

GEOGRAPHY DEPARTMENT OF MPOMA SCHOOL.
GIRL'S CAMPUS.
By Tr Mwirumubi James Apuuli
A COMPLETE GUIDE TO ADVANCED LEVEL TEACHING SYLLABUS /
COURSE OUTLINE
GEOGRAPHY P250/2
WORLD PROBLEMS AND DEVELOPMENT

1. INTRODUCTION

World Divisions LCDs, MDCs, Sub-Sahara, tropics, temperate, Scandinavia and Monsoon lands.

Reference books

Format in UNEB examination.

2. AGRICULTURE

- Definition, Agric, Arable, Livestock.
- Factors affecting agriculture
- Importance of agriculture

Types of agriculture

Arable Farming

- Subsistence
- Shifting cultivation
- Bush fallowing
- Irrigation farming
- Collectivization communes & stable farms

Intensive farming

- Extensive farming
- Plantational agriculture
- Co-operative farming
- Market gardening / factory farming

Livestock farming

- Pastoral farming
 - Ranching
 - Dairy farming
- Land fragmentation
 - Land consolidation

NB: Each case study; location, x-tics, importance, problems, solutions, revision questions.

3. FORESTRY

- Definition
 - The world forests
 - Lumbering
 - Factors for lumbering
- Case studies; forestry, Gabon, Congo, Amazon, Sweden, Norway, Finland, Eastern Canada.

4. POPULATION

- Definition
 - Population structure
- Population concepts
 - Optimum population

- Under population
- Over population
- Population in Africa

Migration

- Rural urban migration
- Population growth

Importance of population; high population growth, low population growth.

NB: Case studies: India, China, Nigeria and Egypt and S. A.

Revision questions

5. FISHING

- Major fishing grounds.
- Factors of fishing grounds
- Methods of fishing
- Fish conservation
- Importance of fishing
- Problems of fishing
- Solutions to the problems

NB: Case studies: fishing in Japan, Norway, Peru, South Africa, Morocco & inland fisheries – Africa.

Revision questions

6. INDUSTRIALISATION

- Definition
- Factors for location of industries
- Types of industries
- Importance of industrialization
- Major industrial areas
- Changing patterns in the location growth and development of industries.
- Problems of industries in LDCs and MDCs
- Industrial impact on the environment
- Solutions to problems of industries

Changing patterns in the location growth and development of industries.

NB: case studies: industrialization in Ruhr conurbation, Japan, North America, S.A, Egypt, etc.

Revision questions.

7. TRANSPORT

- Definition
- Types of transport
- Importance
- Problems of land locked countries
- Solutions to the problems
- Tanzam railway

NB: Case studies: Rhine water way, Panama canal, Suez canal, St. Lawrence, seaway, Trans African high way & Trans Cameroon.

Transport problems in Zambia.

Revision questions.

8. URBANISATION

- Definition of terms
- Factors of urbanization
- Causes of urbanization
- Types of urbanization
- Environmental impact of urbanization
- Solution of problems

NB: case studies: urbanization in New York, Ruhr conurbation, Johannesburg, Mombasa, Rotterdam & Amsterdam.

Revision questions.

9. TOURISM

- Definition
- Attractions potentials assets
- Factors
- Importance
- Problems
- Solutions, steps, measure, policies, ways of development.

NB: case studies: Switzerland, U.S.A, South Africa, Egypt, Italy, Middle East, E. Africa.

Revision questions.

10. POWER ENERGY RIVER DAN PROJECT

- Definition
- Sources
- Factors
- Importance
- Problems
- Solution

NB: Case studies: River, Dam projects in African River Dam projects, USA.

Revision questions.

11. INTERNATIONAL TRADE

- Definition
- Types of areas
- Factors
- Importance
- Problems
- Solutions
- Economic integrations / trade blocks

NB: case studies: EEC, PTA, COMESA, ACP, EAC, ECOWAS, OPEC

Revision questions

12. ENVIRONMENT

- Definition
- Types of pollution
- Air pollution
- Water pollution
- Land pollution
- Areas mostly affected by pollution
- Causes of pollution

- Ways of pollution control
- Environmental degradation
- Desertification
- Renewable and non renewable resources
- Revision questions

NB: Case Studies; Germany, Europe, Africa, Sahel, Kalahari, USA, California, Great Lakes Conurbation, Rand conurbation, China, Japan, LDCs, MDCs.

13. SECTION B STATISTICS

1. Simple line
2. Simple bar
3. Bar line graph
4. Circular graph
5. Divergent line
6. Divergent bar
7. Compound bar
8. Comparative bar
9. Compound line
10. Multiple line
11. Simple rectangle
12. Compound rectangle
13. Wind rose
14. Proportional squares
15. Pie charts
16. Comparative pie charts
17. Semi circles
18. Proportional comparative pie charts
19. Dot map
20. Chloropleth maps
21. Insoline maps
22. Simple Flow charts
23. Compound flow chart
24. Population pyramids
25. Super imposed popn. Pyramid
26. Simple flow map
27. Compound flow map
28. Simple squares
29. Compound squares
30. Simple circles
31. Compound circles
32. Simple super imposed squares
33. Compound super imposed squares
34. Simple symbols
35. Compound symbols
36. Graduated range of symbols
37. Dispersion graphs
38. Logarithmic lines
39. Proportional spheres
40. Proportional cubes

NB: Ways of representing data, interpretation, commenting, accounting, calculations

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REFERENCE BOOKS

1. Cheng Leong – Certification and human geography
2. Bukenya Ziraba – World problems & Development
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AGRICULTURE IN THE WORLD.

Agriculture is the growing of crops (Arable farming) and rearing animals (livestock farming) for commercial and subsistence purposes. The crops grown include; G. nuts, potatoes, bananas, sorghum and the animals reared include; goats, cows, pigs, sheep, poultry.

Agriculture is mostly developed in the tropics, equatorial regions, developing countries and it is less common in Scandinavian, Polar region and developed countries.

IMPORTANCE / EFFECTS OF AGRICULTURE

- Source of government revenue by taxing people and companies leading to capital accumulation and improving the national income.
- Source of foreign exchange by exporting agricultural products helping in importation and investment e.g. Rubber from Liberia.
- Improvement in transport and communication through the construction of roads, railways, benefiting the surrounding communities.
- Increase development of industries like industries making agriculture equipment, processing agriculture products and using agriculture raw materials.
- Provision of employment opportunities leading to high standards of living like the farmers, people working in agro-based industries, traders, extension workers.
- It leads to economic diversification by reducing on dependency burden e.g. industrialization, transport, tourism.
- Promotion of international relationships and regional cooperation through export and import trade like between developing and developed countries.
- Source of food reducing on the dangers of hunger and malnutrition and food buying like cassava, bananas, cows, sheep.
- Growth of urban centres like towns and ports around marketing industrial areas because of increase in population.
- Resource exploitation leading to economic growth and development e.g. land in developing countries.
- Promotion of education and research by visiting farms, industries, markets for acquiring skills and improving science and technology.
- Capital accumulation by foreign investors through taxation, foreign exchange earnings leading to other projects.
- It helps in environmental conservation through climate modification, soil formation and conservation and protection of wildlife like plant species and animals.

- Agriculture is an alternative land use in areas with limited resources, low population, areas with fertile soils, wet climate like in the tropics, equatorial regions and the developing countries.

NEGATIVE EFFECTS / DISADVANTAGES

- Soil exhaustion because of monoculture, using poor methods of farming like shifting cultivation, over cultivation, Nomadic pastoralism and using plantational farming with specialization.
- Displacement of people and activities by occupying big areas like plantational farms, ranches.
- It leads to pollution of air, water and land around agro-based industries, using fertilizers, pesticides, insecticides with toxic ad acidic elements causing destruction of plants and animals.
- Diversion of labour and capital by investing in agriculture limited the development of other sectors.
- It leads to economic dependence and its related problems like Balance of payment, poor terms of trade, price fluctuations, due to specialization like in developing countries.
- It leads to profit repatriation by foreign investors causing capital outflow and lowering the national income like in less developed countries, foreigners owning plantations.
- It is affected by marketing problems because of over production, perishability and this affects planning and it causes problems of competition.
- Agriculture mostly depends on environmental factors like climate, soil fertility, pests and diseases and this affects planning.
- Agriculture encourages soil erosion like gully, rill, sheet, and the occurrence of landslides and mass wasting like rock fall, rock slide or slump and these affect soil fertility and may lead to destruction of plants and animals especially in highlands, mountain slopes and densely populated areas.

FACTORS FOR THE DEVELOPMENT OF AGRICULTURE

There are physical and human factors influencing and accounting for the location, growth and development of agriculture.

- Presence of favourable climate like wet conditions like heavy rainfall, moderate temperature in equatorial regions, tropics, savannah areas in less developed countries.
- Presence of flat and gentle slopes form undulating landscape leading to easy mechanization, transport, drainage, construction like in hilly areas.

- Presence of fertile soils and well drained like loam soils, volcanic soils, alluvial soils found in highlands, mountain slopes, lowlands and valleys.
- Agriculture is developed in areas with limited pests and diseases to destroy crops and livestock e.g. in highlands and mountain slopes.
- Presence of water supply and well drained areas leading to easy exploitation limited pests and diseases like in gentle slopes, hills, plateaus.
- Agriculture is developed in areas with limited other resources like minerals, fishing potentials, forests for lumbering.
- Presence of better breeds of crops and livestock which are pest resistant with quick maturity contributing to increased production.
- Agriculture is developed in areas with limited obstacles like relief features, land forms, drainage features and thick vegetation making exportation easy and cheap like in Savannah areas.
- Presence of improved transport like the construction of roads, railway lines, modern ports helping in transporting labour supply extension workers and agriculture products to the markets.
- Presence of labour supply both skilled and unskilled leading to development of agriculture in areas with increased population tropics or savannah areas.
- Presence of wide market intern and external like in urban areas with increased population and exporting to other countries like cotton from Sudan to Britain, rubber from Liberia to Japan.
- Presence of capital provided by the government and private investors used for buying farming equipments, paying workers and building industries.
- Presence of improved science and technology leading to availability of skilled labour and the use of modern methods of farming e.g. irrigation in Sudan, Horticulture in Holland and Ranching in Argentina.
- Presence of positive and supportive government policies like offering loans to farmers, constructing transport routs, attracting investors and market research.
- Presence of research stations leading to better breed and helping in controlling pests and diseases, processing agricultural products and marketing.
- Presence of political stability and security helping in attracting investors and diverting resources to improving infrastructure, social sciences and economic activities e.g. like developed countries.
- Presence of good international relations and regional cooperation helping in marketing getting loans and in labour supply like between low developed countries and more developed countries.
- Presence of cultures and traditions influencing agriculture e.g. Banana growing

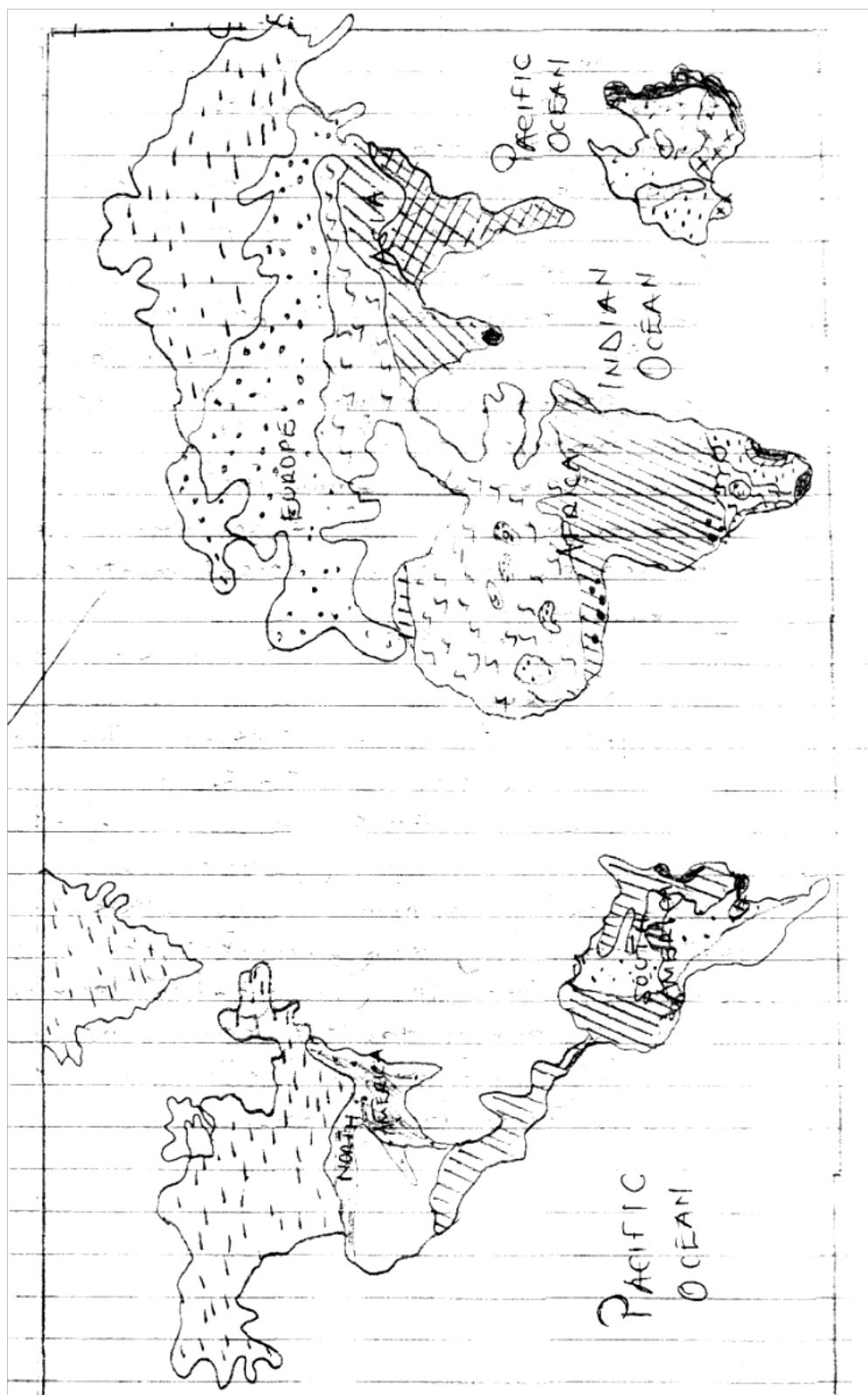
by Bantu communities, millet by Nilotics, Nomadic pastoralism by Karamajongs, Masai and the Turkana.

- Presence of land tenure system ownership like private land ownership, freehold leading to easy availability of land for agriculture purposes.
- Presence of entrepreneurs' big companies and cooperatives providing capital managerial skills, for large scale and commercial farming like firestone for rubber growing in Liberia.
- The factors influencing agriculture are many and they work in a combination there is no single factors which can explain in isolation. The physical factors mainly influence in developing countries and human factors mostly in developed countries.

TYPES / AGRICULTURAL SYSTEMS IN THE WORLD

The types of agricultural system in the world are commercial, modern large scale and traditional or subsistence or small scale and these include; Extensive farming, ranching, paddocking, Nomadic pastoralism, horticulture, floriculture, market gardening, plantation farming, Arable irrigations, cooperative farming, factory farming, truck farming, shifting cultivation, rotational bush fallowing, collectivization.

A SKETCH MAP OF THE WORLD SHOWING TYPES OR SYSTEMS OF AGRICULTURE



SUBSISTENCE FARMING

This is the growing of crops and rearing animals on a small scale for domestic or home use. It is mainly practiced in the tropical equatorial regions. Less developed countries by peasants in rural areas. It includes shifting cultivation, rotational or bush fallowing.

Nomadic pastoralism, intensive subsistence farming.

Characteristics of subsistence farming

- Farms cover a small area like five acres.
- The farms are scattered or fragmented.
- They use traditional methods of farming or simple technology.
- They use mixed and intercropping like maize with beans, G.nuts and soya.
- They mainly grow food crops like cassava, millet and maize.
- They grow cereal and annual crops which are harvested in a year.
- They use family labour because of small plots.
- There is low production for subsistence purposes.
- They depend on natural environment, physical factors.

SHIFTING CULTIVATION

This is a subsistence method of farming involving farmers moving from one place to another when the soil loses fertility. It is mostly practiced in sparsely populated areas like equator regions, the tropics e.g. Zambia, DRC, Brazil, Argentina, Zimbabwe, India, Indonesia and Venezuela.

Characteristics of shifting cultivation.

- There is bush burning during clearing land.
- Movement of people from one place to another after a loss of fertility.
- They have temporary settlement patterns.
- They grow crops for subsistence purposes.
- They grow cereal and annual crops like maize, millet.
- They use simple technology like hoes, pangas
- They specialize in growing food crops.
- They use barter system of trade.
- They grow some few cash crops.
- They are found in sparsely populated areas.
- They use communal and ownership for easy movement.
- They depend on nature and physical factors with no improvement and little

attention.

- The land regains fertility by abandoning.
- They use family labour because of small plots.
- They use simple and traditional technology.

Importance / effects of shifting cultivation.

Positive advantages:

- Source of food like cereal and annual crops reducing on dangers of hunger, malnutrition and food imports.
- Mixed and intercropping reduce on soil exhaustion e.g. Beans and maize.
- The farmers get enough time for other activities like hunting, fishing, art and craft.
- It is less expensive because of using simple tools like hoes, pangas, using family labour.
- Bush burning destroys pests and diseases, weeds and it adds soil nutrients like potash.
- The land regains fertility naturally by abandoning, there is no use of fertilizers.
- The cracks created by burning and during cultivation encourages the penetration of air and water for the living organisms in the soil which helps in soil formation.
- Provision of employment opportunities like the farmers leading to increased standards of living like Zambia, Brazil, India.
- Improvement in transport and communication like the rural feeder roads and social services in areas occupied by the farmers.
- The system is simple to use because of simple technology and no need of training like peasants in rural areas.

Disadvantages / Negative

- It encourages deforestation leading to loss of timber during the clearing of land.
- Bush burning leads to destruction of humus causing soil exhaustion.
- It leads to poverty and low economic development because of specializing in food crops and hence low production.
- It encourages soil erosion because of bush burning exposing to erosion agents e.g. wind, running water like rill, sheet, gulley and splash.
- It is found application in areas with sparse population and with population increase it becomes difficult.
- Time is wasted by moving from one area to another because the crops are scattered and fragmented.
- It leads to environment degradation because of bush burning, deforestation,

swamp reclamation leading to destruction of plants and animals.

- It leads to poor land mismanagement because soil conservation measures are not practiced and land is owned communally.

Reasons for the decrease in shifting cultivation

- Population increase leading to shortage of land and changing to other systems like rotational, bush fallowing, intensive subsistence farming.
- Change of land tenure / ownership system from communal to private land ownership discouraging movement.
- Agricultural modernization leading to use of modern and scientific methods of farming leading to development of commercial agriculture.
- Economic diversification leading to other economic activities depending on other resources reducing on the dependence on agriculture e.g. fishing.
- Introduction of other crops and other types of farming reducing on specialization and monoculture.
- Improvement on marketing both internal and external contributing to increased production.
- Presence of research stations leading to better breeds and helping in controlling pests and diseases.
- Change of cultures due to education interaction and exposure reducing on ignorance and backwardness.
- Improvement in transport like the construction of feeder roads helping in marketing, movement of workers e.g. extension workers to advise the farmers.
- Development of agro-based industries processing agricultural products for easy marketing and transport.
- Improvement in educated farmers using seminars / workshops by using extension workers e.g. agriculture, officers, veterinary officers, use of soil conservation measures leading to proper land use management e.g. intercropping, mulching, strip cropping.
- Environment conservation leading to gazetting of land as game and forests reserves, wetlands reducing on the rate of deforestation and encroachment.
- Presence of positive and support government policies like giving seedlings, giving loans, constructing transport routs, extension workers.

Qn: Account for the development or existence or persistence of shifting cultivation in either Congo basin or Amazon basin.

ROTATIONAL BUSH FALLOWING

This is an advanced form of shifting cultivation replacing it because of population increase leading to scarcity of land and need for agriculture modernization. It involves

farmers moving from one plot to another when the land loses fertility but in the same area on rotational basis.

Similarities between rotational bush fallowing and shifting cultivation

- Subsistence crops are grown in both like cassava, beans and potatoes.
- They both use bush burning for clearing land.
- They use small plots leading to low production.
- Mixed cropping and intercropping is used in both.
- They use simple or rudimentary tools like pangas, axes and hoes.
- They use traditional methods of farming like peasants in rural areas.
- Both depend on nature and environment no use of fertilizers or irrigation.
- They both use simple technology like the peasants for subsistence farming.
- They are both practiced in areas with low population.
- They both grow cereal and annual crops which are harvested within a year.

Differences / contrasts

- In rotational bush fallowing villages are demarcated and settlements are permanent while in shifting cultivation it is temporary.
- In shifting cultivation land returns to forests and woodland while rotational bush fallowing it doesn't because it takes a short time.
- Rotational bush fallowing is practiced in areas with increasing population while shifting cultivation is in sparsely populated areas like DRC, Zambia and Brazil.
- In rotational bush fallowing the plots are well defined and there is a fixed system of rotation whereas in shifting cultivation the system is haphazard.
- In shifting cultivation there is specialization in arable farming whereas in rotational bush fallowing there is also livestock farming like keeping cattle.
- In rotational bush fallowing land ownership is private whereas in shifting cultivation it is communal.
- In rotational bush fallowing they are applying some modern and scientific methods of farming while in shifting cultivation it is subsistence farming.
- In rotational bush fallowing there is proper land use management and using some soil conservation measures whereas in shifting cultivation land is poorly managed.
- In shifting cultivation land regains fertility by abandoning while in rotational bush fallowing there is mixed farming.

Qn: Compare and contrast shifting cultivation and rotational bush fallowing.

SMALL SCALE FARMING (INTENSIVE SUBSISTENCE FARMING)

This is the growing of crops and rearing animals on a small scale for subsistence purposes e.g. growing cereal crops, annual keeping local breeds e.g. cassava, potations, beans, millet. It is mostly practiced in low developed countries e.g. Africa, S. Africa, Australia and some parts of Asia.

Characteristics of intensive subsistence farming.

- They have permanent fields for rice, bananas, coffee.
- They use family labour.
- They mainly grow food crops and some few cash crops e.g. cotton and coffee. The plots are small and scattered (land fragmentation).
- They use simple and rudimentary tools e.g. pangas, hoes, axes.
- They depend on physical environment, natural conditions or environment factors.
- Soil fertility is maintained by fallowing and by adding manure and using mulching, they don't use fertilizers.
- It's mainly practiced in sparsely populated areas e.g. in rural areas by peasants.
- They use intercropping / mixed cropping and this helps to maintain soil fertility.
- They mainly grow crops for subsistence purposes and sell some surplus for purchasing the basic equipment.

Advantages of small scale farming / intensive subsistence farming.

- Source of employment opportunities leading to high standards of living.
- Development of infrastructure e.g. rural feeder roads.
- Development of agro based industries e.g. maize milling plants and dairy industries, etc.
- Source of foreign exchange through exporting coffee, cotton.
- Promoting education and research like fieldwork and scientific experiment.
- Source of food e.g. crops and livestock products e.g. beans, millet, milk, meat.
- International and regional relations because of exporting and importing.
- Development of tourism industries e.g. rice growing in India and China.
- Environmental protection by providing habitants for plants and animal species.
- Source of government revenue through taxation.
- Alternative land use pattern like sparsely populated area.
- Provides market for industrial products e.g. fertilizers, pesticides, hoes.
- They take limited capital / cheap and easily managed by farmers.

- Leads to promotion of economic diversification reducing on problems of independence.
- Climate modification through evaporation and evapotranspiration
- There is use of small pieces of land.
- There is use of limited labour and are cheap.

Demerits of subsistence farming

- It leads to poverty and low economic development because of low production.
- They lead to environmental destruction because of deforestation.
- In small areas, there is specialisation e.g. cocoa growing in Ghana, G. nuts in Gambia and Senegal leading to problems of economic dependence.
- Soil exhaustion because of monocultures e.g. G. nut growing in Kondoa district central Tanzania.
- Pollution by agro-based industries.
- Limiting land for other activities because they occupy a big area.
- Leads to rural urban migration like to towns which are used as marketing centres.
- Price fluctuation on the world market affecting planning leading to low prices.
- Bush burning leads to destruction of plants and animals.

COMMERCIAL INTENSIVE FARMING

This is the growing of crops and rearing animals on a small piece of land using scientific and modern methods of farming leading to high production. It is mostly practiced in densely populated countries, near urban centres, densely population areas.

Examples:

Horticulture is the growing of fruits and vegetables on a small piece of land leading to high production in Netherlands, Holland, and California through irrigation.

Market gardening: This is the growing of fruits, crops and vegetables near urban centres where there is easy access to markets.

Truck farming: This is the growing of crops and rearing animals where there is good means of transport to the market.

Factory farming: Is the rearing of animals using factory feeds like poultry, piggery, zero grazing, dairy farming.

Characteristics of intensive commercial farming

- Farms are small i.e. 3-6 hectares because of increased population density.
- Production per unit area is high because of using modern and scientific methods

of farming.

- They use labour intensive technology because of small plots.
- Land is not allowed to rest because of population pressure.
- Fertilizers are used in this system.
- They grow cereal and annual crops.
- They rear animals for milk and its products are perishable and they need good transport (truck farming and easy market) in market gardening.
- They use supplementary feed from factories for livestock (factory farming.)
- Crops and animals are for commercial purposes.

Intensive commercial farming in Netherlands or Holland

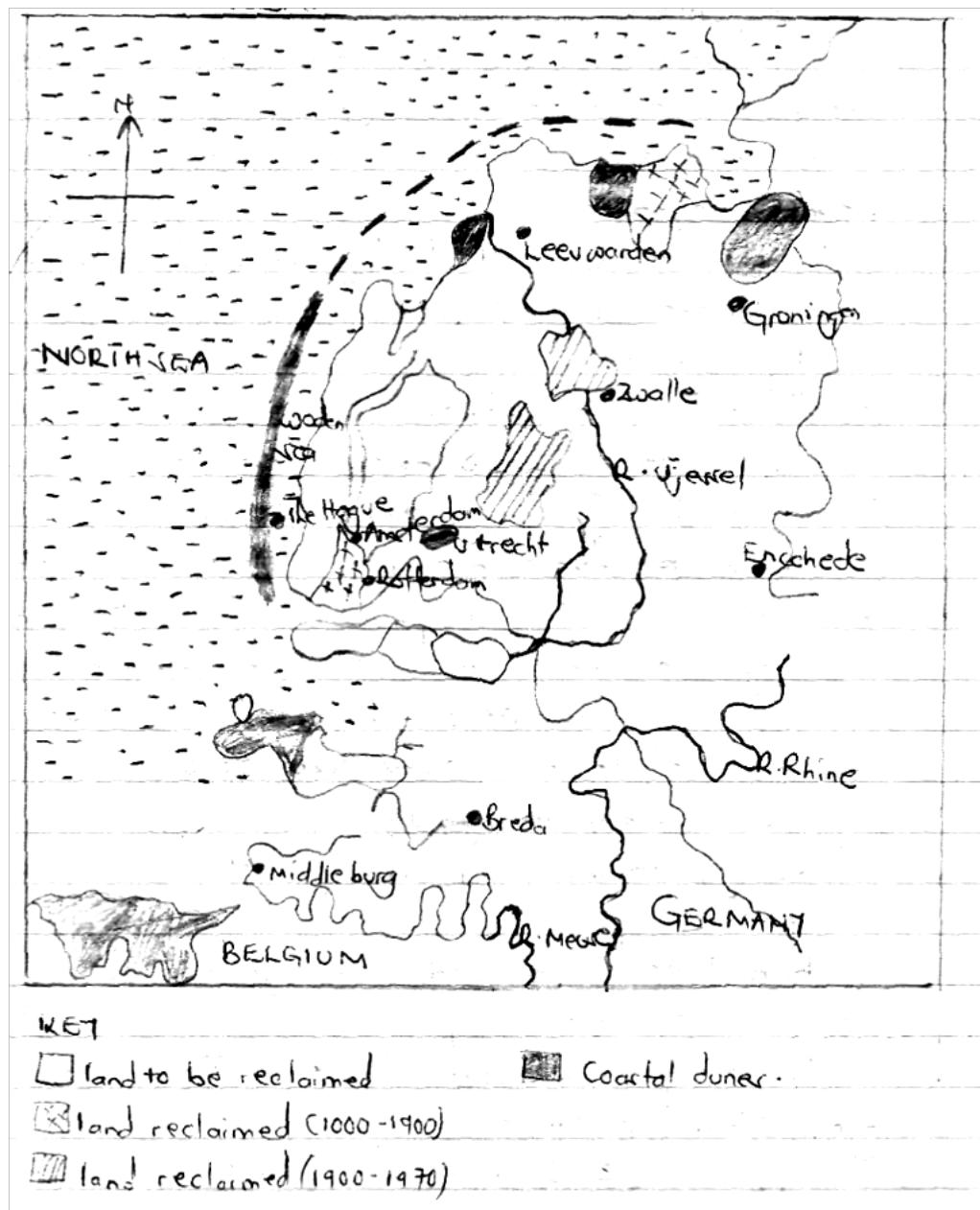
Netherland or Holland is found in Europe and it is a developed country and it is important for horticulture like the growing of fruits and vegetables and it is important for dairy farming and zero grazing.

Agriculture is mainly carried out on reclaimed areas like Zuyder zee, Eastern Polder, Western Polder, Friesland, Makerland and these are found near North sea and mouth of R. Rhine.

It is important for growing fruits and vegetables like grapes, Barley, Apples, Spinach, Lettuce, Pears, Tomatoes, Cabbage, Cucumber. The animals reared include Fresian, New Jersey, Aghus, Red bull which are important for milk production and its products e.g. Cheese, Butter, Ice cream.

There is increased production for internal and foreign market.

A SKETCH MAP OF NETHERLANDS OR HOLLAND SHOWING AGRICULTURAL AREAS IN RECLAIMED LAND.



Factors of commercial intensive farming in Netherlands.

They're physical and Human factors.

- Presence of market because of increased population in towns like Rotterdam, Amsterdam, Hague. Foreign market by German, Britain, France.
- Presence of fertile alluvial soils like clay in low lands near water bodies like R. Rhine and the North sea.
- They improved transport by constructing roads, railway lines, water transport, Air transport for easy marketing because the products are perishable.
- Presence of water supply for crops and animals from R. Rhine, North sea, manmade lakes by reclamation.
- Netherlands has limited pests and diseases because of cool temperate climate encouraging the growth of fruits, vegetables and rearing animals.
- Presence of flat and gentle slopes for easy transport and easy flow water by gravity in reclaimed areas like Friesland, Makerland.
- Presence of strategic location near the North sea and R. Rhine for cheap water transport are near international ports like Rotterdam.
- Holland has limited resources like minerals, land discouraging other activities and encouraging intensive farming.
- Presence of improved science and technology like the use of modern scientific methods of farming like irrigation, glass have contributed to increased production.
- Presence of improved and better breeds with quick maturity, pests and diseases resistant e.g. Fresian cattle, fruits and vegetables.
- Presence of capital provided by the government and private investors for constructing lands, aqueducts for building industries.
- Presence of agro-based industries processing agricultural products e.g. diary factories for making beverages.
- Good international relations and regional cooperation helping in marketing, transport and labour supply like in Germany, Britain and France.
- Political stability and security leading to a favourable investing, climate and reducing expenditure defence.
- Use of cooperatives helping in marketing, giving loans, transport, processing, supervision and monitoring.
- Presence of positives and supporting and government policies like land reclamation, giving loans, carrying out research.
- Temperate climate with cold conditions for the growth of fruits, vegetables, rearing animals and hot summers for ripening the fruits and harvesting.

- Presence of labour supply both the skilled and unskilled because of increased population in town like Rotterdam, Amsterdam using immigrants and holiday makers during harvesting.
- Presence of research stations leading to better breeds, control of pests and diseases, processing and marketing.

Importance/ effects of commercial intensive farming in Netherlands.

Positive / advantages

- Small piece of land is used making it good for densely populated areas like near urban centres and reclaimed areas.
- Mixed farming is less affected by price fluctuations and crops are used as animal feeds and animals provide manure.
- It helps in soil conservation like getting manure from animals, growing cover crops.
- Constant production because of using irrigation farming and this helps in planning.
- Crops have increased food value like vitamins improving health of people and ensuring food supply.
- Growth of urban centres around marketing areas and processing factories e.g. in Amsterdam, Rotterdam, Hague.
- Improved transport and communication by constructing roads, railway lines, ports connecting agricultural areas to markets and industries.
- International relations and regional cooperation with counties like German, Britain, Iceland, Belgium.
- Government revenue by taxing people and companies improving the national income.
- Employment opportunities like the farmers, in agro-based industries leading to increased standards of living.
- Foreign exchange by exporting fruits, vegetables and livestock products helping in importation and investments.
- Development of agro-based industries e.g. Dairy plants, industries for making beverages.
- Capital accumulation through investments, taxation, foreign exchange earnings leading to development of other products.
- Education and research by visiting fruit and dairy farmers, agro-based industries for acquiring skills and improving technology.

- Alternative land use because of limited resources and land.

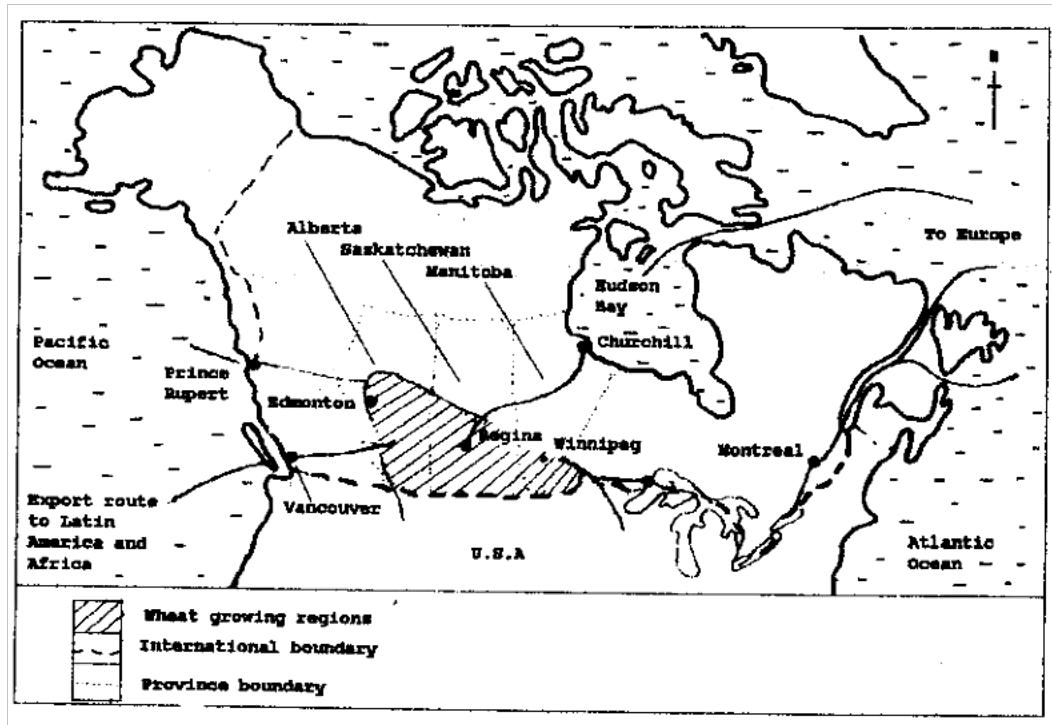
Disadvantages

- It uses labour intensive technology making it tiresome and labourious.
- The products are perishable and expensive for storage like using cold rooms, freezers and refrigerators.
- Low production because of using small plots reducing on exports.
- It is not easy for peasants because of using scientific and modern methods of farming (it is expensive / needs a lot of capital.)
- It is expensive because of applying fertilizers, pesticides, insecticides, weed killers, irrigation and research.
- Environmental degradation because of deforestation, swamp reclamation and destruction of landscape in the reclaimed areas.
- Urban problems because of increased population around marketing areas, industries.
- Soil exhaustion because of using monoculture, specialization and latent cultivation, soil Stalinization by floods.
- Diversification of labour and capital into Agriculture affecting other sectors.
- Displacement of people and activities by occupying big areas.
- Breeding grounds around irrigated areas and reclaimed lands.
- Regional imbalance causing economic problems.

