apparel Coalition

A collaborative effort amongst major textile apparel manufacturers to promote sustainability practices in the textile industry was launched last month as the Sustainable Apparel Coalition. **TAL Apparel Ltd.**, a leading global garment manufacturer based in Hong Kong, is one of the founding members of The Coalition.

Founded in 1947, TAL has built its reputation mainly by manufacturing woven shirts, blouses, trousers, cut & sewn knit shirts, men's suits and outerwear in its Asian factories for delivery to markets in the USA and Europe. The company produces 55 million garments a year, generating revenues of US\$700 million. Its customers include **Brooks Brothers, Burberry, Dillard's, Hugo Boss, JCPenney, Givenchy, Gieves & Hawkes** and **Tommy Hilfiger**.

TAL's garment factories, located in Hong Kong, Thailand, Malaysia, Indonesia, Vietnam and China, have production space totalling more than three million sq. ft. To support its manufacturing activities, TAL deals with external suppliers that provide fabric, threads, buttons and zips. Technological innovations at TAL have included non-iron, non-wrinkle finishes for shirts and a deodorant technology, which protects textiles against bacteria and fungi.

TAL's President & CTO, Delman Lee, was recently interviewed by the executive editor of **Textile Asia**, Max Sung, on TAL's involvement in the Sustainable Apparel Coalition.

Max Sung: In terms of the lifecycle of a shirt, how would you describe TAL Apparel's involvement in the manufacturing process?

Delman Lee: In terms of a lifecycle, I group cotton growing, spinning, and weaving into one phase, Phase One. The second phase is garment manufacturing where we take the fabric, cut and sew it and, maybe, do some wet-processing treatment to it. The third phase is the distribution to the markets – USA and Europe. The fourth phase is the consumer phase. That is buying the shirt and washing it. And then the fifth phase is what consumer do with a garment when they no longer want it, which is most often— throw-

ing it away. So in these five phases, TAL would be the second phase where we have control over what happens in the lifecycle.

Sung: How did TAL get involved in the Sustainable Apparel Coalition?

Lee: The Sustainable Apparel Coalition came about at the end of last year. We are part of a Hong Kong consortium called the SFBC, the Sustainable Fashion Business Consortium. In that consortium, we were pilot-testing the Eco-Index from the Outdoor Industry Association (OIA). As part of the SFBC, we need to use the index to see how it works and give feedback to the OIA as well.

Around the same time, another coalition was being formed and it turned out that a lot of my customers were in the coalition. Soon afterwards, we were invited to be in the coalition. The reason for joining was, of course, there were actually quite a lot of brands there, from both the United States and Europe. More importantly, the coalition felt the need to involve suppliers.

Currently, there are only a few manufacturers in Asia that are a part of the coalition. We represent a small part, but we need to be vocal. It is important for suppliers to be a part of this coalition because the index will hopefully be



Delman Lee, president of TAL Apparel.

adopted by the whole supply chain, in particular for mills and garment manufacturers like TAL.

Sung: It's important to have these Asian suppliers in the Index. Many companies, like Nike, make most of their products in Asia anyway. Although they are western brands, their production is largely in Asia. So how does that type of participation differ from your perspective as an Asian manufacturer?

Lee: The brands and retailers involved in designing the index are big brands that either have buying offices in Asia or go through Li & Fung or some other agent. It's important that we'll also be piloting the index from the Apparel Coalition since the brands and retailers may not be fully aware of all the issues on the manufacturing side. We will be able to provide input on the index — that is how it's designed and what things need to be incorporated.

It's good to see a coalition of brands that recognises the importance of getting the manufacturing perspective and involves suppliers early on in the process. It's good to involve manufacturers from the beginning.

Sung: In the OIA Eco Index, there is a scoring system. In the SAC index, will you be collecting data on each supplier, company, and then people can look at the suppliers and to make assessment as to whether a certain supplier has a higher or lower score, which will help them decide whether or not they want to use that supplier?

