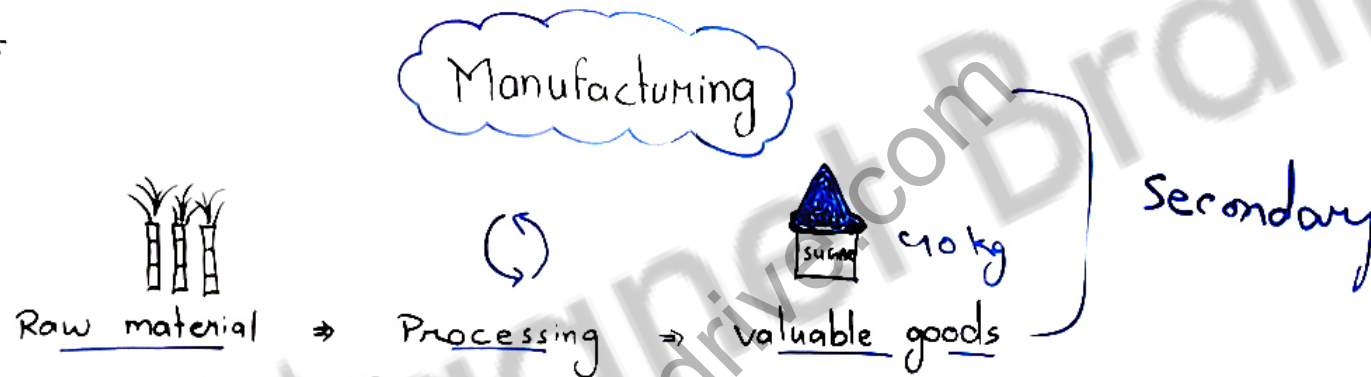


CLASS-X (Geography) CHAPTER-6 Manufacturing Industries

→ Introduction :



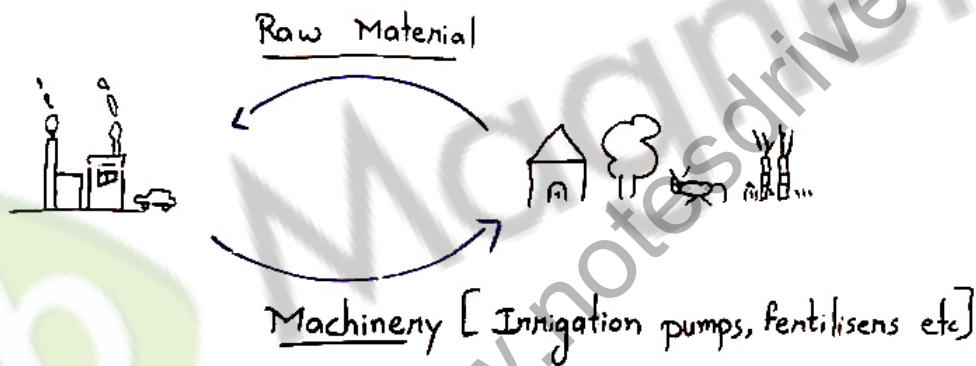
→ Importance of Manufacturing : [Backbone of development]

- It reduces the dependence of people on Agricultural Income. [By providing Employment]
- Industrial development, a pre-condition for eradication of unemployment and Poverty [Public sector investment]
- Export brings much needed foreign exchange.
- Manufacturing provided higher value for good to a Country. [Prosperity]

CLASS-X (Geography) CHAPTER-6 Manufacturing Industries

Agriculture and Industries

→ Not exclusive of each other. Moves hand and hand.



→ Increased productivity and made production process efficient.

* Globalisation → Global Competition → Self sufficiency is not enough

!! Our goods must be at par with International market !!