COMMERCIAL EXTENSIVE FARMING - WHEAT GROWING IN THE CANADIAN PRAIRIES

Extensive Commercial Farming is the growing of crops and rearing animals on a large scale using a big piece of land for commercial purposes. The Canadian Prairies are found in North America covering part of Canada and USA covering the provinces of Alberta, Saskatchewan, Manitoba and it is important for growing wheat and other crops like soya bean, maize, barley, oats, wheat using scientific and modern methods of farming under specialization of monoculture with low production per unit area but high production because of using extensive land for external and foreign market.

A SKETCH MAP SHOWING WHEAT GROWING IN THE CANADIAN PRAIRIES



Factors favouring wheat growing in the Canadian prairies.

Physical factors:

- Availability of land for extensive farming because of sparse population in the provinces of Alberta, Manitoba and Saskatchewan.
- Presence of fertile, Black Chernozem soils which are well drained less acidic and not easily leached and they have high content of potassium and phosphates.
- Improved transport and communication like wing railway lines, roads, modern ports for export like Vancouver using St. Lawrence Sea Way and New York port.
- Presence of Savannah tropic climate with wet and dry conditions having rainfall around 1000mm, frost / free conditions encouraging the growth of wheat.
- Presence of relief which is flat and gentle slopping with hills, plateaus, broad valleys leading to easy mechanization, drainage and transport.
- Presence of wide market both internal and external because of increased population in towns like Vancouver, Regina, Emonton, Winnpeg and exporting wheat to other countries like China, Britain, Japan.
- Presence of industries supporting the growing of wheat for making equipment and inputs, for processing what and using wheat as a raw material e.g. bread, beverages.

- Strategic location near the coast near Pacific ocean leading to development of ports like Vancouver, Churchill, Prince Rupert are near the Great Lakes helping in use of cheap water transport internally and externally.
- Presence of capital provided by the government and private investors used for buying machinery, equipments like tractors, combine harvesters, purchasing inputs like fertilizers.
- Limited resources in the Canadian Prairies like minerals, forests, discouraging other activities leading to specialization in wheat growing.
- Presence of international relations with wheat importing countries like China, Britain, Japan.
- Presence of labour supply both the skilled and unskilled working on wheat farms, processing factories contributing to increased production.
- Presence of improved breeds of wheat and other crops like soya bean, maize with quick maturity, pest and diseases resistant, drought resistant leading to increased production.
- Presence of positive and supportive government policies like gazetting agricultural land giving loans, training skilled labour, building industries, carrying out research.
- Political stability and security in USA and Canada leading to a favourable investment climate and reducing expenditure on defence.
- Limited obstacles like relief features, drainage features, land forms, thick vegetation making exploitation and development easy because of Savannah vegetation with grassland and scattered trees.
- Presence of entrepreneur and big companies providing capital and managerial skills for large scale commercial farming.
- Limited pests and diseases because of good climate using scientific and modern methods of farming.
- Presence of improved science and technology leading to availability of skilled labour working on the farms and industries.
- Presence of water supply for the growth of wheat like rainfall during winter season and from water bodies like rivers, swampy areas and pacific ocean.
- The nature of the population being hardworking, innovative, good planners, enterprising people composed of Negroes, Jews, Indians, Europeans contributing to economic growth and development.

Importance / effects on environment

- Provision of employment opportunities leading to increased standards of living like the farmers and in processing factories.

- Source of government revenue by taxing farmers and companies improving the national income.
- Source of foreign exchange by exporting to China, Japan, Britain helping in importation and investment.
- Improvement in transport and communication like the construction of railway lines, modern ports like Vancouver connecting the wheat growing areas to markets and industries.
- Growth of urban centres around marketing areas and industries because of increased population like Regina, Edmonton, Winnpey, Calgary.
- Economic diversification by influencing other activities like trade, transport and industrialization.
- It requires few workers because of using capital intensive technology like tractors, combine harvesters.
- Less fertilizers are used because the land regains fertility by fallowing.
- Source of food like making bread reducing on the problems of hunger and food imports.
- Development of agro-based industries like bakeries, milling wheat.
- Leads to increased production because of specialization, monoculture, using modern scientific methods and extensive farming for internal and foreign market.
- Development of tourism industries like visiting the farms, industries of high income.
- Promotion of education and research by visiting wheat farms and industries for acquiring skills and improving technology.

Disadvantages / negative effects.

- Low production per unit area because of depending on nature and environment.
- Soil exhaustion because of monoculture and specialization contributing to environment degradation.
- It is only practiced in areas with sparse population and having extensive land.
- It leads to over production leading to problems of price fluctuations at the world market.
- It uses a lot of capital for purchasing tractors, combine harvesters which is not easily managed by scale farmers.
- It is affected by weather and frost (climatic) conditions like winter and snow.
- Pests and diseases because of low rainfall affecting planning.
- It causes unemployment because of using capital intensive technology.
- Pollution of air, water and land around agro-based industries, using fertilizers,

weed killers.

- It leads to urban problems because of increased population like high costs of living around market areas and industries.
- Environmental degradation because of deforestation, swamp reclamation, destruction of the landscape affecting plants and animals.
- Regional imbalance in economic development causing economic problems like the provinces of Alberta, Manitoba, Vancouver.

PLANTATIONAL FARMING

This is the growing of one type of perennial crop on a large scale for commercial purposes e.g. sugarcane, tea, cotton, rubber, cocoa, palmoil.

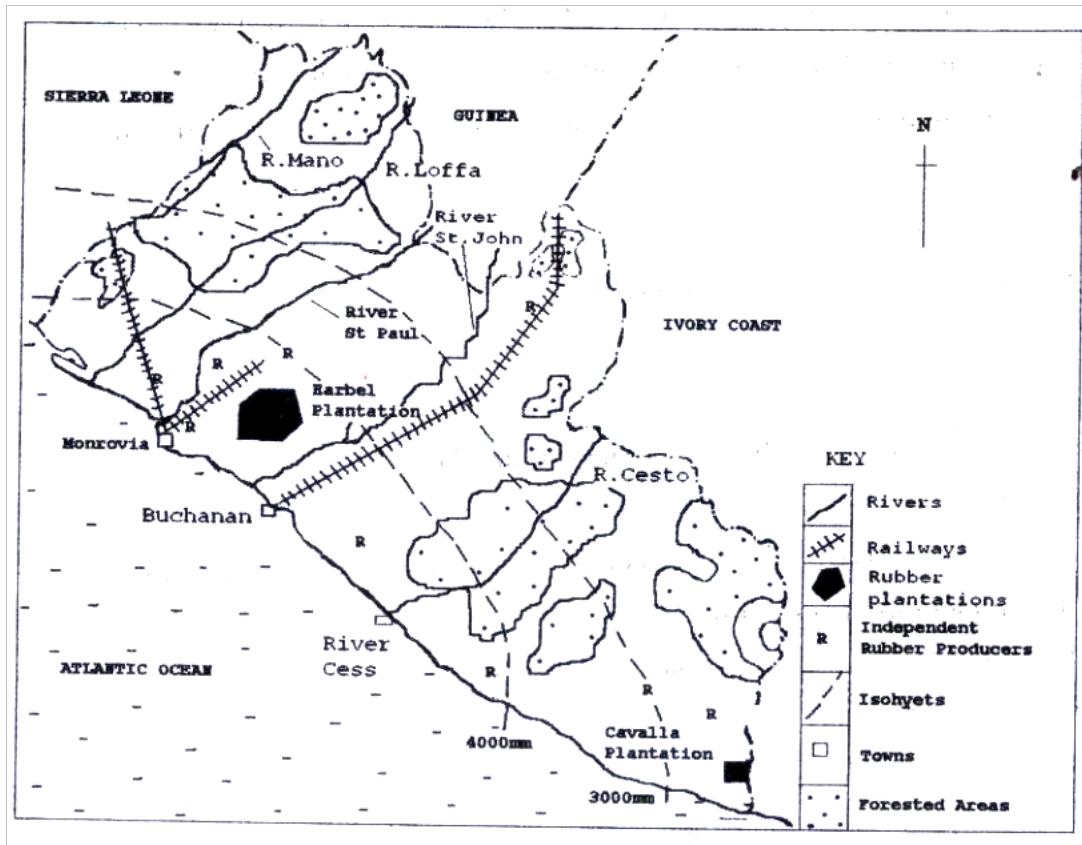
Characteristics of plantational agriculture

- It involves specialization or monoculture.
- It employs many people both the skilled and unskilled.
- Capital intensive technology is used.
- It has a processive factory because the products are perishable and bulky.
- Crops are grown for commercial purposes.
- The management provide social services to attract the workers.
- It covers a big area or extensive land.
- A lot of capital is used.
- Mostly found in areas with sparse population.
- They are found in equatorial climate or tropical region.
- They use research / modern and scientific methods of farming.

RUBBER PLANTATION IN LIBERIA

Liberia is a developing country found in West Africa and it is important for rubber growing in the areas of Harbel, Carvalla Bomi hills near Monorovia. Rubber plantations are controlled by Firestone company from USA and Britain. And the Rubber was introduced from Malaysia.

A SKETCH MAP OF LIBERIA SHOWING RUBBER PLANTATION



Factors for Rubber growing in Liberia

There are physical and human factors accounting for rubber growing in Liberia.

- Presence of equatorial (wet) climate with wet conditions like rainfall around 1000 -500mm humidity of 70%, temperatures around 25°C because Liberia is found near the equator.
- Availability of land for extensive farming because of sparse population in rubber growing areas like Habel, Carvalla, Bomi hills.
- Presence of fertile soils like volcanic soils in hills and plateaus, alluvial and loam soils in lowlands and valleys e.g. at Carvalla.
- Presence of flat and gentle slopes leading to easy transport, mechanization and drainage like Bomi hills.
- Presence of improved breeds imported from Malaysia which are pest and disease resistant with quick maturity leading to increased production.
- Presence of equatorial forests near plantations leading to fertile soils, heavy

rainfall and helping in soil conservation.

- Limited pests and diseases to attack rubber plantations contributing to increased production and reducing on the costs of growing rubber.
- Strategic location near Atlantic ocean leading to development of ports like Monrovia, USA, Japan, Germany.
- Presence of water supply for the growth of rubber like from Atlantic ocean, from rivers, wetlands, leading to growth of rubber without irrigation.
- It has limited resources like minerals discouraging other activities and promoting the growth of rubber.
- Presence of improved science and technology leading to availability of skilled labour helping in rubber growing and processing.
- Availability of adequate labour supply both skilled and unskilled because of increased population in towns like Monorovia using expatriates and immigrants like from Benin, Togo.
- Presence of capital provided by the government and firestone company for financing the growth of rubber, building processing factories, constructing transport routes, carrying out research.
- Political stability and security in Liberia helping in attracting investors like firestone company and diverting resources, to economic activities, improving infrastructure and social services.
- Presence of positive and supportive government policies like gazetting land to Habel, Carvalla, Bomi hills attracting investors like firestone company, improving infrastructure, building industries.
- Presence of good international relations and regional cooperation helping in marketing, getting loans, labour supply e.g. USA, Japan, Britain.
- Presence of entrepreneurs and big companies like firestone company providing capital and managerial skills for rubber growing.
- Presence of industries related to rubber growing e.g. rubber processing industry making shoes, tyres, insulators.
- Presence of improved transport and communication like the construction of roads, railway lines, modern ports connecting rubber growing areas to markets and industries.
- Presence of research stations like at Monorovia leading to better breeds, control of pests and diseases helping in processing and marketing.
- Presence of market both internal and external in towns like Monorovia and exporting rubber to other countries like Japan, USA, Britain.

Importance / effects of rubber growing in Liberia.

- Provision of employment opportunities leading to increased standards of living like the farmers in industries, in areas of Habel, Monorovia.
- Source of foreign exchange by exporting rubber, Germany, Britain and this helps in importation and investment.
- Source of government revenue by taxing employed people and companies like Firestone helping in improving national income and leading to capital accumulation.
- Growth of industries related to rubber growing like processing factories at Monorovia, industries for making tyres, shoes, insulators.
- Improvement in transport and communication like the construction of industries, modern ports like in areas of Monorovia and Habel.
- Promotion of international relations and regional cooperation like in USA, Japan, Britain because of international trade.
- Promotion of education and research by visiting plantations at Habel, Carvalla, Bomi hills, Monorovia for acquiring skills and for improving technology.
- Economic diversification by influencing other activities like trade, transport, tourism.
- Alternative land use because of limited resources and due to availability of extensive land for large scale farming.
- Development of tourism industries by visiting rubber plantations, processing factories at Monorovia and because of increased income.
- Growth of urban centres because of population around industries, marketing centres like Monorovia town helping in promoting trade and improving social services.
- Environmental conservation through climate modification, soil conservation and providing habitats for plant and animal species.
- Capital accumulation by foreign investors through taxation, foreign exchange earning leading to development of other projects.
- Improvement in social services in areas like Harbel, Carvalla, Bomi hills, leading to high standards of living e.g water.
- Development of out growers like small scale farmers growing rubber benefiting from the near by plantations like forgetting seedlings, market, extension workers.

Negative effects or disadvantages

- Soil exhaustion because of monoculture leading to infertile soils due to specialization.

- Pollution of air, water and land around processing factories using fertilizers, pesticides, weed killers.
- Regional imbalance causing economic problems like Monorovia town, Harbel, Carvalla.
- Displacement of people and activities by occupying big areas.
- It leads to urban problems because of increased population in towns like in Monorovia like increased crime rates, creation of slums.
- Profit repatriation by foreign investors like firestone company causing capital outflow.
- Diversion of labour and capital into rubber growing affecting the development of other sectors.
- Environmental degradation because of deforestation, swamp reclamation and degradation of the landscape in rubber growing.
- It is affected by marketing problems like price fractuation on the world market, competitions and this affects planning.
- It is affected by environmental factors like climate and weather, soil fertility, pests and diseases and this also affects planning.

SUGARCANE GROWING IN ANTAL PROVINCE IN SOUTH AFRICA

Natal province is found in S.A and it is important for sugarcane growing in areas like coast of Indian ocean, areas near Durban port and River Tugela, River Mkuse, R. Umzimkulu, R. St. Lucus and the sugarcane is managed by S.A sugar association.

A SKETCH MAP SHOWING SUGARCANE GROWING IN NATAL PROVINCE.



Factors of sugarcane growing in S.A

- Presence of wet climatic conditions like heavy rainfall, increased temperature, increased humidity because of warm Mozambique ocean currents.

- Presence of labour supply both the skilled and unskilled working in plantations and processing factories.
- Flat and gentle slopes leading to easy transport, mechanization and drainage.
- Presence of water supply from Indian ocean, River Tugela and from swamps and wetlands.
- Improved transport like the construction of roads, modern ports, railway lines connecting the plantations to markets and industries.
- Presence of capital provided by the government for financing, sugarcane growing and processing.
- Availability of land for extensive farming because of sparse population in the areas of River Tugela, Umzimukulu, Mkuse.
- Improved breeds of sugarcane with quick maturity, drought and pest resistant leading to increased production.
- Positive and supporting government policies towards sugarcane growing like giving loans, constructing industries.
- Strategic location near Indian ocean leading to development of ports like Durban and suing cheap water transport.
- Political stability and security helping in attracting investors, developing infrastructure, social services and economic activities.
- Presence of good international relations and regional cooperation helping in marketing, getting loans, labour supply in Zimbabwe, USA which import sugar from S.A.
- Improved science and technology leading to availability of skilled labour working in plantations and processing factories.
- Presence of fertile alluvial soils are found in lowlands, valleys near water bodies.
- Nature of the population being hardworking, innovative, good planners, enterprising people leading to agriculture on a large scale and the development of industries.
- Limited pests and diseases to destroy sugarcane plantations and reducing on the costs of production.
- Presence of forests acting as windbreakers, increasing on rainfall, soil conservation by providing humus and building materials.
- Limited resources in the Natal region like minerals, discouraging other activities and encouraging sugarcane growing.
- Presence of research stations leading to better breeds helping in controlling pests and diseases, processing sugarcane and marketing the products.
- Presence of industries like for processing sugar, sweets, papers, distilling alcohol

from sugarcane wastes.

- Presence of entrepreneurs and big companies like S.A. sugar association leading to good management, provision of capital for large scale commercial production.

Importance / effects of sugarcane growing in Natal.

Positive

- Source of foreign exchange by exporting sugar to other countries like China, Zimbabwe and the foreign exchange is used for importation and investment.
- Provision of employment opportunities leading to increased standards of living like workers in plantations, processing factories like at Durban.
- Improvement in transport and communication by the construction of roads, railway lines, modern ports around areas of Natal and Durban.
- Environmental conservation through climate modification, soil conservation and providing habitats for plants and animals.
- Promotion of education and research by visiting sugarcane plantations, processing factories for improving skills and technology.
- Economic diversification by influencing other activities like transport, trade, industrialization, tourism.
- Growth of urban centres around industries and marketing areas because of increased population e.g. Durban.
- Development of industries related to sugarcane growing like for processing sugar, distilling alcohol, making sweets, papers.
- Improvement in social services like water supply, power supply, health facilities leading to increased standard of living.
- Production of power like Biogas, Biomass used for domestic and industrial purposes reducing on deforestation for firewood and charcoal.
- Source of government revenue through taxation, foreign exchange earnings, capital by investors, helping and improving international income and developing other economic products.
- Development of tourism industries by visiting plantations, processing factories and because of increased income.
- International relations and regional cooperations like USA, Britain, Zimbabwe leading to development of international trade.

Negative effects / disadvantages

- Soil exhaustion due to monoculture.

- Unemployment and air pollution due to high level of technology and use of machinery such as tractors.
- Displacement of people from areas which have been gazette for sugarcane growing like Natal.
- Profit repatriation by foreign investors by S. African sugar association causing capital outflow.
- Diversion of labour and capital into sugarcane growing affecting the development of other sectors.
- Environmental degradation because of deforestation, swamp reclamation and destruction of the landscape in rubber growing areas.
- It leads to urban problems because of increased population in towns like Natal and Durban like increased crime rates and creation of slums.
- Regional imbalance causing economic problems
- Fluctuation in world market prices of sugar which affects the incomes farmers receive.
- Large quantities of cane being destroyed due to large wild fire outbreaks.
- High costs of production such as those involving irrigation.
- Over dependence on foreign markets hence fluctuation in rubber prices.

IRRIGATION FARMING

Irrigation farming is the artificial application of water to growing crops either permanently or temporarily. It is mostly practiced in dry areas e.g. Mubuku, Gezira, California, Egypt, Middle East and types of irrigation include; Basin irrigation, perennial, annual, well, overhead sprinkler, drip and canal irrigation.

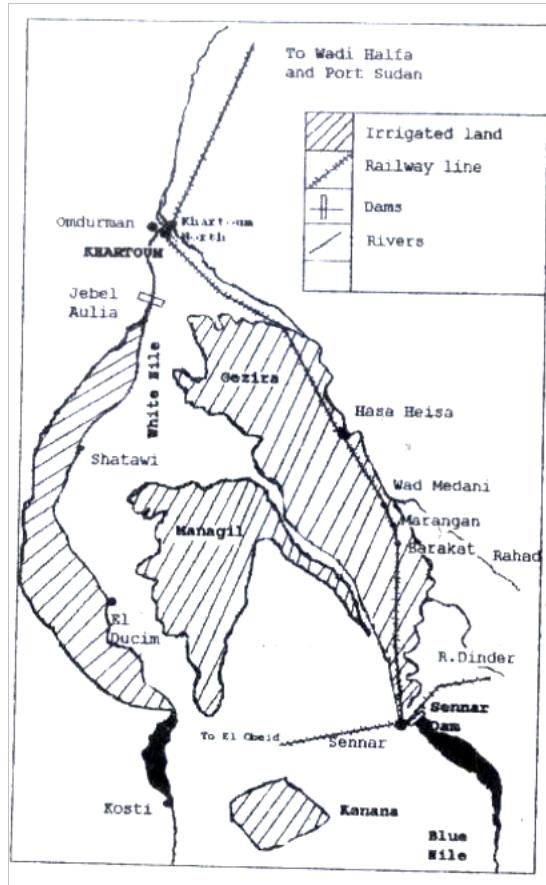
GEZIRA IRRIGATION SCHEME IN SUDAN

It is found between Blue Nile and White Nile at the tributaries of R. Nile.

In the south there is Sennar dam, North there is Khartoum town, started by the British in 1910 and it is managed by Gezira irrigation board.

It is important for cotton and other crops like maize, millet, beans, G. nuts.

A SKETCH MAP SHOWING GEZIRA IRRIGATION SCHEME



Factors for the development of Gezira irrigation scheme

- Water supply from Blue Nile and White Nile which are the tributaries of River Nile providing water for irrigation.
- Presence of flat and gentle slopes leading to easy flow of water by gravity helping in transport and mechanization.
- Limited pests and diseases to destroy crops reducing on the cost of production leading to increased production.
- Presence of dry climatic conditions with rainfall below 1000mm leading to irrigation for supplementing the rainfall.
- Limited obstacles like relief features, vegetation types, water bodies because it is found in a savannah area making exploitation easy and cheap.
- Presence of fertile, clay and loam soils which are less porous and permeable helping in retaining water.
- Availability of land for extensive agriculture because of sparse population.
- Improved breed of cotton with quick maturity, pest and drought resistant.
- Limited resources like mineral, forests, water bodies for fishing discouraging

other activities.

- Strategic location near river Nile and its tributaries near Khartoum town which is used as a port, marketing area and an industrial area.
- Presence of capital provided by Britain and Sudan used for constructing canal, building canals, carrying out research.
- Positive and supportive government policies like gazetting land, attracting investors from Britain, avenging extension workers.
- Presence of wide market for cotton and other crops in towns like Khartoum and exporting to other countries like Britain.
- Labour supply both skilled and unskilled working in the farms, processing factories because of increased population in Khartoum and getting expatriates from Britain.
- Improved science and technology leading to availability of skilled labour like Engineers, technicians for constructing canals, aqueducts, industries like Ginneries, carrying out research.
- Good international relations with importing countries like Britain and helping in getting loans, political stability and security, attracting investors and diverting resources to economic growth and development.
- Power supply like HEP from Sennar dam, Jabel dam used in engineering, spinning mills, textile industry and used for irrigation.
- Presence of research stations leading to better breeds, control of pests and diseases, processing of cotton and marketing.
- Good management by Gezira irrigation board helping in providing capital, extension workers, social services, loans.
- Presence of industries related to cotton growing, textile factories, cotton ginneries, oil processing and industry for marketing equipment and inputs.

Importance / effects of Gezira irrigation scheme

Advantages / positive

- Food supply like the growing of maize, beans, G.nuts, cooking oil from cotton, reducing on dangers of hunger and malnutrition and food imports.
- Provision of employment opportunities leading to high standards of living like in irrigation farms and processing factory e.g. ginnery, textile.
- Promotion of international relations and co-operations with Britain promoting international trade.
- Growth of urban centres because of increased population around marketing areas, industries helping in promoting trade and social services e.g. Khartoum town.

- Source of foreign exchange by exporting cotton to Britain helping in importation and investments.
- Government revenue by taxing people and companies and the money is used for development activities for infrastructure and social services.
- Promotion of education and research by visiting irrigation areas and industries helping in acquiring skills and improving technology.
- Economic diversification by influencing other activities like trade, transport, tourism.
- Development of industries e.g. cotton ginning and spinning, cooking oil extraction.
- Improvement in transport and communication like the construction of roads, railway lines benefiting the surrounding communities.
- Environmental conservation by encouraging afforestation and reafforestation programs in areas not good for agriculture.
- Source of HEP from Sennar and Jabel dams used for domestic and industrial purposes.
- Control of floods by constructing canals, aqueducts, reducing pests and diseases and attracting people for settlement and agriculture.
- It has helped in land reclamation by controlling floods, pests and diseases and application of water in a dry area.
- Development of tourism industry by visiting irrigation areas like Gezira, managing dams, visiting dams and industries.
- It has helped in demonstration and influenced the development of other dams like Manergil.
- Promotion of forestry and lumbering, getting timber for building and construction.

Disadvantages / Negative

- Soil exhaustion because of monoculture and specialization in cotton growing.
- Displacement of people and activities by gazetting land like the nomadic pastoralists who occupied the area.
- Regional imbalance causing economic problems.
- Breeding grounds for disease vectors like mosquitoes, tsetse flies, Bilharzia – snails.
- Environmental degradation, swamp reclamation, deforestation, destruction of landscape, construction of canals, aqueducts.
- Encourages floods leading to breeding grounds destroying crops and property and causing soil salinisation (infertile).
- Diversion of labour and capital into the agricultural sector destructing other

economic activities.

- Foreign repatriation by foreign investors from Britain causing capital outflow and lowering the national income.
- Pollution of air, water and land around industries by using in fertilizers, pesticides and weed killers.
- Urban problems because of increased population around industries, marketing areas like increased cost of living in Khartoum.
- Marketing problems because of over production, price fluctuations, affecting planning.
- Loss of fertile soils through siltation and deposition, sedimentation.
- Increased costs of maintenance and rehabilitations through constant dredging like removing silt, sediments, deposits.
- Water loss by evaporation from water reservoirs from canals, aqueducts.
- Promotion of accidents because of HEP, canals, aqueducts, water reservoirs, dams, floods.

IRRIGATION IN CALIFORNIA (USA)

California is a dry area found in USA and it is important for irrigation farming in areas around imperial valley around rivers San Joaquin, Colorado and Scramento, around Delta Mondata, Frient dam, Shasta dam.

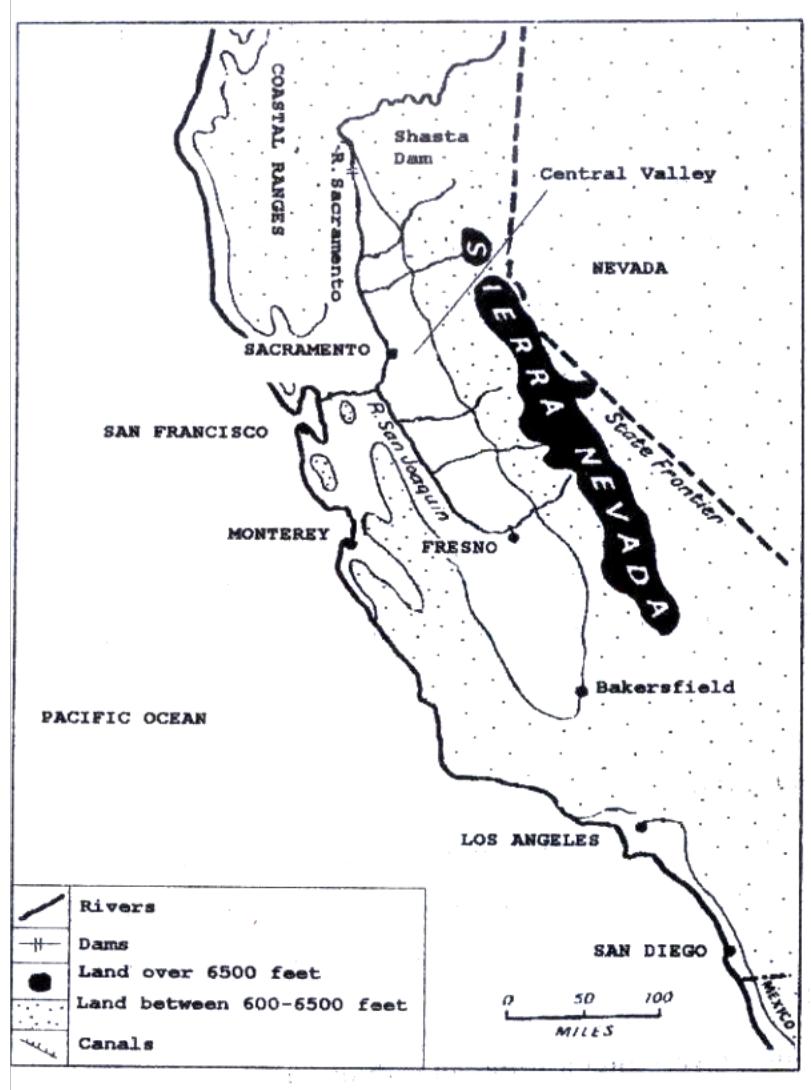
It is important for crops like fruits and vegetables like cucumber, eggplants, oranges, pears, lime berries, cauliflower.

Factors for irrigation farming in California

- Dry climatic conditions because of being in a rain shadow of the Sierra Nevada and Appalachian markets.
- Presence of fertile soils composed of clay, alluvial soils which are less porous and permeable. These soils are found around rivers Sacramento, San Joaquin.
- Flat and gentle slopes leading to easy flow of water by gravity and helping in transport.
- Water supply from R. San Joaquin and from a dam like Shasta, Frient dam and Atlantic ocean.
- Availability of land because of low population for extensive agriculture.
- Improved breeds of fruits and vegetable which were pest resistant, have quick maturity and high production e.g. cauliflower, apples, etc.
- Limited pests and diseases to attack crops contributing to high production.

- Limited resources like mineral dry conditions discouraging other activities and promoting irrigation farming.
- Positive government policies like gazetting land, developing infrastructures and subsidization and also availing extension workers which has helped in promoting irrigation farming in California.
- Adequate capital provide by government and private investors for constructing canals aqueducts, water reservoirs.
- Wide market for fruits and vegetables in towns like Ney York, Los Angels, San Francisco exporting to Japan, Canada, etc.
- Improved science and technology leading to the availability o skilled labour working in farms and agro based industries.
- Labour supply both skilled and unskilled because of high population in towns like Los Angels using holiday makers during harvesting.
- Good management by using co-operatives and educated farms contributing to high population.
- Political stability leading to a favourable investment climate.
- Presence of research station helping in improving breeds, controlling pests and diseases.
- Presence of agro based industries helping in processing fruits, vegetables and adding value for easy marketing like soft drinks, beverages, wine, tomato sauce, etc.
- Strategic location near Atlantic ocean developing its own ports like Los Angels and using cheap water transport.

A SKETCH MAP FOR IRRIGATION FARMING IN CALIFORNIA



Importance of irrigation farming in California.

Advantages

- Source of government revenue leading to capital accumulation and improving national income.
- Development of tourism industry by visiting irrigation areas like around the Imperial valley, Shasta dam.
- Source of foreign exchange by exporting fruits and vegetables in California / Canada.
- Provision of employment opportunities e.g. fruits and vegetable farmers, holiday makers and people working in agro based industries hence improving on the standards of living.

- Source of food to the people of California e.g. fruits, vegetables, etc reducing on malnutrition and food imports.
- Land reclamation by using desert areas and flooded areas.
- Good international relations with importing countries like Canada, Japan and Britain.
- Economic diversification by influencing other activities like trade, transport, tourism, reducing on depend burden.
- Development of urban centres used as marketing areas and having industries helping in trade and improving social services e.g. Los Angels.
- Improvement in transport like construction of rails, railway lines connecting agricultural areas to major water ports like San Joaquin, Los Angels.
- Power supply by dams used for domestic and industrial purposes e.g. Frient dam, Shasta dam.
- Control of floods reducing on pests and diseases attracting settlement.
- Provision of raw materials for the agro based industries which leads to industrial development.
- Environmental conservation though afforestation and re-afforestation programmes in flooded areas and areas with infertile soils.
- Promotion of education and research by attracting people for demonstration purposes.

Disadvantages

- Loss of water by evaporation from canals and aqueducts, water reservoirs.
- High costs of development maintenance and rehabilitation like constant dredging.
- Loss of fertile soils through sedimentation, deposition, siltation by floods around canals, aqueducts.
- Pollution of air, water, land around agro-based industries using fertilizers.
- Breeding grounds for disease vectors because of poor drainage and floods.
- Urban problems because of population like high costs of living, creation of slums.
- Environmental degradation because of deforestation, swamp reclamation and destruction of landscape.
- Limited land for other activities by occupying big areas displacing people and activities.
- Promotion of accidents caused by floods, power supply destroying people's lives and property.
- Regional imbalance in economic development causing income inequality.
- Soil exhaustion by monoculture and specializing in growing fruits and vegetables.

- Marketing problems because of high production, poor storage, price fluctuation.

LIVESTOCK FARMING

This is the rearing of animals for commercial and subsistence purposes e.g. cattle, sheep, pigs and goats. It also has types like Nomadic pastoralism, ranching, dairy farming, zero grazing, poultry, piggery.

NOMADIC PASTORALISM

This is a subsistence form of livestock farming involving farmers moving from one place to another looking for water and pasture like latitudinal Transhumance which is moving according to latitude like in wet season moving Northwards then dry season moving Southwards.

And Altitudinal transhumance moving according to altitude like in the wet season they move to highlands and in dry season moving to lowlands.

Characteristics

- Constant movement looking for water and pasture.
- Temporary settlement patterns like building huts which are grass thatched.
- Found in areas with sparse population with enough land for easy movement.
- Keep large numbers of cattle because they value quantity.
- Keep local breeds.
- They are found in dry areas with limited water and pasture.
- They use traditional methods of farming.
- They depend on nature and environmental factors.
- They practice cattle rustling causing conflicts and tensions.
- They are found in remote and backward areas with poor social services and infrastructure.
- They specialize in animal rearing.
- They are found in areas with infertile soils with limited resources not good for other economic activities.
- Communal grazing because of communal land ownership.
- They keep cattle for subsistence purposes e.g. for food, bride price.

Examples

Fulani, Sahel W. Africa

Masai, Kenya, Tanzania

Barbers in Tuaregs Sahara desert.

Bushmen Hotentots Namibia, Kalahari.

Turkana, Western Kenya.
Somali in Kenya & Somalia.
Uganda.