Lee: The Eco-Index from OIA and the Index from the Apparel Coalition are actually very similar. The reason is because the OIA is actually a member of the Apparel Coalition and we have done some alignment with the OIA Index. There's no point in duplicating efforts when we can leverage existing work. Therefore, the index from the Apparel Coalition is actually based on the Eco Index plus some other inputs. One important input is Nike donating one of its internal tools to the Coalition. You could say that the Apparel Coalition Index is an evolution of the Eco Index. In the end, all the members of the coalition want the same thing; and we don't want two competing indexes.

Sung: I'm glad to hear that, because there are so many indexes around.

Lee: That was an important issue for suppliers. We don't want thirty brands each evaluating their own factories and asking for different data.

The index takes the cradle-to-grave product lifecycle approach and includes the five phases that I mentioned earlier. The index touches the spinning and weaving mills in the first phase; garment manufacturers such as ourselves in the second phase; transportation to the markets is the third phase; consumer purchase and use is the fourth phase.

The index not only scores manufacturers and suppliers but also scores the brands because an important part to take into consideration is the actual product design. So, if brands and retailers design a product with materials that are more sustainable, they will get a score as well. Or, if a product is designed so that it is recyclable, they will get also get a score.

An example of a brand that designs recyclable products is Patagonia in the US. They have set up a recycling program for their polyester-based garments that are used and thrown away for recycling in Japan where they make new garments based on recycled polyester.

If a brand or retailer took some steps whether in the product design, anything that relates to consumer use or transportation (packaging is one of the areas), they get a score as well.

Environmental sustainability is quite different from social compliance or social sustainability in the past where brands and retailers evaluate mills and look at facility-based factors such as minimum wage, working hours, etc., which are very much facility-based. Environmental sustainability is different in that a lot of the impact is made and influenced by the brands and retailers, so they are actually part of the equation.

Sung: Although you are only in the second phase, the effect of your manufacturing extends beyond that to the first phase and the third, fourth and fifth phases.

Lee: Out of the five phases the largest contribution to carbon footprint is actually the fourth phase — consumer use. Consumers usage includes purchasing the shirt, washing in warm or hot water, drying in the tumble dryer — and if you live in USA you probably give it to dry cleaner even though it's not necessarily needed. The laundering and drying of garments is actually the largest contributor to the carbon footprint.

Sung: How would you as a supplier reduce that type of footprint?

Lee: We have had our own carbon footprint reduction program since the beginning of last year to reduce our carbon footprint intensity by 15% in three years. We managed to achieve 7.7% in the first year. All this is within our own four walls, things that are under our control — and that's only the second phase of that whole lifecycle.

We also realise that we have to involve other people. In particular, if you go one stream upward, that means the spinning and weaving partners we have, we have projects with our close partners, fabric mills, to see the type of things we can improve on, such as use less water or less energy, and that's still work in progress.

We also realised that we need to work with other organisations and that's why we participated in the Eco-Index and are now participating in the Apparel Coalition.

But, again the largest influence is the consumers. We as an OEM manufacturer do not own any brands. We don't have any influence on the consumers, so brands and retailers have a role to play to influence that fourth stage.

The example of recycling — the Patagonia example — is actually the fifth phase. Other examples are Levi's, and Marks and Spencer. Both brands actually increased the size of their care labels and emphasise that their products can and should be washed in cold water. These types of measures help to educate consumers, and change consumer behaviour to reduce the energy use in the fourth phase.

Sung: The OIA Eco-Index is seen more as a supplier chain-facing program, meant for internal improvement, rather than a consumer-facing program being used as a branding strategy. Is that the same concept in the Apparel Coalition, or would people be actually putting scores on garments?

Lee: The Apparel Coalition is also taking a similar strategy. In the long term, I think everyone in the industry will agree that we want to create a consumer-facing label or score eventually, but we realise the complexity of this goal. You have to have very strict control on how to evaluate the effect – things like having a certification body come in as well as auditors to make sure that these are tightly controlled before achieving the label. It is another can of worms and we all realise the complexity of that.

