

**1. With the help of suitable examples, discuss the locational factors of commercial lumbering. In this regard, compare and contrast tropical and temperate lumbering.**

**Introduction**

Lumbering is a process of commercial exploitation of timber for furniture, paper and pulp and other marketable products. Lumbering, or the commercial extraction of timber is one of the most important economic activities of the forest. This activity is an important economic activity in temperate regions as compared to tropical regions

**Body**

Almost all the forest region on earth has developed its own lumbering industry which are markedly different from one another. In this regard, the locational factors of commercial lumbering include:

- Raw material - When wooden logs are processed in the sawmill, significant weight loss occurs. Barely 40% is used and the rest discarded as waste. Therefore most pulp mill and saw-mills are located near the jungles to reduce the cost of transporting waste matter. For example, Pacific coast of northwestern United States of America.
- River - They're located near rivers and streams because Logs are bulky and awkward to transport. Rivers provide cheap and convenient mode of transport. E.g. Myanmar, the teak logs are floated down the Irrawaddy river upto Yangon and then exported. The paper/pulp mills require clean water free from chemical/pollutants. This is one reason why they were set up in forest locations away from polluted rivers.
- River direction - Generally, this is towards the market but sometimes, some industries are also located in a direction away from the market. For example, in Southern Canada, Sweden, Finland, Himalayas, rivers flow in general direction of final market which keeps production, transport cost low whereas in some places of US West Coast, Siberia, rivers flow in the opposite direction from market areas which leads to higher transport cost.
- Industrialisation - along with the infrastructure development of a nation affect the location of lumbering industry as mechanisation and efficiency are an important factor. For example, Canada has a highly developed lumbering industry along with paper manufacturing.

Tropical Lumbering	Temperate Lumbering
1. Despite having innumerable tree species in the hitherto untouched dense virgin forest of tropical rainforest, lumbering industry in this region has not yet been properly developed.	1. Nearly 80% of lumbering products are obtained from temperate coniferous forest spread over North America and Europe. Here, lumbering industry is integrated, coordinated, well-organized

	and well-managed.
2. Tropical forests have large number of tree species in a particular location. This made commercial exploitation tough. The hardwood trees found in such areas are difficult to float on water and thus difficult to transport.	2. In temperate forests, the commercial exploitation is easier as small number of species are located in a region. Softwood trees are found that are easier to chop.
3. Valuable trees are scattered throughout the jungle, needing some land transport before logs reach the rivers. But road construction is difficult due to rain, dense vegetation. In Amazon and Zaire Basin, some trees are so heavy, it is difficult to float logs so there is high extraction cost.	3. During Winter, frozen ground helps transporting logs from jungle/hills up to rivers. Further, Softwood are easy to float down the river streams.
4. Settlement is sparse, economies are non-industrialized, away from demand areas (e.g Africa).	4. Located in major industrial/urban areas thus are nearer to market. For example, United States of America.
5. These regions have Lax regulations, slash-n-burn type agriculture, jungles are permanently destroyed.	5. Many replantation programs are undertaken along with silviculture, there is strict government regulation on lumbering which helps in jungles regenerate thus leading to lumbering as continuous economic activity.

**Conclusion**

Sustainable lumbering on scientific lines, planting multiple trees for a single tree cut can make lumbering an environmental friendly and economically viable alternative where Governments can a playing crucial role to increase environmen-tal awareness through proper forest management and also giving assistance to forest research projects.

**2. Why is commercial fishing is more developed in Northern Europe and North America as compared to Asia? Why is Japan an exception in Asia? Explain.**

**Introduction**

Commercial fishing is the activity of catching fish and other seafood for commercial profit, mostly from wild fisheries. It provides a large quantity of food

to many countries around the earth, but those who practice it as an industry must often pursue fish far into the ocean under adverse conditions.

### Body

- Climate – In tropical climate fish perishes soon. Cooler climate in North Europe and North America helps in longer storage and transportation.
- Coastline – Asia has relatively smooth coast line and hence less natural harbors than North Europe and North America. This puts Asia in natural disadvantage for fish catch.
- Continental shelves – of Asia are narrower than Europe and North America.
- Capital – Commercial fishing requires large ships as multiple varieties of fishes caught are separated and processed for packing on the ship itself. High end technologies like GPS, underwater camera etc are needed for high fish catch. This requires massive capital investment which are easily available in Northern Europe and America but not much in Asia.
- Species variety – in the tropical regions of Asia, multiple variety of fishes occur, but in smaller groups. This is not good for large scale commercial exploitation.
- Health issue – Tropical fishes have higher oil content. This is less desirable for eating.

