

INNOCENCE



WORKING WITH NATURE!

 **KIPAS** DENİM

INNOCENCE



2017

INTRODUCTION

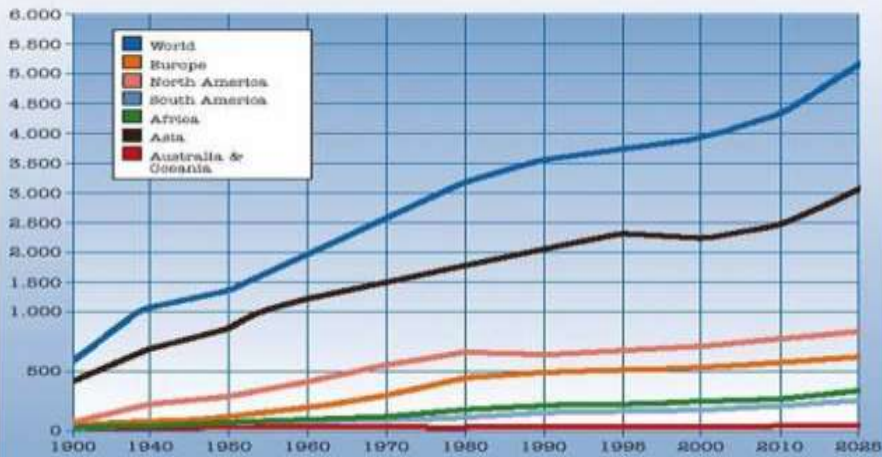


Denim production has a high impact on the environment. It uses lots of water and chemicals – by some estimates over 3,000 litres of water and 2kg (4.4lb) of chemicals are used per pair of denim jeans, from growing the cotton, weaving and dyeing the fabric, to give the wash effect consumers want and post-purchase washing.

WATER



Global Water Consumption 1900 - 2025
(by region, in billion m³ per year)



**FASHION IS THE SECOND
LARGEST CONSUMER OF WATER**

Most of the water use in denim production occurs during cotton growing and after purchase by the consumer for washing (>95%). Estimates are that one pair of denim jeans requires on average 70 litres of water for the dyeing and washing during production (this the equivalent of about 150 pints of beer at the local pub).



As for the chemicals used, the potential effect on the environment, workers and consumers must be considered by brands. Using certified organic cotton reduces the amount of hazardous pesticides used for growing cotton, but turning that cotton fibre into a fashionable denim garment with the look and feel desired by consumers has until recently required using chemicals potentially harmful to workers and the environment.



The look and feel of denim can be altered in two different ways: chemically or mechanically. The traditional techniques include stonewashing, sanding/grinding, bleaching (so-called 'acid washing'), or combinations of those to mimic the fading effect sunlight and normal wear have on denim that designers and consumers want. Newer techniques use lasers, ozone or enzymes to produce similar effects.

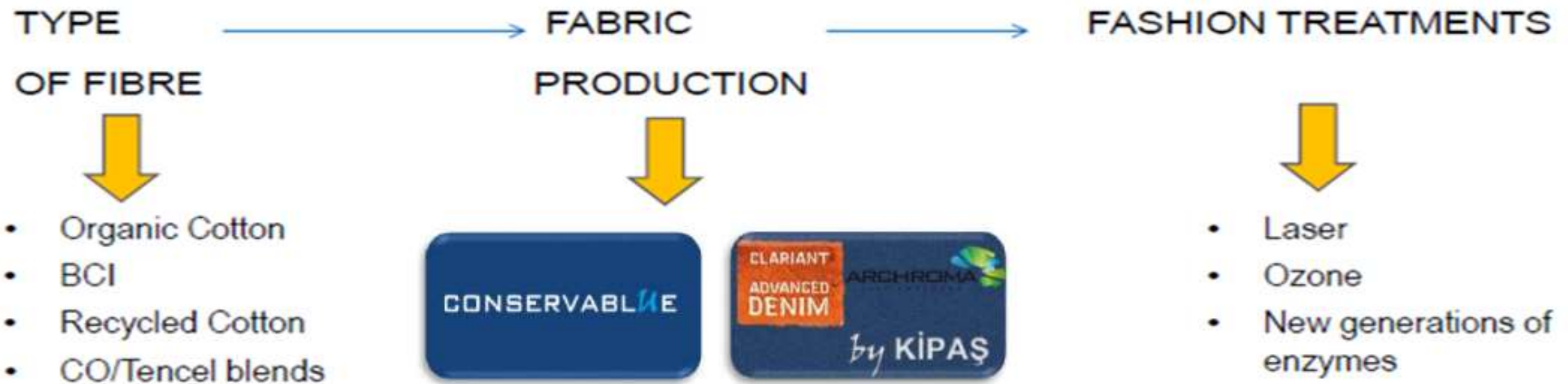


Bleaching uses chemicals such as hypochlorite (common laundry bleach) and potassium permanganate (PP) to remove indigo dye from the denim in a wash process or in localised areas using a spray. The chlorine in bleach and manganese in PP can cause water pollution or can be harmful to workers if these chemicals are not handled properly.

WORKING WITH NATURE!

Sustainability in the denim industry

MAIN ELEMENTS FOR SUSTAINABLE JEANS :



Preferred Fiber Market

The textile industry is working (from fiber through dyeing and finishing) to improve its environmental profile. This year, Textile Exchange has included chemical companies who have developed preferred dye processes and preferred fiber and material companies that are both in development and already commercial. This broader perspective will give us a look at what is on its way and encouragement for the industry to support these new fibers.

Big initiatives this year include; circular systems, recycling textile waste, biobased polymer developments, and big data's support on collecting and organizing this information through various schemes.