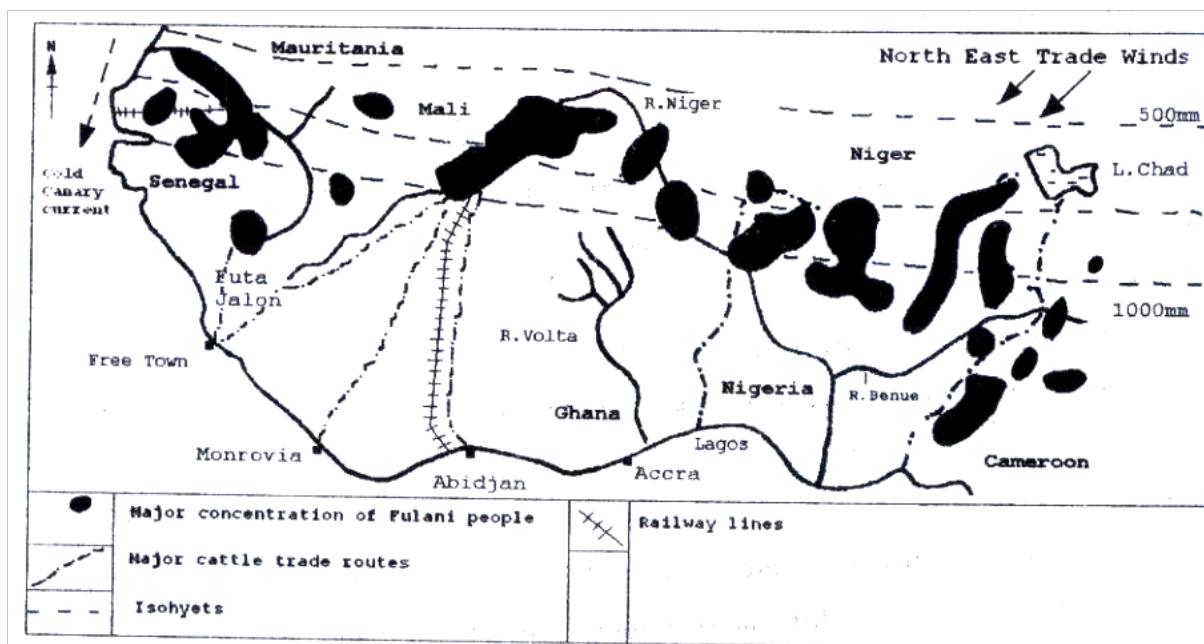
Bahima in Uganda.
Karamajong North Eastern

THE FULANI OF WEST AFRICA

The Fulani nomadic pastoralists are found in the Sahel region of West Africa covering areas of Northern Nigeria, Mali, Gambia, Chad, they practice altitudinal and latitudinal transhumance according to different seasons. They specialize in cattle keeping using local breeds for subsistence purposes.

They have introduced using modern and scientific methods of farming like setting up demonstration farms, carrying out cross breeding, valley dams for water supply.

A SKETCH MAP SHOWING FULANI REGION IN WEST AFRICA.



Factors that have favoured Nomadic pastoralism in the Fulani region

Qn: Account for the persistence in nomadic pastoralism in Africa.

- Presence of dry conditions leading to low and unreliable rainfall causing aridity and desertification e.g. rainfall between 500mm discouraging the growing of crops.

- Sparse population giving enough land for constant movement and keeping large quantities of cattle.
- The Fulani region in the Sahel has limited resources like mineral, water bodies for fishing, forests for lumbering, fertile soils for arable farming leading to specialization in Nomadic pastoralism.
- Presence of wild animals scaring people for settlement and for other economic activities e.g. Hyenas, Leopards, Lions.
- Presence of pests and diseases like tsetse flies, locusts discouraging settlement of other activities and promoting the keeping of local breeds which are resistant.
- Presence of poor infertile soils which are porous and permeable discouraging the growing of crops.
- Poor social services leading to low standards of living like water supply and power discouraging settlement.
- Poor science and technology like the use of traditional methods of farming like bush burning for clearing land.
- Presence of savannah and desert vegetation like grassland, herbs, shrubs giving pasture for animals.
- Limited water supply leading to constant movement discouraging other activities and encouraging keeping of local breeds.
- Presence of backward cultures and traditions making them conservative not willing to change like valuing quantity rather than quality.
- Practicing cattle rustling, being wonderers.
- Presence of flat and gentle slopes with broad valleys leading to easy movement of animals looking for water and pasture.
- Poor government policies like not giving them loans, not developing infrastructure, social services making areas remote and backward discouraging other activities.
- Limited capital to purchase modern equipment leading to subsistence farming.
- Limited market for cattle and their products contributing to small production.
- Keeping local breeds which are resistant to pests and diseases can survive dry conditions, they consume limited pasture.
- Limited extension workers like veterinary officers, agricultural officers to advise the farmers.
- Lack of co-operatives to help in giving loans, supervising the farmers, storage contributing to low production.
- Limited industries to process livestock products like dairy plantations, leather turning industry, meat packing leading to subsistence farming.

- Political instabilities like cattle rustling causing conflicts and tensions discouraging settlement of other activities.

Problems faced by Nomadic pastoralists.

Qns:

- a. *To what extent are the problems faced by Nomadic pastoralists of their own making.*
 - b. *The problems facing Nomadic pastoralists are physical and human. Some are of their own making, others not of their own making.*
- Over stocking causing over grazing contributing to environmental degradation like promoting soil erosion.
 - Cattle rustling causing conflicts hence leading to death of people and animals hence creating instabilities.
 - Animal diseases like rinder pest, tick fever, anthrax.
 - Drought leading to limited water supply for animals and growth of pasture because of low rainfall and limited water bodies.
 - Moving for long distances looking for water and pasture making animals tired leading to low production.
 - Keeping of poor breeds like long horned cattle, zebu, Masai land leading few production in terms of meat and milk.
 - Presence of wild animals like hyenas and lions eating people and animals hence leading to movement from one place to another.
 - Limited market because of low income and population causing wastage and discouraging high production.
 - Poor social services and infrastructure like roads affecting marketing.
 - Ignorance and backward culture by being more conservative limiting modern agriculture and contributing to cattle rustling.
 - Limited government support in form of loans not developing infrastructure and availing extension workers.
 - Communal grazing encouraging the spread of diseases and poor land use management.
 - Presence of poor pasture composing of shrubs and leading to low production.
 - Natural calamities like locusts, floods destroying pasture for animals.
 - Bush burning leading to environmental degradation and growth of poor pasture used as the means of clearing land.
 - Competition with other countries on the world market leading to low prices and

because of having other substitutes.

- Infertile sandy soils discouraging the growth of vegetation for pasture.
- Limited capital to purchase modern equipment like spray pumps.
- Limited skilled labour like agricultural officers to advice farmers.
- Using poor farming methods like bush burning accelerating environmental degradation and causing low population.
- Political instability scaring away investors and farmers, diverting resources for defense.
- Lack of co-operation among farmers affecting getting loans.
- Poor transport in remote areas affect marketing and movement of farmers and workers.

Ways of developing Nomadic pastoralism area (solutions)

- Carrying out cross breeding between local and exotic breeds thus increased production.
- Formation of co-operatives among the farmers helping in marketing, getting loans.
- Construction of valley dams and tanks for storage of water to be used in the dry season (areas).
- Using insecticides, pesticides and animals drugs for controlling pests and diseases.
- Mass advocacy and mobilisation about modern methods of farming and environmental conservation.
- Planting artificial pasture like Alfalfa for feeding animals on fodder crops leading to increased production.
- Using modern methods of farming e.g. using paddocks leading to controlled and reducing spread of diseases by communal grazing.
- Improvement in transport like construction of rural feeder roads helping in marketing and movement of workers and farmers.
- Getting loans for putting up modern facilities like dip tanks and buying drugs.
- Economic diversification reducing dependence burden like arable farming.
- Political instability attracts investors developing infrastructure and economic activities through good governance and regional co-operation.
- Reduction on cattle rustling by decreasing nomadic pastoralists and through massive education and mobilization.
- Availing extension workers like veterinary officers and advise the pastoralists on better farming methods.

- Supporting government policies like developing infrastructures attracting investors.
- Introduction of exotic breeds leading to increased production like Fresian cows.
- Building agro-based industries processing livestock products e.g. dairy plants helping in adding value for easy transport and marketing.
- Increase in market by expanding market centres and exporting animal products to other countries.
- Gazetting areas for livestock, tourism and environmental protection.
- Training skilled labour by promoting science producing agricultural officers and veterinary officers.
- International relations and regional co-operation helping in marketing and labour supply.
- Promotion of research modern methods of farming helping in disease control.

RANCHING IN ARGENTINA

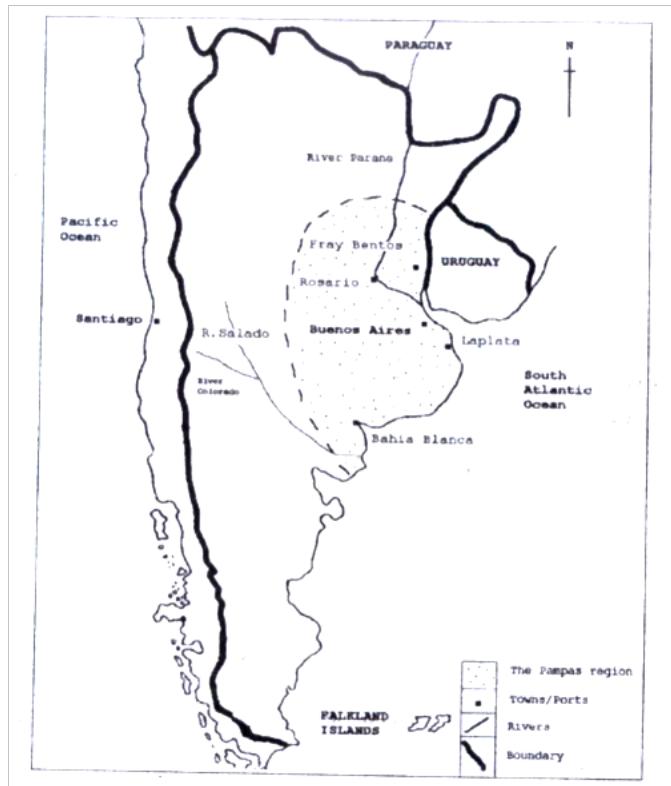
Ranching is the rearing of animals on a large scale or extensive basis like Boran, Aghus. It involves using paddocks, rotational grazing, dipping animals, spraying and using scientific and modern uses of farming.

Argentina is found in South America and near Atlantic ocean and it is important for ranching around the pampas grassland in the Eastern part of Argentina.

Other factors:

- Presence of soil with medium fertility composed of sand and clay leading to growth of pastures, food crops and animal feeds like Alfalfa.
- The pampas of Argentina have limited resources like minerals discouraging other activities like mining, no forests for lumbering, limited water bodies for fishing hence promoting livestock farming.
- Strategic location near Atlantic ocean leading to development of ports e.g. Buenosaires and helping in using cheap water transport.
- Presence of better breeds like Boran, Aghus which are pest resistant with quick maturity and having increased production.

A SKETCH MAP OF ARGENTINA SHOWING RANCHING AREAS.



Factors favouring ranching in Argentina

- Extensive land for large scale farming because the area is sparsely populated.
- Presence of Savannah grassland on the pampas giving enough pasture for the animals and leading to increased production.
- Presence of savannah climate with wet and dry conditions, frost free conditions favoring the growth of pasture and fodder crops like maize, corn.
- Limited pests and diseases to affect livestock leading to increased production and reducing costs for operation.
- Relief which is flat and gentle sloping on the pampas leading to easy mechanisation, transport and drainage.
- Presence of water supply for the growth of pasture and for the animals like from pacific ocean, rivers like Uruguay, Paraguay.
- Presence of limited obstacles in the pampas like thick vegetation relief features, landforms, water bodies making exploitation and development easy and cheap.
- Political stability and security leading to a favourable investment climate and helping in diverting resources, economic activities, infrastructure and social services.
- Presence of wide market both internal and external and in towns like Buenosaires and exporting to USA, Japan and Britain.
- Improved transport and communication like the construction of roads, railway

lines connecting the interior and the coast and connecting to markets and industries.

- Presence of capital provided by the government and private investors to purchase equipments, pay workers and set up industries, constructing valley dams.
- Presence of improved science and technology leading to the availability of skilled labour like agricultural officers, veterinary officers, bio chemists helping in using modern and scientific methods of farming e.g. cross breeding, fattening animals, artificial insemination.
- Good international relations with beet importing countries like Japan, USA and Britain and helping in getting loans.
- Presence of labour supply both the skilled and unskilled like the cowboys, grazing the animals, people working in factories, veterinary officers, agricultural officers and biochemists.
- Presence of positive and supportive government policy i.e. giving loans to farmers, constructing roads for transportation of products, gazetting land, availing extension workers, building industries.
- Presence of industries supporting livestock farming like beet processing factories, dairy factories, leather canning industries.
- Presence of research stations helping in controlling pests and diseases, getting better breeds, processing livestock products and marketing.

Importance / effects of ranching in Argentina

Positive

- Source of government revenue by taxing people and companies leading to capital accumulation and improving international income.
- Presence of co-operatives and big companies e.g help in management.
- Provision of employment opportunities like cowboys grazing the animals in processing factories, vet and agricultural officers leading to increased standards of living.
- Source of foreign exchange by exporting beet to Canada, Japan helping in importation and investment.
- Development of industries like beet processing, dairy plants, leather industry because of getting raw materials from ranches or animals.
- Source of food like beef, milk, cheese, ghee reducing hunger, malnutrition, famine and food imports.
- Development of tourism industry by visiting ranches, processing factories and because of increased income.

- Promotion of education and research by visiting the ranches, processing factories, helping in acquiring skills and improving science and technology.
- Growth of urban centres like Buenosaires because of increased population around marketing areas, industries promoting trade and improving social services.
- Promotion of international relations and regional co-operation through export trade with USA, Japan and Britain.
- Promotion of economic diversification by influencing other activities like trade, tourism, industrialization reducing on the dependency burden.
- Alternative land use because of limited resources like minerals, having infertile soils being dry, limited water bodies discouraging other activities.
- Capital accumulation for other development projects because of foreign investors through taxation, foreign exchange earnings contributing to economic growth and development.
- Environmental conservation because the animal products are used for improving soil fertility like cow dung, urine and they are also used for producing bio-gas energy, reducing on deforestation for firewood and charcoal.

Negative

- Environmental degradation because of deforestation in the farms through the construction of industries, transport routes, destruction of the landscape and swamp reclamation.
- Displacement of people and activities by occupying big areas around the pampas.
- Pollution of land, water and air around industries and using drugs and chemicals.
- Profit repatriation by foreign investors causing capital outflow and lowering the national income.
- It leads to urban problems because of increased population around marketing areas and industries like Buenosaires e.g. increased cost of living, congestion, slums, unemployment.
- Diversion of labour and capital into livestock farming e.g. the cowboys affecting other economic activities because of specialization.
- Marketing problems due to over production, price fluctuations and the products being perishable.
- It leads to regional imbalance in economic development e.g. coastal towns like Buenosaires causing economic problems like wage difference, income

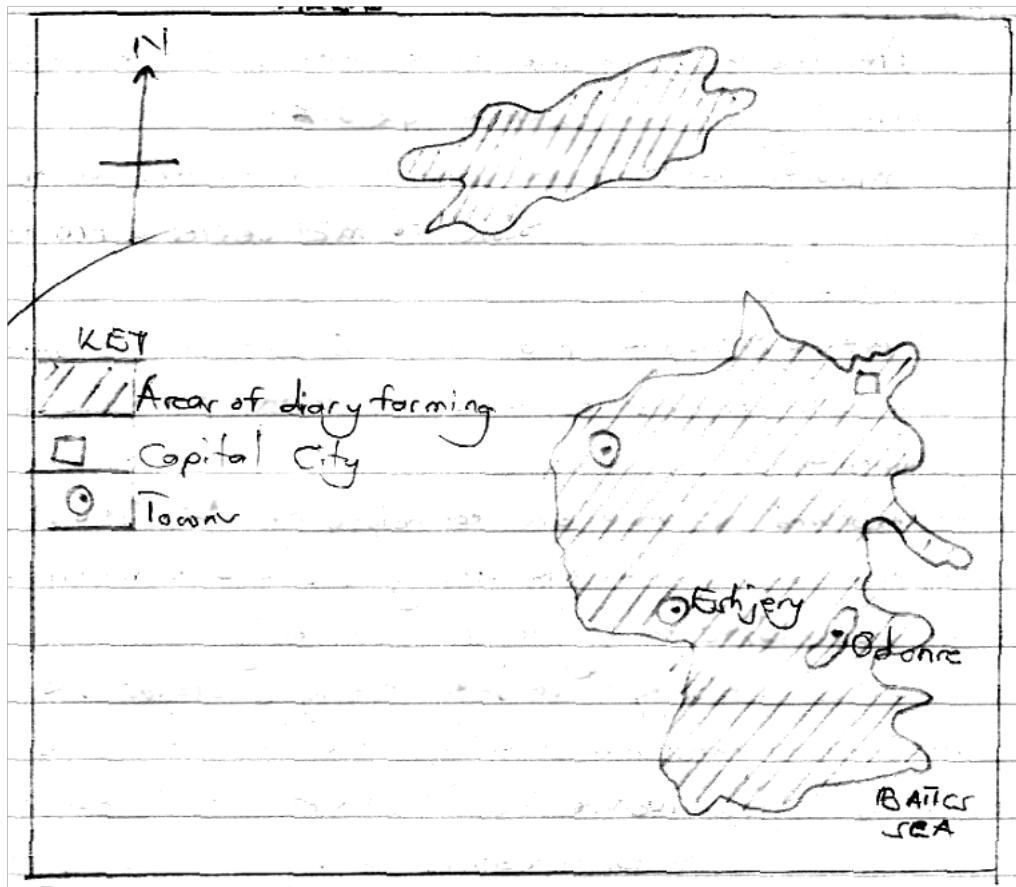
inequalities, labour immobility.

- Economic dependence because of specialization causing problems like balance of payment, poor terms of trade, inflation.

DAIRY FARMING IN DENMARK

Dairy farming is the rearing of animals for production of milk and its products e.g. Bongo, cheese, yoghurt, ghee, butter, etc. it is a modern method of farming using scientific methods. Denmark is a developed country found in Western Europe and it is important for dairy farming.

A SKETCH MAP OF DENMARK SHOWING FARMING AREAS.



Factors for dairy farming in Denmark

- Medium soil fertility composed of sand and clay for the growth of pasture and fodder crops.
- Temperate climate with low temperature leading to limited pests and diseases encouraging growth of pasture.
- Availability of land gazette for dairy farming because of low production due to temperate climate.
- Good breeds like Fresians, new jersey with quick maturity contributing to increased production.
- Use of co-operatives helping in marketing, transport, getting loans, processing, carrying out supervision and monitoring.
- Use of scientific and modern methods of farming like artificial insemination, deworming, dipping, spraying contributing to high production in terms of quantity and quality.
- Improved transport like using railway lines, modern ports like Copenhagen, air

transport helping in marketing.

- Adequate capital provided by the government and private investors for purchasing modern equipments, building factories and developing infrastructure.
- Wide market because of increased income in Copenhagen, Alberg, Odense and exporting to the neighbouring countries like Britain, Germany and France.
- Good management because of trained farmers helping in fighting diseases and planning.
- Positive government policies like maintaining political stability, giving loans to farmers and availing extension workers e.g. agricultural officers and veterinary officers.
- Good international relations with European union member countries helping in marketing like Germany, France, Britain.
- Alternative land use because of limited resources like minerals, having temperate climate discouraging arable farming.
- Strategic location near the coast because it is made up of Islands developing its own ports like Copenhagen and using cheap water transport.
- Presence of agro-based industries helping in processing and marketing for easy transport and marketing like making butter, cheese, ghee, packed milk.
- Presence of enough pasture like alfalfa and using artificial feeds, maize, aiming at increased production.
- Flat and gentle slopes help in transport and drainage and mechanization.

Importance of Dairy farming in Denmark

- Source of foreign exchange by exporting milk and its products like cheese, butter, ghee, packed milk to other European countries.
- Source of food like milk and its products reducing on malnutrition and food imports.
- Improvement in transport like expansion of Copenhagen port, construction of roads, railway lines in areas of Alberg and Odense.
- Provision of employment opportunities like the dairy farmers in dairy industry leading to increased standards of living in Copenhagen.
- Government revenue through taxation of farmers and companies generating capital and improving natural income.
- Development of industries processing milk, cheese, butter and ghee making biscuits like ice cream and leather industries.
- Growth of urban centres used as marketing areas and industries like Copenhagen improving trade and social service provision.

- Promotion of education and research by visiting the farms factors for scientific studies.
- Alternative land use because limited resources, having infertile soils, temperate climate surrounded by water discouraging other activities.
- Development of tourism industry by visiting the farms, industries and because of increased income.
- Good international relations and regional co-operations with importing countries like Germany, Britain, France hence creating friendship.
- Environmental conservation by getting manure from animals and using animal products for the production of power e.g. biogas.

Disadvantages

- Limiting land for other activities by occupying big areas.
- Pollution around agro-based industries because of water and sewages.
- Urban problems around marketing areas and industrial centres.
- Environmental degradation because of deforestation, swamp reclamation and destruction of the landscape during clearing of farms and because of construction work.
- Marketing problems because of high product price fluctuations, competitions affecting planning.
- Agricultural products are highly perishable.
- Regional imbalance causing income inequalities, wage difference, labour mobility around Copenhagen.
- Diversion of labour and capital in the development of dairy farming affecting other sectors like industrialization, arable farming.

CO-OPERATIVE FARMING

This is the grouping of farmers in different areas helping in improving quantity and quality of agricultural products leading to agricultural modernization e.g. Denmark, Usama villages in Tanzania, Communes in China. They are characterized by;

- Use of modern and scientific methods of farming.
- Managers are chosen from the farmers.
- They mediate between government and the farmers.
- Leaders are chosen democratically.
- Communal ownership of means of production.

Factors for the development of co-operatives in Denmark

- Presence of educated farmers using modern and scientific methods of farming.
- Good management because of choosing leaders democratically from the farmers.
- Presence of adequate capital for improving infrastructure, building factories and for purchasing equipment.
- Improved transport like the construction of roads, railway lines and ports connecting agricultural areas to market and industries.
- Presence of wide market both internal and external leading to increased production for commercial purposes.
- Positive and supportive government policies like giving loans, availing extension workers, carrying out research.
- Political stability and security leading to a favourable investment climate and diverting resource to economic growth and development.
- Good international relations with European union member countries helping in marketing.
- Availability of land for extensive farming because of sparse population e.g. areas for dairy farming.
- Presence of temperate climate with cool conditions encouraging dairy farming growing of fruits and vegetables.
- Presence of research stations helping in controlling pests, diseases, improving breeds, processing, marketing.
- Presence of labour supply both the skilled and unskilled like extension workers, biochemists.
- Presence of agro-based industries for processing agricultural products e.g. dairy plants.
- Presence of flat and gently slopes for easy transport, mechanization for the growth of fruits, vegetables, fodder crops, pasture.
- Presence of water supply because Denmark is made up of Islands and water helps in the growth of crops, pasture and for animal rearing.
- Improved science and technology leading to availability of skilled labour working on the farms, processing factories, and using modern and scientific methods of farming.
- Limited resources like minerals discouraging other activities and promoting agriculture.

Importance of co-operatives (contributions) / effects

Positive:

- They help in marketing by carrying out research and collecting the products from the farmers.
- They help in getting loans for the farmers by acting as security.
- They help in transport by constructing roads, railway lines, expansion of ports.
- They help in processing agricultural products by building agro-based industries, helping in adding value.
- They help in fixing prices by marketing boards like minimum and maximum price.
- They help in agricultural modernization by using scientific and modern methods of farming like application of fertilizers, using pesticides and insecticides.
- They help in training farmers by using workshops, seminars, establishing demonstration farms using extension workers.
- They help in improving storage reducing on wastes and helping in marketing and transport.
- They help in supervision and monitoring, helping in maintaining quality and quantity.
- They improve social services leading to high standards of living like health facilities.
- They control pests and diseases by spraying, dipping, vaccination using drugs.
- Economic diversification by developing other income generating projects reducing on the dependence value.

Negative

- They are affected by poor administration because of government interference and using farmers who are not trained.
- They kill the spirit of competition because of working jointly leading to low production.
- They are affected by managers being corrupt and embezzling funds.
- They are affected by poor transport in rural areas affecting marketing.
- They are affected by limited capital leading to low production.
- They are affected by environmental factors like climate, weather, pests, diseases, floods and this affects planning.
- Environmental degradation because of deforestation, swamp reclamation, pollution of air, water and land because of wastes and sewage.
- They are affected by marketing problems because of over production, price fluctuations, competitions, perishable products.

- Soil exhaustion because of monoculture, specialization, over cropping.
- Poor land mismanagement due to communal ownership of means of production.
- Promotion of conflicts and tensions over the management of resources.

COMMUNES, COLLECTIVE FARMS, GREEN REVOLUTION

A commune is a large scale farm created by compulsory grouping people (farmers) into large units of production for the improvement of quality and quantity of the agricultural products leading to agricultural modernization e.g. in China, Russia, Middle East countries, South East Asia, Mexico, Romania.

In China they are found in areas like Honan, Kiangish, Kweichow, Sikiang, Shiang, River Yangho, R. Yangtze, Knang. They were important of growing crops like rice, wheat, soya bean, oats and rearing animals like cattle, goats, sheep, piggery, fish farming.

Characteristics of communes

- There is compulsory ownership of means of production e.g. land, capital.
- They are divided into teams and brigades for easy management e.g. Brigade has an inspector approved responsible to the state.
- Use of labour intensive technology.
- The state controls the marketing of the produce.
- The state determines the crops to be grown and animals to be reared.
- The state controls the people who work on the farm as employees.
- The state determines the quotas of production.
- The surplus above the fixed quotas or amount is shared depending on the input.
- The state provides financial and technical assistance.
- They undertake processing of the produce.
- They use modern and scientific methods of farming.
- Research is carried out by the state.
- Teams decide on how the surplus is used like sharing or they save it for buying machines.
- The management committees act as mediators and they provide social services.
- The leaders of the teams and brigades are chosen from the farmers democratically elected.

Contributions of communes in China / importance / effects.

- They encourage co-operation and teamwork leading to increased production.
- They provide employment opportunities like the farmers in industries, the

managers leading to high standards of living.

- They lead to improvement in quality and quantity of the agricultural produce because of using scientific modern methods of farming and because of specialization.
- It enables easy government assistance to farmers because the farmers are together e.g. like social services, infrastructure.
- They lead to improvement of social services e.g. power supply, education, health facilities leading to increased standards of living.
- They enable the development of agro-based industries helping in adding value before marketing like processing wheat, barley, oats.
- Development of urban centres used as marketing areas and industries like in Shanghai province.
- Co-operative marketing eliminates exploitation of farmers because they work as mediators.
- There is improvement in transport and communication like the construction of roads, railway lines around agricultural areas.
- Provision of food for the increasing population reducing on hunger, malnutrition, food imports.
- Land consolidation leading to extensive farming and commercial farming.
- Economic diversification reducing on dependence burden.
- Source of government revenue by taxing people and companies.
- Land reclamation by controlling floods and using irrigation in dry areas.
- Source of foreign exchange by exporting agricultural products like wheat, oats.
- Development of international trade, regional co-operation and international relations.
- Promotion of education and research by visiting farms, industries for better skills and technology.
- Development of tourism industry by visiting the farms and industries leading to foreign exchange.
- Controlling floods by building canals, dams, aqueducts for easy flow of water reducing on pests and diseases and attracting people for settlement.
- Soil conservation through application of organic and inorganic fertilizers.
- Environmental protection through afforestation and re-afforestation programs like in dry areas and poorly drained areas.
- Increase in agricultural production because of using better breeds, using scientific and better modern methods of farming.
- Help farmers in getting credit facilities like loans for purchasing modern

equipment.

Disadvantages

- Mismanagement of farmers who are not trained.
- Poor production because of large farms which were hard to supervise.
- Soil exhaustion because of monoculture and agricultural specialization.
- Pollution around agro-based industries using pesticides and insecticides.
- Urban problems because of high population around marketing areas leading to problems like increased cost of living.
- Environmental degradation because of deforestation, swamp reclamation, destruction of landscape.
- Marketing problems because of price fluctuations.
- Promotion of conflicts and tensions due to displacement of people and isolation of people's rights by taking land.
- It was the top bottom policy which started with poor planning and not involving the farmers leading to success for a short time eventually collapsing.
- The new breeds were tasteless and this affected marketing, they couldn't be grown in very part of land e.g. rice.
- High costs of production like using machines, fertilizers, carrying out irrigation.
- It reduces on the spirit of competition among the farmers.
- Regional imbalance causing income inequalities like communes in well favoured areas and these are poor areas.
- It was affected by bureaucracy like consulting many people according to teams, brigades delaying decision making.
- They were affected by environmental problems like pests and diseases, drought which affected planning.
- Soil salinisation by irrigation farming causing salination, sedimentation.
- Agriculture modernization like using tractors causing unemployment.

Factors for the development of communes

Areas with communes in China include Sichuan, Shiang.

Physical factors:

- Flat and gentle slopes for easy irrigation and mechanization.
- Fertile soils near river valleys like alluvial soils.
- Favourable climate like heavy monsoon rainfall and high temperatures.
- Water supply from rivers like Yangtze for irrigation purposes.

- Availability of gazette land for communes e.g. in Chaunshan, Skianga.
- Improved breeds leading to high production like rice, wheat, soya beans, etc which have quick maturity.
- Limited resources like mineral discouraging other activities.
- Limited pests and diseases promoting arable farming, fishing, livestock farming.

Human factors

- Availability of cheap labour both skilled and unskilled because of high population.
- Wide market for food because of dense population.
- Change in land tenure system from land fragmentation to consolidation.
- Supportive government policy of socialism helping in sharing resources and state control.
- Improved science and technology helping in land reclamation and using irrigation farming.
- Improved transport helping in marketing, movement of extension workers using roads and rails.
- Adequate capital provided by the government for purchasing modern equipments developing infrastructure.
- Good management by using team spirit using brigades.
- High level of research helping in improving breeds, controlling pests and diseases.
- Political stability by the communist government helping in diverting resources to economic activities and infrastructural development.
- Good international relationship helping in marketing, getting loans.
- Presence of entrepreneurs providing capital and managerial skills.
- Positive government policy of creating marketing opportunities to the high population and improve standards of living.

AGRICULTURAL MODERNISATION

Agricultural modernization is the use of scientific and modern methods of farming helping to improve the quality and quantity of agricultural products through land extension and intensification of agriculture land this aimed at improving the quality. In low developed countries they're common with subsistence methods of farming e.g. shifting cultivation, bush fallowing, small scale farming, modern methods of farming like irrigation, horticulture, ranching, dairy farming are limited and this is because of physical and human problems.

Problems hindering agricultural modernization

- Presence of rugged and steep slopes in highlands and markets are limiting the use of mechanisation and leading to small scale farming e.g. Kenya Ethiopian highlands.
- Limited capital to purchase modern equipment to carryout research to build processing factories e.g. shifting cultivation in Zambia, DRC, Brazil, Nomadic pastoralists in Masai, Karamoja.
- Poor government policies like not giving loans to farmers leading to low production and putting high taxes increasing on production expenses.
- Presence of pests and diseases destroying crops like cotton stain, banana weevil, coffee wilt and animal diseases like Nagana, East coast fever, Anthrax e.g. among the Masai or Turkana.
- Drought leading to low rainfall causing shortage of water for animals, for growing crops leading to low production like in the Sahel region, Kalahari, Karamoja, Masai land.
- Limited research leading to poor breeds, affecting processing and marketing.
- Limited skilled labour like agriculture, veterinary officers to advise the farmers in rural areas and bio chemists to process agricultural products.
- Limited international market because of low incomes causing low production like for dairy farms, horticulture.
- Competition with other countries on the world market like coffee from Brazil, livestock products from Argentina, Denmark and because of other substitutes which leads to low prices.
- Poor transport and communication affecting marketing the movement of workers e.g. in the Congo basin, Amazon basin, Sahel region, Southern Tanzania.
- Political instability and insecurity leading to destruction of crops, livestock, making people refugees and diversion of resources to defense like DRC, Somalia, Southern Sudan, Northern Uganda, LRA.
- Poor science and technology leading to limited skilled labour affecting processing of agricultural products and discouraging the use of modern methods of farming.
- Limited land for agriculture in densely populated areas causing conflicts and tensions, causing over cultivation and soil exhaustion, land fragmentation, Kenya highlands, China, India, Jos plateau in Nigeria.
- Poor entrepreneurship skills by peasant farmers leading to poor management, poor services and low production, poor planning.
- Presence of other resources diverging in Gabon, fishing in S.A.

- Presence of backward cultures and ignorance causing low production and environment degradation because of conservation like shifting cultivation in Zambia, Nomadic pastoralists in Fulani region and peasants in rural areas.
- Poor breeds of crops and livestock which are easily attacked by pests, diseases and drought leading to poor products and low production. E.g. shifting cultivators in DRC, animals kept by nomadic pastoralists.
- Presence of infertile soils like sandy soil in Sahara desert which are porous and permeable discouraging the growing of crops and pasture.
- Poor drainage near water bodies which are flooded, water logged, increasing the costs for exploitation are affecting transport and encouraging multiplication of pests and diseases e.g. Sudd region in Sudan.
- Poor land tenure system like communal ownership leading to poor land, mismanagement and encouraging communal grazing leading to easy spread of diseases e.g. shifting cultivation in Brazil.
- Occurrence of natural calamities and natural hazards leading to destruction of people, crops and livestock e.g. floods in Mozambique, locusts in Sahara desert, landslides and mass wasting like on Mt. Elgon.
- Poor storage facilities causing wastage and poor quality products due to lack of co-operatives like in Uganda affecting the cotton, coffee, maize and beans growing.
- Profit repatriation by foreign investors causing capital outflow and lowering the National income e.g. rubber growing in Liberia by foreigners, sugarcane and tea growing in Uganda.
- Price fluctuations on the world market and discouraging farmers and investors because agricultural products are perishable and they are not easily stored.
- Poor economic integration affecting marketing joint investments leading to low bargaining power and causing competition e.g. E. African community, COMESA, ECOWAS, PTA, LGAD.

Solutions, measures, steps, policies of Agricultural modernization

- Using irrigation farming in dry areas e.g. Karamoja, Sahara, Kalahari, Egypt.
- Improvement in transport and communication like rural feeder roads, railway lines, modern ports, water ways, helping in marketing and movement of workers e.g. S.A, Kenya, Nigeria.
- Using modern and scientific methods of farming leading to increased production like ranching in Botswana, dairy farming in Kenyan highlands, plantational farming like rubber in Liberia.
- Economic diversification through exploitation of other resources like lumbering,

mining, fishing, tourism reducing on the dependence value e.g S.A.

- Political stability and security through good governance, regional cooperation, strengthening defense leading to a favourable investment climate like S.A, Kenya.
- Acquisition of loans from financial institutions and development agencies like African development bank, world bank for investment in agriculture like soft loans.
- Mass education and mobilisation using informal and formal education about environmental protection and agricultural modernization e.g. UPE, USE, radios, TVs, newspapers.
- Change of land tenure system like land consolidation for extensive agriculture, private land ownership and giving land to landless people.
- Land reclamation like draining flooded areas, irrigation in dry areas, spraying for pests and diseases.
- Positive and supportive government policies like availing land giving loans, extension workers, improving infrastructure, marketing, processing.
- Improving storage facilities by using co-operatives reducing on wastage and leading to good quality like giving granaries, national silos (stores).
- Development of agro-based industries like dairy plants, cotton ginneries, coffee processing helping in adding value transport, marketing, application of organic and inorganic fertilizers helping in improving soil quality.
- Control of pests and diseases by spraying using insecticides, vaccination, drugs, chemicals and controlling weeds by spraying.
- Using soil conservation measures like terracing, crop rotation, strip cropping, contour ploughing, intercropping.
- Promotion of research on control of pests and diseases, on improved breeds, processing and marketing.
- Population control using modern methods of family planning like using pills for females, condoms for males, population policy like in China, Nigeria, Kenya.
- Agricultural diversification by introducing new crop breeds, animal breeds e.g. exotic animals imported from Germany, Netherlands.
- Privatization and economic liberalization leading to capital accumulation, good management, better services, increased production.
- Market extension by exporting to developed countries like USA, Britain, with good marketing and advertisement strategies like using the internet.
- Good international relations and regional co-operations helping in marketing like E. African community, COMESA.
- Agricultural mechanization by using tractors, combine harvesters leading to

increased production.