Class-X ch-6 (Geography) Manufacturing Industries

Industrial location

- Influenced by many factors
 - [availability of raw material, labour, Capital, power, market, Govt. Policy] (cost)
 - ∴ Selecting an appropriate location is must.
- Industrialisation and urbanisation goes hand in hand.
 - Cities provide market and services
- Agglomeration Economies (??)
- Pre Independence Industrial location and difference.
 - Coastal areas to Hinterland

Class-X ch-6 (Geography) Manufacturing Industries

Classification of Industries - I

1) On the basis of source of raw materials.

(i) Agro based

→ Cotton, woolen, jute
silk, rubber and Sugar etc.

(ii) Mineral based

→ Iron and steel, Cement, aluminium
machine, tools and Petrochemicals

2) According to their main role

(i) Basic or key Industries

→ supply their product or raw material to manufacture other goods.
eg - iron and steel

(ii) Consumer Industries

→ Produces goods for direct use by consumers.
eg - Sugar, paper, toothpaste etc.

3) On the basis of Capital Investment

(i) Small scale Industries

→ less than one Crore
→ Toy Industries.

(ii) Large scale Industries

→ One Crore or more than one Crore
→ Iron and Steel Industries

※ limit has changed over a period of
time.

Class-X ch-6 (Geography) Manufacturing Industries

Classification of Industries - II

4) On the basis of ownership

(i) Public Sector

→ Owned and operated by government agencies. e.g. BHEL, SAIL

(ii) Private Sector

→ owned and operated by individuals or a group of individuals
e.g. TISCO, Bajaj Auto Ltd.

(iii) Joint Sector

→ Jointly run by state and individuals or group of individuals
e.g. oil India Ltd.

(iv) Cooperatives Sector

→ owned and operated by producers and suppliers of Raw M.
e.g. sugar Industries in Maharashtra, AMUL

5) Based on the bulk and weight of raw material and finished goods.

(i) Heavy Industries

→ Iron and steel

(ii) Light Industries

→ Electrical Industries

Class-X ch-6 (Geography) Manufacturing Industries

Agro based Industry : Textile Industry

→ Industries based on Agricultural raw material

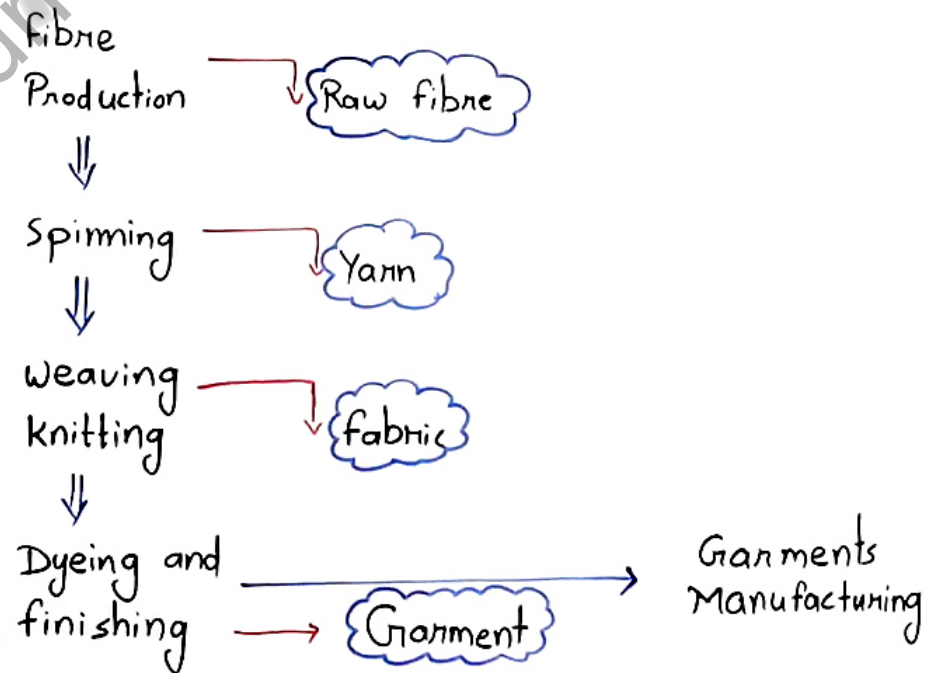
∴ Textile Industry ∴

- Contribution in Industrial Production [14%].
- Employment generation. [35 million persons].
- foreign exchange earnings [24.6%].
- Contribution in GDP [4%].

