



# **Environmental Effects of the Textile Industry on India**

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# How is the textile industry affecting the environment?

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**Sub Question 1: Most Common Chemicals in each State.**

**Sub Question 2: Cost of these effects?**

**Sub Question 3: How does the textile industry affect the water quality?**

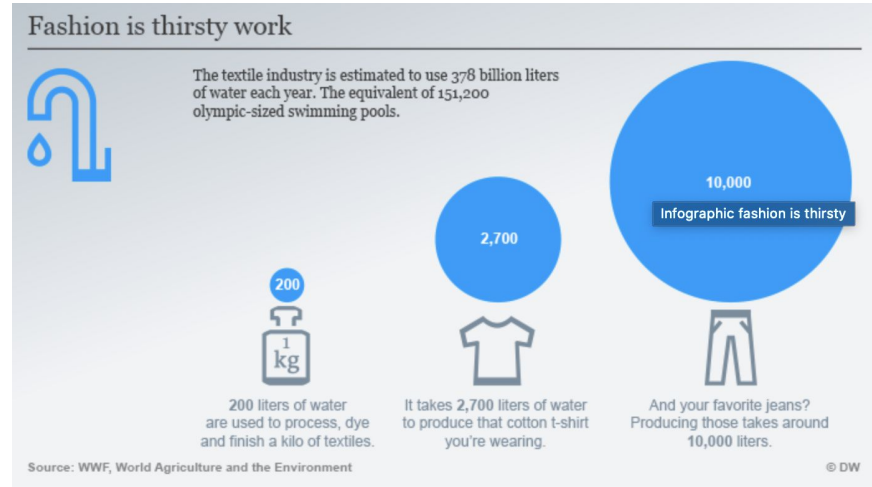
**Sub Question 4: Average water temperature each year.**

# Objective:

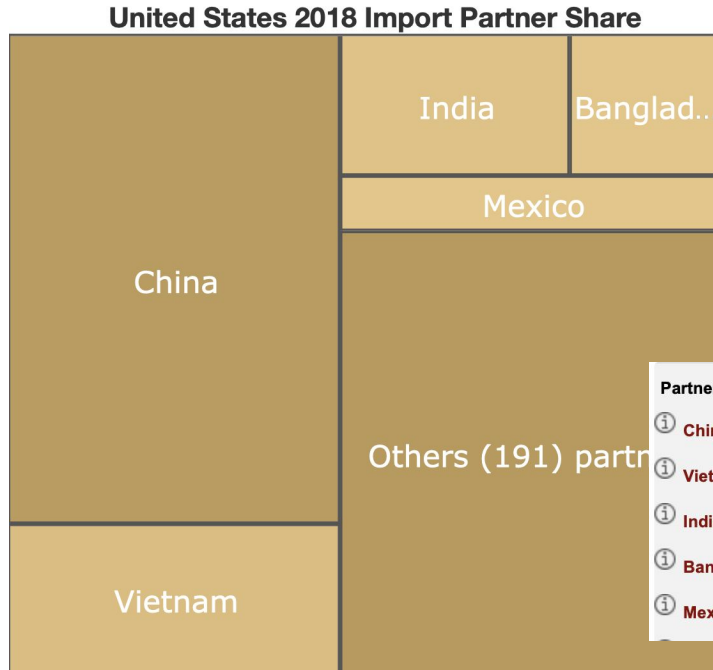
Present our audience with the effects of the textile industry on the environment.



Source: World Economic Forum



# Step 1: Top Imports of Textiles into the United States



**India**  
Trade Value(\$):8,500,339.31  
Share(%): 7.11

Partner Name	Import (US\$ Thousan	Import Product Share (%)	AHS Weighted Average (%)
<i>China</i>	42,479,673.90	7.54	10.92
<i>Vietnam</i>	13,065,662.46	25.48	13.43
<i>India</i>	8,500,339.31	15.06	9.30
<i>Bangladesh</i>	5,688,721.53	89.89	11.01
<i>Mexico</i>	5,426,102.06	1.55	0.00