- Training skilled labour by encouraging sciences like Bio-chemists, agricultural engineers.
- Environmental protection by gazetting areas, waste management and proper land utilization.

Revision questions (Sample questions)

1. To what extent have physical conditions affected agricultural modernization in Africa?
2. Write an explanatory account of the distribution and main features of agricultural activities in West Africa.
3. Assess the extent to which irrigation has benefited either Sudan or California.
4. Examine the role of their communes in China or specialization in the USA in the modernisation of agriculture.
5. To what extent are problems faced by the livestock farmers in Africa of their own making.
6. With reference to specific examples from either an MDC or an LDC examine the advantages and disadvantages of monoculture.
7. "The problems faced by nomadic pastoralists are mainly physical" Discuss.
8. a. Describe the main features of co-operative farming.
b. Assess the role played by co-operative farming to the development of either Denmark or Tanzania.

FORESTRY IN THE WORLD

Forestry is the scientific management of forests involving exploitation conservation. A forest is a conservation of trees of vegetation like natural forests growing according to physical conditions and artificial forests planted by man.

TYPES OF FORESTS IN THE WORLD.

EQUATORIAL TROPICAL RAIN FORESTS

These are found in the tropics, equatorial regions like in the Congo Basin, Amazon basin. Caribbean islands, pacific islands in countries like DRC, Gabon, Argentina.

Characteristics

- they have buttress roots to support the heavy and tall trees.
- Arranged in layers known as canopies like the top, middle and lower layer.
- They have broad or big leaves to help in transpiration.
- They are ever green because the areas receive rainfall throughout the year. No

shading leaves.

- They have tall trees growing to a height of 30-50 metres because of fertile soils, wet climate in growing in attempt to get sunlight.
- They are dense thick and concentrated, luxuriant because of fertile soils and wet climate.
- The species are mixed up (not in pure stand) because they grow according to natural conditions.
- They have small plants like mosses and algae which grow on stems, branches because of wet conditions.
- They have hard wood species, mvule, mahogany, ebony, musizi, rose wood, iron wood.
- They have a long gestation period of 30-50 years because they are hard wood species.
- They have limited or no under growth because of dense canopies.
- They have climbing plants like lianas, cucumber, epiphytes.
- The trees have no wax but they have gum, glue and rubber.
- They have very many species making them good for tourism and for environment protection.
- They grow according to physical and natural conditions like wet climate, fertile soils, relief like low lands, highlands and Mt. slopes.
- They have smooth barks (stems and branches).

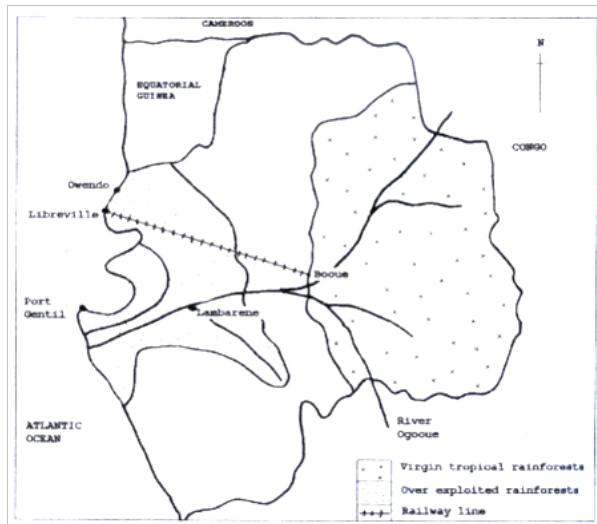
Problems faced in exploitation and conservation of Equatorial or Tropical rain forests.

They have physical and human problems affecting exploitation and conservation.

- Presence of wild animals like lions, snakes, hyenas, scaring labour supply.
- Wet climatic conditions like heavy rainfall affecting labour productivity, making transport routes like roads slippery and muddy.
- Presence of pests and diseases affecting labour supply like mosquitoes, tsetse flies, snails, causing diseases like malaria, sleeping sickness and Nagana.
- Occurrence of accidents during lumbering leading to the destruction of people and property because of water bodies, steep slopes.
- Poor transport and communication because the areas are remote and backward affecting the movement of labour and marketing.
- Poor science and technology leading to use of poor tools like pangas, axes, causing low production.
- Political instabilities like rebel activities in the DRC scaring labour supply.

- Limited capital to purchase modern equipment to develop infrastructure, processing factories because of low income in LDCs.
- Presence of heavy and bulky logs which are expensive to exploit and transport.
- Poor government policies like high taxes, not giving loans and gazetting forested areas for environmental conservation.
- Fire outbreak caused by human activities and natural conditions leading to destruction of forests like by shifting cultivators, hunters, smokers.
- Limited market because of low incomes and low population leading to low production.
- Competition with other countries on the world market e.g. Canada, Norway, Sweden and because of having other substitutes.
- Price fluctuations on the world market affecting planning because of depending on forces of demand and supply.
- Population increase causing forest enlargement like for settlement and for agriculture.
- Illegal lumbering causing over exploitation and exhaustion of forest species.
- Presence of buttress roots affecting lumbering and transport.
- Long gestation because they are hardwood species affecting afforestation and re-afforestation programmes.
- Profit repatriation by foreign investors causing capital outflow and lowering the national income.
- Limited power supply like expensive oil is used in lumbering and processing.
- Ignorance and backwardness like the pygmies in the DRC scaring investors, workers and the shifting cultivators burning the forests.
- Presence of poor hardwood species, not good for commercial exploitation and they have low demand on the world market.
- Presence of other resources like minerals, water bodies for fishing, fertile soils for agriculture leading to diversion of labour and capital.
- Presence of mixed species making the forest dense, concentrated making it a jungle increasing on the costs for exploitation.
- Presence of physical obstacles like relief features, water bodies, land forms making areas remote and backward.

FORESTRY IN GABON



Factors for the development of forestry in Gabon.

There are physical and human factors accounting for the growth of forestry industry in Gabon i.e favouring exploitation and conservation.

- Wet climatic conditions like high rainfall around 1500mm, humidity of 70%, temperature around 23°C because it is found in equatorial region leading to growth of natural forests.
- Presence of fertile soils like loam soils and alluvia soils in lowlands and valleys, well drained deep volcanic soils found in highlands, hills and plateaus i.e. Mt. Ibodgi the lowland and the valleys of R. Ogoume.
- Presence of relief like lowlands, hills and plateaus, highlands helping in transport and mechanization like coast of Atlantic ocean, around Belinga, Makoku.
- Presence of water bodies or drainage features providing water for the growth of forests leading to high rainfall providing fertile soils and helping in cheap transport. R. Ogoume, R. Livindo, Atlantic ocean.
- Availability of commercial tree species like Okoume softwood and hardwood species like Iron wood, Rose wood, Ebony, Ozigo, Ozobe, Mvule this helps in marketing and it leads to increased production.
- Availability of extensive land leading to large forestry for commercial purposes because the area has sparse population and it has limited economic activities because it has pests and diseases, it is poorly drained.
- It has pests and diseases, it is poorly drained.
- Gabon has limited resources like minerals, limited water bodies for fishing and this has discouraged other activities leading to specialization in the forestry industry.
- Strategic location of Gabon near Atlantic ocean has led to the development of its

own ports like port Gentile, port libraville, port quando and using cheap water transport through Atlantic ocean like exporting forest products to UK, Britain, Japan, Germany because it is near the coast.

- Gabon has limited pests and diseases to destroy the forests like ants, termites, caterpillars, amphids and this encouraged the growth of forest and promotion of afforestation, re-afforestation in areas where natural forests have become exhausted like on the coast of Atlantic ocean.
- It has limited physical obstacles like relief features, landforms, water bodies and this makes exploitation of forests easy and cheap e.g. hills, plateaus.
- Presence of power supply like using oil in lumbering, HEP in processing factories leading to increased production for commercial purposes.
- Presence of wide market both internal and external because of high population in towns like port quando, areas of Makoku, Lambane and foreign market by exporting to Germany, Japan and UK.
- Improved transport and communication like using R. Oguome, R. Livindo, constructing roads, railway lines, connecting the forested areas to industries and markets,, ports for export to UK, Japan, Germany..
- Presence of large capital or adequate capital used in availing extension, purchasing equipment, building factories, paying labour like engineers, technicians, mechanics, forest and environmental officers helping in exploitation and conservation.
- Positive and supportive government policies like providing loans to farmers, constructing industries , gazetting forested areas, carrying out afforestation and re-afforestation programmes and attracting investors.
- Presence of good international relations and regional relations like Britain, Germany, Japan helping in getting loans, marketing neighbouring countries like Togo, Cameroon helping in providing labour.
- Political stability and security helping in attracting investors and diverting resources to economic activities, infrastructure and social services.
- Presence of research stations like at port Gentile leading to development of nursery beds helping in afforestation and re-afforestation programs and it also helped in controlling pests and marketing, processing.
- Presence of labour supply both the skilled and unskilled because of increased population in towns using migrants from neighbouring countries and professionals from developed countries helping in lumbering and working in processing factories.

Importance / effects of forests in Gabon

- Source of materials for making local herbs, medicine, drugs and chemicals for treating people and livestock.
- Source of building materials like timber, plywood, cardboards, wood pulp, cellulose and these materials are used for furniture.
- Provision of employment opportunities like in lumbering, carpentry, furniture workshops leading to increased standards of living.
- Development of tourism industries due to the presence of wild life (flora and fauna) because the sports and games done in forests, hunting, falling, camping sites because of industries, increased income and for picnics.
- Improvement in transport and communication like the construction of roads, railway lines, development of water ways, ports like gentile.
- Economic diversification by influencing other activities like transport, trade, tourism, industrialization reducing on the dependency value.
- Promotion of international relations and regional co-operations by exporting forestry products to Japan, Britain leading to international trade.
- Source of foreign exchange by exporting forest products like timber, plywood, wood pulp.
- Source of government revenue by taxing people, companies, industries leading to capital accumulation and improvement in international income.
- Climate modification leading to high rainfall in the surrounding areas through evaporation evapotranspiration leading to development of agriculture.
- Environmental protection by providing habitats for plant species and animal species and soil formation and conservation because the humus and control of soil erosion, landslide and mass wasting.
- Promotion of education and research by visiting forests with flora and fauna visiting processing factories, furniture and carpentry workshops and furniture for getting skills and technology.
- Growth of urban centres like towns and ports around industrial areas, marketing centres because of increased population helping in promoting trade and improving social services.
- Protection of water catchment areas like sources of rivers e.g. R. Ogouwe, Livindo because of increased rainfall.
- Control of pollution and global warming by providing oxygen using companies providing dumping sites helping in protecting ozone layer.
- Settlement of backward communities depending on hunting and food gathering like forested areas in the interiors of Gabon like the pygmies.
- Alternative land use because of limited resources like minerals and protecting

forests for future population expansion and increase in human activities.

Negative effects

- They hinder the development of transport and communication routes. The roads and railway lines are difficult to construct in the thick impenetrable forests in the interior.
- The forests harbour dangerous pests and diseases which affect people living near them as well as their animals and plants. Mosquitoes causing malaria and tsetse flies causing sleeping sickness in humans and nagana in livestock are common diseases in forested regions of Gabon.
- Forests harbour wild animals which attack man and destroy his crops when they go beyond the forest boundaries e.g. elephants, buffalos, chimpanzees, hippopotamuses, crocodiles and large snakes.
- In Gabon, logging is mainly carried out by large foreign firms which repatriate their profits to their mother countries such as France and Portugal.
- Timber processing industry leads to the pollution of the environment through the emission of dust, smoke and other toxic gases to the atmosphere e.g. the large plywood factory and a cellulose factory based on forest resources found at port Gentil.
- Forest exploitation is difficult and risky as it is associated with loss of lives during felling.
- Forest exploitation and the processing of forest products has led to the growth of urban centres and their associated problems such as unemployment, high crime rates and slum development e.g. port Gentil, port Owendo and Liberaville.
- Environmental degradation especially where forests have been depleted like the coastal areas.
- Tropical rain forests are seen as an obstacle in the expansion of agricultural land.
- Some forests have few valuable trees species and therefore the low commercial value and uneconomical to exploit.
- Logs are often floated down river Ogoove to the processing centre at the coast. This interferes with fishing as well as fish breeding.
- The forested landscape hinders the exploitation of mineral deposits.

CONIFEROUS FORESTS / TEMPERATE TAIGA BOREAL

These are found in higher latitudes like 10° North or South of the equator like in the temperate region, polar region. Tundra like in areas affected by winter and snow e.g. Scandinavian, like Norway, Finland, Sweden and other countries like Canada, Russia, S.A, Algeria, Tunisia.

Characteristics

- They are found far from the equator ie. Sweden, Canada, Finland.
- They are short and small with a height of 10-15m because of infertile soils.
- They are conical shaped reducing on destruction during winter season, ever green no shading leaves because of wet conditions like snow and winter.
- They are less concentrated because of infertile soils like in highlands and mountains.
- They are in pure stands different species are separated.
- They have soft wood species like western Hemlock, Balsamtur, Fur, Cedar.
- They have short gestation period like 1015 years because they are softwood.
- They have few and limited species.
- They have needle shaped leaves to reduce on water loss by transpiration e.g. pine.
- Their fruits and stems have hard and rough surface to reduce on destruction by wet conditions.
- They don't have buttress roots because they are short and light hence no need of support.
- Mostly used for building and construction like getting timber, wood pulp, card boards.
- Mostly found near rivers and at the coast and they decline as you move northwards because of cold deserts.
- Mostly found in developed countries like Canada, Scandinavian countries, Mediterranean countries.
- They grow naturally according to physical conditions like low temperatures, rugged and steep slopes, infertile soils.

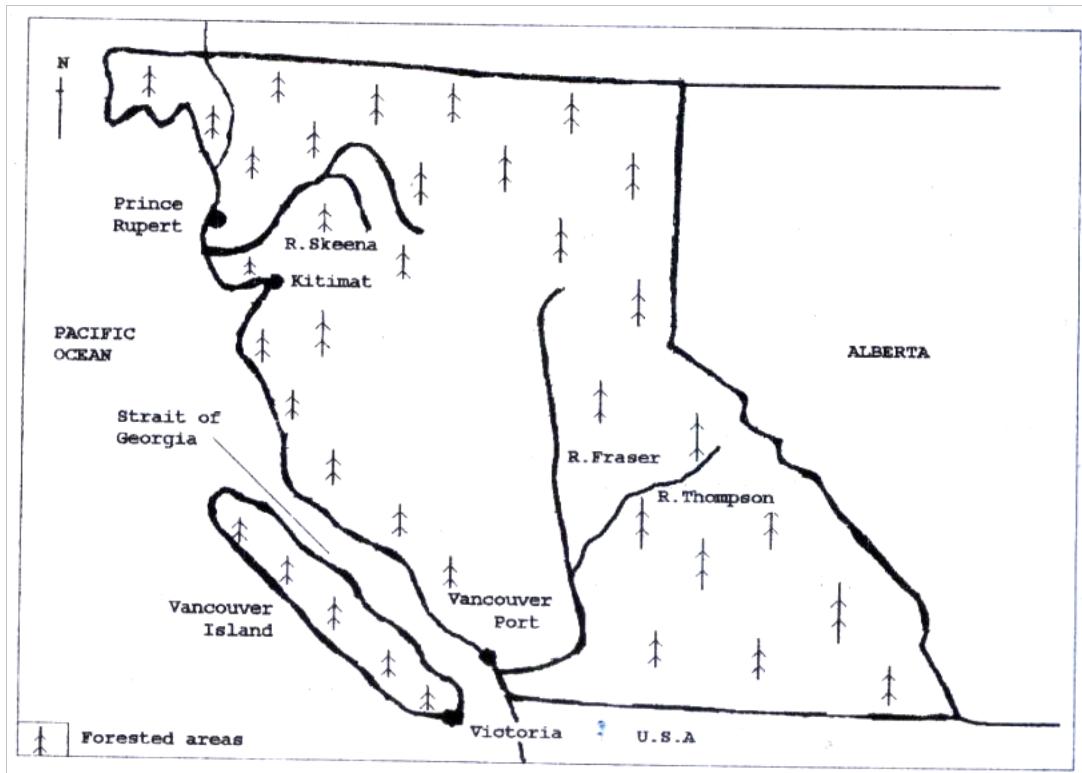
Qn: Differentiate between tropical coniferous forests.

FORESTRY IN CANADA /BRITISH COLUMBIA IN NORTH AMERICA

Canada is a developed country found in North America and it is important for coniferous and temperate forests especially in the province of British Columbia and the forested areas are found around Atlantic, Pacific ocean near R. Frazer, R. Skeena, R. Yukon. In mountainous areas and in the dry areas near Alaska. It is important for soft wood species growing naturally like pine, cypress, spruce, scots, Basalam, Douglas fir, western Hemlock, cedar, pudocapus. It has processing factories and marketing centres like at Vancouver, Churchill, prince Rupet, Fort George, Fort John, Fort Nelson and they

produce forest products like timber, plywood, wood pulp, cardboards, cellulose, printing materials for internal and foreign market.

A SKETCH MAP OF BRITISH COLUMBIA, CANADA SHOWING FORESTED AREAS



Factors for the development of ind. Of forests in Canada.

They are physical and human factors facilitating exploitation, conservation and growth

- Presence of extensive land for large scale forestry because of sparse population in mountainous areas near water bodies and because of harsh temperate climate.
- Presence of infertile soils found in highlands and mountains because of glacial erosion discouraging arable farming.
- Presence of wet temperate climate affected by winter and snow with high precipitation discouraging agriculture and promoting forestry industries.
- Presence of water bodies or drainage features providing water to the forests and providing transportation of logs through floatation e.g. R. Skeena, Frazer, Yukon, Pacific ocean.
- Strategic location near the coast of pacific ocean leading to development of ports like Vancouver, Churchill, prince Rupert and using cheap water transport to USA, Japan and Britain.
- Presence of variety of commercial species of soft wood like cedar, spruce,

balsam fir, western hemlock, pine, cypress leading to increased demand on the world market and leading to high production.

- Canada has limited resources like minerals for mining, fertile soils for agriculture, it has harsh temperate climate discouraging other activities and promotion of forestry.
- Nature of the forests like soft wood species which are good for afforestation, re-afforestation programs.
- They are less dense, the species are separated leading to easy exploitation.
- Presence of power supply like oil for lumbering with machines and using H.E.P and coal in processing factories leading to high production.
- Improved science and technology leading to availability of skilled labour helping in exploitation and conservation.
- Presence of industries related to forestry i.e. processing factories, publishing paper industries, printing industry, and saw mills, art and craft, carpentry and furniture.
- Availability of labour supply because of increased population in towns like Vancouver, Churchill and using immigrants in less developed countries.
- Improved transport and communication like the construction of roads, railway lines, modern ports, water ways connecting forested areas to markets and industries like using R. Frazer, R. Yukon.
- Presence of wide market because of increased population in towns like Vancouver, Churchill and foreign market by exporting to USA, Japan and Britain.
- Presence of positive and supportive government policies like giving loans, carrying out afforestation programs, construction of industries.
- Presence of research stations helping in afforestation and re-afforestation programs for sustainable development, helping in marketing, processing.
- Good international relations and regional co-operation with USA, Japan and Britain helping in marketing. It also helps in transport.
- Presence of capital provided by the government and private investors used in construction of industries, paying labour, buying machines.
- Political stability and security helping in attracting investors, diverting resources to economic activities, infrastructure, social services.
- Big companies and entrepreneurs for large scale forestry because of good management, heavy capital investment producing forestry products for internal and external market.

Problems facing forestry in Canada (MDCs) temperate forests

- Competition with other countries on the world market e.g. Norway, Finland, Sweden and because of having other substitutes.
- Fire outbreak causing destruction like the Natural fires and accidental fires by the tourists pollution by dumping wastes and sewage from industries, urban areas causing destruction of forests.
- Accidents during lumbering and in processing factories destroying people and property.
- High transport costs like forests in the interior, in mountainous areas which are rugged and steep, log jam in water bodies, over exploitation causing forest exhaustion because of using capital intensive technology.
- Poor species of less commercial importances like the small and scattered trees in the Northern parts near the cold deserts.
- Limited and skilled labour because of increased standards of living leading to increased costs of using immigration.
- Presence of wild animals i.e. seals and bears scaring labour and investors.
- Limited power supply due to exhaustion of coal and limited other potentials of oil and HEP.
- Population increase causing encroachment and over exploitation.
- Poor government policies like gazetting forests for environmental conservation and investing in other activities.
- Presence of other resources diverting labour and capital like Canada to fishing and tourism.
- Temperate climate with winter and snow affecting transport and labour supply and transport.
- Presence of physical obstacles like water bodies, highlands and mountains hindering exploitation and conservation.

Importance / effects

Positive

- Source of foreign exchange by exporting forest products like timber, plywood, wood pulp helping in importation and investment to USA.
- Development of industries related to forestry e.g. printing and publishing of paper industry, art and craft, saw mill for lumbering, carpentry and furniture at Vancouver.
- Improvement in transport and communication like construction of roads, railway lines, modern ports, water ways e.g. at Vancouver, Churchill, Prince Rupert.
- Environmental protection by providing habitats for plants and animals through

soil formation and conservation like seals and bears.

- It has helped in climate modification leading to increased rainfall through the process of evaporation and eva-transpiration.
- Promotion of international relations and regional co-operations by exporting foreign products to USA, Japan and Britain leading to development of international trade.
- Promotion of education and research by visiting forested areas, industries leading to acquisition of skills and improvement in science and technology like Vancouver, Prince Rupert, Fort John and Nelson.
- Growth of towns and ports into urban centres because of increased population and the development of industries leading to development of trade and improvement in social services.
- Development of tourism industries by visiting forests for sports and games like hunting, filming, photography, for picnics, visiting the industries, camping sites like Vancouver and because of increased incomes.
- Control of pollution by providing oxygen using carbondioxide, providing dumping sites helping in protecting the ozone layer, climate change and global warming.
- Source of building materials and materials for making furniture e.g. timber, plywood, wood pulp, cardboards.
- Source of government revenue by taxing people and companies helping in capital accumulation and leading to improvement in National income.
- Provision of employment opportunities like lumbering activities in carpentry and furniture workshops leading to increased standards of living.
- Canada has limited resources and it is not good for other economic activities making forestry an alternative land use pattern and helping in exploiting resources for economic growth and development.

Negative

- Displacement of people and activities by occupying big areas like the coast of pacific ocean.
- Urban problems because of increased population around industrial areas and marketing centres like Vancouver, Rupert, Kitmat.
- Pollution of air, water and land because of waste and sewage from industries around saw mills during lumbering affecting plants and animals.
- Over exploitation because of using capital intensive technology, lumbering using machines causing forests exhaustion around coastal towns.
- Promotion of accidents during lumbering leading to destruction of people and property.

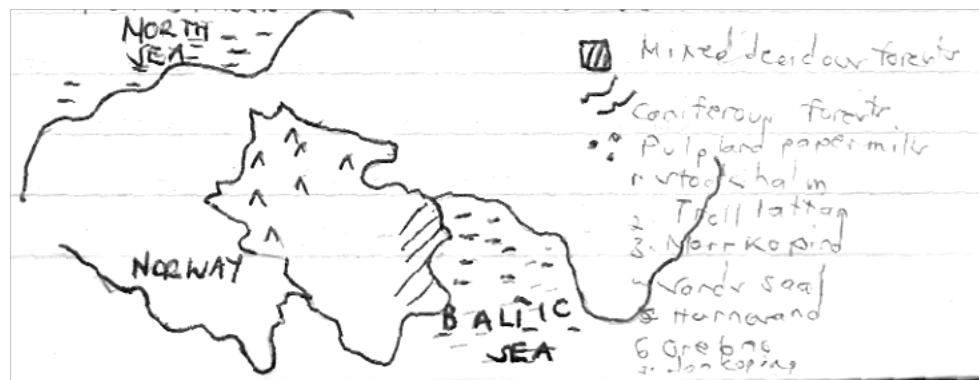
- Hiding places for wild animals which are dangerous to people like the seals and the bears.
- Economic dependence because of specialization and regional imbalance like Vancouver, Prince Rupert, Churchill.
- Hindrance in transport and communication like the construction of roads, railway lines in forested areas. It is difficult and expensive.
- Diversion of labour and capital into the forestry sector affecting other economic activities.
- Marketing problems because of price fluctuations, competition having other substitutes and this affects planning.

FORESTRY IN SCANDINAVIAN COUNTRIES IN EUROPE

These countries are found in Northern Europe in the temperate, polar, tundra region and affected by winter snow with extreme cold conditions e.g. Sweden, Norway, Finland and they are import for temperate or coniferous forest with soft wood species e.g. Balsam fir, western hemlock, cedar, pine, scots, Cyprus, spruce.

Sweden is important for forestry in the Scandinavian region it has forested areas around the North sea in the mountainous areas, Baltic sea near Rivers like R. Dat.

A SKETCH MAP OF SWEDEN SHOWING FORESTED AREAS.



Factors for forestry in Sweden

Positive:

- Availability of extensive land because of sparse population because it is mountainous, it has many water bodies, it is affected by winter and snow discouraging settlement leading to growth of large scale forests.
- Presence of highlands and mountains which are rugged and steep discouraging agriculture and promoting forestry.
- Presence of temperate climate with cold conditions affected by winter and snow leading to wet conditions, high precipitation encouraging the growth of soft wood species.
- Presence of water bodies like the North sea, Baltic sea, R. Pat provide in water, fertile soils and used for the transportation of logs through floatation.
- Presence of infertile soils like in highlands and mountains because of glacier erosion discouraging arable farming and promoting forestry.
- Sweden has limited resources like minerals, it has infertile soils, it is mountainous, it is affected by winter and snow discouraging other economic activities and promoting forestry.
- Sweden has limited pests and diseases because of cool climate leading to growth of forests without interference and reducing on the cost for forest conservation.
- Presence of variety commercial species like soft wood growing naturally e.g. cedar, spruce, pine leading to increased production and help in marketing.
- Strategic location for Sweden surrounded by rich European countries which provide market like Germany, Denmark and it is near the coast of North sea it has rivers Dal leading to use of cheap water transport.
- Nature of the forests in Sweden like softwood species with quick maturity, being in pure stands, having no buttress roots, no climbing plants, lens dense helping in exploitation and conservation.
- Presence of wide market both internal and external like in towns like Stockham and exporting to other countries like Germany, Sunds Val
- Availability of labour supply both skilled and unskilled helping in lumbering and working in processing factories.
- Adequate capital provided by the government and private investors for investment in the forestry industry, construction of industries and transport routes.
- Improved transport and communication like construction of roads, railway lines, modern ports using water transport connecting forested areas to markets and industries.

- Presence of positive and supportive government policies like giving loans to people, constructing industries, gazetting forested areas, putting strict laws and regulations.
- Political stability and security leading to a favourable investment climate and diverting resources to economic growth and development.
- Improved science and technology leading to availability of skilled labour like engineers, mechanics helping in exploitation and conservation.
- Presence of industries related to forestry i.e. art and craft industry, saw mills for lumbering, carpentry and furniture workshops, printing and publishing.
- Availability of power supply like using coal, oil, natural gas, HEP in lumbering and processing factories.
- Presence of research stations helping in afforestation and re-afforestation programs, helping marketing and processing.
- Presence of large companies and entrepreneurs providing capital and managerial skills for large scale forestry.
- Good international relations and regional co-operation helping in marketing, transport, getting labour supply like in Germany, Britain.

Importance of forests in Sweden / Effects

Positive:

- Source of government revenue by taxing people and companies leading to capital accumulation and improving the national income.
- It leads to economic diversification by influencing other activities like transport, trade, industry, tourism, fishing reducing on the dependency value.
- Climate modification through evaporation and evapotranspiration leading to high/heavy rainfall in the surrounding areas.
- Control of pollution by providing oxygen using carbondioxide protecting the ozone layer and reducing on the effects of global warming and climate change.
- Promotion of education and research by visiting forests for wildlife, industries helping in acquiring skills and improving technology.
- Development of urban centres i.e. towns and ports because of increased population, industrial activities like Stockham, Sundoval helping in promoting trade and improving social services.
- Source of foreign exchange by exporting forest products like timber, pulp, cardboards, wood pulp to countries like Germany, Britain.
- Provision of employment opportunities like in lumbering activities, in carpentry and furniture workshops leading to increased standards of living.

- Development of tourism because of sports and games, presence of wild life, visiting the industries because of increased incomes.
- Improvement in transport and communication like the construction of roads, railway lines, modern ports benefiting the surrounding communities.
- Environmental protection by providing habitats for plant species and animal species e.g. softwood species, bears, seals and helping in soil formation and conservation by providing humus, by controlling soil erosion.
- Development of industries like the art and craft industry, saw mills for lumbering, carpentry and furniture workshops, printing and publishing.
- Building materials like timber which is used in building houses
- Materials for local herbs.

Negative effects

- Hiding wild animals like the seals, bears which are dangerous to people and livestock especially during winter season.
- Displacement of people and activities by occupying big areas like near the North sea, R. Dal.
- Pollution of air, water and land around the saw mills for lumbering, processing factories, carpentry and furniture workshops leading to waste and sewage which affects plants and animals.
- Hindrance of transport and communication by making the construction of transport routs difficult and expensive making areas remote and backward.
- Regional imbalance causing economic problems like stockham, sundsvaal, Lulea.
- Diversion of labour and capital into the forestry sector affecting other economic activities.
- Economic dependency because of specialization causing market problems, price fluctuations, competition.
- It leads to urban problems because of increased population like at Storkham, Sundsvaal
- Soil exhaustion because of monoculture and specialization

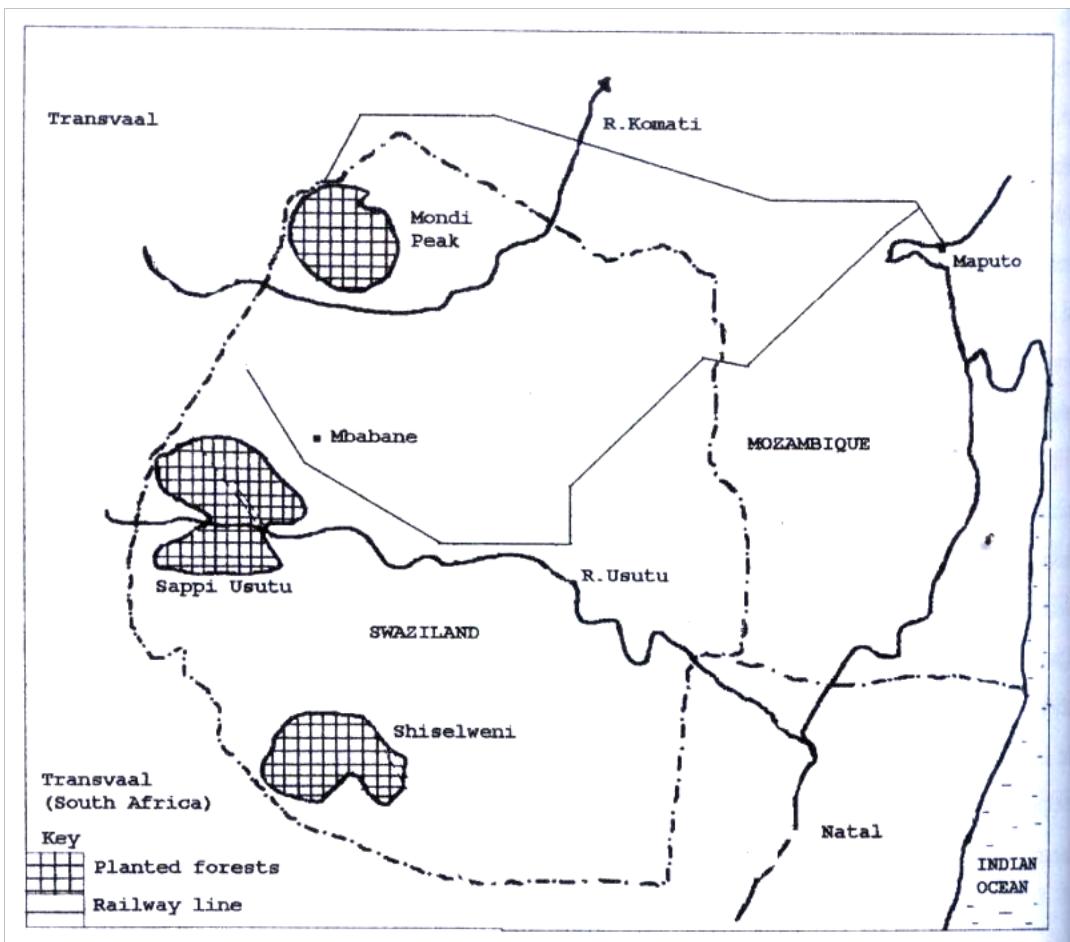
FORESTRY IN SWAZILAND

(Artificial / planted forests)

Swaziland is a less developed country found in the southern region of Africa and it is important for artificial or planted forests with forested areas around Piggs plateau, great Usutu, Nahlangano. Artificial forests were planted after the exhaustion of original natural forests. It has soft wood species like Douglas fir, Western hemlock, spruce,

cypress, pine, cedar, scorts, Basalam, eucalyptus. The processing factories at Mbabane for making forest products like timber, plywood, wood pulp, cellulose, cardboards for internal and foreign market.

A SKETCH MAP FOR SWAZILAND SHOWING FORESTED AREAS.



Problems faced by forestry sector

- Landlocked
- Rugged steep slopes
- Soil erosion, landslides
- Over dependency
- Displacement
- Fire outbreak
- Pests and diseases
- Forest exhaustion
- Competition for market

- Price fluctuations
- Limited capital

Factors for forestry in Swaziland

There are physical and human factors;

- Availability of land because of sparse population like in highlands, lowlands, near water bodies like Piggs plateau, Nnalangano, great Usutu.
- Presence of processing factories like saw mills for timber, industries making plywood, printing and publishing, cellulose, art and craft.
- Large capital provided by the government private investors for financial forest conservation and exploitation like afforestation, reforestation and lumbering.
- Positive and supportive government policies like afforestation, reforestation programmes, providing loans, developing infrastructure, putting strict laws and regulations.
- Presence of relief features like highlands, lowlands and valleys which are not good for arable farming leading to development of forestry industry like great Usutu, Piggs plateau.
- Improved transport and communication like the construction of roads, railway lines using rivers, connecting forested areas to markets and industries in Mbabane, S.A.
- Presence of labour supply both skilled and unskilled because of increased population in towns like Mbabane and using immigrants from neighbouring countries like Zimbabwe, Botswana.
- Nature of the forests like planted and artificial which are planned with softwood species being in pure stand, having short gestation making exploitation and conservation easy.
- Presence of variety of commercial species like softwood e.g. spruce, Basalm, leading to increased production and helping in marketing.
- Water supply due to the presence of water bodies leading to wet conditions, alluvial soils, helping in transport like great Usutu (river) and Nnalangano.
- Limited resources like minerals, fertile soils for agriculture, dry climatic conditions, discouraging arable farming.
- Political stability and security leading to a favourable investment, climatic and diverting resources to economic growth and development by king Muswati.
- Improved science and technology leading to availability of skilled labour like engineers, technicians, mechanics, forest and environmental officers, helping in

conservation and exploitation.