Market Updates

Projected Fiber Growth 2015 to 2020



Synthetics Fibers

+3-4%



Cotton Fibers

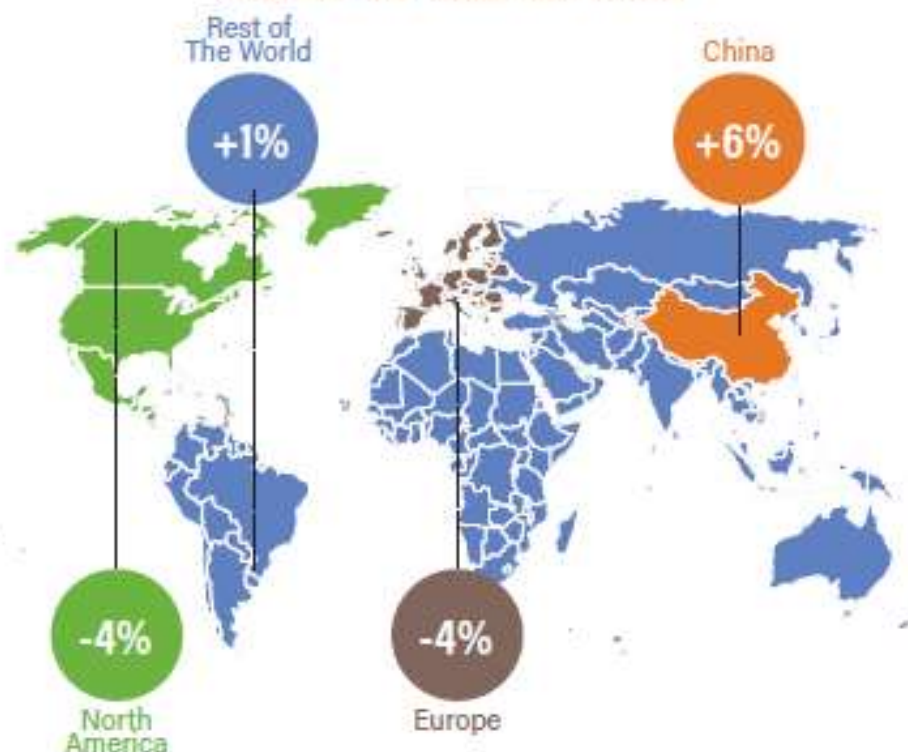
+1-2%
per annum



Cellulosic Fibers

+5-6%
per annum

Projected Fiber Usage 2013 to 2020



Textile Consumption 2010 to 2020



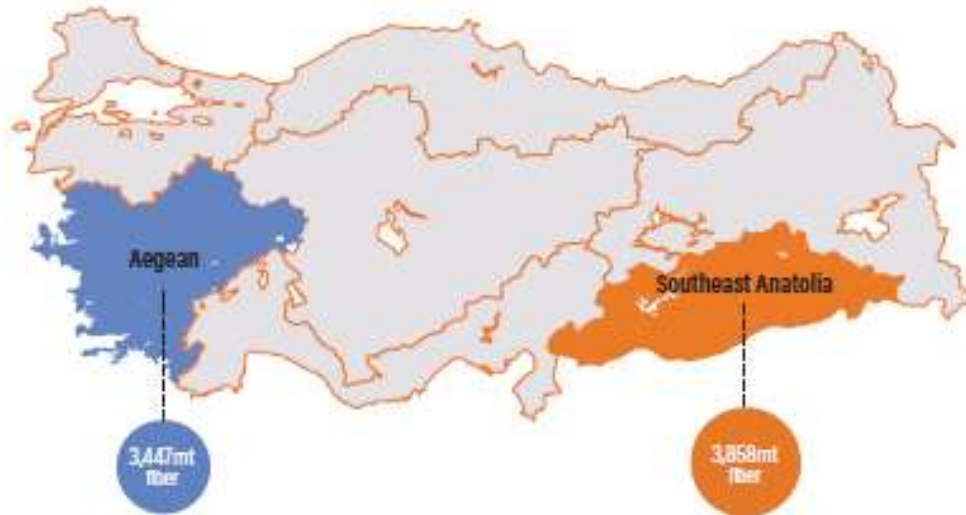
28-31 kg/per capita
Industrial Countries



7.9-12 kg/per capita
Developing Countries

Trend to high-tech clothing and comfort leading to more use of special polyester and wood-based fibers.

Thanks to the growth of new markets in developed countries and increasing international trade, the global textile industry continues to grow. It has generated sales of approximately U.S. \$750 billion during 2015, a growth of more than 5 percent for the year. By 2019, the value of the global textile industry is expected to reach values of U.S. \$910 billion, although weakening global economic conditions may slow down this growth. (WTIN outlook 2016)



In recent years, particularly in 2014/15, political and socioeconomic volatility in the region has severely affected all daily activities in Turkey, including agricultural production. Despite this, the size and strength of the Turkish economy, in addition to its deep-rooted and dynamic textile industry, continue to drive cotton production. Coupled with the Ministry of Food, Agriculture and Livestock's firm stance against GMO-based agriculture, organic cotton production maintains and looks set to continue its importance in Turkey.

However, the upward growth trend in organic cotton production that began last year and was expected to continue has not been realized. In 2014/15, total land area planted with organic cotton dropped 10 percent, and total production dropped eight percent.

This is due, in part, to the political instability described above, but another key factor is price, which is being driven down by competition from organic cotton imports. These are generally cheaper than domestic organic cotton. It is estimated that approximately 5,000 mt of organic cotton were imported in the 2014/15 season with the majority coming from Kyrgyzstan.

Another important trend in organic cotton production in Turkey, which started last year and continues this year, is the shift in production from the more politically unsettled Southeast Anatolia to the Aegean region. The Aegean region saw a 25 percent increase in its production of seed cotton in 2014/15, despite national production declining eight percent.

This has increased the share of Aegean organic cotton to 45 percent of the national total, bringing with it an overall increase in quality. This trend is expected to remain while the project owner companies continue to provide technical and price premium support to organic cotton producers in the region.

In recent years, there has been a relatively high turnover (inflow/outflow) of organic cotton producers, which is largely a result of fluctuating prices both globally and domestically. Conventional cotton prices used to average \$1.53-\$2.21 US/kg, but in 2014/15, the average price was \$1.48-\$1.59 US/kg. Organic cotton prices closely follow this trend, though, with a 15 percent organic premium added. Naturally, this price decrease mirrors, to some extent, the trend in exchange rates, which fell from 2.3269 TRY/USD at the end of 2014 to 2.9181 TRY/USD at the end of 2015. It is expected that the cost of labor and other inputs may cause a continued decrease in the land area planted with cotton, both organic and conventional, in the coming years.

