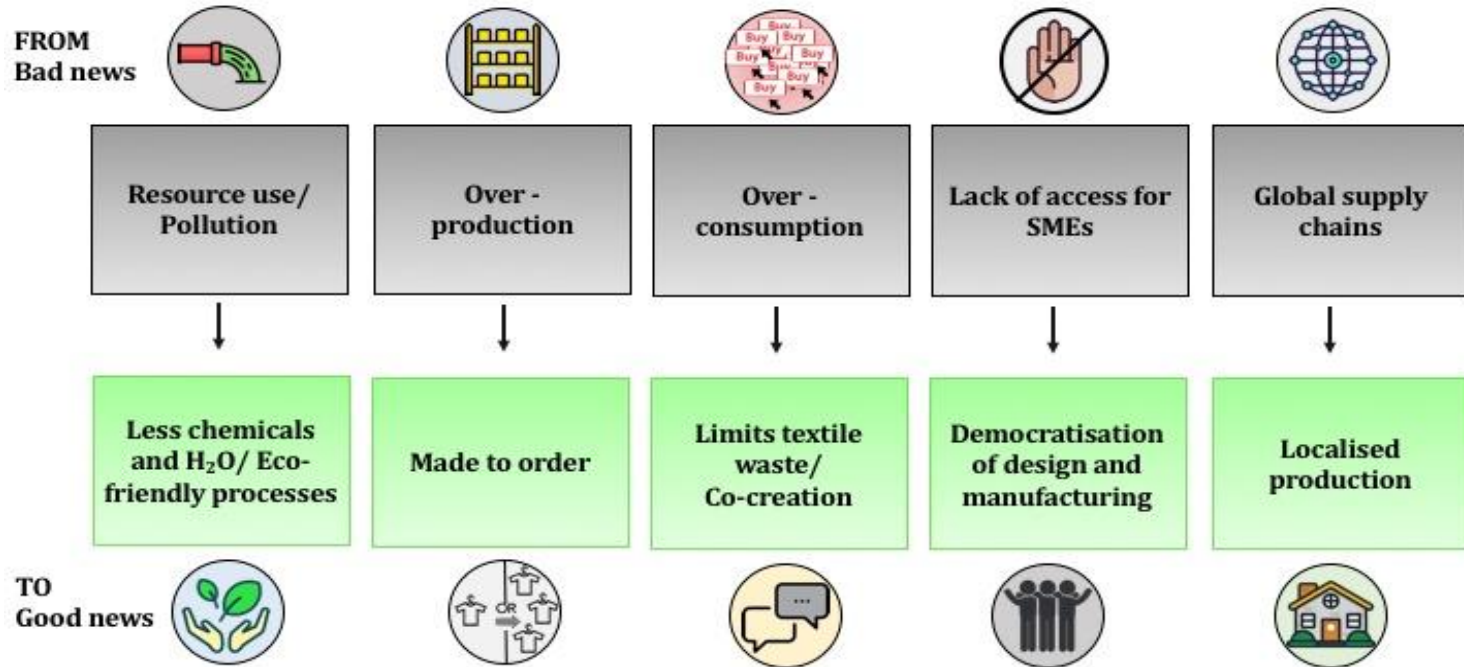


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Elobina

Danielle Arzaga
Federica Bertolani



The issues with textile industry



FROM - Resource use & pollution

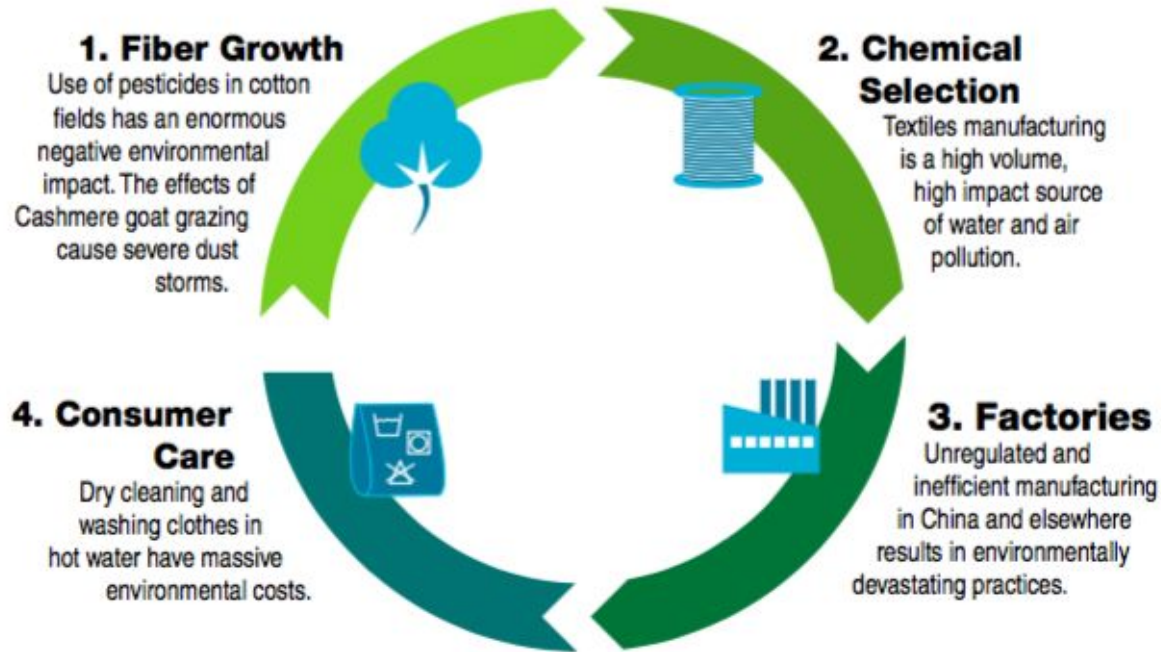
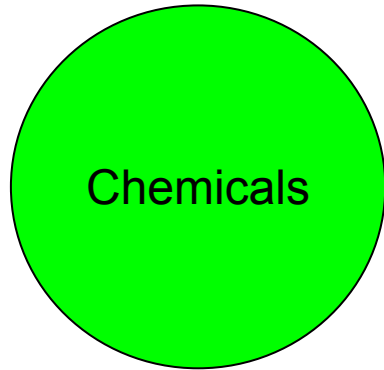


Figure 1. Heaviest impacts of textile/apparel industry. Retrieved from NRDC – Clean by Design, 2010



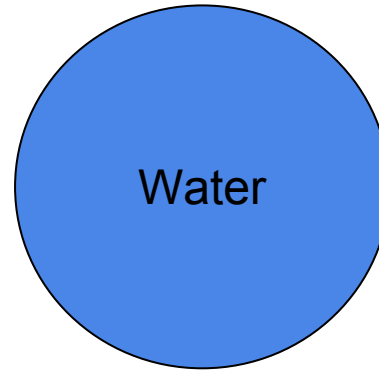
FROM - Resource use & pollution



3500 used

10% of which
are hazardous

11 to be
immediately
eliminated



150L per kg
of fabric dyed

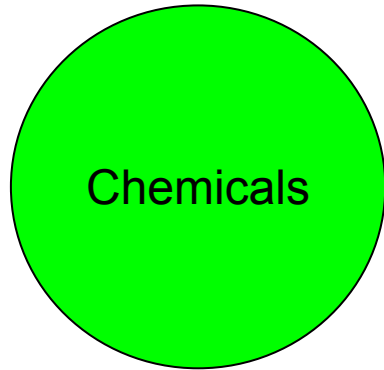
2nd largest
polluter

32 million
Olympic sized
swimming pools



Chemicals of concern	Use	Possible impact
Alkylphenols	Commonly used in cleaning and dyeing processes	Toxic to aquatic life, persist in the environment, can accumulate in body tissue and biomagnify, can disrupt sexual development in some organisms
Phthalates	Used in artificial leather, rubber, PVC, and in some dyes	Reprotoxic in mammals, as they can interfere with the development of the testes in early life
Brominated and chlorinated flame retardants	Used to fireproof a variety of material and textiles	Can interfere with hormone systems involved in growth and sexual development
Azo dyes	Main type of dye used in the textile industry	Some break down and cause carcinogenic aromatic amines
Organotin compounds	Commonly used as biocides and as antifungal agents	Persists in environment and builds up in the body, and can affect immune and reproductive systems
Perfluorinated chemicals		
Chlorobenzenes	Used for non-stick and water repellent properties	Persist in the environment, can accumulate in body tissue and biomagnify, can affect the liver and act as hormone disruptors
Chlorinated solvents	Used to manufacture dyes and as chemical intermediaries	Persist in the environment and can bioaccumulate, can affect the liver, thyroid, and central nervous system
Chlorophenols	Used as biocides	Can affect many organs in the body, and is highly toxic to aquatic organisms
Short-chain chlorinated paraffins	Used as flame retardants and finishing agents	Highly toxic to aquatic organisms, do not easily breakdown in the environment, and bioaccumulate
Heavy metals: cadmium, lead, mercury and chromium (VI)	Used in certain dyes and pigments	Can accumulate in the body and are highly toxic with irreversible effects to the nervous system and kidneys, and some may cause cancer