The Apparel Coalition takes the approach that practitioners in the supply chains – brands, retailers, suppliers – need to first get used to the Coalition Index version 1.0 and begin to understand what environmental sustainability is all about before taking it to the consumer level.

Sung: You have a very close relationship with OIA. What about other programs like Ecotex, GOTS, Bluesign? How would they interface with the Apparel Coalition?

Lee: Actually the coalition is in discussion at the moment on how to involve these other parties. We definitely do not want to duplicate any efforts in the industry, so we invited OIA to be part of the members. And as you know OIA is also in line with the European Outdoor group. So in that sense the outdoor industry in both US and Europe are all in line.

In the Coalition Index version 1.0, we have some metrics to quantify the impact on sustainability. At the same time, we have the guideline or the indicator part, where we would ask to see if, in the facility or the product design, whether they have taken certain steps, such as recyclability. If they did, we'll give them a score.

This type of scoring scheme cannot really be consumer-facing yet. It's not that tightly controlled, and a bit more quali-

tative to see whether they are practicing certain things. But the approach of the Coalition, and, I think, the approach of the Eco Index too, is that we would like the industry to begin to measure themselves, benchmark themselves, and begin to improve before we even get to consumer-facing or branding.

You had asked whether the Coalition is going to have a database to score vendors. The Coalition actually doesn't get into competitive issues. It's a tool for everyone to use—the brands can take it and evaluate themselves.

Sung: How does one become a Coalition member, and will the benefit of the index or the benchmarking be limited to the Coalition members?

Lee: Membership in the Coalition is by invitation only now. Currently the Coalition has 30+ retailers. Getting thirty people to come to consensus, is quite a tough process; but it is a necessary process. Going forward, we do have a view of taking in more members and making the index a tool available for wider use, but we have not discussed whether there will be a database or not. The coalition is committed to a single, open, industry-wide standard.

Sung: It appears that TAL already has a lot of eco-friendly initiatives in place before joining the Coalition. Do you think your progress or further development in this area will be facilitated or expedited by your membership in the Coalition?

Lee: As I mentioned before, we have our own internal target – a 15% reduction in three years. We have already done many things to help achieve our internal target. For example, we distribute electricity more efficiently by identifying heat losses and insulating them. We also changed to energy efficient LED lights.

However, environmental sustainability in a holistic way has to be beyond TAL's four walls. Even if there wasn't an Apparel Coalition or Eco-Index, our strategy is to work with our customers and mills. But the fact that we have a Coalition of 30+ international brands that can come to agreement on how we measure, is a good step in the right direction and, I hope, it will actually ex-

pedite sustainability from a holistic point of view — not just focusing on the second phase which is where we are.

The more data we have about the five phases, the more it will help people to focus on the important areas to work on. TAL is very delighted to be part of this Coalition because we see it as an international effort in addressing environmental and social sustainability in a holistic way. It takes an ethical lifecycle approach and will hopefully solve one of the issues that we do not have many standardson. Manufacturers and suppliers will be able to work with a standard and be able to make improvements.

To really contribute to environmental sustainability, manufacturers as well as brands and retailers have to innovate and find better ways of making garments, using less energy, less water. Hopefully, everyone can then focus on how to innovate and spend less time debating on how to measure it in a hundred ways.

Sung: It seems that the Coalition may have more effect on large corporations than for small companies. Large companies have the resources to take on the added cost of manufacturing products in an environmentally friendly manner. Do you think that is the case? Or do you think the small manufacturers can also play a role?

Lee: Bigger players can have a leading role in environmental change because they can make some investment that has a longer return, and we believe that this is one of the things that they need to do.

But at the same time I think smaller suppliers can actually benefit from some of the best practices being shared by the leading manufacturers. Let me go back to the Sustainable Fashion Business Consortium in Hong Kong that we are a part of. Its mission is to raise awareness of sustainable practices. We run activities and actually share some of the best practices with the bigger players in forums or workshops. For example, SFBC is organising a seminar to showcase technologies that the bigger players have actually tried out and endorsed as good things to do. Smaller enterprises do not need spend the effort to figure out which vendors are doing what they claim to do. ■