Top 10 Users of Recycled Polyester

- 1 
- 2 
- 3 
- 4 **patagonia**
- 5 WESTPOINT
HOME
- 6 WILLIAMS-SONOMA, INC.
- 7 
VOL.COM
- 8 
WOODNET
- 9 
prAna
- 10 



Recycled polyester outdoor and indoor rugs (Williams-Sonoma Inc)

Top 10 Users of Lyocell

- 1 **INDITEX**
- 2 **H&M**
- 3 **G-STAR RAW**
- 4 **LINDEX**
- 5 **EILEEN FISHER**
- 6 **WILLIAMS-SONOMA, INC.**
- 7 **patagonia**
- 8 **CONTINENTAL**
- 9 **FJÄLL RAVEN**
- 10 **C&A**



Tencel Linen Shawl Collar Jacket (Eileen Fisher)

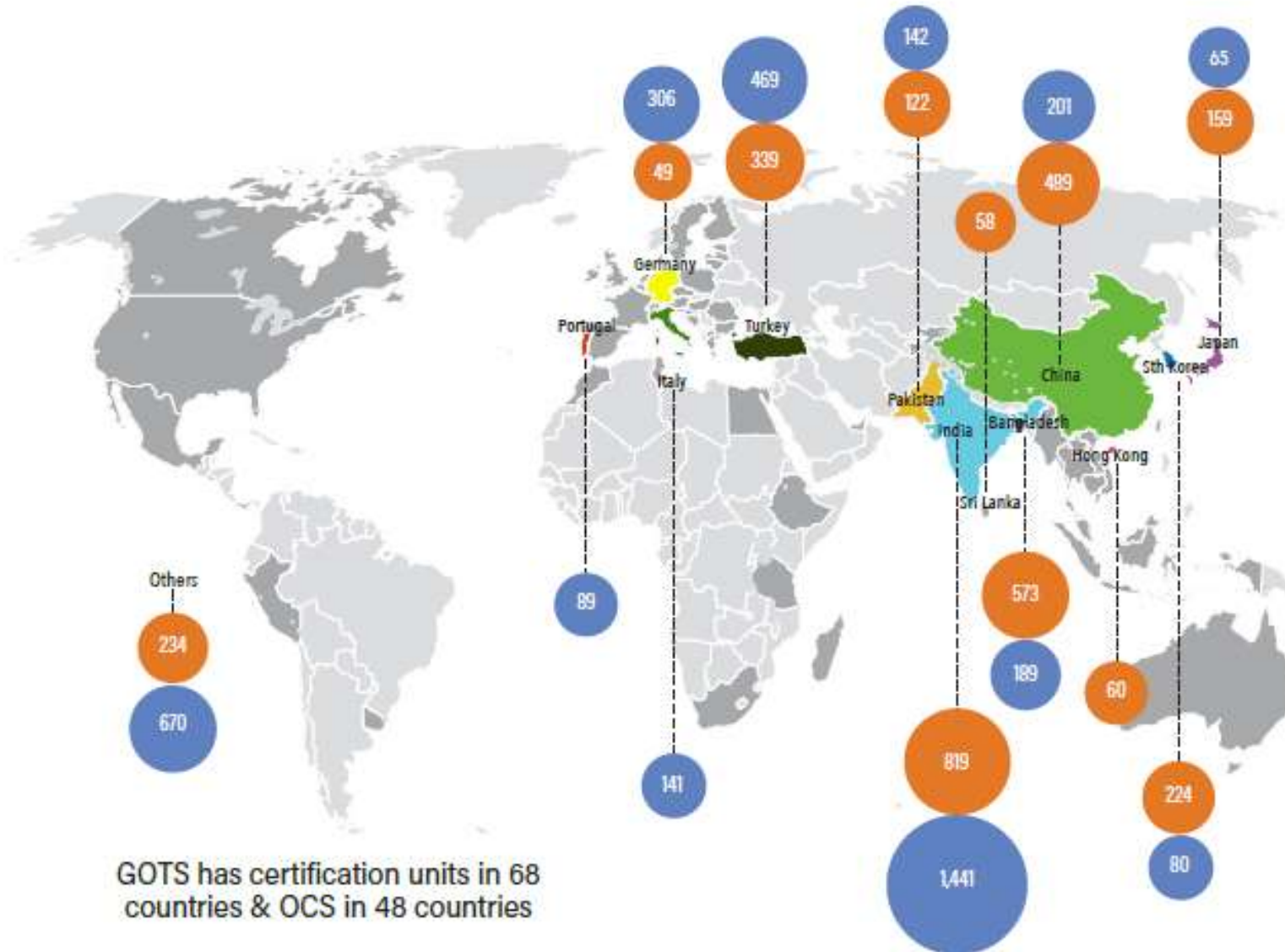
Top 5 Users of Certified Down

- 1 H&M
- 2 THE NORTH FACE
- 3 patagonia
- 4 Kathmandu
- 5 C&A



The North Face Youth; Boy's McMurdo Down (The North Face - Photo Credit: Ian Morsen)

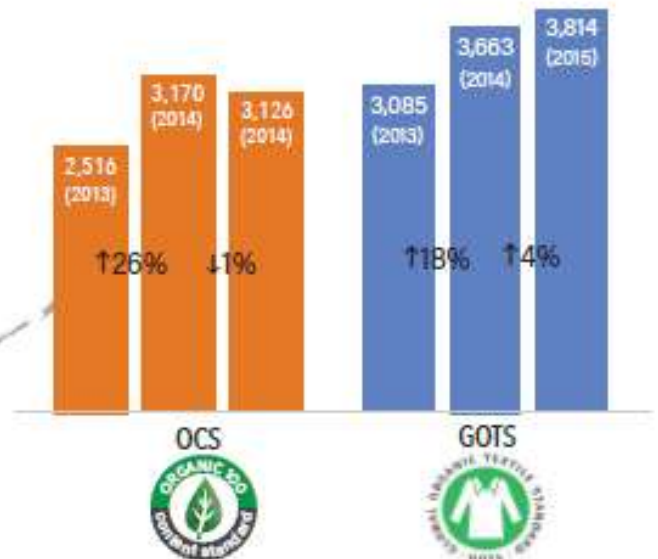
OCS and GOTS Top 10 Countries



GOTS has certification units in 68 countries & OCS in 48 countries

Growth Rate of Top 10 Countries

	OCS	GOTS
1	India : ↓6%	India : ↑5%
2	Bangladesh : ↑2%	Turkey : ↑6%
3	China : ↑2%	Germany : ↑4%
4	Turkey : ↑8%	China : ↓7%
5	South Korea : ↑2%	Bangladesh : ↑11%
6	Japan : ↑2%	Pakistan : ↑11%
7	Pakistan : ↓17%	Italy : ↑12%
8	Hong Kong : ↓31%	South Korea : ↓29%
9	Sri Lanka : ↓19%	Portugal : ↑9%
10	Germany : ↑11%	Japan : ↓12%