Cotton textiles

Jute textile

∴ Self-reliant and Complete in value chain



Class-x ch-6 (Geography) Manufacturing Industries

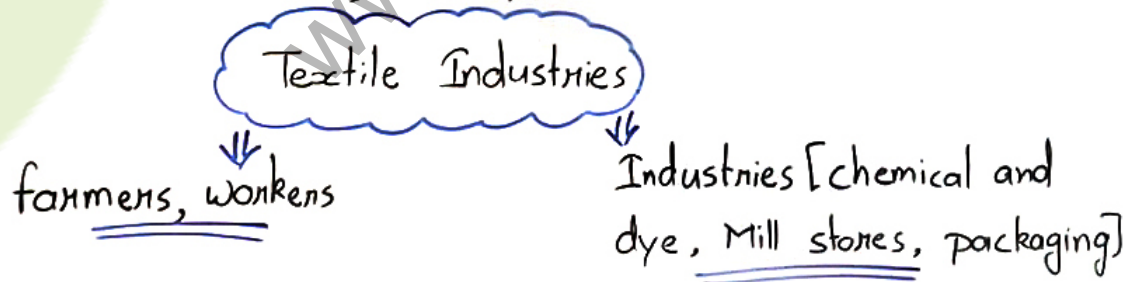
Cotton textiles

- First Successful Cotton mill was established in Mumbai in 1854.
- Hand Spinning and handloom weaving → Powerloom.


[Colonial Period]

X [Competition from Mill Made cloths.] ↓ Traditional Industries

- Localisation of textile Industries in Gujrat and Maharashtra
→ Availability of raw cotton, Market, transport [Port], labour, Moist climate etc.



Class-x ch-6 (Geography) Manufacturing Industries

Cotton textiles -II ⇒ challenges to Cotton textile Industries

(i) Spinning v/s weaving

- Centralised in Maharashtra, Gujrat and T.N whereas weaving is decentralised to Incorporate traditional skills.
- World class Spinning but weaving Supplies low quality fabric.
- We Export yarn, but Import fabric.
- $\frac{1}{4}$ of share in world's trade of Cotton yarn but only 4% of world trade in garment.
- Spinning Mills are competitive but weaving, knitting and processing unit Cannot use much high quality yarn.

(ii). Erratic power supply.

(iii). upgradation of Machinery.

(iv). low out-put of labour.

(v). stiff Competition with the Synthetic fiber Industry.

Class-x ch-6 (Geography) Manufacturing Industries

Jute textile - I

• Largest producer of raw jute and second largest exporter after Bangladesh.

→ After Partition in 1947, the jute mills remained in India but three-fourth of the jute producing area went to Bangladesh (erstwhile East Pakistan).

• Most of the Indian jute mills are located in west Bengal, near Hugli River.

Reasons??

- (i) Proximity to jute producing area.
- (ii) Inexpensive water transport.
- (iii) Good Network of railways.
- (iv) Abundance of water for processing raw jute.
- (v) cheap labour from west Bengal and adjoining areas.
- (vi) Kolkata urban center : urban facilities.

first Jute Mill
Near Kolkata, in 1859
at Rishna

Class-x ch-6 (Geography) Manufacturing Industries

Jute textile - II → Challenges faced by Industry includes:


- (i). Stiff Competition by Synthetic Substitutes.
- (ii). Competition from International Competitors like Bangladesh, Brazil, Philippines, Egypt and Thailand.
- (iii). High Cost

∴ National Jute policy.