- Presence of large companies and entrepreneurs providing capital and managerial skills for large scale forestry commercial purposes.
- Wet climatic conditions for the growth of forests like planted and artificial forests with soft wood species which can also survive in dry conditions.
- Presence of fertile alluvial soils in lowlands and valleys with poor drainage like Usutu, Nhalangano and infertile soils in the Piggs plateau not good for agriculture.
- Presence of power supply like using HEP, using oil, helping in exploitation and processing on a large scale for commercial purposes satisfying internal and external market.
- Presence of good international relations and regional cooperations helping in marketing loans getting immigrant labour like in S.A, Zimbabwe, USA, Japan, Britain.
- Presence of research stations leading to better breeds for afforestation and reafforestation programmes helping in processing, marketing.
- Limited pests and diseases to destroy the forests like ants, termites and caterpillars, amphicks, encouraging the planting of artificial forests.
- Nature of the population being hardworking, innovative, enterprising helping in exploitation, resources, developing economic activities, improving infrastructure, social services leading to economic growth and development.

Importance / effects of forestry in Swaziland

- Timber and timber products nearly all of the local timber production leaves the country as logs, pulp or rough cut plants and are exported to Japan, Taiwan, South Africa, United Kingdom. This earns the country foreign exchange. Timber products form about 14% of Swaziland's exports.
- The forests are a source of raw materials for industries e.g. sawmill, pulp mills and the furniture industries Tannin extraction plants were established at Nhalangano by Swazi wattle industry in partnership or joint venture with Swazi and south African investors. The raw material for the two tannin plants is supplied by the regional Swazi nation land wattle growers co-operative societies in Shiselweni and Manzini.
- Generation of employment opportunities for thousands of Swazi people working in the forestry industry. The forestry industry sector including the secondary processing sector, provides employment to approximately 8000 people, which is 8% of total formal employment in Swaziland.
- They protect the water catchment areas for rainfall and water in rivers for irrigation agriculture in the lower areas. The growing of sugarcanes under

irrigation in the low lands depends on such water.

- Conservation of soils especially from the hilly areas from erosion.
- The forests are used for research or education purposes.
- They act as tourist attraction thus earning the country foreign exchange. Planted forests undoubtedly perform a great role in the economy of Swaziland. Planted forests are not of importance in Swaziland alone, but also in other African countries such as Nigeria, Gabon, Ethiopia, South Africa, Botswana and Lesotho.

FACTORS FOR FORESTRY IN SWAZILAND

- Large tracks of land.
- Favourable climate
- High altitude
- Massive deforestation
- Quick maturity species
- Adequate capital
- Cheap labour
- Government policies
- Improved transport
- Improved technology
- Ready market
- Forest reserve for research

Value of forests

- Water catchment areas
- Foreign exchange
- Raw material saw mills
- Employment opportunities
- Government revenue
- Environment
- Urban centres e.g. Nnalangano, Piggs plateau
- Improved transport
- Better landuse
- Wood fuel
- Building material
- Development of towns
- Crafts industry
- Medicinal herbs
- Research education

FOREST DESTRUCTION / ENVIRONMENTAL DESTRUCTION

There are physical and human factors causing deforestation or environmental degradation.

- Population increase causing deforestation for settlement and agriculture in densely populated areas e.g. Nigeria, China, India, Bangladesh.
- Excessive lumbering for timber and other building materials in densely populated areas.
- Development of industries destroying forests for raw materials and causing pollution which leads to destruction of vegetation e.g. China, Egypt, Sudan, Tokyo in Japan, USA.
- Construction of transport routes like roads, railway lines, expansion of ports leading to destruction of forests and wetlands e.g. Trans African Highway, Tanzam railway line, Kampala-Jinja highway.
- Fire outbreak caused by natural and human factors like by shifting cultivators, nomadic pastoralists, smokers like in the Conga and Amazon basin, Fulani in Chad, Mali and Senegal.
- Climatic change causing drought desertification and aridity leading to global warming and discouraging the growth of vegetation e.g. Sahara desert.
- Presence of pests and diseases destroying vegetation e.g. locusts, termites, ants, caterpillars like in Sahara desert, Karamoja and they discourage the planting of trees.
- Getting fuel like firewood and charcoal used for domestic and industrial purposes like rural areas in developing countries.
- Mining and quarrying using open cast method leading to the destruction of the landscape and vegetation e.g. South Africa, Zambia copper belt, great lakes conurbation, copper mining in Kasese.
- Use of poor methods of farming causing soil exhaustion and discouraging the growth of vegetation e.g. nomadic pastoralism like in the Fulani region, monoculture maize growing at Gezira, shifting cultivation in Zambia, Brazil.
- Weakness of the government in implementing laws and regulations leading to illegal activities e.g. forest encroachment, bush burning, illegal lumbering.
- Political instabilities and insecurity leading to use of ammunition destroying the landscape and vegetation causing bush burning e.g Somalia, S. Sudan.
- Ignorance and backwardness about environmental matters causing bush burning, illegal lumbering, forest encroachment like peasants in rural areas, shift cultivators.

- Presence of wild animals destroying vegetation like elephants and herbivorous animals which cause overgrazing.
- Occurrence of landslides and mass wasting leading to destruction of landscape and vegetation through rock fall, rock slide, rock slump common in areas of mountainous areas and highlands.
- Corruption in the forestry departments and environmental conservation cooperation causing illegal lumbering, forest encroachment, excessive lumbering.
- Presence of wind system which causes dry conditions like the North East trade winds in Karamoja and Turkana, Harmattan winds for Sahara desert.
- Occurrence of soil erosion in highlands, mountainous areas and desert areas causing soil exhaustion through gully, rill, sheet erosion.
- Presence of cold ocean currents leading to dry conditions in the surrounding areas e.g. Cool canary for Sahara, cool Benguel for Namibia.
- Presence of infertile soils discouraging the growth of vegetation like in Karamoja, Sahara.
- Drilling or construction of boreholes in dry areas, lowering the water table and discouraging the growth of vegetation.
- Distance from the sea leading to less effect of ITCZ (ocean currents) and encouraging desertification like Sahara desert.
- Latitude like areas far from the equator less affected ITCZ e.g. Sahara or Karamoja.
- Presence of relief features like highlands and mountains encouraging landslides, mass wasting and causing dry conditions in the leeward side Rwenzori.
- Presence of poor vegetation like herbs and shrubs in the Sahara desert leading to rainfall.
- Absence of water bodies leading to low rate of sea and land freeze causing dry conditions, Sahara.
- Absence of cloud cover in the atmosphere causing excessive evaporation leading high temperature range and dry conditions, Sahara.
- Control of pest and diseases leading to destruction of forests for destroying the habitats like for mosquitoes, snails, tsetse flies.
- Occurrence of natural calamities and hazards like floods in lowlands and valleys, volcanic eruptions, earth quakes, destroying the landscape and vegetation.

Effects of deforestation

- It leads to soil erosion e.g. sheet, rill causing soil exhaustion
- It leads to reduction in rainfall, humidity causing climatic change, global warming,

destruction of the ozone layer. Aridity and desertification Sahara, Namibia.

- Decline in tourism industry reducing on foreign exchange.
- It leads to pollution due to accumulation of carbondioxide and reduction of oxygen, destruction of dumping sites, destruction of the ozone layer e.g. in developed countries and urban centres.
- Reduction in human activities which depend on forestry like lumbering leading to shortage of timber and other building materials, unemployment, low economic growth and development (over exploitation of resources).
- It leads to siltation, segmentation and sedimentation and deposition of water bodies, affecting fishing, navigation and the water quality e.g. lake Wamala, Katonga, Port bell water, R. Manafa, R. Rwizi (Ug).
- Occurrence of floods in lowlands and valleys causing destruction of people, property, transport routes, causing breeding grounds, drainage channels, Mozambique, Japan, Australia.
- Spread of pests and diseases like water born and air born diseases e.g. Bilharzia, Dysentery, cholera, flu, TB, cough.
- It leads to low life expectancy because of poor quality of life like in less developed countries.
- Development of tourism industry because of desert land forms like rock out crop sand dunes, Isenberg earning foreign exchange.
- Availability of land for settlement, agriculture, industrialization, in the areas which were covered by forests.
- Mining of sand which is used for building and construction like of houses, dams, transport routes.
- Promotion of quarrying from exposed rocks helping in getting murram, boulders, pebbles, stones used building and construction.
- There is easy transport and communication like the construction of roads due to reduction in obstacles or barriers.
- Destruction of hiding places for criminals like rebels, smugglers, rapists leading to peace and security.
- Destruction of habitats for disease vectors reducing on the effects of pests and diseases like mosquitoes, tsetse flies.
- Development of industries which need a lot of space and space craft like in USA, industry making ammunition.
- Development of irrigation farming like growing fruits, vegetables, cotton like in Sudan and California.
- Development of arable farming like growing of cereal and annual crops which are

drought resistant, sorghum millet.

- Environmental protection like gazetting N. Pames Game and forest reserves.
- Development of livestock farming helping in providing animals productions like Karamajongs.
- Promotion of sports and games for leisure and creation like car rallies, hunting, donkey and camel riding, filming.
- Provision of reserve areas for accommodating landless people like for resettlement skills like refugees.
- Development of art and craft industry by using desert vegetation like herbs and shrubs and using stones for decoration.

Ways of environmental conservation (Solutions, steps, measures, policies)

- Encouraging tree planting through afforestation and re-afforestation programmes with soft wood species proving habits, controlling soil erosion, landslides.
- Promotion of mass education and mobilization on environmental matters like using UPE, USE, opinion leaders, massmedia.
- Using modern methods of farming helping in soil conservation like ranching, Agro-forestry, intercropping or intensive farming, irrigation.
- Strengthening laws and fines reducing on illegal activities like laws against bush burning, forestry encroachment.
- Privatization helping in attracting investors into the forestry industry leading to good management, availability of capital and high production.
- Using alternative resources of energy and power like HEP, solar energy, biomass, biogas reducing forest destruction for firewood and charcoal.
- Using alternative building materials e.g. plastic and metallic, tiles, furniture reducing on deforestation.
- Improvement in transport and communication leading to easy movement of workers helping in marketing and reducing on fuel consumption.
- Economic diversification by exploiting other resources reducing on dependency burden and land pressure.
- Using soil conservation measures helping in maintaining soil fertility like terracing, mulching, mixed cropping.
- Gazetting areas as national parks, game reserves, forest reserves reducing on human activities.
- Using government agencies and nongovernmental organizations which help in environmental matter like UNEP, NEMA, IGAD, LVMP, NFA, CARE, UWA, UTB.

- Population control by using modern methods of family planning by using condom, pills, setting population policy.
- Promotion of research on resource exploitation, land use management and on tree planting leading to environmental sustainability.
- Training skilled labour like forest officers, environmental officers helping in supervision, monitoring education.
- Controlled exploitation by giving licences by people carrying out lumbering, fishing, mining charcoal, selling firewood to control the number.
- Using fire fighting measurers like using fire extinguishers, control towers, water bombers, patrol (aeroplane).
- Getting loans from financial institutions and development agencies for conservation and exploitation programmes.
- Government supports giving seedlings, inputs, equipments, extension workers.
- Promoting tree planting campaigns involving women, youth, local communities leading to easy supervision and monitoring.
- Proper waste management using recycling, treatment of wastes and having dumping sites.
- Controlling pests and diseases by spraying using insecticides like locusts in Sahara desert, termites, ants.
- Market expansion by exporting forest products to other countries like USA, Japan and Britain.
- International relations and regional cooperation helping in marketing, joint investments like E. African community, PTA, COMESA, African Union.
- Improvement in science and technology leading to availability of skilled labour helping in conservation and exploitation.
- Political stability and security helping in attracting investors, reducing on the use of ammunition and diverting resources to economic activities.

Qns:

1. Assess the role played by forestry industry in the economic development of either Canada or Tunisia.
2. Account for the development of the forestry industry in either Sweden or Gabon.
3. a. Distinguish between temperate forests and equatorial forests.
b. Examine the causes for forest destruction in the Sahel region.
c. Examine the problems facing the forestry in either DRC or Canada.
d. Outline the steps being taken to solve the problems in the country chosen.
4. Account for the occurrence of desertification in Africa.

TOURISM IN THE WORLD

This is the movement of people to different areas for leisure, education and research and you pay a fee for your services like visiting gazette areas, entertainment centres, historical sites and areas with economic activities. It is lucrative (profitable) and invisible export dealing with services.

Tourism in Switzerland

Switzerland is a developed country found in Western Europe and it is the most important for tourism in the world with tourism areas like winter, resort centres like in the Alps, Jura mountains around St. Martiz, Gastaad, Oberland, Laussanne, Lucern for winter games like skating, hunting, indoor games, skiing. Summer resort centres like in the swiss plateau at Geneva, Zurich, Basel, Bern, St. Gallen, Lake Lugano for summer games like swimming, sun bathing, viewing land forms, visiting industries and for outdoor games like volleyball, basket, football.

Sketch map of USA showing major tourism areas.

Factors for the development of tourism in Switzerland

They're physical and human factors accounting for the development of tourism industry

in Switzerland.

- Presence of temperate climate with winter and snow attracting tourists by winter games, skiing, skating in the Alps and Jura mountains and for summer games like swimming, sunbathing in the areas of Zurich and Geneva.
- Presence of beautiful scenery with different land forms like pyramidal peaks, hanging valleys, V-shaped valley, waterfalls and rapids, beaches attracting tourists to exploration e.g. Alps, mountains on R. Rhine and around L. Geneva.
- Relief features of highlands and mountains like the Alps in the Jura attracting tourists for mountain climbing, filming, photography and leisure.
- It is strategically located in the heart of Europe surrounded by Germany, France which provide market and it is near R. Rhine for cheap water transport.
- Availability of water bodies like drainage features R. Rhine, R. Rhone, Geneva, L. Lugano attracting tourists for sport and games, swimming, sunbathing and for viewing landform i.e. waterfalls, rapids and beaches.
- It has limited resources like minerals, infertile soils, limited land because of mountains, harsh temperate climate discouraging other activities and promoting tourism.
- Presence of (wild life) flora and fauna animals species and plant species like coniferous forests, bears, seals attracting tourists during winter for research and exploration.
- Availability of extensive land, limited activities like in the Alps and Jura mountains providing enough land for gazetting national parks, forest reserves, resort centres, Zurich, Oberland.
- Presence of Alpine vegetation in coniferous and temperate forests in the Alps, the Jura mountains for sports and games, filming, photography for picnics, camping sites.
- Political stability and security due to its policy of neutrality attracting many tourists, investors and reducing expenditure on defence saving it from world wars construction.
- Good financial banking systems for easy transfer of money like using Western union ATM cards, electronic transfer, credit cards, and mobile money transfer.
- Improved marketing and advertisement by using internet, tour companies, trade shows, printing magazines, T-shirts, using CNN, Voice of America, Aljazeera helping in creating awareness internally and externally.
- Improved transport and communication using electrified railway lines to the Alps and Jura mountains, modern ports like Basel, constructing roads using R. Rhine good telegram services, telephone services, teletax.

- Presence of positive and supportive government policies like gazetting tourism areas, giving loans, developing infrastructure, social services, maintaining political stability.
- Presence of modern hotels, beaches, lodges, guest houses, apartments with international standards attracting tourists of high class like in Geneva and Zurich.
- Hospitality by speaking many international languages like English, French, Arabic, Swahili helping in marketing and attracting many tourists.
- Presence of labour supply both the skilled and unskilled working in hotels, beaches, tour companies leading to better services and good management.
- Presence of market because of high population in towns with high incomes like Basel, Bern, Geneva, Zurich and getting foreign tourists from USA, Britain, Japan, Germany.
- Presence of capital provided by the government and private investors for financing tourism activities like building hotels, beaches, transport routes because of high incomes.
- Good international relations and regional cooperation attracting many tourists from Germany, USA and helping in transport because it is a land locked country.
- Presence of economic activities attracting tourists for businesses like watch making, trading activities in towns like Geneva.
- Presence of cultural and historical sites like art and craft, museums, customs and beliefs attracting tourists for exploration and leisure.
- Presence of international bodies like world bank, red cross, human rights, FIFA headquarters, employing people of high class who go for tourism activities.
- Presence of improved social services like water supply, power supply, health facilities leading to high standards of living attracting tourists of high class like Geneva, Zurich.
- Improved science and technology leading to availability of skilled labour helping in research, exploiting tourism potentials, improving social services, infrastructure.
- Presence of big companies and entrepreneurs like tour companies, transport companies, helping in providing capital, good management and better services.
- Nature of the population of the Swiss people being hardworking, innovative, good planners, enterprising people, helping in resource exploitation developing economic activities, infrastructure, social services despite having a difficult environment.
- Presence of many urban centres like towns and cities with dense population for market and labour with economic activities, entertainment centres for leisure and recreation.

Importance / effects of tourism

Positive:

- Source of foreign exchange through payment for the services, pure housing commodities like art and craft, watches, textile products helping in importation and investment.
- Provision of employment opportunities like people working in hotels, beaches, tour companies, resort centres like Zurich, Bern leading to increased standard of living.
- Growth of urban centres around tourism gazette areas due to increase in population leading to improvement in trade and social services like Geneva, Zurich, Bern, Lucern, Oberland.
- Economic diversification by influencing other economic activities reducing on the dependence burden like Agriculture, mining.
- Promotion of international relations and regional co-operation helping promoting trade and political stability like USA, France, Italy and China.
- Improvement in transport and communication like the construction of roads, railway lines, modern ports, Airports, telephone services in areas with tourism potentials e.g. like railway lines to Alps and the Jura around Zurich, Geneva.
- Promotion of education and research by visiting tourism gazetted areas like Alps and Jura, Geneva, Zurich, Bern leading to better skills and technology.
- Source of government revenue by taxing people and companies leading to capital accumulation, improvement of national income and developing other economic projects.
- Promotion of sports and games for leisure and recreation like mountain climbing, skiing, skating, sunbathing, swimming, volleyball.
- Development of industries because of getting market from tourists, watch making, textile industry, art and craft in Bern, Basel, Geneva, Zurich.
- Alternative land use because of limited resources having infertile soils, limited minerals, being mountainous having temperate climate discouraging other activities.
- Environmental protection by gazetting areas with plant and animal species like National parks, game and forest reserves, zoos, game sanctuaries e.g. in the Alps and Jura mountains.
- Cultural and traditions have been preserved by gazzeting historical sites like museum, entertainment centres, historical sites like Lucern for sports gala.

Negative:

- It leads to diversion of labour and capital into tourism sector affecting other economic activities by employing so many people and using a lot of money for investment
- It leads to pollution of air, water and land because of industries, population increase, heavy traffic affecting plants and animals and disposal of wastes from hotels, beaches, etc.
- Displacement of people and activities by gazetting national parks, tourist resort centres, beaches, hotels like Bern, Zurich, Geneva.
- It leads to urban problems like high costs of living, congestions, high crime rates because of high population in tourism gazetted areas like Zurich, Geneva, Bern.
- Environmental degradation because of deforestation, swamp reclamation, destruction of the landscape because of construction work i.e. roads, hotels, beaches, Basel, Zurich.
- Change of cultures due to interaction with foreigners causing social problems like ways of dressing, eating, speaking.
- High costs of maintenance and rehabilitation like transport routes, beaches, hotels.
- Regional imbalance causing economic problems like in the Swiss plateau it is more developed than others.
- Tourism is a season activity with fluctuating numbers and this affects planning and it is mostly affected by competition.
- Provides hiding places for wild animals and diseases, vectors like the seals and the bears.
- It causes conflicts and tensions like tourists coming as tourists e.g. Alqueda network.
- It leads to easy spread of diseases by interacting with foreigners like Alps through prostitution, Ebola.

TOURISM IN USA (NORTH AMERICA)

USA is a developed country found in North America and it is important for tourism with tourism areas around the great lakes conurbation. It is important in California desert, around Tennessee valley Authority and Rocky mountains, Appalachian mountains, around towns and industrial areas (New York city, Los Angels, Chicago, South Cotton Belt, around water bodies like cost of Atlantic ocean, Indian ocean, R. San Joaquin, L. Superior.

A sketch map of USA showing many tourism areas

Factors for the development of tourism in USA

- Presence of water bodies attracting tourists for sunbathing, viewing landforms for exploration e.g Niagara falls on R. St. Lawrence, coastal beaches around Atlantic ocean, Pacific ocean.
- Presence of tropical warm climate attracting tourists for sunbathing like desert climate in California e.g. tourists from temperate countries during winter seasons like Norway, Sweden, Iceland, Canada, Greenland.
- Presence of relief features attracting tourists for exploration like the rocky mountains, Appalachian, desert land forms in California and sports and games like mountain climbing, filming, photography.
- USA is strategically located near the coast of pacific ocean, Atlantic ocean leading to development of ports and using cheap water transport in the interior and to other countries.
- Availability of land gazetted for tourism in areas with sparse population like the rocky mountains, Appalachian mountains, California desert.
- Presence of wild like plant species and animal species attracting tourists for exploration and for sports and games e.g. around the rocky and Appalachian mountains, California desert.
- Limited resources discouraging other activities and promote tourism like in California desert, rocky and Appalachian mountains.
- Presence of vegetation types like forests in California attracting tourists for education and research, for filming, picnics, camping sites.
- Improved transport and communication in using St. Lawrence sea way,

construction of roads railway lines, telephone services, using the internet helping in marketing and accessing tourism areas.

- Political stability and security because of good governance, defence, international relations attracting investors, tourists and diverting resources to economic activities. FBI, CIA, pentagon intelligent systems.
- Good hotels and accommodation on international standards giving excellent services like in New York city, Los Angels, Chicago.
- Presence of international bodies like UNO, internationally monetary fund employing people of high class giving market to tourism.
- presence of wide market both internal and external because of increased population in towns like New York City and getting foreign tourists from Britain, Japan.
- Presence of capital provided by the government and private investors used for building transport routes and communication system, hotels, construction of beaches, paying abundant labour.
- Availability of labour supply working in hotels, beaches, tourism companies leading to better services and good management.
- Improved science and technology helping in exploitation of resources improving infrastructure, social services and maintaining tourism facilities.
- Good international relations and regional co-operation helping in marketing like with Canada, Britain, Japan.
- Hospitality by speaking many languages like English, French helping in marketing and communication.
- Improved marketing and advertisement like using the internet, trade shows, tour companies, using BBC, CNN, V.O.A
- Improved social services like water and power supply, health facilities, leading to high standards of living and attracting tourists of high class.
- Presence of big companies and entrepreneurs providing capital, good managements attracting a big number of tourists.
- Presence of economic activities attracting tourists for business like industries in USA trading activities in Chicago, mining in California desert.
- Presence of many urban centres with different economic activities better social services, entertainment centres attracting a big number of tourists e.g. Chicago, New York city.

Importance / Effects

Positive:

- Provision of employment opportunities like in hotels, beaches, tourists leading to

increased standards of living.

- Source of government revenue by taxing people, companies like in New York, Los Angels leading to capital accumulation and improving the national income.
- Promotion of international relations and regional coperations leading to international trade and political stability with USA, Canada, Britain, Japan.
- Growth of urban centres around tourism areas because of high population leading to development of trade and improvement in social services for example Los Angels.
- Promotion of education and research by visiting National parks, Game reserves, hotels, leading to better skills and technology like the Tennessee valley authority, Great Lakes conurbation, forests in California.
- Improvement in transport and communication like construction of roads, railway lines, telephone services benefiting the surrounding communities.
- Promotion of economic diversification by influencing other activities like trade, transport, industrialization, agriculture reducing on the dependence burden.
- Promotion of sports and games for leisure and recreation like swimming.
- Development of industries because of getting market from tourists like art and craft, textile industry, breweries, beverages.
- Source of foreign exchange by providing commodities and payment for services helping in importation and investment.
- Alternative land use because of limited resources and land like in New York city, California desert, rocky mountains, Appalachian mountains.
- Environmental protection by gazetting national parks, games and forest reserves, wetlands like in California, rocky and Appalachian mountains.
- Preservation of cultures and traditions by gazetting historical sites, museums, entertainment centres.
- Urban problems like high cost of living, slums, increased crime rate, congestion like in New York city, Chicago.
- Regional imbalance causing economic problems like the Great lakes conurbation, New York city, Los Angels.
- Pollution of air, water and land because of waste from industries, urban areas, heavy traffic, dense population.
- Displacement of people and activities by gazetting National parks, game reserves, forest reserves, building hotels, beaches.
- Environmental degradation by constructing hotels, beaches, transport routes like in California New York city.
- Diversion of labour and capital into the tourism sector affecting other economic

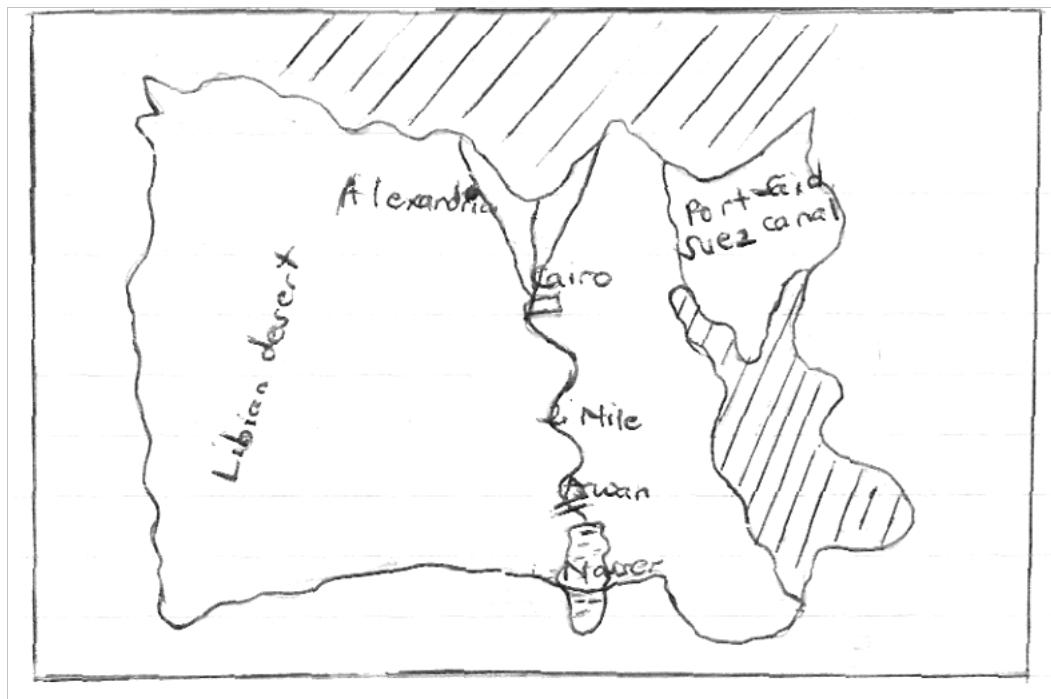
activities like for hotels, beaches, tour companies.

- Hiding places for wild animals and breeding grounds for disease vectors like in National parks, game and forest reserves.
- Promotion of conflicts and tensions because of terrorists coming as tourists Alqueda network, led to the destruction of the Pentagon and the World trade.
- Spread of diseases by interacting with foreigners like AIDS, Ebola, and swine flu.
- Change of cultures and traditions by interacting with tourists causing social problems like the western influence like prostitution, homosexuality, drug addiction, lesbianism.

TOURISM IN EGYPT

Egypt is a developing country found in North Eastern Africa and it is important for tourism with major tourism areas around Nile delta, Sinai, Peninsular, Persian Gulf, Aswan high dam, Suez canal, around the pyramids, towns like Cairo, Port Said, Alexandria, around water bodies, R. Nile, red sea, Mediterranean sea, lake Nasser, Qattara depression, mining areas, industrial and irrigated areas.

A SKETCH MAP OF EGYPT SHOWING TOURISM AREAS



Factors for tourism in Egypt

- Presence of desert climate with warm conditions attracting tourists for sunbathing especially from temperate countries e.g. Canada, Sweden, Iceland.
- Presence of desert vegetation composed of herbs and shrubs attracting tourists for education, research and for sports and games like hunting, filming, picnics, photography, camping sites.
- Availability of water bodies in different landforms for exploitation like Nile delta, Quatarra depression / oasis. They are also good for sports and games like swimming, boat riding i.e. R. Nile, Red sea, Mediterranean sea.
- Availability of extensive land because of sparse population helping in gazetting National parks, game and forest reserves, which are good for tourism e.g. Sinai, Peninsular or Persian gulf, around Quatarra depression.
- Presence of beautiful scenery with different landforms attracting tourists for exploration like the Nile Delta, Sand dunes, inselburgs, Quatarra depression.
- Presence of desert animals attracting tourists for exploration for hunting like donkeys, camels, snakes around Quatarra depression, Sinai Peninsular.
- Strategic location of Egypt near the Suez Canal, red sea, Mediterranean sea, leading to easy connection for tourists from Europe, middle east using cheap water transport.
- Egypt has limited resources for other activities like infertile sandy soils, dry

climatic conditions discouraging other activities and promoting tourism.

- Presence of political stability and security attracting many tourists, investors and diverting resources to economic activities instead of defence.
- Presence of improved transport and communication like using Egyptian Air, constructing roads, railway lines, using the Suez Canal, telephone services helping in movement and marketing.
- Improved marketing and advertisement by using tour companies, using the internet, trade shows, printing magazines, T-shirts, attracting foreign and internal tourists.
- Presence of improved accommodation like hotels, beaches, lodges, guest houses, apartments with better services and good management like Sheraton, Alexandria beach.
- Presence of economic activities attracting tourists for business, education and research e.g. oil mining, irrigation farming, industries in Cairo.
- Presence of labour supply both the skilled and unskilled working in hotels, beaches, tour companies with better services and good management like in Cairo.
- Hospitality by speaking many international languages like English, French, Arabic, Swahili, helping in marketing and leading to easy communication.
- Presence of good international relations and regional co-operations attracting many tourists and investors from USA, Britain, Saud Arabia, Uganda.
- Presence of historical sites like the pyramids, Sinai, peninsular areas of ancient civilization, museums attracting tourists for education, exploration, plus different cultures and traditions.
- Availability of capital provided by the government and private investors for financial tourism activities like building hotels, beaches, constructing transport routes.
- Presence of improved social services like water and power supply health facilities leading to increased standards of living attracting many tourists like Cairo, around Aswan High dam, port Said.
- The construction of Aswan High dam, Dahe Nasser, Suez canal attracting many tourists for demonstration and exploration.
- Presence of sports and games entertainment centres found in urban areas attracting tourists for leisure and recreation like soccer, dancing halls, casino halls for gambling.
- The nature of population being hardworking, innovative, good planners because of ancient civilization helping in exploiting resources, developing economic activities, improving infrastructure and social services.

Importance / Effects of tourism in Egypt

Positive

- Provision of employment opportunities i.e. leading to increased standards of living like working in the museums, Sheraton hotel, port Said.
- Improvement in transport and communication like Egyptian air, constructing railway lines, modern ports round tourism gazette areas around Aswan High dam.
- Source of government revenue by taxing people and companies leading to capital accumulation and improving the national income.
- Source of foreign exchange through payment for the services and purchasing commodities like Art and Craft materials helping in importation and investment.
- Development of industries by getting market from tourists e.g. art and craft industry, textiles, breweries, food processing.
- Environmental conservation by gazetting national parks, games and forests reserves, wetlands, game sanctuaries with different plant species and animal species.
- It leads to economic diversification by influencing other activities reducing on dependency burden, industries, mining, transport, agriculture, trade.
- It leads to development of urban centres because of high population e.g. port Said, Alexandria, Cairo, Bena, Asguit, Aswan.
- Preservation of cultures and traditional by gazetting historical sites, museums, pyramids, entertainment centres, areas of ancient civilization, Sinai peninsular.
- Promotion of leisure and recreation because of different sports and games such as hunting, swimming.
- Promotion of international relations and regional co-operation leading to development of international trade like with USA, Saudi Arabia.
- Improvement in accommodation like hotels, lodges, apartments, guest houses, like in Cairo, Alexandria.
- Promotion of education and research on landforms, historical sites, beaches leading to better skills and technology.

Negative

- Pollution of air, water and land because of population increase, heavy traffic, development of industries causing destruction of plants and animals.
- Displacement of people and activities by gazetting national parks, forest and game reserves, constructing beaches, hotels, historical sites.
- It leads to profit repatriation because of foreign companies like Sheraton hotel

causing capital outflow.

- It leads to change of cultures and traditions by interacting with foreigners causing social problem like the western influence leading to problems like drug addiction, prostitution, lesbianism, homosexuality.
- It leads to spread of diseases by interacting with foreigners like AIDS thus prostitution, Ebola, Swine & bird flu.
- It causes urban problems because rural urbanisation like slums, high cost of living like in Cairo, Alexandria, Port Saidi.
- It leads to regional imbalance in economic development causing problems of income inequalities like Cairo.
- It leads to diversion of labour and capital into the tourism sector affecting other economic activities.
- It causes insecurity and political problems like terrorists coming as tourists.
- It leads to breeding grounds for disease vectors like mosquitoes, tsetse flies, snails, and habitats for wild animals which are dangerous to people, crops and livestock like in national parks, game sanctuaries, game and forest reserves.

TOURISM IN KENYA

Kenya is found in East Africa and it is the most important for tourism with tourism areas around Mombasa coastal area, Malindi, Indian ocean, L. Nakuru, Mt. Kenya, R. Valley area, L. Magadi, towns like Nairobi, Kisumu, Fort Jesus, Nairobi Museum, Tsavo National park, L. Nakuru national park, Amboseli, industrial areas like Bumburi in Mombasa, cultures like the Masai.

A sketch map of Kenya showing tourism areas.

Factors for the tourism in Kenya

- Kenya is strategically located at the coast of Indian ocean leading to development of ports like Mombasa, Malindi and easy movement of tourists from European Middle East using cheap water transport.
- Relief features giving a beautiful scenery for exploration like coral reefs at Mombasa, R.V and for sports and games like climbing Mt. Kenya.
- Presence of historical sites for the preservation of cultures and traditions attracting tourists for exploration and education and research like Fort Jesus, Nairobi museum, Malindi port, Masai culture.
- Availability of water bodies with land forms for exploration like Indian Ocean and for sports and games like swimming, sun bathing.
- Presence of wild life like plants and animal species are found in gazetted areas like flamingos at L. Nakuru national park, Lions in Tsavo national park, Mangrove trees or vegetations at E. African coast.
- Presence of urban centres with economic activities, entertainment centres, better social services, infrastructure in Nairobi, Kisumu, Mombasa.
- Kenya has limited resources discouraging other activities and promoting tourism e.g. Tsavo national park (dry area), Mt. Kenya forest, Malindi park in the Indian ocean.
- Improved transport and communication like using Kenya Airways, Mombasa port, water transport, Safaricom. It helps in marketing and communication.
- Hospitality by speaking many international languages like Swahili, French, Arabic helping in communication and marketing.
- Improved accommodation like hotels, beaches, apartments, guest houses with better services and good management like Serena, Hilton, Intercontinental, Diplomate.
- Political stability and security helping in attracting investors, many tourists and diverting resources to tourism development.
- Positive and supportive government policies like giving loans to people, setting hotels, constructing roads, gazetting tourism areas, attracting investors, maintaining political stability.
- Presence of capital provided by the government and private investors for financing tourism activities like hotels, beaches, transport.
- Presence of tropical climate because it's found near the equator attracting tourists for sunbathing like from Iceland, Greenland, Canada.
- Good international relations and regional co-operation attracting many tourists from Japan, British.

