

# WASTE MANAGEMENT IN TEXTILE PRODUCTION

## Share by HaUI's Training Program

Promoting Sustainability in the Textile and Garment Industry in Asia (GIZ-FABRIC)

**Day 1:**

**Monday, 13/6/2022**

## **WASTE MANAGEMENT IN TEXTILE PRODUCTION**

**13:00 – 13:45**



**Dr. LUU THI THO,**

Vice Dean of the Faculty of Garment Technology and Fashion Design, Head of the  
Department of Textile Materials Technology

**Hanoi University of Industry**

# WASTE MANAGEMENT IN TEXTILE PRODUCTION - HaUI

- i. Impact of textile production on the environment and improvement measures
- ii. Effects of textile production on human health
- iii. Wastes from spinning, weaving, finishing and sewing
- iv. Cleaner production in the textile industry
- v. Summary

# Impact of textile production on the environment and improvement measures



Causing air pollution



Contaminating the water environment



Causing pollution by solid waste



## i. Impact of textile production on the environment and handling measures



### **General wastewater treatment methods:**

- Physical treatment of wastewater
- Mechanical treatment of wastewater
- Chemical treatment of wastewater
- Biological treatment of wastewater
- Wastewater treatment by oxidation

## ii. Effects of textile production on human health



### Types of pollution :



#### **Chemistry substances**

Acids, bases, bleaching agents, dyes, surfactants, etc.



#### **Dust and toxic gases**

Dust particles, toxic gases, ...



#### **Noise**

Machines, loud sounds, ...



## ii. Effects of textile production on human health

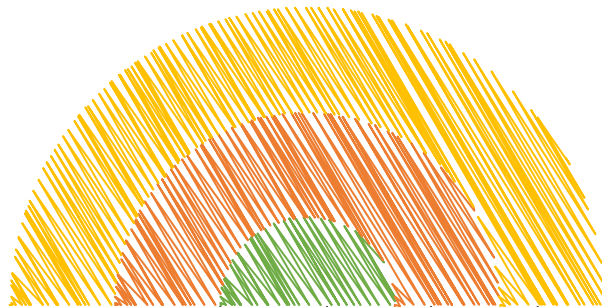
### Types of pollution :



#### Noise

- Impaired hearing
- Affects the ability to communicate
- Impact on heart, psychophysiology, behavior change...

### iii. Wastes from spinning, weaving, finishing and sewing



#### **Yarn production**

Leaf, raw yarn...

#### **Fabric production**

Woven fabrics, knitted fabrics, non-woven fabrics.

#### **Fabric finishing treatment**

Waste water, air, solid waste...

#### **Sewing**

Dust, heat from machines, semi-finished products...



### iii. Wastes from spinning, weaving, finishing and sewing



#### Yarn Production

- Waste is generated mainly during the first step of fiber cleaning and carding
- Cotton fiber: Branches, leaves, soil...
- Wool: Oil, grease, moisture...
- Silk: Plastic, glue...

### iii. Wastes from spinning, weaving, finishing and sewing



#### **Fabric Production**

- Woven fabrics, knitted fabrics and non-woven fabrics
- Waste: Yarn, fabric, packaging material, metal, machine oil...

### iii. Wastes from spinning, weaving, finishing and sewing

#### Fabric finishing treatment

Waste:

- Wastewater: Chemicals, dyes, auxiliaries...
- Air: chemical vapors, toxic gases...
- Solid waste: Bags, packages, oil residue, cotton flakes...