# Step 2: Data Sets

		District Name		Quality Parameter		Year	
State Name	District Name	Block Name	Panchayat Name	Village Name	Habitation Name	Quality Parameter	Year
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GOKAVARAM(04)	VANTHADA(014 )	VANTHADA(0404410014010400)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GOKAVARAM(04)	PANDAVULAPALEM(022 )	PANDAVULAPALEM(0404410022010400)	Fluoride	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GAJJANAPUDI(06)	G. KOTHURU(023 )	G. KOTHURU(0404410023010600)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GAJJANAPUDI(06)	GAJJANAPUDI(029 )	GAJJANAPUDI(0404410029010600)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	CHINTALURU(10)	CHINTALURU(028 )	CHINTALURU(0404410028011000)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	ELURU(16)	P. JAGANNADHAPURAM(035 )	P. JAGANNADHAPURAM(0404410035011600)	Fluoride	1/4/09

Number of Observations: 550243  
Number of Variables: 8

LOCATIONS						STATE		Temp		Year		
STATION CODE	LOCATIONS	STATE	Temp	D.O. (mg/l)	PH	CONDUCTIVITY (µmhos/cm)	B.O.D. (mg/l)	NITRATENAN N+ NITRITENANN (mg/l)	FECAL COLIFORM (MPN/100ml)	TOTAL COLIFORM (MPN/100ml)Mean	Year	
1393	DAMANGANGA AT D/S OF MADHUBAN, DAMAN	DAMAN & DIU	30.6	6.7	7.5	203	NAN	0.1	11	27	2014	
1399	ZUARI AT D/S OF PT. WHERE KUMBARURIA CANAL JOINS, GOA	GOA	29.8	5.7	7.2	189	2	0.2	4953	8391	2014	
1475	ZUARI AT PANCHAWADI	GOA	29.5	6.3	6.9	179	1.7	0.1	3243	5330	2014	
3181	RIVER ZUARI AT BORIM BRIDGE	GOA	29.7	5.8	6.9	64	3.8	0.5	5382	8443	2014	
3182	RIVER ZUARI AT MARCAIM JETTY	GOA	29.5	5.8	7.3	83	1.9	0.4	3428	5500	2014	

Number of Observations: 1992  
Number of Variables: 12



# Step 3: Data Cleansing

		District Name		Quality Parameter		Year	
State Name	District Name	Block Name	Panchayat Name	Village Name	Habitation Name	Quality Parameter	Year
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GOKAVARAM(04)	VANTHADA(014 )	VANTHADA(0404410014010400)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GOKAVARAM(04)	PANDAVULAPALEM(022 )	PANDAVULAPALEM(0404410022010400)	Fluoride	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GAJJANAPUDI(06)	G. KOTHURU(023 )	G. KOTHURU(0404410023010600)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	GAJJANAPUDI(06)	GAJJANAPUDI(029 )	GAJJANAPUDI(0404410029010600)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	CHINTALURU(10)	CHINTALURU(028 )	CHINTALURU(0404410028011000)	Salinity	1/4/09
ANDHRA PRADESH	EAST GODAVARI(04)	PRATHIPADU(10)	ELURU(16)	P. JAGANNADHAPURAM(035 )	P. JAGANNADHAPURAM(0404410035011600)	Fluoride	1/4/09