- It had increased Internal demand for jute. Reason??
- Government had made it mandatory to use jute for packaging.
- Objective was to increase productivity/Cultivation of jute and ensure good prices to the jute farmers.

Class-x ch-6 [Geography] Manufacturing Industries

Sugar Industry

- India → Second largest producer of Sugar [largest Producer of Gur and Khandasari]
- Bulky raw material →  → In Haulage it's Sucrose Content reduces.
- ∴ Industries should be situated near sugarcane producing area. [e.g 60% Mills are in U.P and Bihar]
- Seasonal in nature, ideally suited to Cooperative Industry ?? Why ??
- Increase in no. of Mills in Southern and western states Because of favourable Conditions.
- Challenges : (i) Seasonal Nature of Industry (ii) old and inefficient Methods of production
(iii) Transportation delays (iv) Maximise use of Bagasse

Class-x ch-6 [Geography] Manufacturing Industries

Mineral based Industries: Iron and Steel Industry - I

- It is basic Industry → Why??
- Dependence of other industries over it.

India's Position

- India Ranks ninth among the world Crude steel producers
- It is the largest producer of sponge iron.
- But per Capita Consumption is only 32kg annually.
- Presently there are 10 primary Integrated and Many mini Steel plants.


Mini Steel plants

Integrated Steel plants

Class-x ch-6 [Geography] Manufacturing Industries

Mineral based Industries: Iron and Steel Industry - II

→ In 1950, China and India produced almost the same quantity of steel.

* Chotanagpur plateau has the maximum concentration of iron and steel industries. 

→ (i) low cost iron ore (ii) High grade raw material (iii) Cheap labour (iv) Market.

→ Challenges to iron and steel industry ??

- High costs and limited availability of coking coal.
- Lower productivity of labour.
- Irregular supply of energy.
- Poor infrastructure.

CLASS-8 GEOGRAPHY CHAPTER-6 MANUFACTURING INDUSTRIES

Aluminium Smelting

- Second most important metallurgical Industry.
- light, resistant to corrosion, good conductor of heat, Malleable and becomes strong when mixed with other metal.
- Major 8 aluminium smelting plants in country, Orissa [NALCO and BALCO] W.B, Kerala, U.P, Chattisgarh, Maharashtra and T.N.
- | | | | | |
|---------|---|---------|---|-----------|
| Bauxite | → | Alumina | → | Aluminium |
|---------|---|---------|---|-----------|
- Regular supply of electricity and assured source of raw material at minimum cost.

CLASS-8 GEOGRAPHY CHAPTER-6 MANUFACTURING INDUSTRIES

Chemical Industries

→ It comprises of both large and small scale manufacturing industries.

Inorganic

• Sulphuric acid [fertilisers, Synthetic fibers, Plastics, adhesives, paints dyes stuffs] Nitric acid, alkalies Soda ash.

Organic

• Petrochemicals [Synthetic fibers and Rubber Plastic, dye-stuffs, drugs and Pharmaceuticals]

→ It's own largest consumer

• undergoes processing to further produce other chemicals.

Class - 8 GEOGRAPHY CHAPTER-6 MANUFACTURING INDUSTRIES

Fertiliser Industry

- Most of the Industries are centred around the production of nitrogenous fertilisers (urea) phosphatic fertiliser & ammonium phosphate (D.A.P).
- Potash is imported in our Country.
- Third largest producer of Nitrogenous fertilisers.
- Industry \uparrow After Green revolution
- Prominent in the areas of Gujrat, T.N, U.P and Kerala.

Class - 8 GEOGRAPHY CHAPTER-6 MANUFACTURING INDUSTRIES

Cement Industry

- Essential for construction activity, building houses, factories, bridges etc.
- This industry requires bulky and heavy raw material like limestone, silica etc.
- ★ Coal and electric power along with transportation [Railways].
- Situated in Gujarat and Coastal area because of accessibility to Gulf Countries.
- First Cement plant → Chennai, 1904
- Reforms such as Decontrol of Price and Distribution ↑ The Capacity of Industry.
- Doing well in terms of Production as well as export.