### Why is Japan an exception in Asia?

#### Favorable Geography

- Sea of Japan has shallow water and high plankton growth.
- North-West pacific continental shelf=more planktons
- Meeting of warm Kuroshio and cold Oyashio currents near coast of Japan helps is high planktons growth.
- More than 3000 island around coastline of Japan
- **Lack of agricultural prospect** – Japan being a mountainous country has less area for cultivation. People have shifted more towards fishing.
- **Human expertise** – Already good experience for whale fishing. Japanese also have invented method to cultivate pearls artificially.
- **Main source of protein** – In absence of livestock farming, fishing industry is the main source protein for Japanese population. This has also given thrust to the fishing industry.
- **Development of ancillary industries**
  - Steel industry, marine engineering has been developed in coastal areas using imported coal and iron ore.
  - Provides material for sophisticated fishing vessels with processing and refrigeration facilities onboard.
- **Development of export market** – to nearby Asian countries.

## Conclusion

Apart from geographical factors, socio-cultural and economic factors decide the development of fishing industry all over the world.

### 3. What are the most important locational factors for the silk industry? Discuss. How is India placed with respect to these factors? Illustrate.

## Introduction

India is the second largest producer of natural silk after China and is the only country producing all four varieties of natural silk: Mulberry, Tasar, Oak Tasar, Eri and Muga. This industry got great patronage during the medieval period. The famous 'Silk Route' passed through India, and Indian silk found markets worldwide.

## Body

### Most important locational factors for the silk industry

- Climate – Temperate and tropical climate suitable for growth many silk varieties. For instance Lower Yangtze valley produces one of the finest white mulberry silk.
- Labour – One important requirement for sericulture is cheap female labour. In the ancient-medieval times, both China and Japan had lots of poor peasants. Silk production become important source of income for them.
- Skill and institutions – for instance Lyon city of France is important fashion centre due to skilled labor and also availability of fashion designers.
- Technology - Chinese scientists have developed hybrid varieties using Japanese and European silkworms. It is possible to rear silkworms seven times a year.
- Raw material – Silk is easy to transport, non-perishable, non-bulky. Can be easily imported from China.
- Natural silk is considered a luxury item and fashion statement among rich in US, Europe. Good demand of silk ties, scarves and lingerie.
- Investors found better returns in automobile and electronics industry. This has led to lack of investment in silk industry.
- Alternate technologies – After WW1, Silk was in high demand for women's stockings in USA but later cheaper stockings were locally produced using American nylon=market lost
- Competition with other industries –One dramatic example is Koromo town of Japan. Their silk industry was on decline. However land and labour was available at cheap price. Toyota took the opportunity to setup factory. Thus a rural silk growing area turned into a major automobile industry.

### How is India placed with respect to these factors?

- **Labour** – Sericulture does not involve hard labour. Silkworms can be reared by women and old people. In Eastern States, Farmers earlier used to grow Jute but Jute demand declined so they shifted to Sericulture.
- **Raw material** – Mulberry grows easily due to climate Bombox variety of silk worm can be reared throughout the year.
- **Technology** – Karnataka uses hybrids of silkworm which can be harvested five to six times a year. However such varieties are not widely cultured all over the growing regions.
- **Investment** – Works on simple technology, no sophisticated equipment needed It can be done by small and marginal farmers, tribals.
- **Market** – silk saree are still popular in India.
- **Skill and institutions** –
  - Central Silk board located at Bangalore
  - Technical knowledge sharing by Japan Japanese International Cooperation Agency (JICA)

### Conclusion

### Way forward

- Establishment of close linkage between forward and backward sub-systems for greater efficiency and synergy as sericulture and silk industry is highly scattered and unorganized.
- Adequate thrust on non-traditional uses of silk such as use for artificial skin and other medical applications could create a positive pressure for high value addition.
- Protection to some extent of Indian silk market from Chinese cheap raw silk and fabrics by implementation of anti-dumping duty.
- Identification and promotion of potential clusters for silk production in potential traditional and nontraditional areas.
- Skill up-gradation through structured and specially designed training programme.
- Evolution of appropriate cost-effective technologies through focused research projects for the development of superior and hybrid breeds.

### 4. What are natural fibres? How are industries related to natural fibres distributed in India? Discuss.

#### Introduction

Natural fibres are hair-like raw material directly obtainable from an animal, vegetable, or mineral source and convertible into nonwoven fabrics such as felt or paper or, after spinning into yarns, into woven cloth. E.g. Hemp, Sisal, Jute, Rice straw etc.,

#### Body

A wide variety of natural fibres are used in traditional and modern textile/handlooms.