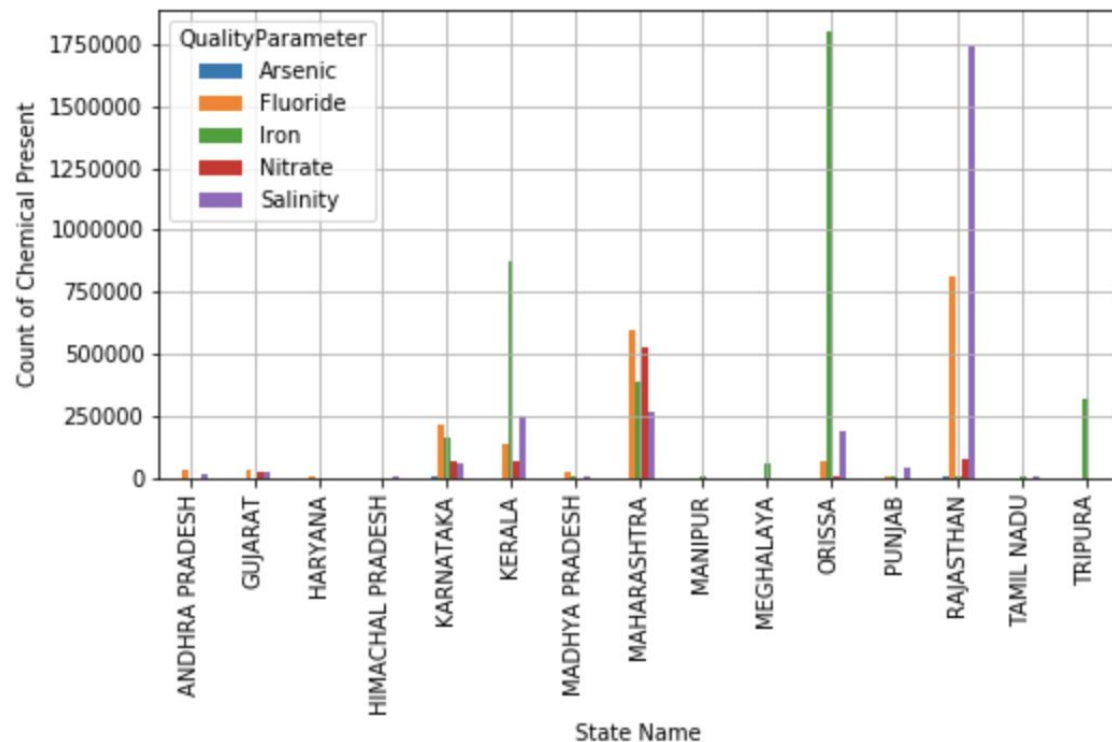
LOCATIONS						STATE		Temp		Year		
STATION CODE	LOCATIONS	STATE	Temp	D.O. (mg/l)	PH	CONDUCTIVITY (µmhos/cm)	B.O.D. (mg/l)	NITRATENAN N+ NITRITENANN (mg/l)	FECAL COLIFORM (MPN/100ml)	TOTAL COLIFORM (MPN/100ml)Mean	Year	
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- Transforming C\* to F\*
- Clustering/Grouping Observations
- Dates/States
- N/A

# Data Analysis

## Sub Question 1: Most Common Chemicals in each

State



- Damaged Healthy Skin Cells
- Mutation of Genes
- Leftover residue
- Plumbing Issues



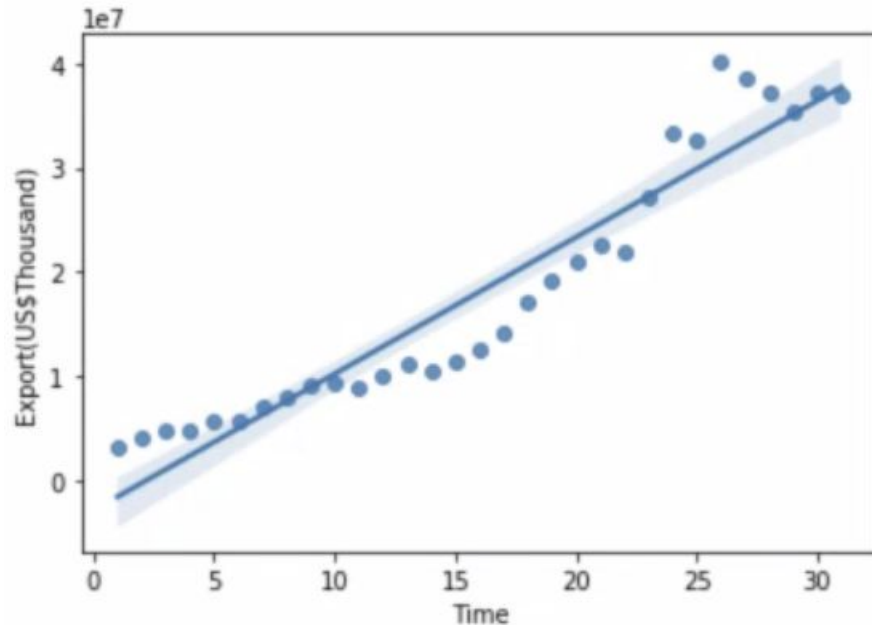
## Sub Question 2: Cost of these effects?