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CONSERVABLE

RECYCLED



yarn

by KIPAS

BCI

Better Cotton Initiative

by KIPAS

CLARIANT
ADVANCED
DENIM

ARCHROMA



by KIPAS



KIPAS DENİM

CONSERVABLE TECHNOLOGY

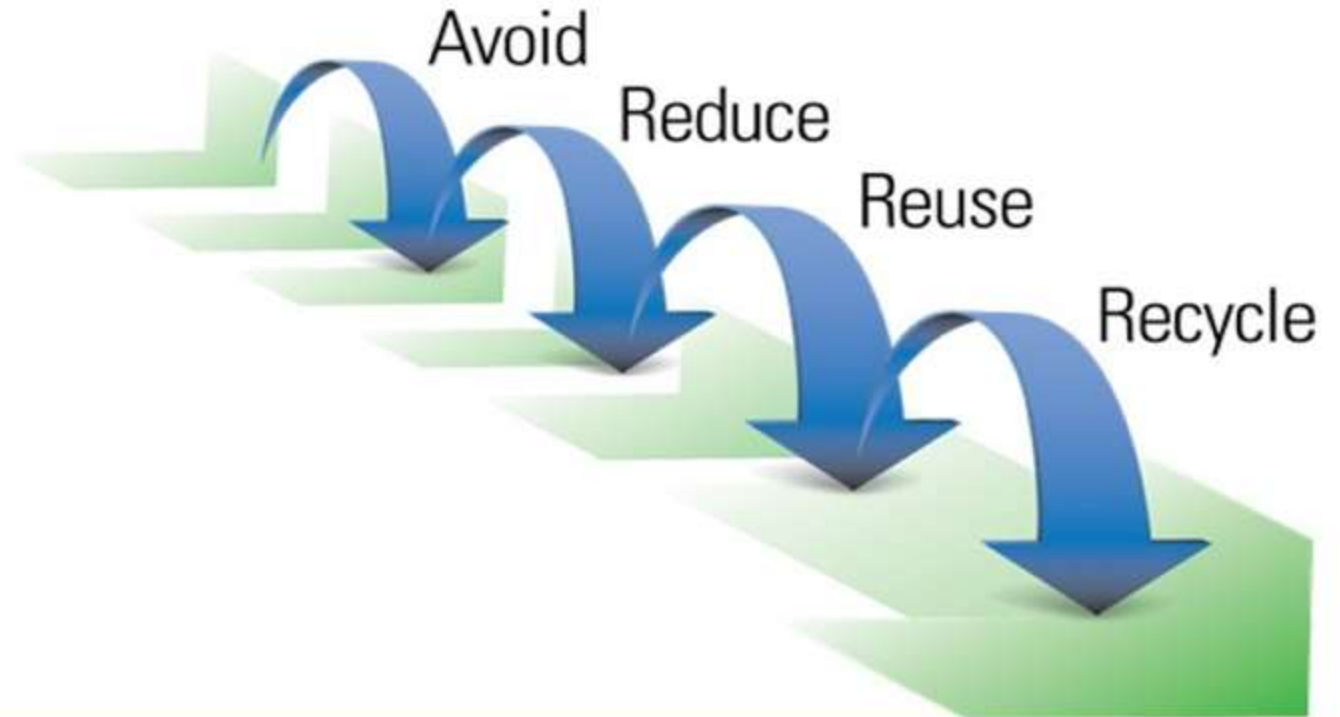
ECO DENIM MANUFACTURING PROCESS



General Efforts to minimize the environmental impact

Although there has been efforts to reduce water input such as;

- altering conventional equipment
- altering chemical stuffs
- recycling water
- reusing waste water, water usage is still high in industry.



Sustainable Denim Manufacturing Process

CONSERVABLEUE
KIPASDENİM

Kipaş Denim works

Kipaş Denim works to minimize the environmental impact in all single steps of the entire denim production chain. We produce denim with «fewer chemicals , less water, less energy sources» by friendly new Technologies machinery equipment and process of development.

Using special techniques in dyeing processes, **CONSERVABLEUE** has been born.