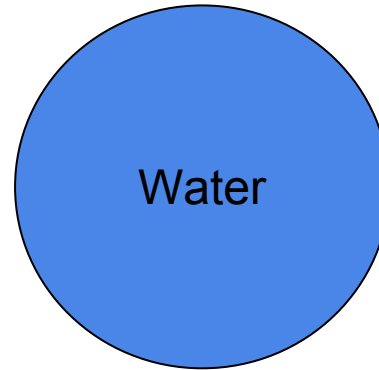
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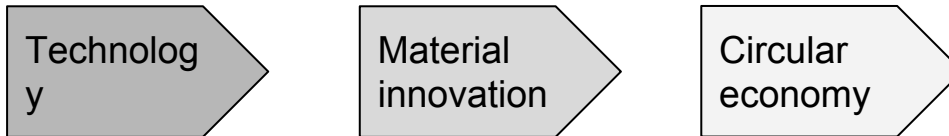


Textile type	Impacts
Cotton	The most pesticide intensive crop in the world; Fertilizers, herbicides, and chemical defoliants are also widely used, and often times remain in the fabric; Dyes and bleaching create additional toxins; Depletes soil; Emissions to air, water, and soil
Wool	Workers suffer from exposure to organophosphate sheep dip; Runoff contamination; Chemicals used for cleaning, dyeing, and finishing can cause pollution
Rayon	Usually is sourced from old growth forests; Harsh chemicals are used to process wood pulp; Dyes and finishing chemicals can also cause pollution
Tencel	Chemicals used for dyeing and finishing may pollute air and water
Polyester	Made from petrochemicals; Non-biodegradable; Chemicals used for dyeing and finishing may pollute air and water; Large amounts of water needed for cooling; Energy intensive
Nylon	Made from petrochemicals; Non-biodegradable; Creates nitrous oxide; ; Chemicals used for dyeing and finishing may pollute air and water; Energy intensive
Leather	Livestock production; Animal rights issues; Pollution from chemicals and dyeing; Heavy metal pollution

TO - Efficiency & Eco-friendly processes

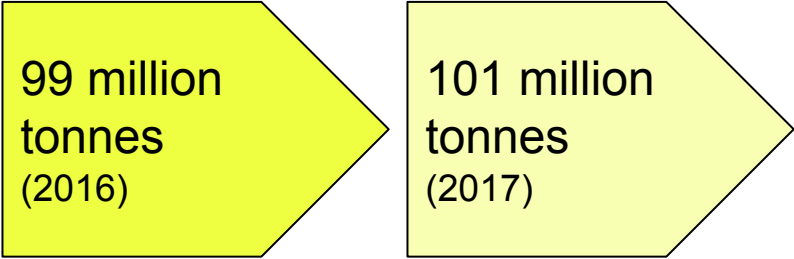
Eco-textile products are considered to have some or all of the following characteristics (Challa, 2017):

- Made using organic materials
- No use of harmful chemicals, bleaches, or dyes
- Can be made from recycled or reused textiles or materials (e.g., plastic bottles)
- Quality and made to last
- Fair trade certified, or produced where workers are paid a fair wage and have decent working

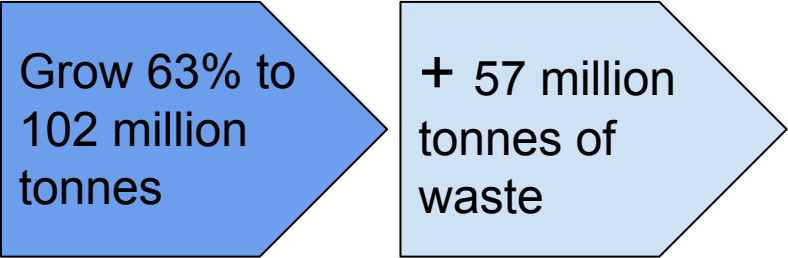


FROM - Overconsumption

Total fiber consumption



In the fashion industry



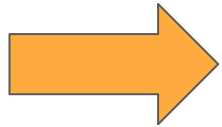
Avg. person **60% more for 1/2 time**

50% of people report owning more than they need



TO - Limit textile waste

Current model



Design for co-creation or customization

“Products that can be customizable offer the chance to create a deeper bonding between the user and the product.” (Chapman, 2005).