- Availability of land gazetted for tourism in areas with sparse population like top of Mt. Kenya, Tsava national park, Nakuru, Malindi.
- Presence of labour supply both skilled and unskilled working in hotels, beaches, working in tour companies, Kenya airways, Hilton, Serena, Diplomatic hotel.
- Presence of market both internal and external because of increased population in towns like Nairobi, Kisumu, Mombasa and getting foreign tourists from USA, Britain, Japan.
- Presence of entrepreneurs and big companies with better services and good management capital, tour companies, Serena, Hilton, Kenya airways.
- Improved marketing and advertisement by using the internet, trade shows, magazines, t-shirts, BBC, CNN, News papers.
- Presence of economic activities attracting tourists for business like Bamburi settlement in Mombasa, salt mining at Magadi transport at Mombasa.
- Improved science and technology leading to availability of skilled labour for developing economic activities and maintenance of tourism facilities.

Importance / effects of Tourism in Kenya

Positive:

- Provision of employment opportunities leading to high standards of living among the workers in the museum, hotels and beaches.
- Improvement in transport and communication like using of the Kenya airways, railway, cheap water transport on the Indian ocean.
- Source of government revenue generated from foreign exchange earned from tourists improving the national income.
- Development of industries through getting market from tourists i.e. Art and craft industry, textile industry and food and processing industry.
- Environmental conservation through gazetting of national parks, game reserves, forest reserves which are used to attract tourists.
- It leads to economic diversification by influencing other activities reducing on the dependency burden mining, transport, agriculture, trade, industrial.
- It has led to development of urban centres like Nairobi, Nakuru, Kisumu because of the high population.
- It has led to preservation of culture and tradition through gazetting museum, entertainment centres, ancient civilization.
- Promotion of recreation activities like sports and games such as hunting, swimming.
- It leads to diversification of labour and capital into the tourism sector affecting

other economic activities.

- Displacement of people and activities by gazetting national parks, forest and game reserves, constructing beaches, hotels, historical sites.
- It leads to regional imbalance in economic development causing income inequalities like Nairobi.
- It causes urban problems like rural urban migration resulting into slums, high costs of living i.e. in Nairobi, Kisumu, Nakuru.
- It causes insecurities and political problems like terroriss coming as tourists like the Alshabab.
- It leads to change of cultures and traditions by interacting with foreigners causing social problems like prostitution, lesbianism, homosexuality.
- Pollution of air, land and water through poor waste disposal, population increase, development of industries causing destruction of plants and animals.
- It leads to profit repatriation because of foreign companies like causing capital outflow.

TOURISM IN SOUTH AFRICA

South Africa is a developing country important for tourism with major tourism areas around the rand conurbation, the mining areas of wit waters rand, Kimberly and gazetted areas like Limpopo, national Kuge national park, historical sites like Robben island, Zulu kingdom area, coastal areas like around cape town, Durban, East London, Port Elizabeth, Indian ocean and Atlantic ocean, around river dam projects like on river Orange, river Vaal, around the Drankesburg mountains.

Sketch map of South Africa showing major tourism areas.

Factors favouring tourism in South Africa.

- Presence of water bodies or drainage features with land forms like water falls on R. Orange, beaches like Suncity attracting tourists for exploitation and for sports and games like swimming and sunbathing around Indian ocean and Atlantic ocean.
- Presence of wild life like plant and animal species in national parks, around Drakensburg mountains attracting tourists for viewing, education and research.
- Presence of historical sites attracting tourism for historical studies like Zulu kingdom, Robben island prison, Cape town (cape of good hope) which was used by explorers.
- Large capital base provided by the South African government and private investors for financing tourism activities activities like hotels, beaches, transport routes like around the rand conurbation and the coastal areas.
- Presence of tropical warm climate and Mediterranean climate attracting tourists for sun bathing especially for temperate regions during the winter season e.g. from Green land, Ice land.
- Strategic location near the coast of Atlantic and Indian ocean developing its own ports like Elizabeth, Durban, East London, Alfred and easily accessed by cheap water transport from Europe to the Middle East.
- Limited resources like around great Limpopo national park, Kruger national park in the northern parts near Kalahari and Namib desert, in the rand conurbation and coastal towns with limited land for other activity.
- Availability of land gazetted for tourism in areas with low population e.g. areas around great Limpopo national park, Kruger national park, Drakensburg mountains, Robben island, etc.
- Political stability for security since independence in 1994 ending the apartheid era leading to a favorable investment climate attraction on many tourists and diverting resources to economic activities like tourism.
- Improved transport and communication network making areas with tourism attraction accessible by constructing roads, railways, using water ways, air services like S. African air, temperate services.
- Supportive government policies like giving loans, developing infrastructure attracting investors, gazetting, tourism areas like Drakensburg mountains and for sports and games like mountain climbing.
- Presence of vegetation types like Mediterranean vegetation e.g. growth of citrus fruits around cape provinces and desert vegetation consisting of shrubs and herbs in the Northern part attracting tourists for sporting activities like filming,

photography, camping sites, picnics, exploration, education and research.

- Skilled labour leading to good management of better services like sun city beaches, around Limpopo national park working in S. African airways, modern hotels like in Cape town, Johannesburg, Pretoria.
- Improved marketing and advertisement like using the internet, trade shows, international radios like BBC, using CNN, Magazine, t-shirts and Born churches, tour companies.
- Presence of economic activities attracting tourists for business research e.g. trade, mining areas around the Witwatersrand, Kimberly, vehicle assembling in Johannesburg, ship building in Cape town, Durban.
- Presence of many areas with urban centres like cinema halls, social services leading to high standards of living e.g. Durban, Natal, Pretoria, Cape town, Johannesburg.
- Wide market because of high population in towns and people with high incomes like around Johannesburg, Pretoria, and getting foreign tourists from Britain, USA, Middle East, Japan.
- Improved accommodation facilities like having international communication networks, leisure parks.
- Good international relations and regional co-operation attracting tourists from other countries like Britain, USA, Japan, Middle East countries.
- Hospitality by speaking many languages helping in communication and marketing e.g. using English and French.

Importances

- Tourism has led to infrastructural development in South Africa in form of roads, railway lines which has promoted economic development.
- Provision of employment opportunities to the people of South Africa as tour guides, working in hotels.
- Foreign exchange by purchasing commodities, paying for services like around great Limpopo national park, Kruger National park, Robben island.
- International relations and regional co-operation promoting international trade by encouraging foreigners coming as tourists e.g. from USA, Britain.
- Environmental conservation by gazetting areas like national parks, game reserves, forest reserves e.g. Kruger national park, etc.
- Preservance of cultures and traditions by gazetting historical importance like museums, Zulu kingdom national park, Cape town, Robben island.
- Growth of urban centres because of high population with high incomes helping in improving trade and social services like schools, roads e.g. Cape, Pretoria.

- Development of industries like art and craft, food processing industry, textile industry because of getting market for tourists.
- Improvement in transport and communication like S. Africa air, railway services around the coastal towns and the rand conurbation.
- Sports and games for leisure and recreation like soccer.
- Economic diversification by influencing other activities like trade, transport, agriculture, industrialization.
- Alternative land use in areas with limited resources and land for other activities like Drakensburg mountain around Kruger national park, Great Limpopo.
- Insecurity like terrorists coming as tourists.
- Limited land and displacement of people and activities like around Limpopo national park and Kruger national park.
- Change of cultures by interacting with foreigners like Europeans.
- Diversion of labour and capital affecting other sectors and promoting economic imbalances in development.
- Hiding places for wild animals like lions, snakes, leopards.
- Breeding grounds for disease vectors like mosquitoes, tsetse flies, snails.
- Urban problems because of high population like slum development in Soweto, Johannesburg.
- Tourism is a seasonal activity affecting planning with fluctuating numbers.
- Pollution because of high population, heavy traffic around industries.

TOURISM IN EAST AFRICA

E. Africa is made up of countries like Uganda, Kenya, Tanzania and the countries are important for tourism with tourism areas gazetted and these are Serengeti national park, Tsavo, Queen Elizabeth national park, coastal areas around Mombasa, Kisumu, Fort Jesus, mountainous areas like around Rwenzori, East African rift valley, around historical sites like Old vai George, Namugongo, Martyrs shrine, major towns like Kampala, Nairobi, Dar-es-salaam, water bodies like Victoria, river Nile, economic Tororo, Nairobi, area of Masai Mara.

A sketch map of East Africa showing major tourism areas.

Factors for the development of tourism in East Africa.

- Presence of drainage features attracting tourists for exploration like the source of the Nile and for sports and games like swimming and sunbathing around Mombasa and Dar-es-Salaam on the E. African coast around beaches on L. Victoria e.g. Gaba and Lido beach.
- Beautiful scenery like relief features attracting for exploration like the E. African rift valley, glaciated land forms e.g. on Mt. Rwenzori, Kilimanjaro, Mt. Kenya, Volcanic land forms like Tororo plug, coral reefs, around Mombasa and Dar-es-salaam.
- Presence of wild life like plant and animal species found in gazetted areas like Flamingos around L. Nakuru, Mt. Gorillas, in Mugahinga national park, Bwindi, Ostriches in Kidepo national park, Mt. vegetation like on Mt. Elgon around pipa falls and on Mt. Kilimanjaro, Tropical rain forests like Mbarara, etc.
- Tropical warm climate because E. Africa is found around winter season like from Green land, Canada, Switzerland, Ice land for sunbathing.
- Vegetation types like Mt. Elgon, Mabira, forest reserve, Mt. Kilimanjaro, Mt. Kenya attracting tourists for filming, photography, picnics, forest walks, education and research.
- Availability of land in areas with low population giving enough land for nature conservation like Kidepo national park in Karamoja, Tsavo national park, Mburo national park, around Mt. Rwenzori and Kilimanjaro.
- Strategic location of E.African (Kenya and Tanzania) which are near the coast of the Indian Ocean and are easily accessed by tourist from Europe and USA, Japan using cheap water transport.
- Limited resources discouraging other activities like Kidepo national park in Karamoja semi desert, Serengeti and Tsava national park, around mouhtains like Elgon, Moroto.
- Presence of historical sites attracting tourists for exploration and research e.g. Fort Jesus, Uganda National museum, Namugongo martyrs shrine, around Bigobyamugenyi, old vai George.
- Cultures and traditions attracting tourists for leisure and recreation for example the Karamajong way of life, traditional dances, traditional dishes like Luwombo, Malakwanga, Atapa and African art and craft like backcloth.
- Improved transport and communication making areas with tourist attractions accessible e.g. by using Kenya airways, air Tanzania, Eagle Air, MTN mobile phones, using water transport like Kalangala Islands.
- Improved accommodation facilities like roads, hotels, beaches on international standards with better services and good management e.g. Serena hotel, Speke

resort, Emin Pasha hotel, Hilton hotel, Kilimanjaro hotel, Speke resort Munyonyo.

- Hospitality by speaking many languages like French helping in communication and marketing like using English, Swahili, German.
- Political stability attracting investors and many tourists and diverting resources to economic activities infrastructure and social services e.g. Tanzania.
- Improved marketing and advertising like using internet, trade shows, magazines, t-shirts, tour companies helping in creating awareness internally and externally.
- Privatization and economic liberalization leading to better services good management attracting many tourists e.g. Serena, Sheraton, Emin Pasha, Hilton hotel, etc.
- Good international relations and regional co-operation attracting investors and many tourists like East African community, African Union with European countries like USA, Japan.
- Presence of skilled labour trained in tourism handling e.g. degree in tourism and certificate in catering, providing services in hotels and beaches.
- Large capital base provided by the government and private investors for developing tourist infrastructure e.g. Kenya airways, Serena hotel, Hilton hotel, Air Tanzania.
- Supportive government policies like gazetting areas like Rwenzori national park, Tsava, Serengeti developing infrastructure, giving loans and attracting investors.
- Presence of economic activities attracting tourists for business research like industries in Mombasa, copper mining in Kilembe, plantation agriculture like tea in Kericho.
- Presence of many urban areas with improved social services leading to high standards of living and having entertainment centres like dance halls, cinema halls e.g. in Kampala, Dar-es-salaam, Jinja, etc.

Importance of Tourism in E. Africa

Tourism provides employment to many people in E.Africa e.g tour guides, game rangers which leads to improved standards of living in areas around tourist attractions e.g. in Kampala and Nairobi.

Tourism has led to conservation of plants and animal species which are growing in gazetted areas for example giant lobelia growing on Mt. Elgon and animal species like elephants, hippos in Queen Elizabeth national park.

Led to the development of industries in E. Africa like art and craft industry, food processing industry because of the market provided by the tourists.

Tourism has led to economic diversification because it has influenced other activities like trade, transport, agriculture and industrialisation.

Tourism has led to improvement in transport and communication lines like railway lines e.g. the Uganda, Kenya railway line, Kenya airways, road transport and development of ports like Mombasa which has provided cheap water transport.

Growth of urban centres like Nairobi, Kampala, Dar-es-salaam because of high population improving trade, social services like hospitals, roads, schools e.g. around Nairobi, Kampala, Mombasa.

Source of foreign exchange by purchasing commodities, paying for the social services like around Queen Elizabeth national park, services in hotels like Sheraton, etc.

Source of government revenue by taxing for companies like Serena, beaches like Lido hence improving on the national income.

Promotion of international relations to regional co-operations promoting international trade by encouraging foreigners and people from other countries coming as tourists e.g. from Japan, USA, Britain, Libya, Egypt, etc.

Problems facing tourism industry in LDCs.

Low developed countries are found in Africa, S. America, Austria, some parts of Asia. They have enough tourism potentials but the tourism sector is still underdeveloped because of physical and human problems.

Poor transport affecting marketing and making areas with tourism attractions not easily accessible for example the Congo basin, Amazon basin.

Competition with other countries because of having the same tourist attractions like wild life and land forms.

Presence of hostile tribes like the Nandi, backward cultures and ignorance, scaring tourists and investors e.g. the Karamajongs, Masai, Turkana, Fulani, Pygmies.

Limited capital to develop tourist infrastructure like hotels, beaches, transport routes because of low incomes.

Tropical pests and diseases causing encroachment of gazetted areas like national parks, game reserves, forest reserves, wetlands and in the process they affect wildlife.

Illegal activities like poaching reducing on animal species, bush burning destroying wildlife and encroaching in gazetted areas like near the nomadic pastoralists.

Poor marketing and advertisement like using a local media leading to low number of tourists like using local radios, tvs, newspapers.

Political instability and insecurity in LDCs scaring tourists and investors and diverting resources to defence e.g. Somalia, Sudan, DRC.

Climatic changes causing drought, desertification affecting plants and animals like in the Sahel region, Karahari region.

Presence of other resources leading to other economic activities diverting labour and capital like forestry in Gabon, fishing in Morocco, agriculture in Uganda.

Profit repatriation by foreign investors causing capital outflow in LDCs.

Limited skilled labour leading to poor mismanagement like hotels and beaches in rural areas.

Limited government support in form of loans, high taxes on hotels and gazetting tourism areas for activities, poor supervision and monitoring.

Poor accommodation facilities like hostels, beaches with poor services like in rural areas.

Poor science and technology affecting exploitation of resources affecting improvement in social services.

Tourism is a seasonal activity like most of the tourists come during winter seasons in their countries with fluctuating numbers affecting planning.

Poor social services leading to low standards of living discouraging the growing of tourists like in the Congo and Amazon basins.

Competition and embezzlement causing mismanagement, poor services and diversion of public resources e.g. Uganda, Kenya, Nigeria.

Environmental degradation caused by population increase, over grazing in national parks, dumping wastes, bush burning, destroying plants and animals like Rwenzori national park affected by Hima factory, Kasese cobalt industry.

Limited research affecting exploitation of tourism potentials marketing and causing specialization in wild life.

Weak laws in LDCs causing bush burning, encroachment, illegal lumbering, fishing, poaching affecting tourism areas.

Ways of developing the Tourism industry / steps / policies / measures (remedies)

Improving marketing and advertisement like using the internet, trade shows, tour companies using BBC, CNN, printing, magazines, T-shirts.

Acquisition of loans from financial institutions and development agencies for developing tourist infrastructure e.g. world bank, IMF, European union.

Improvement in transport and communication helping in marketing and accessing tourism areas like using air transport, developing water ways, using railway lines, internet, telephone networks.

Ensuring political stability and security through regional cooperation, good governance and experience attracting investors and tourists e.g. Africa, Kenya.

Strengthening laws and regulations by putting money fines hence reducing on illegal activities e.g. South Africa, Kenya.

Promotion of mass education and mobilisation by sing formal and informal education helping in creating awareness.

Improvement in accommodation by constructing modern hotels, beaches, lodges which are on the standard with better management and good services.

Promotion of international relations and regional co-operation helping in marketing and attracting many tourists like PTA, E.A.C, African Union.

Training skilled labour leading to better services and good management like Kenya airways, Serena hotel, Sheraton hotel, S.African airways.

Gazetting areas as national parks, game reserves, forest reserves, wetlands, historical sites for easy protection and preservation.

Privatization and economic liberalization leading to better services and good management e.g. Sheraton, Serena.

Population control reducing on environmental degradation by using modern methods of planning and having population policies like in Nigeria, Kenya, etc reducing on poaching.

Supportive government policies like giving loans, gazetting tourism areas, strengthening laws and regulations e.g. Kenya, S. Africa improving social services leading to high standards of living especially in services through research and planning attracting many tourists.

Hospitality by using many international languages helping in marketing communication e.g. Latin.

Proper waste management by gazetting dumping sites using recycling.

Economic diversification reducing on economic dependence by exploiting other resources.

Qns:

1. Compare and contrast tourism in E. Africa and Europe.
2. Account for the development of the tourism industry in either S. Africa or California.
3. Examine the problems affecting development of tourism industry in either S. Africa or California.
4. Examine the problems affecting development of tourism industry in either Kenya or Tanzania.
5. What steps are taken to solve the above problems.
6. To what extent have physical factors influenced the development of tourism

industry in either Canada or Europe.

Problems of tourism in developed countries (USA)

- Competition
- Pollution
- Climatic changes (global warming)
- Environmental degradation
- Insecurity (terrorism)
- High transport costs
- Government policies most areas gazetted for environmental protection
- High labour costs because of high standards of living
- High costs for maintenance
- Presence of other economic activities diverting labour and capital

FISHING

This is the exploitation of the aquatic animals from water bodies like lakes, rivers, ponds, seas, oceans for commercial and subsistence purposes. It is common in countries like Canada, Norway, Japan, S. Africa, Morocco, Namibia, Angola, Nigeria, Finland, Sweden, Chile.

Types of fishing

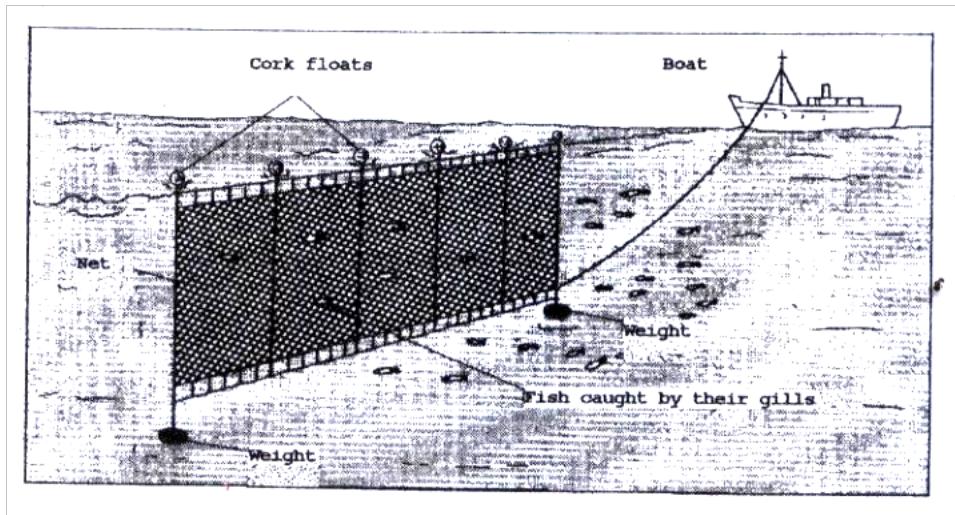
There are two types of fishing:

Marine fishing takes place in oceans, seas and it is most important for commercial purposes and for large scale. It helps in exploitation of marine species like Tuna, Cod, Mackerel, Herring, Sardines, Haddock, Anchovies, Crabs, Halibut, Oysters, Yellow star fish, Whales, Sharks, Bonito. Takes place in pacific, Atlantic ocean, North sea, Indian (takes place in salt water).

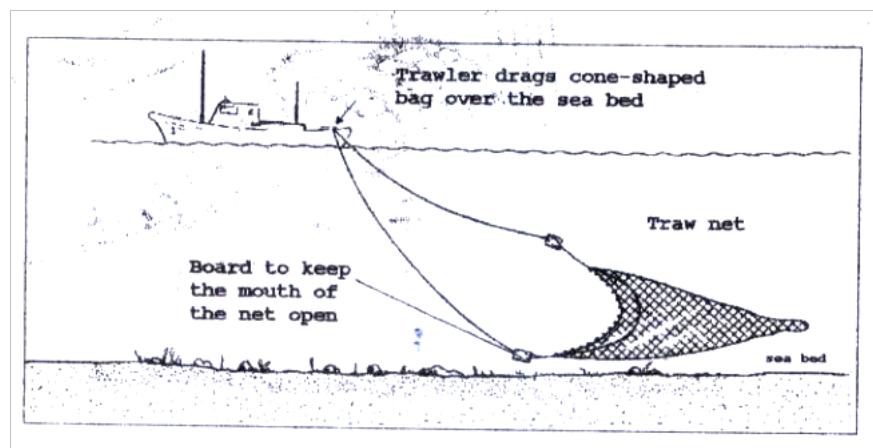
Fresh water fishing: this takes place in fresh water bodies found in the interior or inland like in lakes, rivers, swampy areas, streams, ponds. Fresh water species like Tilapia, mud fish, Nile perch, Silver fish, lung. This is common in the tropics equatorial regions, low developed countries like the Congo and Amazon basin. It is less developed and it contributes to small percentage.

Methods of fishing:

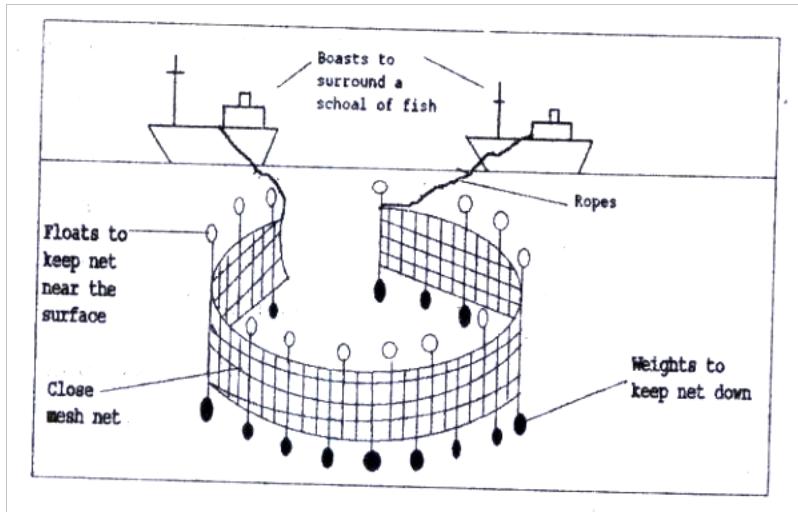
1. **Drifting:** This is the use of drift nets which are hanged vertically in the sea like tennis with open end where the fish enters. It has floaters on top and sinkers at the bottom which help it in balancing. It is tied with a rope and pulled by a boat. It has locks for opening and closing. It is mostly used for getting pelagic fish which live near the surface of water like sardines, herrings mackerel.



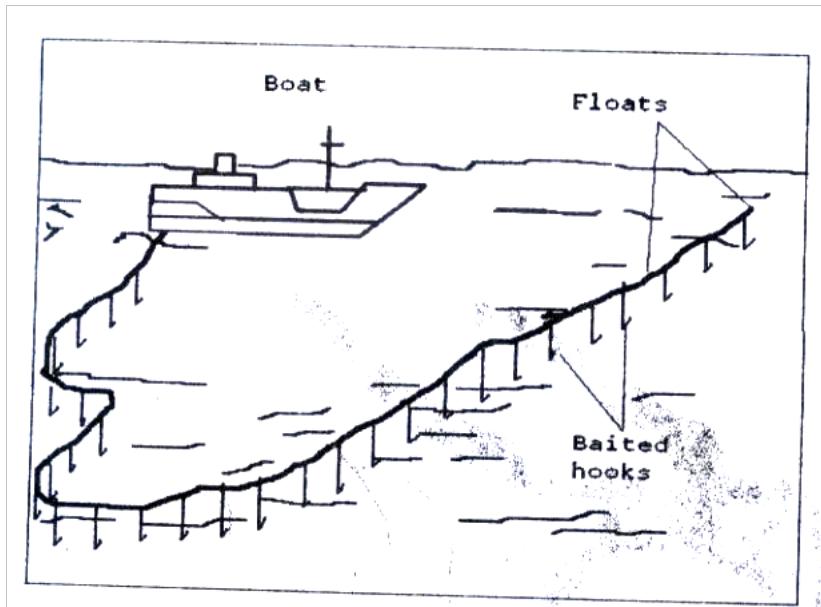
2. **Trawling:** This is the use of trawl nets shaped like a bag with open end where the fish enters. It has sinkers at the bottom and floaters on top tied with a rope and pulled by a boat it has locks for opening and closing ,it is mainly used for getting dempisal fish which live at the bottom of the sea. It is mostly used in seas and oceans with smooth sea bed. It is used for getting big fish like tuna, cod, Halibut, Haddock, sharks, whales.



3. **Purse seining:** This is the use of seints tide with rope & pulled by two small boats it has open end where the fish enters, it has floaters on top & sinkers at the bottom helping it in balancing it is used for getting pelagic fish which live near surface of water tibe sardines, mackerel, Herrings.



4. **Long lining:** This is the use of hooks which are many in number like 500 on the hooks there are baits which attract fish the hook are tied with rope and pulled by boat. It is mostly used for getting big fish like luna, cod, halibut, haddock , sharks, whale, mostly used in seas and oceans with rough sea bed(sea bed with obstacles) for commercial purpose.



Other methods.

5. Gill netting, mostly used in fish water bodies like lakes, fishing pounds is getting tilapia, Nile perch, mud fish.
6. Baskets. Used in fresh water bodies like swampy areas for tilapia and mud fish, rivers and lakes.
7. Spearing. Used for getting fish in flooded areas on a small scale.
8. Lumps used for getting silver fish (moon fish).
9. Hooks used for getting big fish like Nile perch, Tilapia, mud fish on a small scale.

Methods of fish preservation/storage

The modern and commercial methods include using ice, refrigerators, fish canning, containers, traditional methods include sun drying, fish smoking, salting frying.

Types of fish

1. Pelagic fish, these live near the surface of water and they are usually small in size like sarline, mackerel, Herring and mostly exploited by drifting.
2. Demersal fish , these live at the bottom of the sea and they are big in size for example cod, tuna, haddock , halibut , sharks, whale mostly exploited by trawling.
3. Anadromas, these live in fresh and salty water, they migrate during the time of reproduction for example salmon.

Fishing grounds in the world (CANADA, NORTH AMERICA, B.C, DEVELOPED COUNTRY,

NORTH EAST PACIFIC).

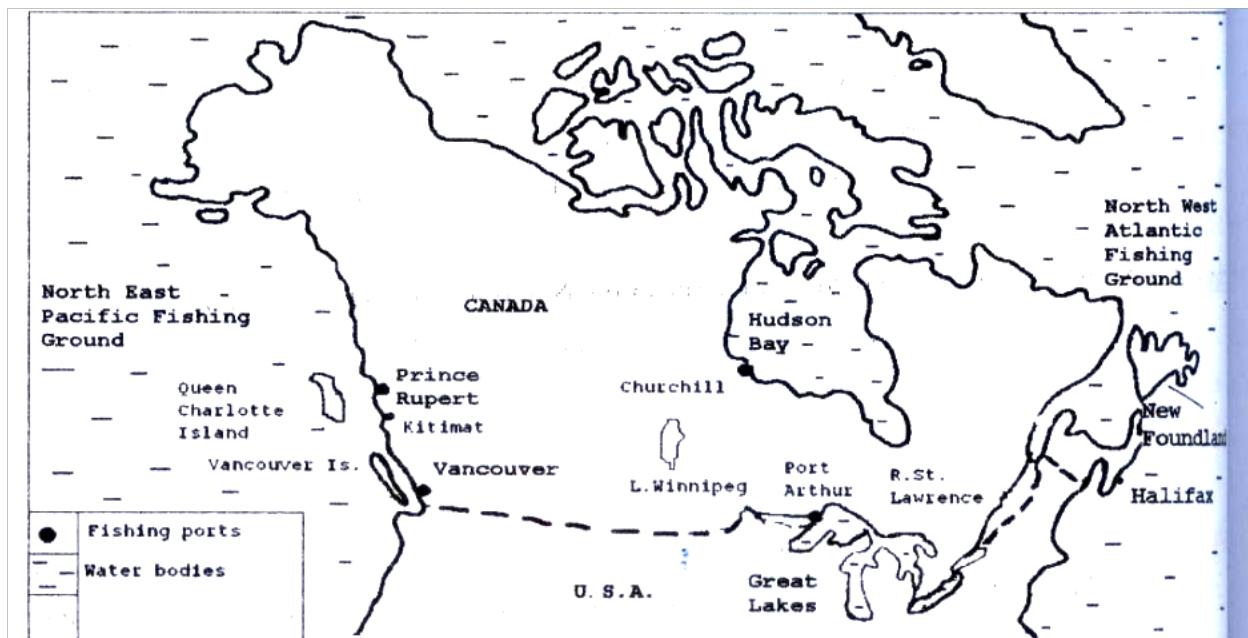
Canada is an developed country found in North America .It is important for commercial marine and fresh water fishing and fishing grounds like pacific, Atalan tic ,river franza,Skeena, s'tikine in British Columbia around Alaska,Vancouver Island New fond land or new England with fish landing sites i.e Vancouver church hill, prince Rupert species salmon, tuna, cod, Halibut, Haddock.

Some factors for development of fishing in Canada.

Canada has limited resources like infertile soils like for agriculture .It is mountainous with rugged and steep slope .It has limited mineral resources with poor temperate climate with winter and snow discouraging other activities and promoting fishing.

Presence of many water large bodies with absence of mud ,floating vegetable with fertile soil for planktons, cool climate giving a wide area for commercial fishing for example Atlantic ocean, River fraver, Skeena, Stikine.

A SKETCH MAP OF CANADA SHOWING FISHING GROUNDS



Factors for development of fishing in CANADA.

They are physical and human factors accounting for the development of commercial fishing in Canada

- Presence of shallow continental shelf for easy penetration of light and oxygen for growth of planktons and multiplication of fish e.g pacific Atlantic ocean.

- Presence of temperature/coniferous forests providing for making beds, firewood and charcoal for preservation using tree species like pine , soruce, Balvamfir.
- Availability of many/different commercial species leading to high production and helping in marking e.g salmon, tuna, cod, halibut, haddock, herrings.
- Presence of irregular and indented coast lines with caves ditts, fords, headlands, Rias, pensulars, Islands protecting against strong waves leading to the development of natural harbours , ports, fish landing sites and providing breeding ground for the fish e.g Vancouver, church hill, prince Rupert, coast of pacific ocean.
- Presence of smooth sea bed with limited obstacles like rocks, pot holes promoting the use of trawling for demersal fishing at the bottom of the sea like getting big species like tuna, cod, haddock, halibut, sharks.
- Presence of ocean currents like warm California from the south and cool Labrador, warm Gulfstream providing good conductions for the growth of planktons and multiplication of fish e. g Pacific Atlantic ocean, coast of British Columbia.
- Presence of planktons like the zoo plankton because of many water bodies, cool climate, fertile soil, absence of mud giving enough food for the growth of fish.
- Canada is strategically located at the coast of Pacific, Atlantic ocean, Vancouver, Island leading to the development of ports like Vancouver, church hill and using cheap water transport for exporting to other countries like United States of America, Japan.
- Presence of wide and shallow continental shelf at the coast of Atlantic, pacific ocean leading to the easy penetration of light and oxygen for the growth of plankton and fish.
- Use of modern methods of fishing like trawling, drifting, purseining, long lining, getting fish in big quantities and mature fish.
- Use of modern preservation and storage like using ice, refrigerators fish canning, using containers helping in transportation of, marketing and maintaining high quality.
- Presence of wide market both internal and external like selling fishing towns like prince Rupert, port George , Nelson, John and exporting fish to United States of America, Japan and Britain.
- Availability of large capital base provided by government, private investors used before purchasing modern fishing gears, paying workers, transport routes.

- Improved transport and communication like construction of road, ports, waterways, railway lines connecting fishing grounds to the markets and industries like using church hill, R. Fraser, Vancouver, R. Skeena, Stikine.
- Presence of research stations at the coastal towns helping in breeding fish for restocking over fished areas and helping in processing, marketing for easy exploitation and conservation.
- Cultures and traditions of the Canadians being sailors they don't fear water fish consumers because it has many water bodies e.g R. Stikine, Skeena.
- Presence of positive and supportive government policies like gazetting fishing grounds caring out research, giving out loans, paying labour supply.
- Political stability and security leading to the favourable investment climate and diverting resources to developing infrastructures, social services, economic activities leading to economic growth and development.
- The good international relation and regional cooperation helps in marketing, transport and fish conservation like in USA, Japan, Oritain and it has also reduce on conflicts and tensions.
- Presence of labour supply both skilled and unskilled working as fishermen, processing factories because of increased population in towns like Vancouver, church hill and using immigrants from less developed countries.
- Presence of industries related to fishing or supporting fishing industries making nets, hooks, animal feeds, fertilizers, extracting oil, art and craft, processing fish.
- Presence of big co's, cooperation and entrepreneurs providing capital and managerial skills for large scale commercial fishing.

Importance/effects of fishing in Canada.

Positive effects.

- Improvement in transport and communication like construction of industries, modern ports, railway lines, water ways connecting the fishing areas to markets and industries benefiting the surrounding communities like areas of Vancouver, church hill, prince Rupert.
- Source of food like proteins, vitamin, mineral salt by consuming fish species like salmon ,haddock, herring reducing on problem of hunger, malnutrition on food imports.
- Source of foreign exchange by exporting fish and its products to USA, Britain helping in importation and investments.
- Provision of employment opportunities e.g fishermen in fish processing factories in areas of Vancouver, church hill leading to increased standards of living.