CONSERVABLEUE

KIPASDENİM

Sustainable Denim Manufacturing Process

CONSERVABLE

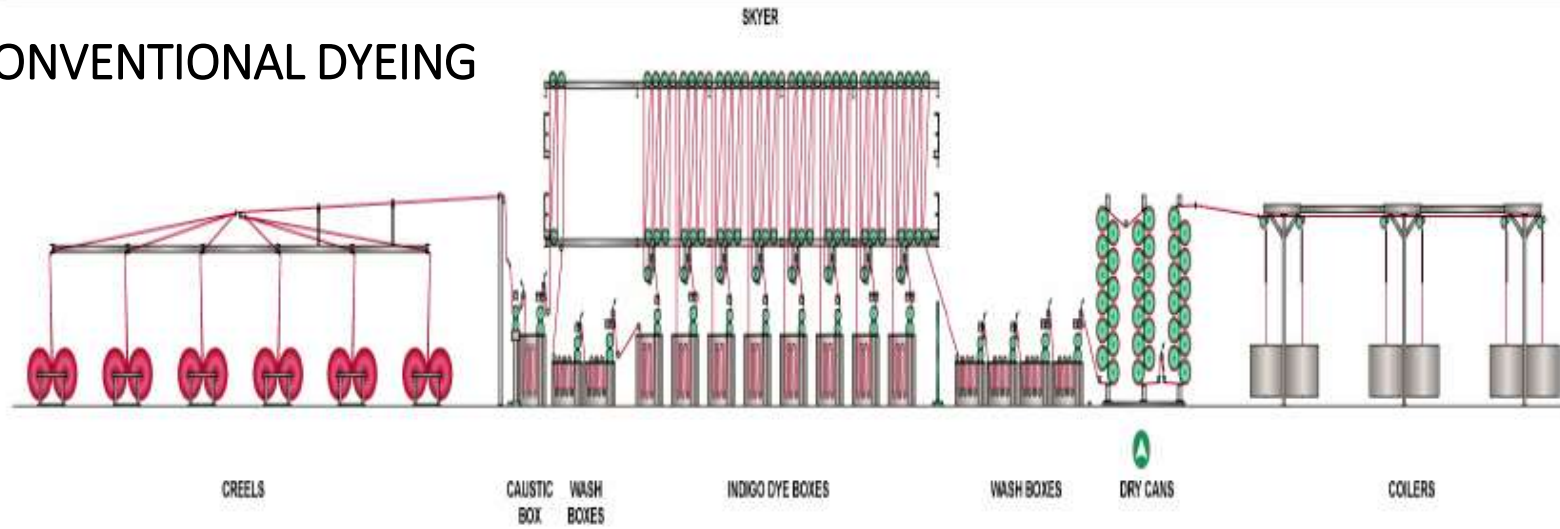
REPAIR DENIM

Method

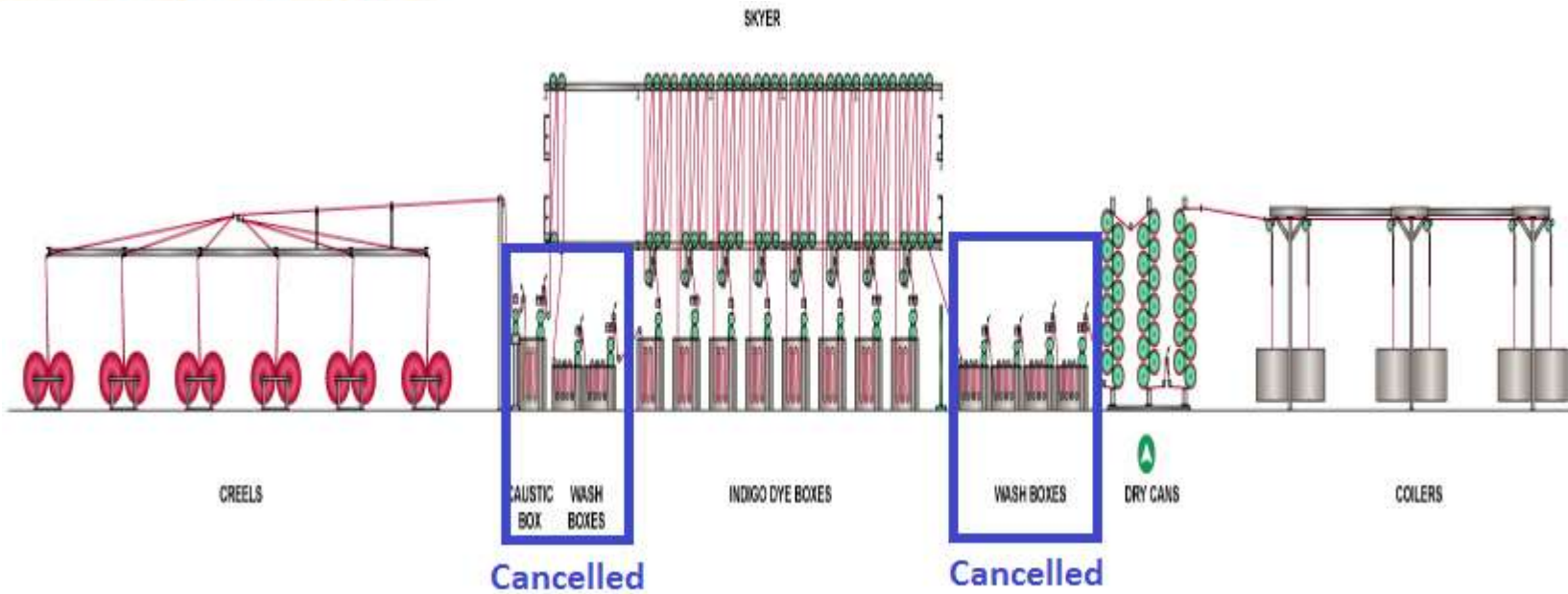
Conventionally made jeans pass through 6 rinsing overflow boxes, which the **CONSERVABLE** process into 0 (zero) at Indigo dyeing machine. It reduce the 20 liter per one meter denim fabric water usage to ZERO LEVEL.



CONVENTIONAL DYEING



CONSERVABLE



ECO DENIM MANUFACTURING PROCESS



Results on Enviromental Impacts

As stated these eliminations of rinsing water flow, makes the **CONSERVABLE** technology much more ecological process compared to current conventional technologies.

- I. It reduce the **CO2 footprint** of being waterless dyeing
- II. It reduce the **water treatment works** of being No waste water effluent
- III. It reduce the **energy consumption** because of shorten process
- IV. It reduce the **dyestuff consumption** of being No dyestuff effluent
- V. The chemicals used at the process are ecological and get the APPROVAL Textile Auxiliaries No. **GOTS-IMO-01-00998**



ECO DENIM MANUFACTURING PROCESS

SAVINGS

		THE PRODUCTION WE DONE WITH	IF WORLDWIDE ALL DENIM PRODUCTION DONE WITH
		CONSERVABLE ^{UE} 200.000 ML.	CONSERVABLE ^{UE} 5.000.000.000 ML.
QUANTITATIVE	Water Saving	2.305 M ³	57.613.169 M ³
	Waste Water Saving	2.305 M ³	57.613.169 M ³
	Electric Saving	10.370 KW	259.259.259 KW
	Dyestuff Saving	375 KG	9.375.000 KG