➔ *Extension of the product lifespan*

➔ *It requires a new mindset*



FROM - Overproduction

Pulse of the Fashion Industry (2017) identifies overstock as one of the most pressing issues in the industry

Lack of communication and exclusion of suppliers

Poor demand planning and production scheduling

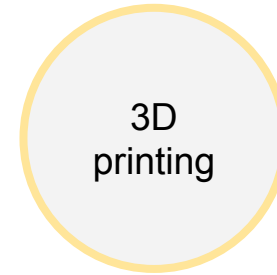
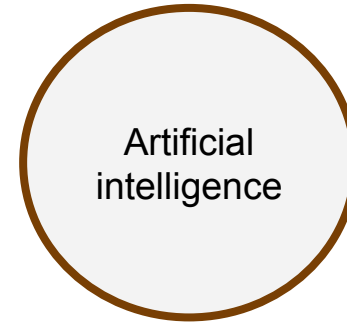
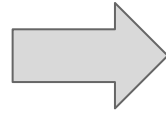
Early, high-volume orders



TO - Made to order

“Design for need”

Production-to-demand



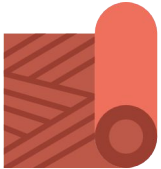
FROM - Lack of access for small designers



TO - Democratization of design process

“Democratization of technology” :

the process by which access to technology rapidly continues to become more accessible to more people



→ Material selection can have a big impact: brands can control it, so it is important that they can source whatever they want;



→ Important: those businesses that are able to create a link between the demand and the offer, are extremely important in this industry-transformation.



FROM - Global supply chains

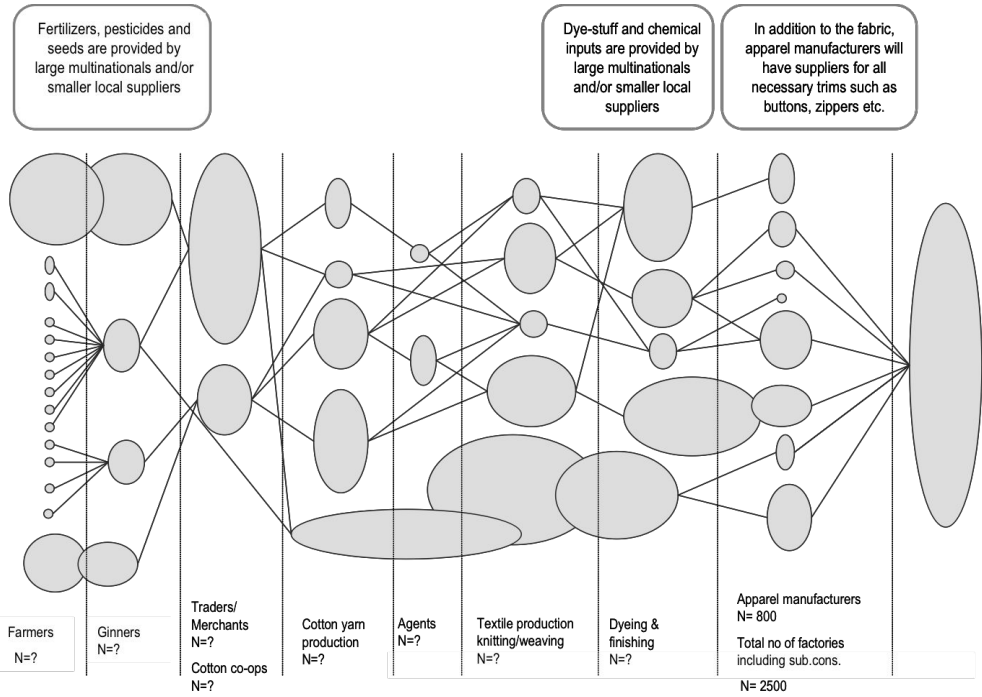


- 1** 2,86 trillion €
- 2** 75 million people
- 3** highest risk of violation of human rights

Supply chain



FROM - Global supply chains



EU Flagship initiative on the garment sector



TO - Localized production



Local production is a way of minimizing carbon-footprint;



Shorter lead time



It allows more control over the supply chain, because it is possible to visit the factories;



If produced in Europe, because of the regulation, the factory probably has a better eco-profile




Market strategy: consumers trust more “Made in Italy” compared to “Made in China”



More jobs and wealthy in the community




Brands and designers point of view

 **Can you provide a brief bio of your work?**




I am a full time artist and do original paintings; moreover, I also reproduced pillowcases, trays and coasters of my originals.

 **What does sustainability in the textile industry mean to you?**




For me it means a lot that my pillowcases are handmade here in Sweden; I also choose as often as I can ecologic cotton for my products as well.

 **Why is this important to you?**




Because I know it is made in Sweden from a professional company with great references, like Elobina.

 **Why would you define your product as being sustainable?**



Because it is made here in Sweden. It doesn't have to travel from the other side of the world and cause the climate a lot of pain.

 **How has the technology enabled by Elobina helped/ changed your creative process?**



I can see my product when I'm designing it, that I like a lot. How it is going to look and even in 3D.





THANK YOU.
Questions?