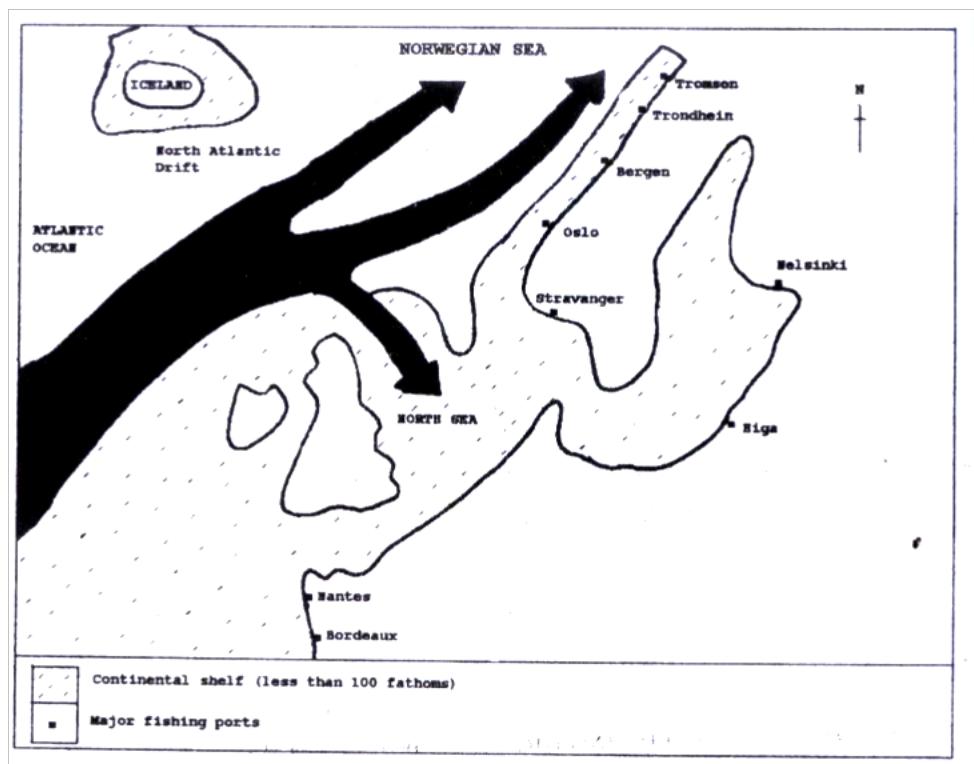
- Growth of urban centres like towns and ports around fishing industries, market areas like Vancouver, church hill ,port John, Neloon leading to the development of trade and improvement in social services.
- Source of government revenue by taxing people co's improving national income for other development projects, social services and infrastructures.
- Provision of internal relation and regional cooperation through export trade of fish like USA, Japan and Britain.
- Development of industries e.g fish processing, making boats, chemicals, drugs, oil, nets, art and craft, fertilizers, leather products.
- Economic diversification by influencing other economic activities like industrialization, transportation reducing on dependency burden tourism.
- Pollution of fishing grounds or water bodies because of dumping wastes sewages from urban and industrial areas causing obstructions of fish in discouraging the growth of planktons e.g at Vancouver, prince Rupert.
- High transport cost because of mountainous and rugged having many water bodies being touristic especially in the interior.
- It is lead by accidents destroying people and properties scaring fishermen and investors because of water rapid, obstacles, strong waves, and poor visibility.
- Presence of fish predators consuming young and small fish like the shark and whale reducing on fish production.
- The presence of conflicts and tensions over territorial boundaries in water bodies.
- Limited unskilled labour because of high standard of living leading to shortage of manual and casual labourers and cause sparse population in the interior.
- Limited internal markets because of sparse population and having other substitutes.
- Government polices (unfavourable) like gazetting fishing grounds for environmental protections, diverting resources to other activities like forestry.
- International laws and regulations hindering the exploitation of sharks, whales because they are endangered species and discourage deep water fishing for navigation purposes.
- Price fluctuations on the world markets affecting planning.
- Presence of poor species of less commercial importance like oyster, crab.
- Presence of obstacle like rocks, vegetation, potholes affecting the movement of boats and the use of nets.

FISHING IN EUROPE (N.E Atlantic, Scandinavia countries (Norway)

Norway is a developed country found in western Europe. It is important for commercial

marine fishing among Scandinavia countries with fishing grounds like Atlantic ocean, North sea, Norwegian sea Barents sea, fishing landing site like Jan Stavanger, Bergen Oslo, Tromso, Brest, Hammerfest, Sebastian. It is important for fishing species like Herring, cod, Haddock, Halibut, Tuna, Sardines, mackerel and Bonilo.

A SKETCH MAP OF NORWAY SHOWING THE MAJOR FISHING GROUNDS



Factors for fishing in Norway

- Presence of shallow continental shelf for easy penetration of light and oxygen for the growth of planktons (zoo) and multiplication of fish e.g Atlantic ocean and Barents sea, North sea.
- Presence of temperate coniferous forests providing timbers for making boats, firewood and charcoal for preservation using tree species like pines, spruce, fir.
- Availability of many different commercial species leading to high production and helping in marketing .Tuna, cod, Herring, Halibut.
- Presence of indented and irregular coastline with caves, cliffs, fords, Headland, Rias, Islands protecting against strong winds (waves) leading to development natural harbours, ports, fishing landing sites and provide breeding ground for animals like fish e.g Vancouver, church hill, prince Rupert, coast of Atlantic ocean.
- Presence of smooth sea bed with limited obstacles like rocks, portholes promoting the use of trawling for demersal fishing at the bottom of the sea like

getting big species like Tuna, Cod, Haddock, Halibut.

- Presence of ocean current like North Atlantic drift from the South providing good condition for the growth of plankton and multiplication of fish e.g Atlantic.
- Presence of planktons like the zoo because of many water bodies, cool climate, fertile soil absence of mud giving enough food for the growth of fish.
- Norway is strategically located at the coast of Atlantic ocean, Norwegian sea, leading to the development of ports like Bergen, Stavanger using cheap water transport for exporting fish to other countries like Sweden, Denmark, USA.
- Presence of wide and continental shelf at the coast of Atlantic Norwegian sea leading to easy penetration of light and oxygen for the growth of planktons.
- Use of modern methods of fishing like trawling, drifting, purse seining, long lining getting fish in big quantities and mature fish.
- Use of modern methods of preservation and storage like using ice, refrigerators, fish canning, using containers helping in transportation, marketing .
- Presence of wide market both internal and external like selling fish in town like Stavanger, Tromso and exporting fish to Japan in USA.
- Availability of capital base provided by the government, private investors used for purchasing modern fishing gears, paying workers, transport routes.
- Improved transport and communication like construction of roads, ports, waterway, railway lines connecting fishing grounds to markets and industries like using Stavanger, Hammerfest.
- Presence of research stations at the coastal towns helping in breeding of fish for restocking over fished areas and helping in processing, marketing for easy exploitation and conservation.
- Cultures and traditions of the Norwegians being sailors, fish consumers because it has many water bodies. Presence of positive and supportive government policies like getting fishing ground, caring out research, giving out land, paying labour supply.
- Political stability and security leading to favourable investment climate and diverting resources to developing infrastructures, social service, economic activities leading to economic growth and development.
- The good international relationship and regional co-operation helping in marketing , transport and fish conservation like in USA, Japan, Britain and it has also reduced on conflicts and tensions.
- Presence of labour supply, both skilled and unskilled working as fishermen, processing factories because of increased population in towns like Stavanger, Tromso and using migrants from less developed countries.
- Presence of industries related to fishing or supporting of fishing industries

making nets hooks, animal feeds, fertilizers, processing fish.

- Presence of big co's , cooperative and entrepreneurs providing capital and managerial skills for large scale commercial fishing.

Importance /effects of fishing industries in Norway.

- Improvement in transport and communication like construction of roads, railway lines, water ways connecting fish areas to markets and industries benefiting surrounding communities like areas of Stavanger, Tromso, Bergen.
- Source of food like proteins, vitamin, mineral salts by consuming fish species like Herring, cod , Halibut, reducing on the problem of hunger , malnutrition and food import.
- Source of foreign exchange by exporting fish and its products to USA, Japan helping in importation and investments.
- Provision of employment opportunities e.g fishermen in fish processing factories in areas of Bergen, Stavanger leading to increased standard of living.
- Growth of urban centres like Stavanger, Bergen, Tromso around fishing industries and marketing areas leading to development of trade and improvement in social services.
- Source of government revenue by taxing people and co's improving national income for other development projects, social service, infrastructures.
- Promoting of international relationship and regional co-operation through export trade of fish like USA, Japan, Britain.
- Development of industries e.g fish processing industry making boats, chemicals, drugs, oil, nets, art and craft and leather products.
- Economic diversification by influencing other economic activities like industrialisation, transport, reducing on the dependency burden.
- Provision of raw material for drugs, chemicals, cosmetics, art and craft.
- Development of tourism industry like the fish landing site and boats use as beaches then visiting the industries and because of increased incomes(fishers.)
- Alternative land use because of limited resources help in resource exploitation for economic growth and development.

Negative effects

- Environmental degradation for firewood, charcoal and timber through the construction of industries, transport routes developing landing sites of Tromso, Stavanger and Britain.
- Over exploitation of resources like fish because of using modern methods of fishing leading to extinction of some species like sharks and whale.

- It leads to pollution of air, water and land because of industries like at Bergen using boats with engines in Pacific Ocean and fish smoking for preservation.
- Diversion of labour and capital in to the fishing sectors affecting other economic activities like agriculture, tourism, forestry because of investors and workers who has gone in to fishing.
- It leads to urban problems because of high population at fish landing site like port Nelson, church hill increased cost of living, increased crime rates, slums.
- Displacement of people and activities by developing fish landing sites like Stavanger, Bergen, constructing industries, transport routes, constructing fish ponds.
- Regional imbalance causing economic imbalance causing problems like labour mobility, wage differences.
- It leads to accident destroying people and properties by drowning in water because of strong waves, mist and fog, obstacles like rocks, big aquatic animals e.g hippos, sharks.
- Promotion of conflicts and tensions because of unclear territorial boundaries in water bodies.
- It is affected by price fluctuation, competition and this affects planning.

Problems facing fishing in Norway

- Competition with other countries on the world market like Canada Sweden because of other substitutes.
- Winter season with snow and ice affecting labour supply on transport.
- Over fishing causing fish exhaustion and extinction of some species like the shark, whale because of using modern methods of fishing.
- Pollution of fishing ground or water bodies because of dumping wastes, sewage, from urban and industrial areas causing destruction of fish on discouraging the growth of planktons e.g at Vancouver, prince Rupert.
- High transport cost because of mountainous and rugged having many water bodies being forested especially in the interior.
- It is affected by accident destroying people and property scaring fishermen and investors because of obstacles, poor visibility.
- Presence of fish predators consuming young and small fish like the shark, whales reducing on fish production.
- The presence of conflicts and tensions over territorial boundaries.
- Limited unskilled labour because of high standard of living leading to shortage of manual and casual labours and because of sparse population in the interior.

- Limited international market because of sparse population on having other substitutes.
- Government policies (un favourable) like gazetting fishing ground for environmental protecting, diverting resources to other activities like forestry.
- International laws and regulations hindering the exploitation of sharks, whale because they are endangered species and discouraging deep water fishing for navigation purposes.
- Price influences on the world market affecting planning.
- Presence of fish poor fish species of less commercial importance like oysters, crab.
- Presence of obstacles like rocks, vegetation, potholes affecting the movement of boats and use of nets.

FISHING IN SOUTH AMERICA (PERU) OR S.E PACIFIC

This is a less developed country found in South Africa and it is important for commercial marine fishing with fishing ground in south east pacific ocean along Peruvian coast with fish landing sites, coastal towns, industrial areas e.g lima, Pisco, Chimbote, Callau, Mollendo, Traniso and Atico it has species like Anchovies, Tuna, cod, mackerel Herrings, sardine.

Factors for fishing in PERU

- Shallow and wide continental shelf for the growth of planktons and fish at the coast of Pacific Ocean.
- Presence of ocean currents like the Humbolt current cool from the south and warm ocean currents from the north providing good condition for the growth of planktons and fish.
- Use of modern method of fishing helping in getting mature fish and in large quantities e.g purse seining, trawling, drifting.
- Use of modern method of preservation and storage helping in marketing, transporting and maintaining good quality e.g refrigeration, canning and containers.
- Positive and supportive government polices like extending fish areas from 22km-130km giving a wide area for fishing and attracting investors.
- Presence of capital provided by the government, private co's used in paying labour, availing extension workers, purchasing equipment like nets.
- Presence of research stations in Lima for breeding fish, for restocking in fished

areas, developing fish farming in ponds, processing and marketing fish.

- Presence of labour supply both the skilled and unskilled because of increased population in towns like Lima, Pisco, Chimbote working as fishermen and in processing factories.
- Improved transport like construction of roads, railway lines, water ways, modern ports connecting fishing grounds to markets and industries.
- Availability of commercial species helping in marketing and leading to high production i.e. Cod, Tuna, Anchovies.
- Strategic location near the coast of Pacific ocean leading to development of ports like Lima, Chimbote and using cheap water transport to export.
- Smooth sea bed of Pacific ocean with limited obstacles encouraging the use of trawling for demersal fishing like for getting cod, Haddock.
- History culture and traditions of being fishermen, sailors, fish consumers because Peru is near Pacific ocean.
- Good international relations helping in marketing getting loans, labour supply, investors with USA, Japan and Britain.
- Peru has limited resources like land for agriculture, limited minerals leading to specialization in fishing.
- Presence of natural harbours used as ports and fish landing sites because they are indented, irregular and they provide breeding grounds for the fish e.g. Lima, Chomote, Pisco, Mollendo.
- Presence of plankton giving enough food for the fish because Pacific ocean has fertile soils brought by rivers and there is absence of mud and floating vegetation.
- Presence of sea birds providing droppings known as Guano providing fertile soils for the growth of plankton.
- Presence of wide market both internal and external like selling fish in towns like Lima, Chimbote, Pisco and exporting fish to other countries e.g. Japan, USA, Britain.
- Political stability and security leading to a favorable investment climate like attracting investors and diverting resources for fishing.
- Presence of tropical forests in the Andes mountains providing timber for making boats, firewood and charcoal for preservation.
- Cod climatic conditions helping in fish preservation, growth of plankton and fish found near Pacific ocean.

SKETCH MAP OF PERU SHOWING MAJOR FISHING GROUNDS.



Importance / effects of fishing in Peru

Positive effects

- There has been creation of employment opportunities to fishermen, in fish processing factories in area of Lima leading to increased standards of living.
- Improvement in transport and communication like construction of roads, water ways connecting fish areas to markets and industries benefiting surrounding communities.
- Source of food like proteins, rits, mineral salts by consuming fish like cod, therrings, Halibut, reducing on hunger and malnutrition.
- Source of foreign exchange by exporting fish and its products to USA, Japan helping in importation and investment.
- Growth of urban centres like Pisco, Lima, Mollendo around fishing industry and marketing areas leading to development of trade and improvement in social services
- Source of government revenue by taxing people and companies thereby

improving national income.

- Provision of raw materials used in making drugs, cosmetics, oils, chemicals.
- Promoting international relationships and regional cooperation through export trade of fish to USA, Japan and Britain.
- Development of industries e.g. fish processing industry, making boats, chemicals, crafts and leather products, animal foods, oil.
- It leads to urban problems because of high population around fish landing sites of Lima, Pisco and these problems include, high crime rates, development of slums.
- Displacement of people and activities by developing fish landing sites like Pisco, Mollendo through contracting of industries, transport routes.
- Over exploitation of fish because of using modern methods of fishing leading to extraction of more fish species like sharks and whales.
- Environment degradation because of deforestation for firewood, charcoal through the construction of roads, industries developing landing sites of Pisco, Lima.
- Economic diversification by influencing other economic activities like industrialization, tourism, transport reducing on the dependency burden.
- Promotion of conflicts and tension because of under territorial boundaries in water bodies.
- It leads to pollution of air, land and water by using boats with engines, fish smoking for preservation at Lima, Pisco.
- Regional imbalance around fishing landing sites and the surrounding areas due to quick development of the landing sites than the surrounding areas.
- It leads to accidents like drowning due to poor visibility, poor climate associated with fog and mist, obstacles, rocks, big aquatic animals.
- Diversion of labour and capital affecting other activities like agriculture, forestry because of the investors and workers going into fishing.
- Profit repatriation by foreign investors causing capital outflow from Japan, USA and Britain.

FISHING IN AFRICA

Marine fishing grounds in Africa; North West Africa (Magreb region) i.e. Morocco, fishing in Atlantic ocean, West Africa i.e in Nigeria, Ghana, Atlantic ocean, South West Africa i.e. in Namibia, Angola and Atlantic ocean.

There is less commercial fishing at the coast of East Africa like Kenya and Tanzania and at the coast of North East Africa like Somalia and Ethiopia (Indian ocean).

Fresh water fishing grounds lakes i.e L. Victoria, L. Tanganyika, L. Chad, L. Turkana, L. Malawi and in rivers i.e. in R. Nile, Congo, Limpopo, Swampy areas or wetlands i.e. Shores of L. Victoria, banks of R. Katonga, R. Katu, R. Nile, R. Congo, East African coast (mangrove swamps), West African coast.

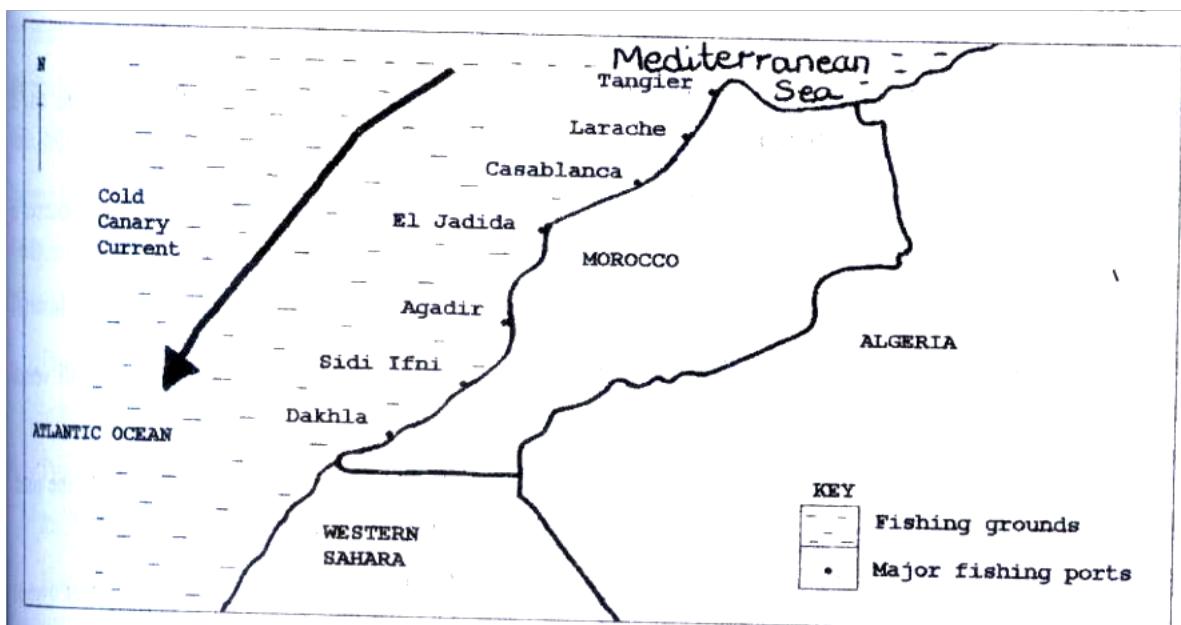
Fishing in ponds like Kajansi, Mbale, Wakiso, Kabale. Marine fishing in Africa contributes 75% and fresh water fishing contributes 25% and African contributes 6% on total world production.

A SKETCH MAP OF AFRICA SHOWING MAJOR FISHING GROUNDS

Fishing in Morocco

Morocco is a less developed country found in West Africa and it is important for commercial marine fishing in North West Africa, magreb region, Atlantic ocean with fish landing sites like Rabat, Casablanca, Tangier, Agodier, WQandier, Safi, Ejadid and it has marine species like Tuna, Cod, Mackerel, Sardines, Anchiores, Herrings.

A SKETCH MAP OF MOROCCO SHOWING MAJOR FISHING GROUNDS



Factors for fishing in Morocco

- ♥ Presence of commercial species contributing to high production and helping in marketing e.g. ardines, cod, Tuna, Herrings.
- ♥ Presence of large water bodies giving a wide area for commercial fishing e.g. Atlantic ocean.
- ♥ Presence of national harbours which are indented and irregular leading to development of ports, fish landing sites and breeding areas for fish.
- ♥ Presence of ocean currents like warm Guinea, cool canary giving good conditions for the growth of plankton and multiplication of fish.
- ♥ The use of modern methods of fishing like trawling, drifting, long lining leading to high production and fish conservation.

- ♥ The use of modern methods of preservation like using ice, refrigerators, freezers helping in marketing, transport and reducing wastage or maintain good quality.
- ♥ Presence of industries related to fishing have also led to fishing in Morocco i.e. Art and craft industry, tourism industry, Chemical oil.
- ♥ Presence of labour supply because of high population in the coastal towns like Casablanca, Rabat working as fishermen and in processing factories.
- ♥ Presence of wide market both internal and external like selling fish in towns and exporting to other countries.
- ♥ Cool Mediterranean climate leading to growth of planktons, fish and making preservation easy and cheap.
- ♥ Presence of planktons because of cool conditions and fertile soils in Atlantic ocean.
- ♥ Morocco has limited resources like minerals, it is dry with infertile soils discouraging other activities.
- ♥ Presence of shallow and wide continental shelf like the coast of North West Atlantic ocean or coastline of North West Africa leading to growth of planktons and fish.
- ♥ Supportive and positive government policies e.g. giving loans, Attracting investors, gazetting fish area, employing marine police.
- ♥ Political stability and security leading to favourable investment climate and controlling sea pirates, smugglers.
- ♥ Good international relations and regional cooperation providing capital and good management.
- ♥ Cultures and traditions of living fishermen, sailors, fish consumers because Morocco is near Atlantic ocean.

- ♥ Presence of research stations for breeding fish, processing fish and marketing.
- ♥ Availability of capital provided by the government and private investors used for paying labour, availing extension workers, constructing of industries, machines.
- ♥ Improved science and technology helping in exploitation and conservation.

Importance of fishing in Morocco (Effects)

Positive

- Improvement in transport and communication like construction of roads, modern ports connecting the fishing areas to markets and industries benefiting the surrounding communities like areas of Rabat, Safi, Agadir.
- Source of food like proteins, mineral salts by consuming fish species i.e. Tuna, Cod, Herrings reducing on hunger, malnutrition and food imports.
- Source of foreign exchange and through exporting fish and its products to USA, Japan, Britain helping in importation and investments.
- Provision of employment to fishermen in processing factories in areas of Rabat, Safi, Agadir, Ejadida.
- Growth of urban centres and ports around fishing industries and marketing areas in Safi, Rabat, Agadir leading to development of trade and improving social services.
- Source of government revenue by taxing people and companies improving national income for other development projects, social services, infrastructure.
- Promotion of international relationships and regional co-operation through export trade of fish like USA, Japan, Britain.
- Development of industries e.g. fish processing industry, leather making industry, chemical, boat making, nets and art and craft.
- Economic diversification by influencing other economic activities like industrialization, transport, tourism, reducing on the dependency burden.
- Provision of raw materials to industries like drug, chemical, art and craft and leather making.
- Provision of tourism industry like fish landing sites and ports used as beaches then visiting the industries and because of increased income (fishermen).
- Alternative land use because of limited resources helping in resource exploitation for economic growth and development.

Negative

- Environmental degradation because deforestation for firewood, timber, through

the construction of industries, transport routes developing landing sites of Rabat, Agadir.

- Over exploitation of resources like fish because of using modern methods of fishing to extinction of some species like sharks and whales.
- It leads to pollution of air, water and land because of industries like at Casablanca, Rabat using boats with engines in Atlantic ocean and fish smoking for preservation.
- Diversion of labour and capital into the fishing sector affecting other economic activities like agriculture, tourism because workers and fishers have gone into fishing.
- Displacement of people and activities by developing fish landing sites like Casablanca, constructing industries, transport routes and constructing fish ponds.
- Regional imbalance causing economic imbalance causing problems like labour mobility and wage differences.
- It leads to accidents destroying people and property by drowning in water because of strong waves, mist and fog, obstacles like rocks, big aquatic animals e.g. sharks and whales.
- Promotion of conflicts and tensions because of unclear territorial boundaries in water bodies.
- It is affected by price fluctuations, competition and this affects planning.

Problems of fishing in LDCs (case study Peru)

There are physical and human problems.

- The tropical warm climate between December and March causing El Nino effect leading to migration of fish into deep waters and disrupting the growth of plankton.
- Presence of fish predators like sea birds consuming fish and big fish like whales and sharks eating small and young fish.
- Price fluctuations on the world market affecting planning because fish is perishable and cannot be easily stored.
- Over fishing causing fish exhaustion because of smugglers from USA, Japan, using poor methods of fishing exploiting the young ones.
- Presence of poor species of less commercial importance like Grabs, Oysters, sardines which are used for making animal feeds and fertilizers.
- Political instability and insecurity like in 1970 which destroyed infrastructure, fishing industries and discouraged investments.
- Limited capital to purchase modern equipment, construct transport routes,

industries causing low production.

- Use of poor methods of fishing like spearing, using hooks, baskets causing low production by local fishermen or companies.
- Profit repatriation by foreign investors causing capital outflow and lowering the national income.
- Poor preservation and storage like using salting, sun drying, smoking, frying of fish affecting the quality of fish and causing wastage.
- Reduction in guamo because it is used by agriculturalists for fertilizers.
- Poor transport in the interior because of Andes mountains and poorly developed ports affecting marketing.
- Presence of other resources leading to other economic activities, diverting labour and capital e.g. mining, tourism, lumbering.
- Limited market because of low income and having other substitutes causing low production.
- Competition with other countries on the world market e.g. Morocco, Japan, Canada, Norway, USA.
- Poor science and technology leading to limited skilled labour affecting exploitation and conservation.
- Pollution from fishing grounds because of wastes from industries and towns like Lima, Chimbote.
- Limited government support in form of loans, putting heavy taxes discouraging fishing.
- Limited offshore islands thus limiting deep water fishing.
- Siltation, segmentation and deposition of water bodies by floods discouraging the growth of planktons and fish.
- Environmental degradation because of population increase leading to encroachment of fishing areas and causing climatic changes like drought.
- Limited research affecting exploitation and conservation like fish farming in ponds.
- Limited skilled labour like biochemists for processing fish, agriculture officers to work as extension workers to provide extension services.
- Ignorance and backwardness by local fishermen and investors leading to use of small size nets, limiting the market for fish.
- Occurrence of accidents causing destruction of people and property scaring fishermen and investors because of strong waves, poor visibility, obstacles, submergence of coastal areas.
- Presence of obstacles like rocks, floating vegetation affecting fishing and

navigation.

Solutions / steps / measures / policies or ways of modernization

- Promotion of research like breeding fish for restocking, for processing and marketing fish.
- Introduction of modern methods of fishing like using trawling, drifting, pursuing, long lining leading to high production and getting mature fish.
- Strengthening laws and regulations reducing on illegal activities like encroachment on the fishing areas, polluting water bodies and using small sized nets also against smuggling.
- Improvement in science and technology by promoting sciences leading to availability of skilled labour helping in exploitation and conservation.
- Improvement in transport and communication like roads, railway lines, modern ports helping in marketing and movement of workers.
- Introduction of modern methods of preservation and storage like using ice, containers, cold rooms, refrigerators helping in marketing, transport reducing wastage.
- Acquisition of loans from financial institutions, government, development agencies used for purchasing modern equipment, carrying out research, building industries.
- Proper wastage management by gazetting dumping sites, treating of wastes using recycling around landing sites like Lima, Chimbote.
- Positive and supportive government policies like gazetting fishing areas, attracting investors, carrying out research, extending fishing areas from 22km to 100km
- Monopolizing fishing industries.
- Market expansion by exporting to other countries of USA, Japan, Britain.
- Formation of cooperatives and big companies in marketing, supervision, monitoring, processing.
- Mass education and mobilization about environmental conservation and fish modernization.
- Improvement in political stability and security helping in attracting investors and putting marine police for controlling sea pirates and smugglers.
- Privatization and economic liberalization helping in attracting investors with good management and capital.
- Training fishermen by using workshops, seminars helping in exploitation and conservation.

- Restocking over fished areas with young fish and other breeds from hatcheries.
- Controlling accidents by using boats with engines, life jackets, studying the weather reducing on destruction.
- Development of industries connected to fishing like the chemicals, nets, hooks.
- Environmental conservation by gazetting fishing areas, national parks, games and forest reserves.
- Constant maintenance and rehabilitation of the fishing grounds and landing sites through constant dredging for removing silt, floating vegetation, transport routes.

Questions:

1. To what extent have physical factors influenced the development of the fishing industry in either Canada or Namibia.
2. Examine the problems facing marine or fresh water fishing.
3. Examine the steps being taken to solve the problems of fishing in either Peru or Canada.
4. Assess the role played by fishing industry in the economic development of either Japan or Chile.

POPULATION IN THE WORLD

Population refers to the number of people in an area at a specific time. This is because population changes with time as a result countries carry out a population census after a period of time because of population characteristics or demographic characteristics are important for National planning like delivery of social services, infrastructure.

The study of population is called Demography. The population of the world is unevenly distributed some areas have dense, sparse and moderate because of physical and human factors dense (China, India, Nigeria, Kenya, Kabale, Kigezi slopes of Mt. Elgon, Kenya highlands, Nile delta in Egypt, Conurbation (Ruhr, Rand, Great Lakes)).

Sparse desert areas (Kalahari, Middle East, California, Sahara, Karamajong, Greenland, Iceland, Alaska, Forested area (Congo, Amazon basin, Kalangala islands).

Moderate / Average population i.e. for Savanna areas, Rwanda, Burundi, Zambia, Malawi, Buganda region, Australia.

A sketch map of the world showing population distribution

Factors of population distribution in the world

Presence of Savanna climate which attracts a dense population, because of the areas are good for agriculture, they have limited pests and diseases e.g. Rwanda and Burundi, Equatorial climate, sparse population in Congo basin and Amazon, desert areas have sparse population like Namibia because the areas receive little or no rainfall. Mountainous areas attract dense population like Kenya highlands, coastal Monsoon has sparse population like E. African coast and West African coast.

Presence of relief e.g. plateau, highland, mountain slopes, gentle slopes hills attract dense settlement because of easy transport and places are well drained e.g. Kenya highland, Shanghai in China. Highlands and mountains which are rugged and steep, have sparse population because they are steep, lowlands and valleys which are drained have sparse population i.e. Sudd region in Sudan, Congo basin.

Presence of thick and dense vegetation attracts sparse population because of pests, diseases, poor transport e.g. in Congo basin, Amazon basin. Areas with Savannah vegetation are easy to exploit they have limited pests and diseases attracting a dense population e.g. in Zambia, Burundi, Rwanda, Buganda.

Presence of fertile soils lead to development of agriculture dense population e.g. alluvial soils around Nile Delta, volcanic soils in Ethiopian highland, loam soils in Buganda. Poor soils attract sparse settlement e.g. sandy soils in the desert regions at Kalahari and Namibia.

Presence of pests and diseases attracts sparse population e.g. tsetse flies in DRC, Gabon, Brazil, Argentina, Kalangala in Uganda. Areas with limited pests and diseases attracts dense population e.g. Britain, USA, Ethiopian highlands, Kigezi and Kenya highlands and Jos plateau.

Presence of water bodies (drainage features) e.g. lakes, rivers, swampy areas lead to poor drainage attracting sparse population e.g. R. Congo, Amazon, E. African coasts, W. African coasts. Well drained areas attract dense population e.g. Jos plateau, Kenya highland, Ethiopian highland and areas with shortage of water attracts sparse population e.g. desert areas i.e. Namibia and Sahara.

Availability of resources leads to many economic activities attracting dense population for employment and investment e.g. copper mining in Zambia, fishing at the Moroccan coast, Karamoja, Ice land, Alaska and Sahel.

Presence of natural calamities and hazards discourage settlement because they destroy people and property e.g. locusts in Sahara, Tsunami in Japan, landslides and mass wasting in Brazil, floods in Mozambique, Volcanic eruption in DRC, Iceland. Areas with limited calamities and hazards attract dense population e.g. Shanghai in China, Buganda.

Human factors

Presence of government policies like gazetting urban areas, industrial areas attract dense population e.g. Great lakes, the Ruhr conurbation, areas gazetted as national parks, Game forest reserves, wetlands attract sparse population e.g Tsavo, Serengeti, St. Elizabeth.

Presence of political stability and security lead to economic activities and social services attracting dense population e.g. USA and Britain. Areas with political instability and insecurity e.g. Syria, Iraq, Israel, Palestine, Northern Uganda, Somalia, Sudan, etc attracts sparse population.

Presence of historical factors attracts dense population i.e. in areas which had centralized kingdoms e.g. Buganda, Zulu, South America and areas where missionaries operated e.g. Central Tanzania, Bunyoro, Northern Uganda.

Availability of improved transport and communication attracts dense population e.g.

Europe, Nairobi, Johannesburg, Britain, Japan, USA, Germany, poor transport and communication makes areas remote and backward leading to sparse population e.g. DRC, Gabon, Amazon basin, Kalangala in Uganda.

Growth of urban centres e.g. towns and ports attract dense settlement e.g. Great lakes, Ruhr conurbation and Europe. Rural areas have sparse population because of poor social services, limited employment, rural urban migration in Fulani region and Sahel region.

Presence of improved social services e.g. water supply leading to high standards of living attracting dense population e.g. Nairobi, London, Rome, Cairo, poor social services discourage settlement due to low standards of living e.g. Karamoja, DRC.

Improved science and technology leads to availability of skilled labour helping in the exploitation of resources, improving social services, infrastructure e.g. Japan, USA and urban centres e.g. Kampala poor science and technology discourage settlement e.g. Congo, Amazon region.

Presence of cultures and traditions e.g. nomadic pastoralists who do not like settled lives, they cause sparse population e.g. Karamoja, Masai land, Fulani region, the Middle East cultures favouring polygamy are densely populated e.g. Kikuyu, Bakiga.

Religious influences attracts dense settlement e.g. areas occupied by Muslims because of polygamy e.g. Nigeria, Zanzibar, Butambala district in Uganda and areas occupied by Catholics because they are opposed to modern methods of family planning e.g. Italy, France, Rome, Masaka district in Uganda.

Presence of economic activities attracts dense settlement for employment and investments e.g. trade in Dubai, industrialization in Ruhr conurbation, transport like Mombasa, Rotterdam, limited economic activities discourage settlement e.g. Fulani, Sahel, Congo region.

NOTE:

The factors for population distribution in the world are many and they work in a combination, there is no single factor which can adequately explain but some factors play a bigger role in specific areas like physical factors for mainly LDCs and economic factors mainly for MDCs.

