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Textile Industry-A step towards Sustainability

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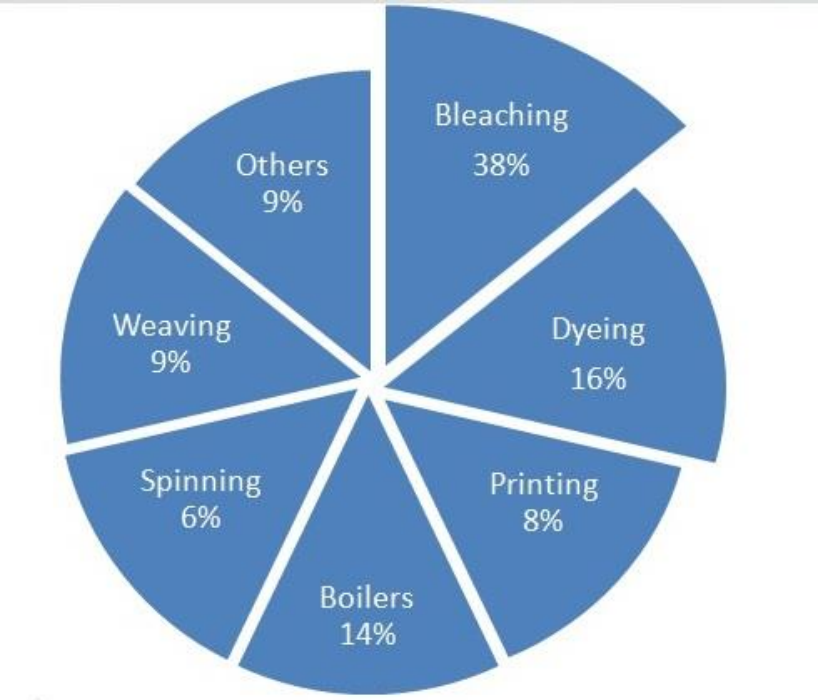
Globalisation has connected the world more than ever before.The fast fashion industry has been booming because of globalisation. While globalisation has created many valuable opportunities, pathways and relationships it has come at a cost on the environment. You may wonder what harm the fashion industry has on the environment, but it is one of the industries that contributes to harming the environment the most.

Who doesn't like clothes? Everyone likes to buy new clothes and keep up with the trends, but that very t-shirt you just bought used up 2,700 litres of water, enough for one person to drink for 900 days. This very way there are 2 billion t-shirts sold globally each year, which uses up 5.4 trillion litres of water. The statistics show that 75% of the earth is covered in water, but only 3% of that water is available to us and out of that only 1% is accessible to us for our daily needs, the rest is stored in ice caps, glaciers and rivers. If we follow the trend shown above there soon is going to be a global water shortage and thus in order to secure that 1% water we need to find a sustainable way of using water.

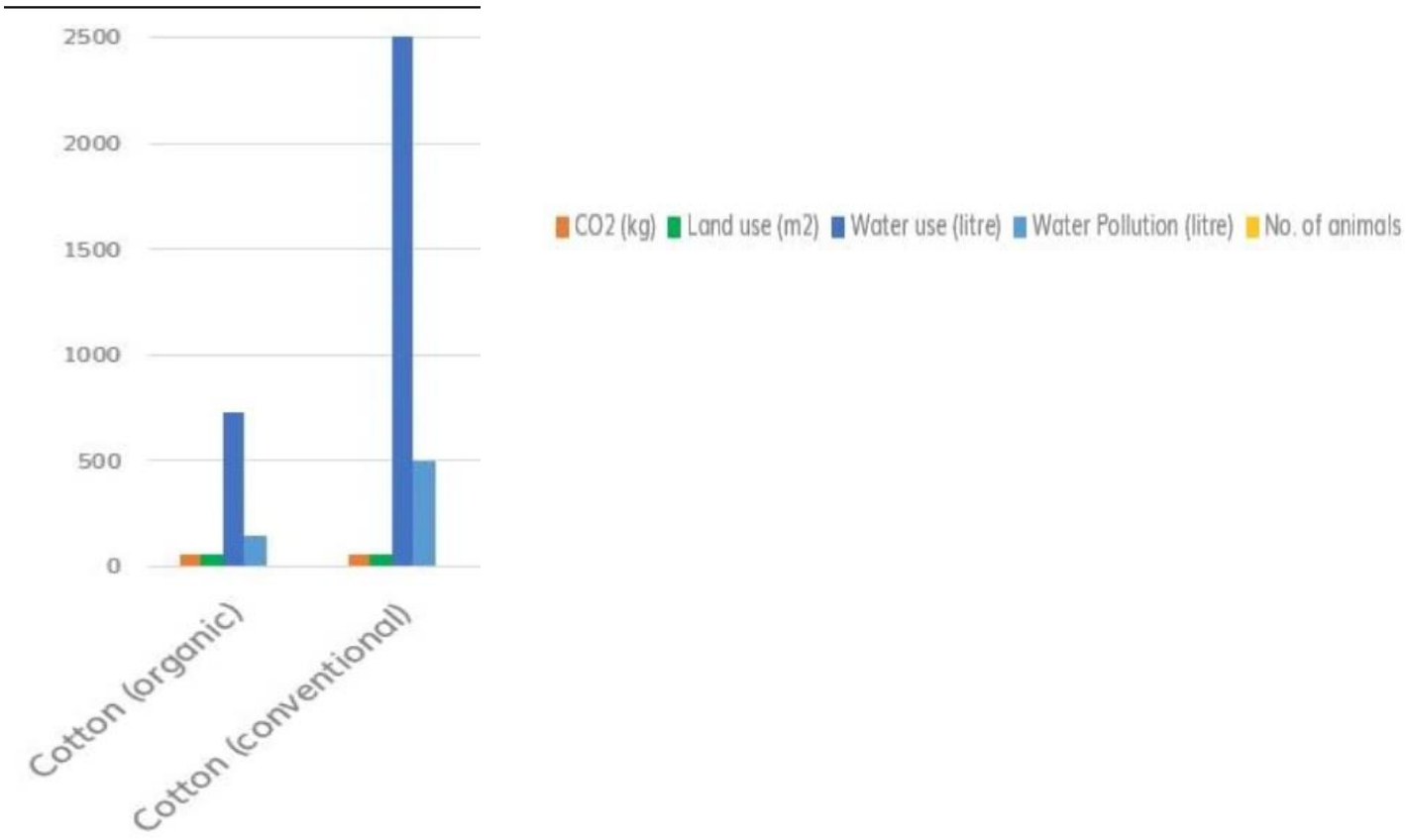
How does the fashion industry consume so much water? Around 93 billion cubic metres of water is used in spinning, dyeing and finishing of garments. Out of all the crops cotton uses up the highest amount of water, we need a staggering 7,000-29,000 litres of water just to produce one kilogram of cotton, and this is just for growing the crop. Furthermore to convert cotton into clothing additional litres of water are used.