Class - 8 GEOGRAPHY CHAPTER-6 MANUFACTURING INDUSTRIES

Automobile Industry

- This industry provides base for Transport [Goods and Passengers]
e.g Trucks, buses, Cars, Motor cycles etc.
- Liberalisation → (↑) Competition → (↑) Growth of Industry.
- Foreign Direct Investment brought in new technology and aligned the industry with global developments.
- The industry is located around Delhi, Gurgaon, Mumbai, Pune, Chennai, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur and Bangalore.

Class-X Chapter-6 (Geography) Manufacturing Industries

Information Technology and Electronics Industry

- Wide range of Product Calculator to Computer.
- Bangalore → Electronic Capital of India. → Why → Concentration of Industries.
- Other centres are Mumbai, Delhi, Hyderabad, Pune, Chennai, Kolkata, Lucknow and Coimbatore.
- 18 Software technology parks → Single window service and High data communication facility.
- Contribution in Employment is very satisfactory. → 30% people employed in this sector are women.
- This sector is growing due to Business processes outsourcing [BPO]

Class-x Chapter-6 (Geography) Manufacturing Industries

Industrial pollution and Environmental Degradation

→ Industries contribute a lot in development but in turn it has caused pollution and Environmental Degradation.

∴ Air Pollution

→ Caused by the presence of High proportion of undesirable gases such as Sulphur dioxide and Carbon monoxide.

Particulate Material
[Solid and liquid]

In the form of

Dust, Spray
Mist and Smoke

by

chemical and Paper factories
Burning fossil fuels, Brick kilns
Refineries and Smelting etc.

∴ leads to Pollution and
Hazards to Human health
Plant, animals and atmosphere.

← !! Ignore pollution norms !!

Class - X Chapter - 6 (Geography) Manufacturing Industries

Water pollution

- Caused by organic and inorganic industrial wastes and effluents.
- Main Culprits : Paper, pulp, chemical, textile and dyeing, petroleum refineries, tanneries and electroplating Industries.
- These Industries dump substances like dyes, detergents, acids, salts and heavy metals like lead and Mercury, pesticides and fertilisers, Plastic and rubber.
- fly-ash, phospo-gypsum and iron and steel slags are the major solid waste in India.

Class - X Chapter - 6 (Geography) Manufacturing Industries

Thermal pollution

→ When hot water from factories and thermal plants is drained into rivers and ponds it causes water pollution.

→ Impact: waste dumped is highly toxic. [Nuclear power plant]

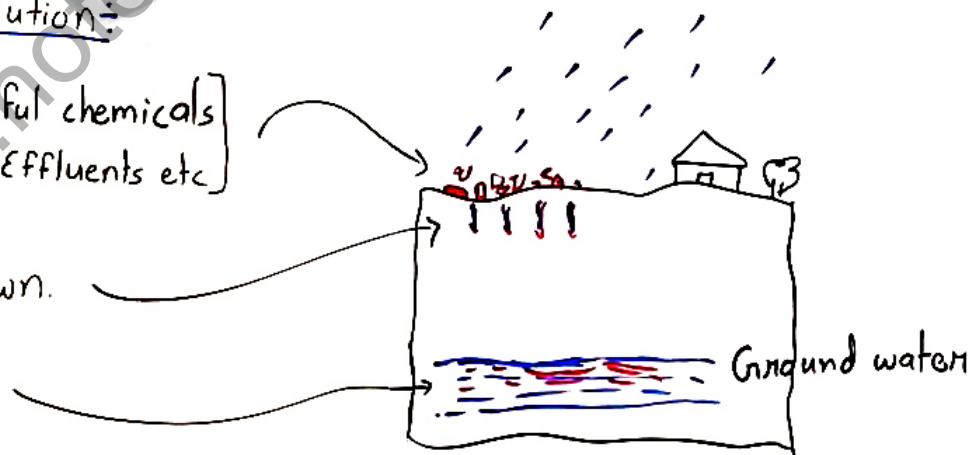
leads to cancers, birth defects and miscarriages. It harms the aquatic life.