ECO DENIM MANUFACTURING PROCESS

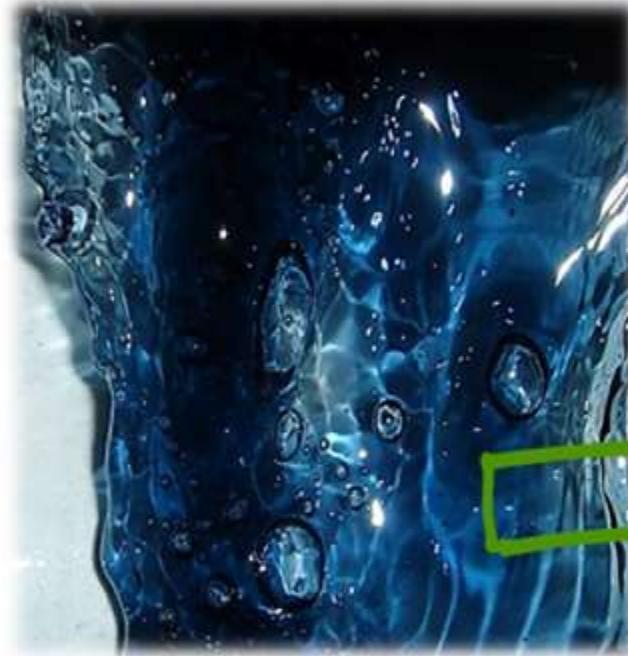
CONSERVABLE

ECO DENIM

Results on Dyeing Efficiency

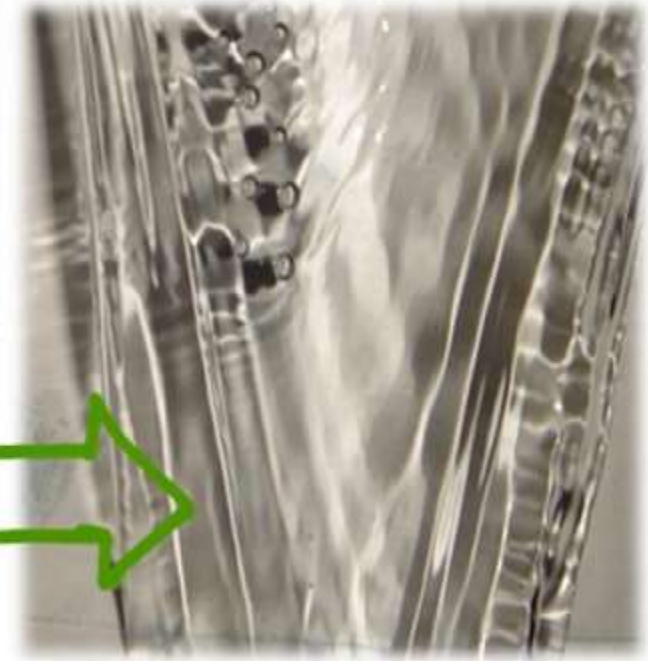
CONSERVABLE dyeing process ensures 100% of applied dyestuff remains on the yarn.

This is contrary to the normal denim process, knowing that in standard subsequent rinsing after dyeing process, between 5% of dyestuff is eliminated with the rinsing bath. This reduce the dyestuff cumsumption.



Waste Water

Waste water from the rope dye rinsing



Check Water

Cheking water from the new Process

ECO DENIM MANUFACTURING PROCESS



Results on Dyeing Continuity

Tailing is shade variation along the length of the fabric. With **CONSERVABLE** process, comparisons of the colour from the first meter to the last, checked and measured during the dyeing process and its also passed from our QC tests.



ECO DENIM MANUFACTURING PROCESS



Results on Color wash down effects

CONSERVABLE dyeing process could have a missing point for having wash down effects which is necessarily for denim. CONSERVABLE dyed yarn has a ring dyeing effects which is the main factor that creates the smooth wash down effect.



Sustainable Denim Manufacturing Process



Results on Color Fastness

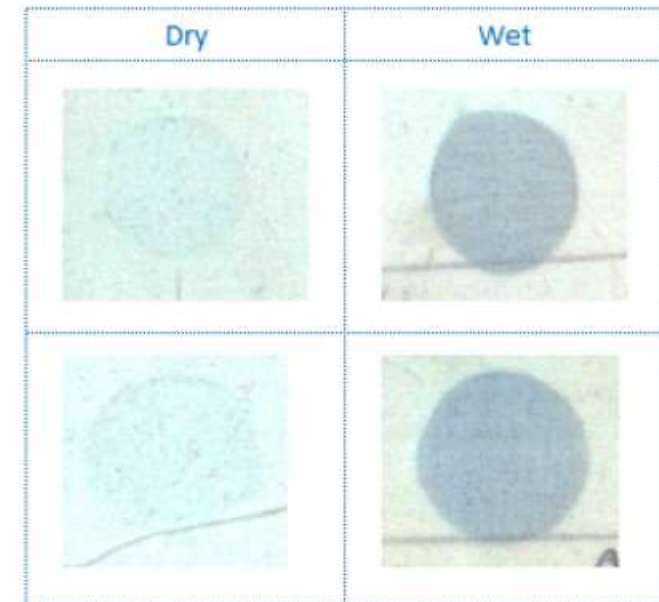
Using the **CONSERVABLEUE** dyeing process, even without rinsing the dye, achieving washing fastness is much better than usual.

Test Results

Process	Article
Existing Process	Jessica Blue
Proposed Process	Jessica Blue

Dry	Wet
4	2
4-5	2

Sample View



Sustainable Denim Manufacturing Process

CONSERVABLE^{UE}

REPAIR DENIM

Results on Touch of Fabric

CONSERVABLE^{UE} technology avant-garde dyeing process used retains all the cotton natural characteristics.

The exquisite treatment of cotton, prevents any hydrolysis of natural fats and waxes, keeping its original elasticity and softness



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 KIPAS DENİM

2017

ECO DENIM MANUFACTURING PROCESS



Recycled Fibres

The Recycle range of fabrics includes waste yarn which is recycled back into the spinning process to create new yarn. The new yarn has been created in Kipaş Denim by using denim production regular wastes.

The recycled fibres are made from post-manufacturing of denim, collected through after dyeing range. The dyed waste yarn are classify on shades, like light, medium and dark colors.



ECO DENIM MANUFACTURING PROCESS

Recycled Cotton Fibres with REPREEVE®

Kipaş Denim transforms the waste cotton yarns into fibers and blends them with PET, which is recycled fiber polyester from plastic bottles.

The company named REPREEVE® helps turn recycled plastic bottles into sustainable fabric denim.



 **KİPAŞ DENİM**

ECO DENIM MANUFACTURING PROCESS



Recycled Cotton Fibres To Denim

The recycle fabric line available in stretch and rigid variations . Using recycled fibres reduces the environmental impact of the production process.



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2017

ECO DENIM MANUFACTURING PROCESS



BCI Cotton

Cotton is one of the world's most important natural fibres. It's used by nearly everyone on Earth every day, and supports 250 million people's livelihoods. It's a renewable natural resource, but only if we manage it responsibly.

BCI exists to make global cotton production better for the people who produce it, better for the environment it grows in and better for the sector's future, by developing Better Cotton as a sustainable mainstream commodity.



ECO DENIM MANUFACTURING PROCESS



BCI Cotton

BCI has defined what a more sustainable way of growing cotton is through its global standard, the Better Cotton Standard System. The Standard incorporates six key principles that provide a global definition of Better Cotton:

- Better Cotton is produced by farmers who minimise the harmful impact of crop protection practices.
- Better Cotton is produced by farmers who use water efficiently and care for the availability of water.
- Better Cotton is produced by farmers who care for the health of the soil.
- Better Cotton is produced by farmers who conserve natural habitats.
- Better Cotton is produced by farmers who care for and preserve the quality of the fibre.
- Better Cotton is produced by farmers who promote decent work



ECO DENIM MANUFACTURING PROCESS



BCI and Kipaş Denim

Reaching beyond its yearly goal, Kipaş Denim is aiming to make Better Cotton 15% and Organic Cotton %5 of its total cotton consumption this year.