Looking at the above pie chart we can see the major processes that use water in the garment industry. The top 2 processes being bleaching and dyeing.

Many brands are already looking at sustainable ways, thus helping the environment. H&M has had this initiative of recycling and reusing garments, here they collect old used garments from people and recycle or upcycle them. Thus reducing water usage in producing new clothes and also using clothes again instead of dumping them in landfills. This way we can save water and still provide clothes.

There are many other ways to cut down on the amount of water used in the garment industry. First the firms can opt to buy organic cotton and produce clothes from that. Conventional cotton as shown before uses upto 2700 litres of water to produce one t-shirt, but using organic cotton reduces the blue water (groundwater) usage by 91%. Cotton made the right way in the right areas with the right conditions reduces water usage drastically.



Looking at the bar graph, we can tell why the use of organic cotton is better for the environment than conventional cotton. Organic cotton uses less water and has very less water pollution as compared to conventional cotton.

Dyeing clothes involves a lot of water usage and using the right technique to dye clothes can help save a lot of water. There are 2 alternatives that firms can use to reduce the water wastage: Air Dyeing Technology and DyeCoo Dyeing Technology.

Air dyeing technology uses air instead of vast amounts of water to dye clothes. So how does this work? The air dyeing technology works by heating up the fabric and dyeing it by injecting colour in the form of gas. This process uses up less amount of water and saves energy. There are many advantages to this process. There is less stress on the environment, it reduces waste and thus is economically beneficial. For consumers, the air dyeing technology shows a deeper dye penetration and can be washed at any temperature with any cleaning agent.

Sr.No.	Products	Water Saved(in gallons)
1.	Men's Hoodie	31.25
2.	Men's Jersey	13.75
3.	Men's T-Shirt	7.75
4.	Women's Knit Wear	38.75
5.	Women's Top	7.75
6.	Women's Pants	18.75
7.	Women's Tank	5.75
8.	Women's Skirt	24.5
9.	Infant's Top	4.75
10.	Infant's Pants	4.0
11.	Men's Pants	25.0

Table 1

The above table shows the amount of water one saves per piece of a specific garment if they use the air dyeing technology instead of the traditional method.

Another dyeing technology that firms can opt for is called the DyeCoo dyeing. This waterless dyeing uses superficial carbon-di-oxide to dye clothes. When pressurised CO2 becomes superficial. In this state it becomes a very strong solvent, CO2 has a very high solvent power. Thus the dyes dissolve easily. This process also recycles 95% of the CO2 in a closed loop, thus not harming the environment. DyeCoo has also established its own range of 100% pure dyes that eliminates the need to add harsh chemicals. This is a new technology and firms should opt to use it.According to DyeCoo they can save upto 15 million litres of water and 6500 kilograms of chemicals per dyeing machine. Nike's factory in Taiwan has also opted for DyeCoo's dyeing method in an attempt to become more sustainable.

Even a small step such as waterless dyeing can help save a lot of water which can be used to produce something else, thus taking a step towards a more sustainable world.