- Destructive Economic Growth for communities in the downstream areas
- Reduction in GDP Growth
  - Up to 33% decrease

# Data Analysis

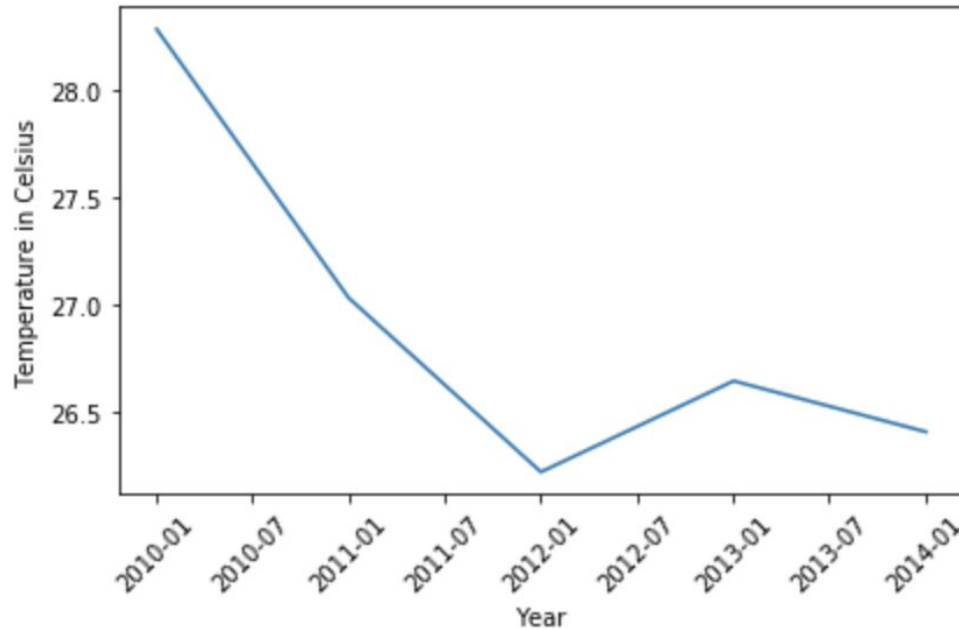
## Sub Question 3: How does the textile industry affect the water quality?



- Positive Correlation between exports and wastewater
- Downgrade of Soil
- Lack of quality vegetation

# Data Analysis

## Sub Question 4: Average water temperature each year.



- Death of Aquatic Organisms
- Seafood Supply Chain Shortage

# Analysis Conclusion

## Why Should We Care?

- Economic Inequality in Rural Areas
- Death of Aquatic Organisms
- Insufficient Supply of Seafoods
- Chemically polluted soils, leading to bad vegetation
- Health hazard of water consumptions



# Project Conclusion

## What have we learned?

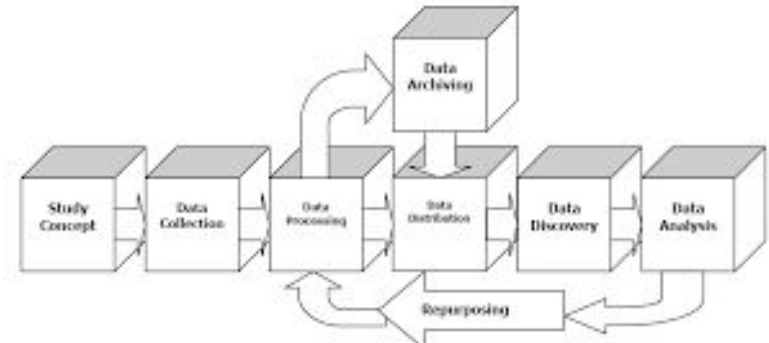


Figure 3: Combined Life Cycle Model



# The End