### iii. Wastes from spinning, weaving, finishing and sewing



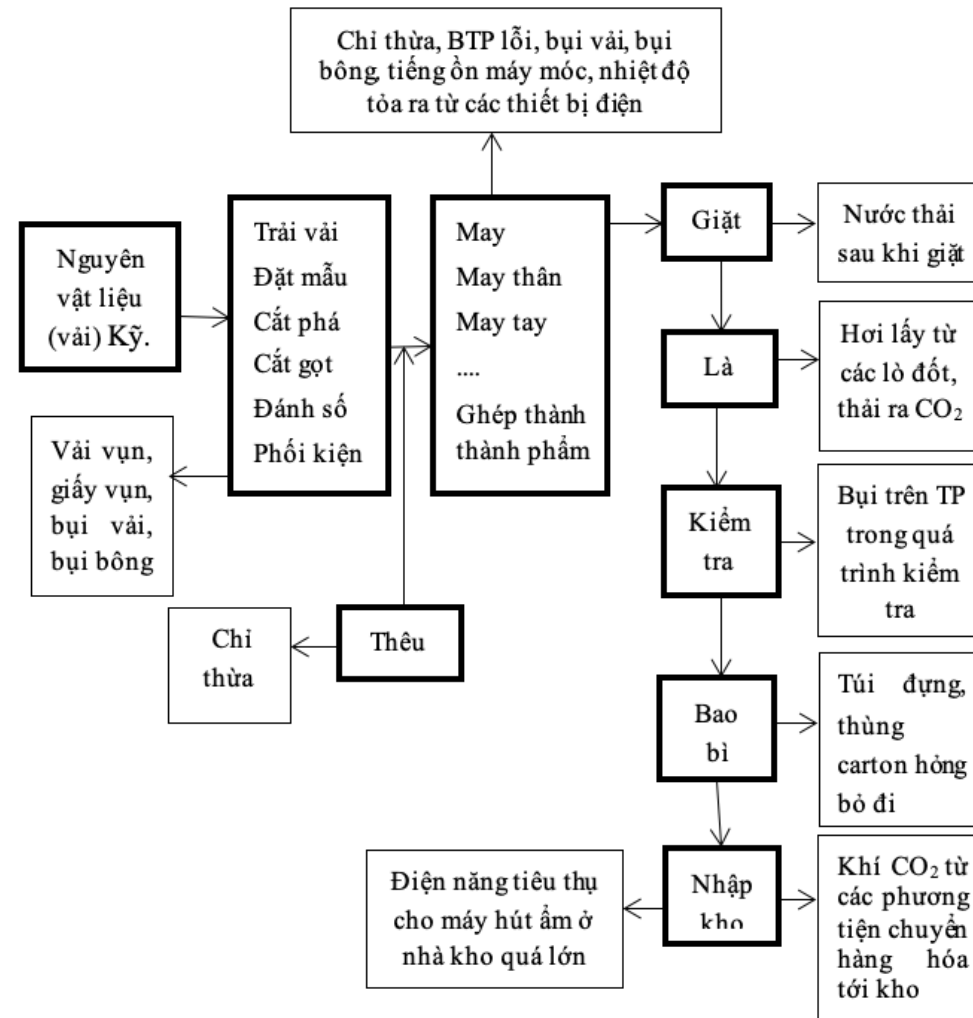
#### **Fabric finishing treatment**

Some effects of pretreatment on the environment

## iv. Cleaner production in the textile industry



Diagram of wastes released in the production of textile products



## iv. Cleaner production in the textile industry



### Application (6 steps 18 tasks)

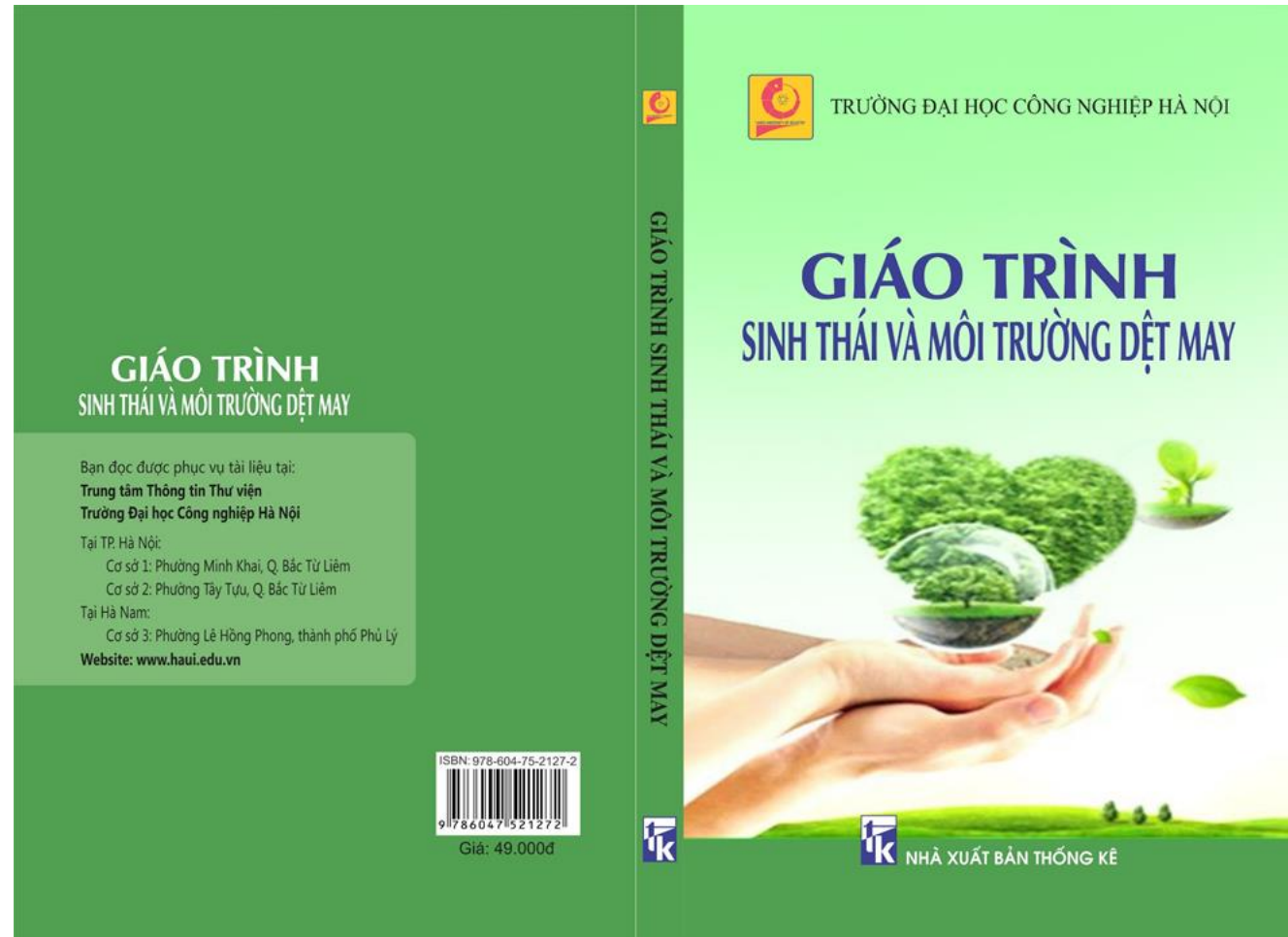
Current status,  
solutions, application  
of cleaner production  
in garment production.

### Implementation and evaluation

Process, principles,  
obstacles and solutions

### Cleaner production facility

Concepts, roles,  
barriers, solutions,  
current situation,  
mechanisms and  
policies of the state...



## Textbook of Ecology and environment of textiles

# Ecology and environment of textiles



**I. Impact of textile production on the environment and treatment measures**

**II. Effects of textile production on human health**

**III. Wastes from spinning, weaving, finishing and sewing**

**IV. Cleaner production in the textile industry**



**Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH**

Registered offices  
Bonn and Eschborn

Friedrich-Ebert-Allee 32 + 36  
53113 Bonn, Germany  
T +49 228 44 60 - 0  
F +49 228 44 60 - 17 66

Dag-Hammarskjöld-Weg 1 - 5  
65760 Eschborn, Germany  
T +49 61 96 79 - 0  
F +49 61 96 79 - 11 15

E [info@giz.de](mailto:info@giz.de)  
I [www.giz.de](http://www.giz.de)