 **KIPAS** DENİM

ECO DENIM MANUFACTURING PROCESS



BCI Cotton and Kipaş Spinning Mill

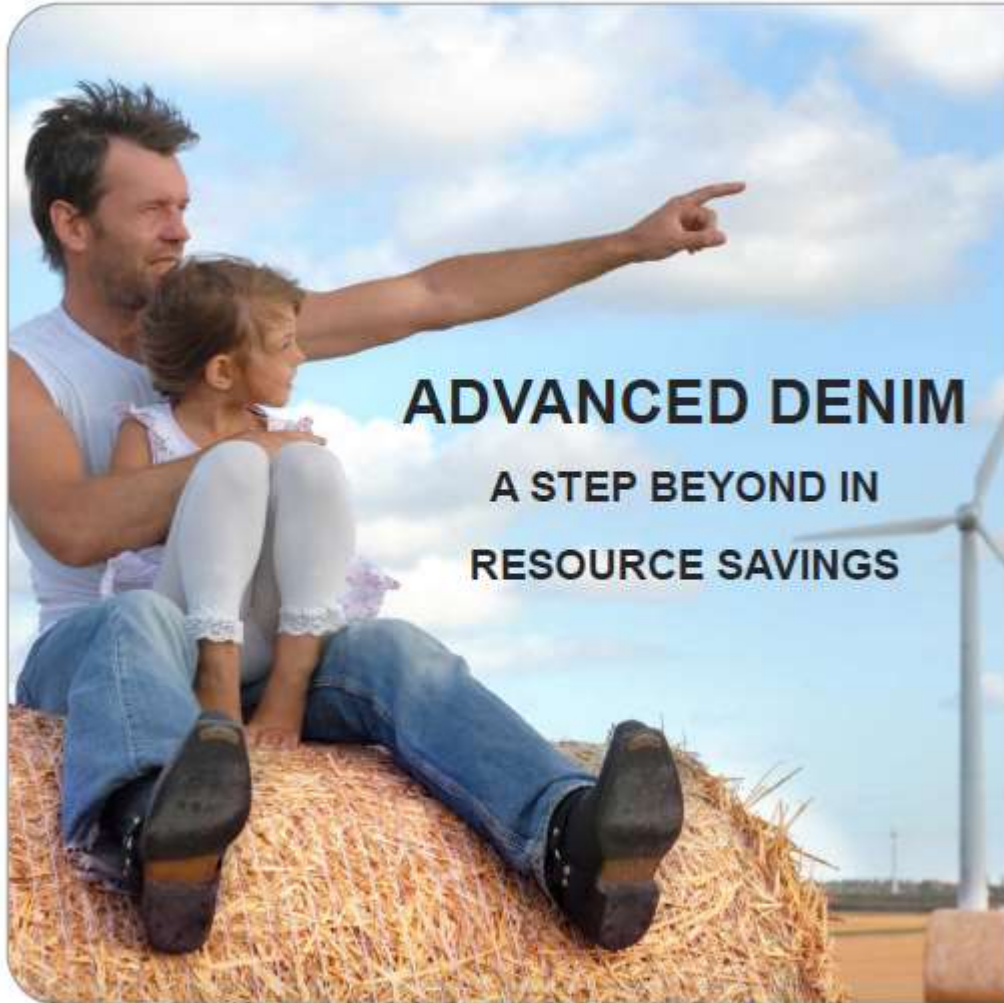
Kipaş Denims' partner company named Kipaş Spinning is one of the biggest producer of the World, it is the the world's 3rd largest manufacturer of the World. We have more then 15.000 tons BCI cotton cunsumption yearly. Kipaş Spinning Mill is committed to improving cotton farming practices globally with the Better Cotton Initiative (BCI). Better Cotton Initiative (BCI) - Since 2011.



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ADVANCED DENIM TECHNOLOGY



Advanced Denim: A step beyond in resource savings

+ COLORS

+ SUSTAINABILITY

+ PERFORMANCE

+ COLORS



- Larger blue color spectrum
- Wider range of graded colors
- Deeper blue shades
- Current & New finishes

+ SUSTAINABILITY



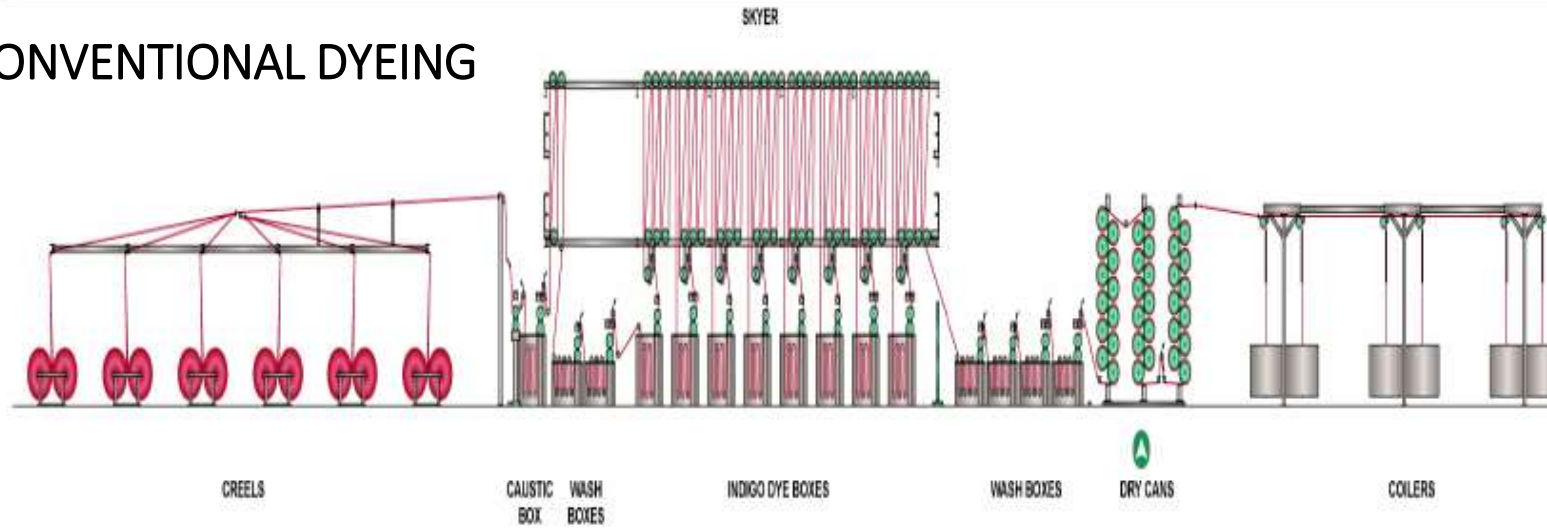
- Less Resources
- Practically no waste water (less pollutants)
- Suitable for eco-bleaching (H₂O₂)