#### **Distribution of Industries related to Natural Fibres:**

- Cotton industry: Maharashtra is the leading producer in cotton textiles followed by Gujarat, Tamilnadu and so on. The reasons include cheap availability of labour, raw material close to ports helpful in exports.
- Jute industry: West Bengal alone accounts for 50% of jute production and has the highest jute textile industries. Andhra Pradesh comes in the second place with both places owing to the presence of river useful for retting (Hugli and Godavari) and availability of skilled labour.
- Banana fibre: used in manufacture of building boards and fire resistant fibre board. Places like Burhanpur of Madhya Pradesh, Erode district of Tamil nadu are leading producers. Apart from this, the Banana growing regions of north east are at nascent stages vis-à-vis industries establishment.
- Rice Husk: As fuel, bricks, acid proof cement – the industries are distributed near paddy growing regions like Tamilnadu, parts of Karnataka, Odisha and Bihar owing to the easy raw material availability.
- Coconut Husk: mainly used in the coir industry is situated in and around the state of Kerala which is famous for coconut cultivation.
- Sisal fibre: used in manufacture of ropes, carpet etc., and is found majorly in Maharashtra, Odisha and other Southern states. Tribal regions of Odisha and Chattisgarh, even today manufacture traditional crafts from Sisal fibre and has huge demand.

#### **Conclusion**

Thus, the distribution of Natural fibre based industries are dependent on the raw material availability, labour, power supply as well as market. The related industries are distributed all over India. The government policies have major impact and has to promote these industries which are not only labour intensive which is conducive for India, but also environmental friendly which is conducive for world environment.

**5. Which are the major meat producing and processing regions of the world? What are the factors attributed to this pattern? Analyse.**

#### **Introduction**

Meat is an important source of nutrition for many people around the world. Global demand for meat is growing: over the past 50 years, meat production has more than quadrupled. The world now produces more than 320 million tonnes each year. This growth reflects not only increasing demand for meat as global incomes have risen, but also improved efficiencies in production, processing and transportation declining real feed prices.

**Body**

- Livestock and meat products have been among the fastest growing components of the global agriculture and food industry. Overall world meat production increased by 1.25% to 323 Mt in 2017, with moderate increases in the production of bovine and poultry meats and more modest gains in pig and sheep meat.
- Regionally, Asia is the largest meat producer, accounting for around 40-45 percent of total meat production. This regional distribution has changed significantly in recent decades. In 1961, Europe and North America were the dominant meat producers, accounting for 42 and 25 percent, respectively. In 1961, Asia produced only 12 percent. By 2013, Europe and North America's share had fallen to 19 and 15 percent, respectively.
- This reduction in production share was despite a large increase in production in absolute terms: Europe's meat output has approximately doubled over this period, whilst North American output has increased 2.5-fold. Production increases in Asia, however, have been staggering: meat production has increased 15-fold since 1961.
- Meat production continues to be dominated by Brazil, China, the European Union, the Russian Federation, and the United States.
- Meat production in China, the world's largest meat producer, increased little overall mainly because of the several Avian Influenza (AI) outbreaks affected the country. Nevertheless, China remained the second largest contributor to the 2017 increase in meat production.
- Only 9.7 percent of the meat produced in the world is traded. Much of it is grown by small producers and stays within the region. In 2018, Brazil was the world's largest exporter of beef, providing close to 20 percent of total global beef exports, outpacing India, the second-largest exporter.
- Traditionally, meat processing is a means of extending shelf-life (preserving) and producing a convenient item for use later and elsewhere. In modern times, meat is processed not only as a means of preserving, but also for producing consumer-acceptable products compatible with modern lifestyles and philosophy of a health-related quality of life.
- Meat processing coproducts are a rich source of proteins, many possessing high nutritional value as well as techno functional and bioactive properties of interest. Large volumes are generated per slaughtered animal, the majority directed to uses other than human consumption.
- The world's livestock sector is growing at an unprecedented rate and the driving force behind this enormous surge is a combination of population growth, rising incomes and urbanization.
- There is a strong positive relationship between the level of income and the consumption of animal protein, with the consumption of meat, milk and eggs increasing at the expense of staple foods.
- Because of the recent steep decline in prices, developing countries are embarking on higher meat consumption at much lower levels of gross domestic product than the industrialized countries did some 20-30 years ago.

- Urbanization is a major driving force influencing global demand for livestock products. Urbanization stimulates improvements in infrastructure, including cold chains, which permit trade in perishable goods.
- Compared with the less diversified diets of the rural communities, city dwellers have a varied diet rich in animal proteins and fats, and characterized by higher consumption of meat, poultry, milk and other dairy products.
- There has been a remarkable increase in the consumption of animal products in countries such as Brazil and China, although the levels are still well below the levels of consumption in North American and most other industrialized countries.
- As diets become richer and more diverse, the high-value protein that the livestock sector offers improves the nutrition of the vast majority of the world. Livestock products not only provide high-value protein but are also important sources of a wide range of essential micronutrients, in particular minerals such as iron and zinc, and vitamins such as vitamin A.
- For the large majority of people in the world, particularly in developing countries, livestock products remain a desired food for nutritional value and taste. Excessive consumption of animal products in some countries and social classes can, however, lead to excessive intakes of fat.

### Conclusion

Meat production is an important part of the world economy with important contributions to local, national, and international trade. There may be multiple paths to the future of meat production but addressing its global footprint on climate change becomes important in light of the SDG's to be achieved by 2030.