→ Relation between soil and water pollution:

• Dumping waste on soil [Glass, harmful chemicals, Industrial Effluents etc]

• Rain water percolates them down.

• Ground water gets contaminated.



Class - X Chapter - 6 (Geography) Manufacturing Industries

Noise pollution

→ Caused due to industrial and Construction activities.

- Machinery, factory equipment, generators, saws and pneumatic and electric drills.

→ Hospital and School ?? No Horn



Impact

→ Results in irritation and anger, it can also cause hearing impairment, Increased heart rate and blood pressure.

→ unwanted sound is source of stress and reason for lack of concentration.

CLASS - X GEOGRAPHY CHAPTER - 6 MANUFACTURING INDUSTRIES

Control of Environmental Degradation - I

→ 1 liter of waste water Pollutes → 8 times the quantity of fresh water.

* Some Suggestions to Control Environmental Degradation

- (i). Minimising use of water for processing by reusing and recycling it.
- (ii). Rain water Harvesting to meet our requirements.
- (iii). Treating hot water and effluents before releasing them into water bodies.
- (iv). Industrial effluents can be treated in three ways :
 - (a) Primary treatment by Mechanical Means.
 - (b). Secondary treatment by Biological process.
 - (c). Tertiary treatment biological, chemical and Physical processes.

CLASS-X GEOGRAPHY CHAPTER-6 MANUFACTURING INDUSTRIES

Control of Environmental Degradation - II

→ Using of ground water reserves by industries, should be regulated legally.

* Particulate matters in air can be reduced by following methods:

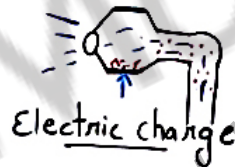
→ fitting smoke stacks in factories with

→ using oil or gas instead of coal in factories

→ Generators should be fitted with silencers.

→ Noise absorbing material may be used apart from personal use of earplugs and ear phones.

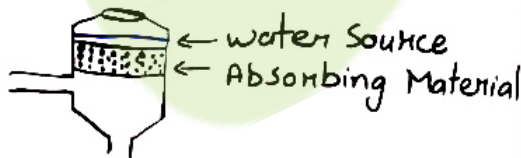
(a) Electrostatic Precipitators



(b) fabric filters



(c) Scrubbers



(d) Inertial separators



* Sustainable development requires integration of economic development with environmental concerns.

Class-X Geography Chapter-6 Manufacturing Industries

NTPC Shows the way

- National Thermal Power Corporation has ISO Certification for Environment Management System. [EMS]
- NTPC has taken pro-active approach for preserving the natural Environment and Resources.

* Steps taken :-

- Adopting latest techniques and upgrading existing equipment.
- Minimising waste generation by maximising ash utilisation.
- Providing green belts for nurturing ecological balance [Afforestation].
- Ash pond management, Ash water recycling system and liquid waste management to reduce environmental pollution.
- Ecological monitoring, reviews and online database management for all its power station.

Class-X Geography Chapter-6 Manufacturing Industries

✦ Frequently Asked Questions

- Importance of manufacturing sector?
- "Agriculture and Industry are not exclusive of each other" / Move hand in hand?
- factors responsible for Industrial location?
- Classification of Industries? [All the basis] [specific also]
- Cotton textile / Jute textile / Sugar Industry [Agro base industry], National Jute policy.
- Mineral based Industries [Iron and steel, Aluminium smelting]? challenges??
- chemical Industries, fertiliser Industry, Cement Industry, Automobile Industry and IT & Electronics Industry?
- Industrial Pollution and Environmental Degradation [Air, water, Thermal, Noise pollution]
- conservation Methods [specific]
- NTPC's Model [steps taken]