+ PERFORMANCE

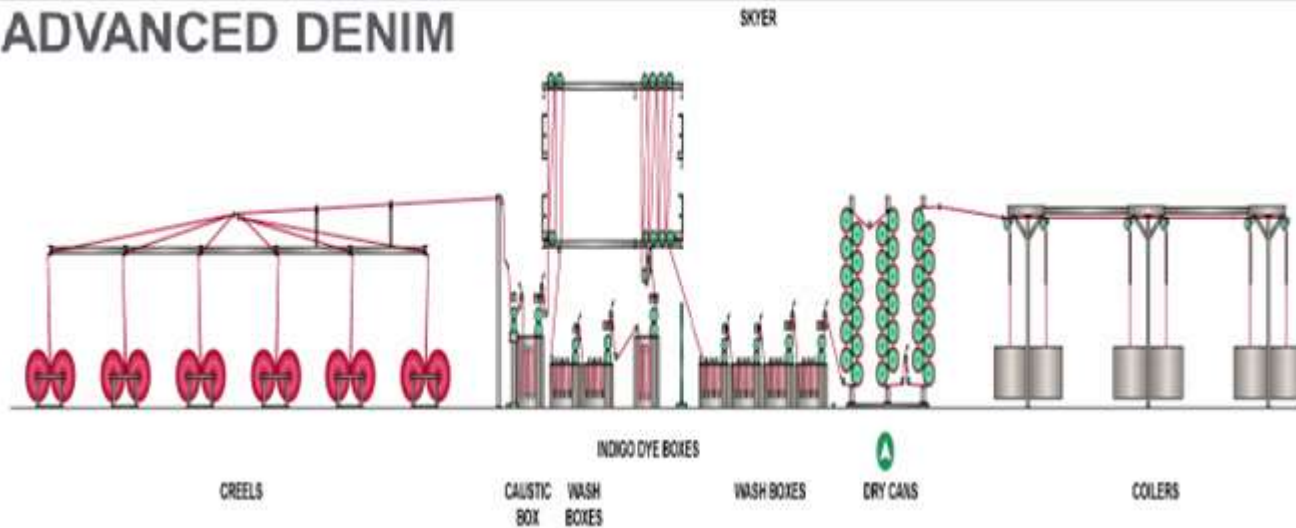


- Higher bulk reproducibility
- Better weaving efficiency
- Better dry crocking fastness

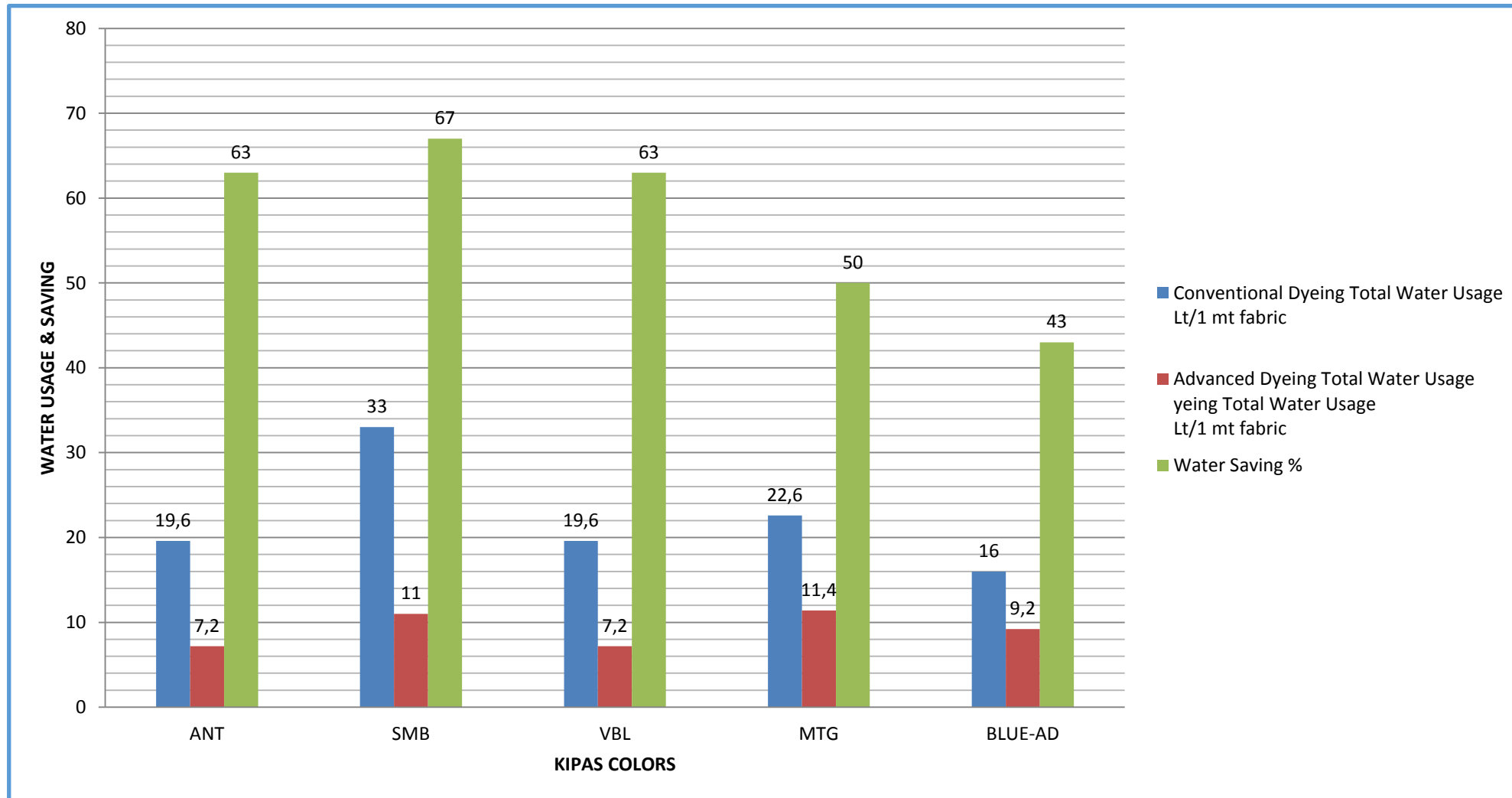
CONVENTIONAL DYEING



ADVANCED DENIM



ADVANCED DENIM WATER SAVING RATIO



“ LOOK DEEP
INTO nature,
AND THEN
YOU will UNDERSTAND
EVERYTHING
BETTER. ”

Albert Einstein

WORKING
WITH NATURE!