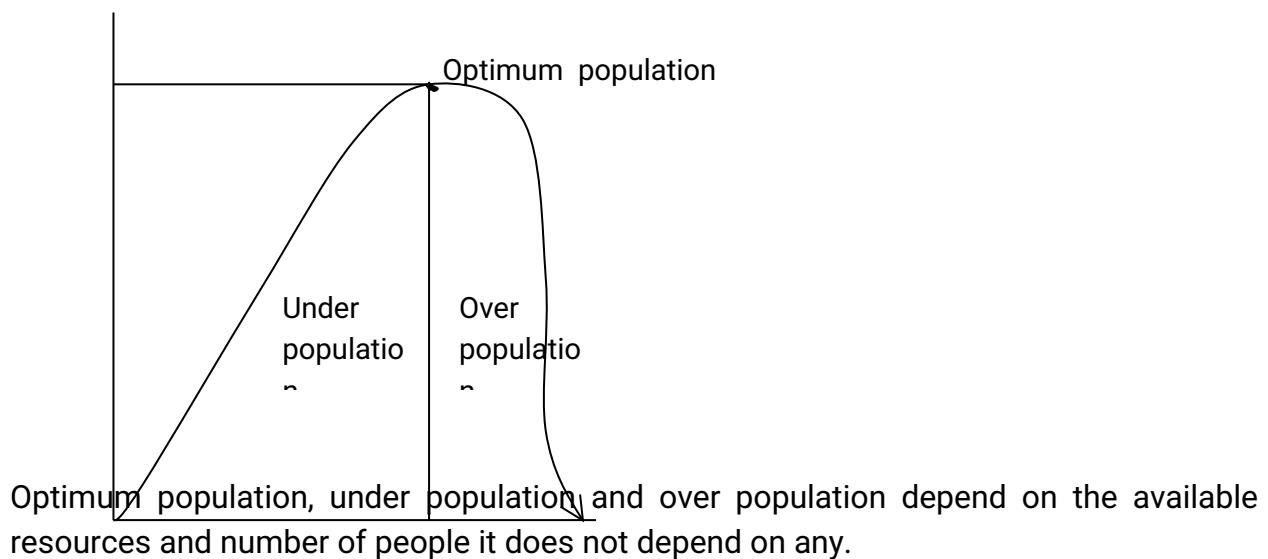
Questions:

"Population distribution is closely related to the physical factors in LDCs of economic factors in MDCs" with reference to specific examples discuss the settlement (4 areas).

POPULATION CONCEPTS

Optimum population;

This is where a number of people in an area is in balance / equilibrium with available resources for development purposes and employment opportunities in this area production is at maximum however optimum population is an ideal situation which is not easy to attain.



Under population;

This is where a country or an area has small population to allow fully utilization of resources. In this area resources are underutilized and increase in population will lead to increase in production. It is mostly experienced in sparsely populated areas with a lot of resources e.g. Congo basin, Amazon basin, Kalangala island, DRC, Gabon, Brazil, Argentina, Serbia. These areas are normally poorly drained they have pests and diseases they are forested, remote with poor transport and communication hindering settlement.

Problems of under population

- Limited labour supply to exploit resources and develop economic activities.
- Limited government revenue because of limited taxation of people and economic activities.

- Political instability and insecurity like rebel activities in the DRC.
- Under utilization of resources e.g. soil, forests, minerals, water, animals.
- Limited market for economic activities like trade, industrialization.
- Poor transport and communication e.g. roads, railway lines making the areas remote and backward.
- Poor social services i.e. schools, leading to low standard of living e.g. water and power supply.
- Pests and diseases like Malaria, bilharzias, sleeping sickness because of forests, poor drainage, mosquitoes, tsetse flies.
- Lack of innovators and planners to exploit resources and develop economic activities and entrepreneurs.

Over Population

This is where an area or a country has high population than available resources. In these areas resources are over exploited utilized and increase in population will lead to decrease in production.

It is mostly experienced in densely populated areas like China, India, Jos plateau in Nigeria, developed countries like USA, Britain, urban areas like Kampala, Nairobi, Abuja etc Kigezi, Kenya, Ethiopian highland, Ruhr conurbation, etc.

Over populated areas normally have fertile soils, well drained areas, limited pests and diseases, good transport and communication attracting many people for settlement.

Problems of over population

- Over exploitation of resources causing exhaustion of soil, water, forests, wildlife.
- Easy spread of diseases e.g Cholera, dysentery, diahorrea.
- Environmental degradation due to encroachment of gazetted areas like forest reserves, wetlands.
- Soil exhaustion because of over cropping, leading to infertile soils.
- High government expenditure on the provision of social services e.g. universal education in Uganda.
- High crime rate and social problems like prostitution, drug addiction, robbery.
- Pollution of air, water and land because of many people, heavy traffic, industrial activities.
- Land shortage causing conflicts and tensions i.e. land fragmentation.
- Rural urban migration causing urban and rural problems.
- Political instabilities and insecurity like in urban areas.

- Landslides, soil erosion and mass wasting in highlands and mountains.
- Hunger and famine leading to dangers of malnutrition and high food imports.
- Migration of people from densely populated areas to sparsely populated areas.

Qn: Examine the effects of under population and over population in either LDCs or MDCs.

Ways of controlling rapid population growth

- Use of modern methods of family planning like pills for ladies, condoms for men.
- Setting population policies like number of children, age of marriage.
- Girl child education reducing schemes reducing dependence on children for benefits.
- Restriction on immigrants by being restrict on visas e.g USA.
- Education and mobilization about the causes, effects and solutions.
- Giving incentives to small families and disincentives to big families like taxation.
- Encouraging emigration to other countries like immigrant labour to MDCs.
- Improving people's incomes through employment to make them busy and support themselves.

POPULATION GROWTH

This refers to increase in population on an area at / in specific time depending on birth rates / death rates and migrations.

Population growth = birthrate – death rate + migration

$$\text{Population growth} = \text{B.R} - \text{D.R} + \text{M}$$

Birthrate refers to number of people per 1000 of the total population.

$$\text{BR} = \frac{\text{No. of birth}}{\text{Total popn.}} \times 1000$$

$$\text{Total popn.}$$

Like in China (Beijing, Shanghai, Tianjin, Hong Kong, Yangtze, Maculuria, Sichuan, Shiang) Nigeria (Jos plateau, Ibadan, Niger Delta, Kano plains, Sokoto, Enugu)

Death rate refers to number of people who die per 1000 of the total population

$$\text{D.R} = \frac{\text{No. of death rate}}{\text{Total population}} \times 100$$

Natural population growth

It refers to increase of population of an area at a specific time naturally without external factors. It depends on birth rates, death rates without migrations.

$$\text{Natural popn. Growth} = \frac{\text{Birth rate} - \text{Death rate} \times 1000}{\text{Total population}}$$

Mortality rate

(a) Infant mortality rate

It refers to number of children who die between the age of 1 and 5 divided by the number of children born
$$\frac{\text{No. of children who die}}{\text{No. of children born}}$$

It depends on standards of living and health facilities.

(b) Maternal mortality rate

This refers to number of women who die during delivery in a population of 1000 over the number of mothers who produce.
$$\frac{\text{No. of mothers who die}}{\text{No. of mothers who produce}}$$

It is caused by poor health facilities and low standards of living.

Fertility rate

This refers to number of children produced per woman on average.

$$= \frac{\text{No. of children}}{\text{No. of mothers}}$$

Population density

It refers to the number of people per square kilometer. It depends of population in an area and it changes with time.

$$P.D = \frac{\text{Total population}}{\text{Area}}$$

Percapita income

It refers to average amount of money per person in the country.

$$= \frac{\text{Total income (GNP, GDP)}}{\text{Population}}$$

Dependence ratio

This refers to the number of people employed over total population. The dependants include the young people, old, disabled, students.

= People employed

Total population

Labour force

These are people between the age of 16 and 64 below, 15 are taken as young people and above 64 are taken as old.

CHARACTERISTICS OF POPULATION IN LOW DEVELOPED COUNTRIES

- Number of females is more than males because of social, political and economic problems.
- High level of illiteracy for females are more than males because of social problems
- High population growth rate around 13% due to low levels of family planning.
- The population is mostly dominated by young people and middle aged people, there are few old people due to low life expectancy.
- There are many people in rural areas 90% urban areas 10% causing problems of rural urban migration.
- Population is unevenly distributed, some areas have dense, sparse, moderate because of physical and human factors.
- High fertility rate like seven kids per woman on average.
- Low per capita income because of low income, low GNP and GDP due to limited economic activities, natural resources.

Qns:

- a. What do you understand by the term population pressure.
- b. Discuss the significance of the population pressure concept with special reference to either India or USA.
- c. Define population pressure.
- d. Give examples of areas where there is population pressure
- e. Give the negative significance of high population.

Population pressure refers to a situation where existing exceeds the available resources.

Or

Situations where the existing resources can no longer maintain the increasing population.

Population pressure is felt mostly in the highly populated developing countries. In the example of China, India, Burma, Thailand, Pakistan, Nigeria, Rwanda, etc as well as countries lowly populated but with very few natural resources of where the advances in agriculture and industry are slower than the rate of population growth e.g. the Nile valley, areas of Sudan and Egypt in Botswana, Burundi, Malawi, etc.

Positive significance of population presence (high population).

- Facilitates industrialization since agriculture seems inadequate for people's survival. Innovation and inventions increase leading to industrialization e.g India, USA.
- Development of innovators
- More research is encouraged, aimed at increased production e.g the Green revolution in South Eastern Asia (India)
- There is increased in tax base of the country because of taxing people and activities improving national income.
- Large market reserves created for both agriculture and industrial production hence leads to urbanization.
- Act as accumulated labour reserve for the country.
- Provides a defense force for the state, people and their property.
- It influences the exploitation of natural resources e.g. expounded agriculture, mining, forestry and lumbering.
- Completion leading to hard work.
- It encourages the development of infrastructure e.g. roads, ports, hospitals, schools, banks, etc.
- Presence of labour supply for economic activities like agriculture, forestry.

Negative

- Poverty and reduced standards of living
- Environmental degradation
- Increased pressure on land, land shortage and famine.
- Over exploitation of resources leading to their exhaustion
- Increased government expenditure and worsening of the balance of payment problem.
- Unemployment as with high population overturns and existing jobs
- High pressure on social services e.g. schools, hospital and water leading to their depreciation and breakdown.
- Rural urban migration and its associated problems.

- Rapid spread of diseases and malnutrition leading to increased death rates.
- High (hyper) inflation and reduced economic growth.
- Encroachment and use of marginal lands for example swamps, forests.
- Land fragmentations and conflicts over use of land leading to soil erosion and soil exhaustion.
- Political instabilities and insecurity
- It leads to high death rates due to poor sanitation and malnutrition.
- Development of slums with poor living conditions e.g Soweto in Johannesburg, Katonga in Kampala, Kigera in Nairobi, Chicago in USA.
- Congestion and overcrowding in terms of traffic causing inconveniences and delays in New York city, Beijing and China, Kampala.
- Easy spread of diseases which are contagious like Ebola, flu, cough.
- Encroachment of gazetted areas for agriculture, settlement, urban expansion like national parks, game reserves and forest reserves.
- Change of population structure (population is characterized with young people)
- High cost of living because of paying for basic needs, with health, accommodation.
- It leads to low life expectancy with shortage in food supply and malnutrition.
- It encourages pollution as waste materials and refuse are spread carelessly in slums and congested areas.
- There is increase in the dependence burden as the unemployed population overturns the working population.
- Leads to low savings and low economic development leading to poverty.
- It promotes the problem of Juvenile delinquency.

Qn: - Outline the factors that lead to rapid population growth.
 – With reference to either Rwanda or Nigeria, examine the effects of rapid population growth.

POPULATION IN AFRICA

NIGERIA

Nigeria is a developing country found in West Africa and it has a high population of around one hundred millions. The population is unevenly distributed. Densely populated areas are Jos plateau, urban areas like Abuja, port Harcourt, Ibadan, Sokoto, Lagos.

Medium population is found in Savannah areas of Kano plains, Calabour, Central,

Eastern, Western ports around Sokoto.

Sparse populated areas in Sahel region, forested areas, coastal areas of Atlantic ocean, Fulani region.

Factors for population distribution in Nigeria

Presence of wet climate attracts dense population like in the Jos plateau, Kano plains because they are good for agriculture, desert climate attracts sparse population in the North and Equatorial climate in the South.

Presence of hills and plateaus are well drained attracting dense settlement e.g. areas of Abuja, Kano plains, Jos plateau, Lowlands and valleys have sparse settlement near the coast of Atlantic ocean.

Presence of fertile soils attract dense settlement for agriculture ie. Jos plateau, Kano plains, sandy infertile soils discourage settlement i.e. Sahel region.

Presence of water bodies lead to poor drainage, pests and diseases discouraging settlement e.g. coast of Atlantic ocean, banks of R. Niger, and Benue, Shore of Kainji. Well drained areas are densely populated and limited water supply discourage settlement.

Forests and swamps discourage settlement i.e. Mangrove on the coast of Atlantic, forested and swampy areas in the south, Savanna vegetation attract dense population.

Presence of pests and diseases discourage settlement i.e. forested areas and water bodies in the south. Limited pests and diseases attract dense settlement e.g. Abuja, Ibadan, Jos plateau, Kano plains.

Presence of natural resources attract dense settlement for employment and investment e.g. oil, mines in Niger, Delta, fishing areas at Atlantic coast, limited resources discourage settlement i.e. Sahel and Fulani regions.

Presence of natural calamities and hazards cause destruction of people and property discouraging settlement e.g. locust in Sahel region. Limited calamities attract dense settlement.

Government policies attract dense settlement in towns, industrial areas e.g. Sokoto,

Ibadan, Abuja, Port Harcourt, areas gazetted as national parks, plantations, game reserves discourage settlement in the South.

Political stability and security attract dense settlement in Jos plateau, Kano plains. Conflicts and tensions discourage settlement in Kaduna states, rebel activities in Niger delta.

Improved transport and communication attract dense settlement e.g. Abuja, Lagos, Ibadan, remote areas attract sparse settlement e.g. Sahel, Fulani region, forested areas in the South.

Cultures and traditions attract dense settlement i.e. areas dominated by Moslems because of polygamy, backward cultures like Nomadic pastoralists discouraging settlement i.e. Sahel, Fulani regions.

Growth of urban centres attract dense population for employment and social services e.g. Abuja, Lagos. Rural areas have sparse population because of migration.

Historical factors attract dense population like missionary operated areas and areas which had centralized kingdoms e.g. Hausa states, areas affected by slave trade because of sparse population.

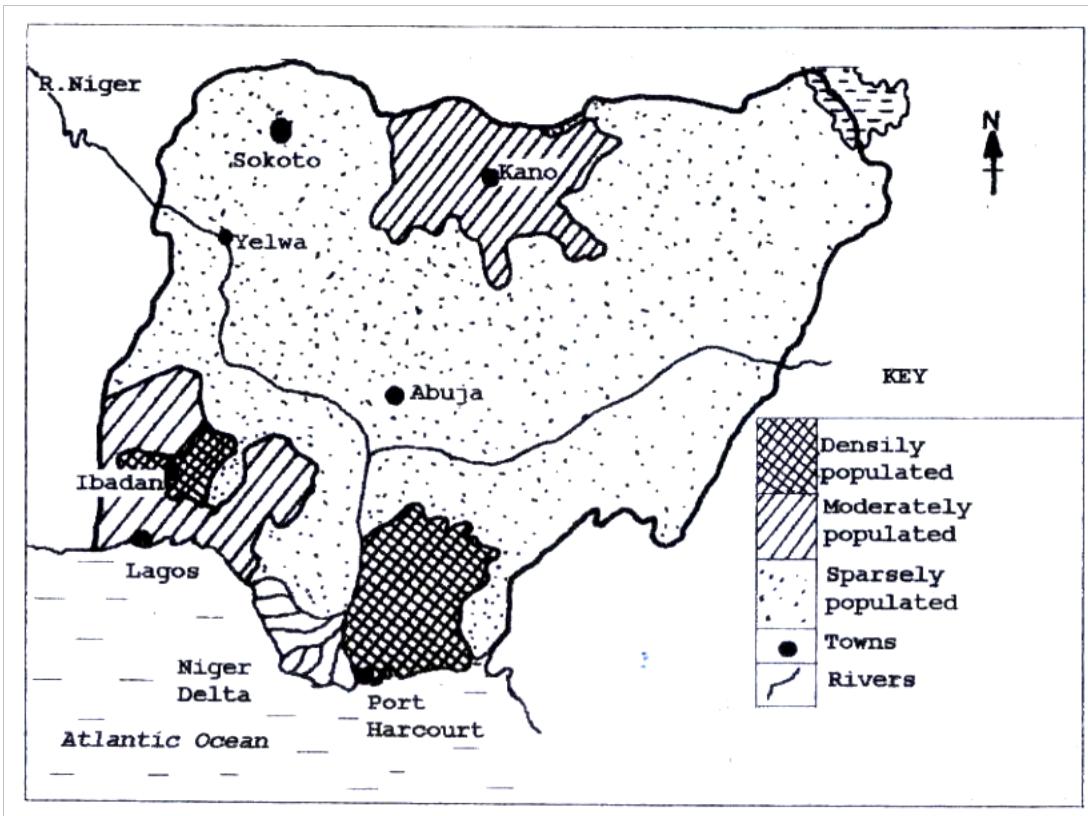
Religious factors attract dense population i.e. areas dominated by Moslems because of polygamy, Catholics because they are opposed to modern methods of family planning.

Presence of improved social services attract dense population due to high standards of living e.g. Lagos, Port Harcourt, Abuja, Ibadan. Poor social services in rural areas discourage settlement e.g. Fulani and Sahel region.

Improved science and technology leading to availability of skilled labour, exploiting resources, developing economic activities, improving infrastructure, social services, poor science and technology discourage settlement.

Presence of economic activities attract dense population like trade in Abuja, mining in Jos plateau, industrialization in Lagos, limited economic activity discourage settlement.

A SKETCH MAP OF NIGERIA SHOWING POPULATION DISTRIBUTION



POPULATION MOVEMENTS OR MIGRATION

In migration: It is the movement of people from one area to another in the same country because of push and pull factors e.g. rural urban migration, urban rural migration, urban-urban migration, rural-rural migration.

Out migration: This is leaving an area to another area because of push and pull factors in the same country.

Immigration: It is coming from one country to another e.g. Kenya to Uganda.

Rural urban migration: This is movement from rural areas to urban areas e.g. Kisoro to Kampala.

Rural-rural migration: This is the movement of people from one rural area to another rural area especially from densely populated areas to sparsely populated areas e.g. Mbale to Kamuli.

Urban-urban migration: This is the movement of people from urban areas to another urban area like expanding business.

Emigration: This is the leaving one area to another like from Uganda to Kenya. It can be external and internal.

Permanent migration: This is leaving an area with no intentions of coming back e.g. marriage.

Temporary migration: This is the movement of people for a short time with intentions of coming back e.g. tourism, business, education.

Forced migration / involuntary: This is moving according to one's wish like internally displaced people e.g. Northern Uganda. Externally displaced people e.g. Somalia, Sudanese, Congolese, Rwandese, areas affected by calamities and hazards e.g. Landslides in Bududa.

Voluntary migration: This is the movement according to one's wish e.g. marriage, education, business, tourism.

CAUSES OF MIGRATION

They are physical, human, political, social, economical. They are both push factors i.e. areas of origin and pull factors i.e. areas of destination.

Push factors

- Unemployment and underemployment like in rural areas and less developed countries.
- Poor social services leading to low standards of living like in rural areas e.g. no hospital, schools, less developed countries.
- Political instabilities and insecurity e.g. DRC, South Sudan.
- High crime rate and social problems like prostitution, cannibals, night dancers, rapists.
- Natural calamities and hazards destroying people and property like landslides.
- Climatic conditions causing aridity, desertification, water shortage e.g. Nomadic pastoralists in Turkana land (drought).
- Soil exhaustion leading to low agricultural production causing hunger and famine like in Kabale.
- Poor transport and communication making areas remote and backward e.g. rural

areas e.g. DRC, Kisoro, Kapchorwa.

- Cultures and traditions like nomadic pastoralists e.g. Karamajongs, Fulani, Tuarages, Hotentoes.
- Land shortage causing conflicts and tensions like land fragmentation in Ethiopia and Kigezi highlands.
- Limited economic activities and resources like in the Sahel in Fulani region, highlands of S. Africa, Zimbabwe.
- Pull factors (area of destination).
- Improved social services like in development countries in urban areas.
- Urban excitements attracting the youths because of entertainment, cinema halls, stadiums, dancing halls.
- Presence of employment opportunities like government offices, business operations, NGOs.
- Political stability and security attracting people for settlement, like in towns and developed countries.
- Government policies like gazetting urban areas, refugee camps, irrigation companies.
- Availability of industries for settlement and agriculture like Masindi, Kibale.
- Improved transport and communication in developed areas like urban centres.
- Availability of economic activities and resources like the discovery of minerals in S. Africa, trade in Dubai.
- Favourable climatic conditions in agriculture in Masindi, Mubende.

EFFECTS OF MIGRATION

- Depopulation due to migration of people.
- Change in population structure dominated by young people.
- Shortage of labour like for agriculture, industries.
- Availability of land for settlement, agriculture and environment conservation.
- Reduction in government revenue due to reduction in taxes from activities and people.
- Reduction in environmental degradation due to the presence of forest reserves, national park and game reserves.
- Poor transport and communication making areas remote and backward.
- Poor social services leading to low standards of living like in rural areas.
- Limited economic activities leading to low economic growth and development.
- Over exploitation of resources due to shortage of planners and innovators.
- High costs of urban management like garbage collection, filling potholes,

repairing street lights.

- Change of cultures causing social problems like western influence in urban areas.
- Political stability and security in urban areas due to the presence of manpower for defence.
- Availability of market hence development of urban centres.

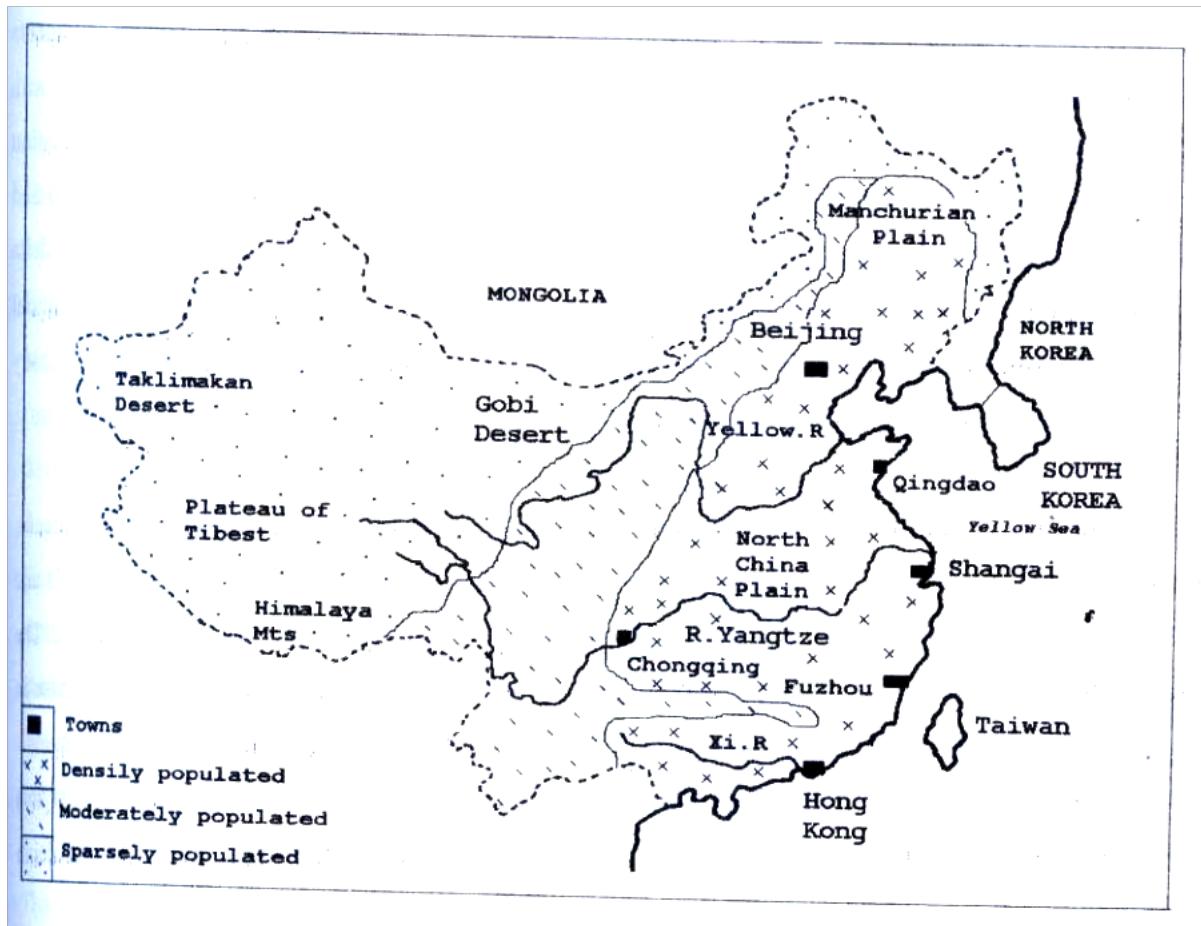
POPULATION IN CHINA.

China is found in South East Asia or Monsoon Asia and it has a high population of about 1.5 billion and the population is unevenly distributed. Towns with high population include Shanghai, Beijing, Tiansin, Hong Kong, Sikiang, around rivers like Yangtze, Yangtze, Chongming canton valley, Shanai, Manchuria, around communes (Honan).

Moderate population is found in the Savanna areas like in central parts of China, Western plains, Eastern and central parts.

Sparse population is found in mountainous areas like Gobi near water bodies, forested areas.

A SKETCH MAP OF CHINA SHOWING POPULATION DISTRIBUTION



Factors for population distribution in China

Presence of wet conditions attract dense population for agriculture eg. Shanghai province, Yangtze, China, desert climate leads to sparse population like parts – desert in the northern and western parts.

Presence of flat and gentle slopes lead to drainage attracting dense population like Shanghai province, Beijing, Tropic, lowlands and valleys have sparse population like the coast of Pacific and mountainous areas in the north.

Presence of fertile soils attract dense population for agriculture. The Shanghai province, R. Yangtze, infertile soils discourage settlement like Gabi desert, Tibet mountain.

Presence of thick vegetation like forests and swamps have pests and diseases discouraging settlement e.g. in the southern parts and coast of pacific. Limited vegetation in savanna areas attract dense settlement.

Presence of pests and diseases discourage settlement in forested areas and nearby in the south pacific ocean limited. Pests and diseases attract dense settlement like Tainjing.

Presence of natural resources have many economic activities attracting people for employment and investment e.g. mining areas in Manchuria, fishing areas at the coast of pacific ocean while discouraging settlement e.g. in the Gobi desert.

Presence of water bodies discourage settlement because of poor drainage, poor transport like the coast of pacific ocean, River banks of the Tangtze, Yangho are well drained hence have dense population e.g. Shanghai.

Occurrence of natural calamities and hazards lead to destruction of people, discouraging settlement e.g. locust invasions, limited calamities and hazards attract dense settlement like in the Shanghai province.

Human factors

Government policies attract dense population like urban areas, industrial areas like Beijing, Shanghai areas gazetted as national parks, game parks have sparse population in them e.g. Gobi desert, Tibet mountain.

Political stability and security attract dense settlement in Shanghai, Beijing, instabilities and conflicts discourage settlement like rebel activities in Gobi desert and Tibet mountains.

Presence of economic activities attracting dense population for employment and investment like industrialization in Beijing, have trading in Shanghai, and limited economic activities discourage settlement e.g. Gobi desert, Tibet mountains.

Improved transport and communication attract dense settlement because of economic activities better social services e.g. Hong Kong, Beijing, poor transport and communication make areas remote and backward this discouraging settlement e.g. North and West parts, Gobi desert.

Improved social services lead to high standards of living attracting dense settlement like water supply, health facilities e.g. Shanghai, Hong Kong etc. Poor social services discourage settlement in Gobi desert.

Places of culture and traditions attract dense population like in Beijing because of historical sites like areas of ancient civilization. Backward cultures discourage settlement like in Gabi desert and nomadic pastoralists and Tibet mountains.

Presence of urban areas attract dense settlement because of push and pull factors e.g. Shanghai, Tinsing, Beijing, rural areas have sparse population due to rural urban migration e.g. Tibet mountain, Gabi desert.

Science and technology lead to availability of skilled labour helping in exploiting resources, developing economic activities, improving social services, infrastructure like in Shanghai, communes of Kriaha, poor science and technology lead to low economic growth and desert discouraging settlement.

Solutions / steps/Measures/Policies for population problems

- Improvement in security and political stability by using the police, army, prisons reducing on conflicts and tensions.
- Improvement in social services leading to high standards of living like water supply, education institutions, power supply.
- Using modern methods of family planning and using population policies like number of children, age of marriage.
- Improvement in infrastructure like transport routes, drainage channels building like housing estates.
- Changing migration policies like restricting on immigrants and encouraging emigrants.
- Mass education and mobilization on population waters like about causes, effects, solutions using seminars, workshops, radios.
- Training skilled labour by promoting science leading to job seekers, many economic activities, better social services and infrastructure.
- Decentralization and regional specialization by putting development projects, social services, better infrastructure in rural areas reducing on rural-urban migration.
- Economic diversification by exploiting different resources leading to employment and investment opportunities.
- Promotion of research on resource exploitation leading to sustainable development.
- Encouraging migration from densely populated areas to sparsely populated areas and from low developed countries to developed countries for employment.

- Environmental conservation through afforestation, gazetting national parks, game reserves, wetlands and through proper waste management.
- Using soil conservation measures like terracing, ridge planting etc.
- Using modern methods of farming like Ranching, intensive farming, zero grazing leading to enough food supply and improving people's income.
- Land reclamation by using irrigation, control of pests and diseases, draining flooded areas.

Revision questions

- 1a. Distinguish between immigration and emigration.
- b. Describe the steps being taken to solve rural urban migration in Tropical Africa.
2. To what extent have physical factors influenced population distribution in either Kenya or China.
- 3a. Account for rapid population growth in either Nigeria or China.
- b. Outline the effects of population growth in the country chosen above.
4. "Population growth is more of an asset than a liability". Discuss with reference to specific examples.
5. Examine the causes and effects of rural-urban migration in any one tropical African country.

MINING IN THE WORLD

Mining is the exploitation / extraction of earth resources like metallic minerals, non metallic minerals, mineral fuels found in earth rocks naturally. Types of minerals:

- Metallic minerals: these are hard and brittle e.g. zinc, lead, copper, cobalt, iron ore, diamond.
- Non metallic minerals: these are formed by chemical reactions e.g. salt, calcium, nitrates, potash.
- Mineral fuels: these are used to provide power and energy e.g. coal, oil, natural gas, petroleum.

Methods of mining

Open cast mining: This involves breaking the earth crust using explosives, tractors, excavators, machines, mining equipments. It is mostly used for getting minerals which are near the earth surface e.g. copper, diamond, iron ore, limestone, sand and clay. It is commercial and cheap but it causes a lot of environmental degradation.

Adit, Tunnel, Shaft mining: this involves digging tunnels and shafts which are vertical

and horizontal into the earth crust and it is mostly used for getting minerals in deeper layers like concealed copper, coal. The minerals are exploited underground using explosives and they are transported by using railway wagons moving on conveyor belts. It is commercial but it needs a lot of capital, skilled labour, technical and it causes less environmental damage.

Alluvial mining or placer method: This is mining on a small scale by using simple technology or traditional methods. It is mostly used for getting minerals in small quantities e.g. gold, tin, platinum, Aluminum, and the method is cheap but it leads to low production which is not good for commercial purposes.

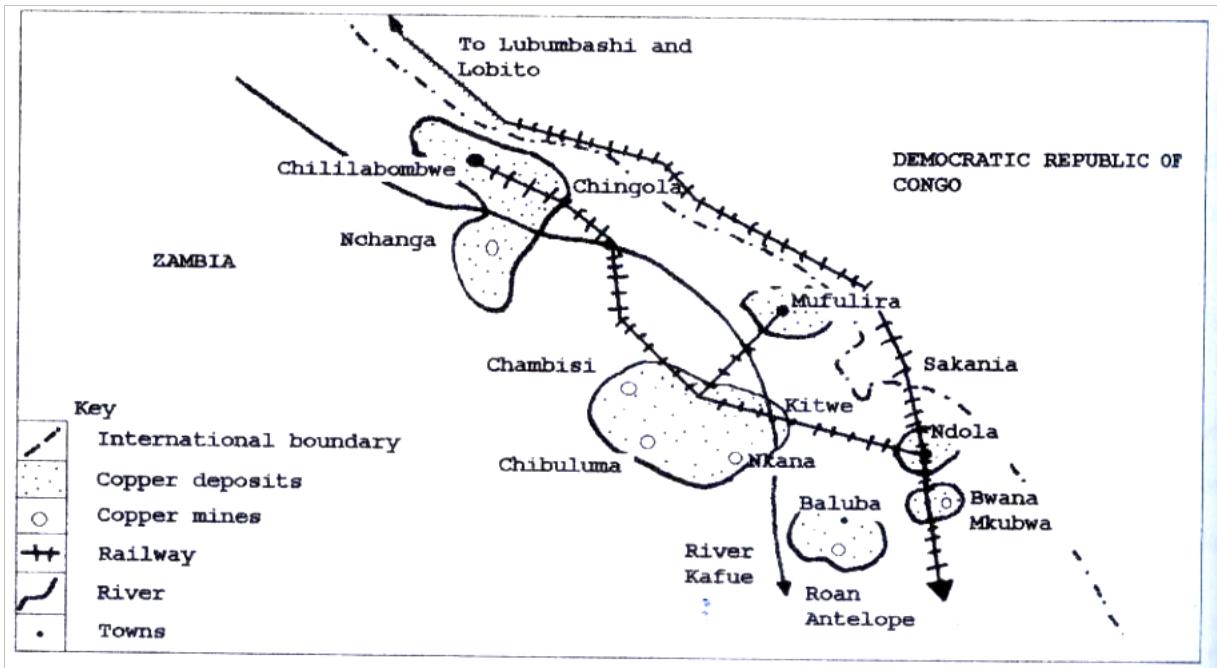
Use of machines known as dredges: This is used for exploiting minerals like oil, petroleum, natural gas. It is an expensive method and it needs a lot of skilled labour and technology.

MINING AREAS IN THE WORLD

Zambia:

Zambia is rich with mineral resources like copper, cobalt, iron ore, zinc, lead, manganese, Aluminum and the mining areas include Nkona, Bwanamukubwa, Ndola, Kitwe, Chingola, Chibaluma, Chambishi, Bamcratt, Ronentelope, Nampundwe, Kabwe, Kasama.

A SKETCH MAP OF ZAMBIA SHOWING MAJOR MINING AREAS



Factors for the development of mining in Zambia.

Presence of large quantities of minerals like copper, cobalt, iron ore found in areas like Nkana, Kitwe leading to mining for a long time and making it profitable.

Good quality of minerals causing less pollution and having high demand from the world market e.g. copper, cobalt, iron ore, zinc, lead.

Relief which is flat and gentle sloping composed of hills, plateaus leading to transport, mechanization, drainage, helping in exploitation and processing like in the Zambia, copper belt.

Presence of water supply from L. Kariba and R. Zambezi providing water for domestic work, cooling machines, draining the mines and dumping waste and sewage.

Limited resources in the Zambia, copper belt, infertile soils, dry climatic conditions discouraging other activities and encouraging mining.

Presence of power supply like using HEP from Kariba dam on R. Zambezi used in mining and processing factories.

Nature of the rocks like hard rocks leading to use of adit mining for concealed minerals and soft rocks for green cast mining for minerals which are near the earth surface.

Presence of minerals near the earth surface, cheap for exploitation using open cast method e.g. copper cobalt, iron ore.

Limited physical obstacles like relief features, water bodies, land forms, thick vegetation making exploitation easy and cheap.

Improved transport and communication like the construction of roads, railway lines, pipelines connecting mining areas to industries and marketing centres e.g. Tanzam railway line in the areas of Kitwe, Ndola.

Positive and supportive government policies like gazetting mining areas attracting investors like Anglo-American company giving loans, constructing transport routes.

Presence of capital provided by the government, private investors like Anglo-American company helping in purchasing equipment, building industries, paying labour.

Presence of market both internal and external because of having industries like electronics, iron and steel rolling and exporting minerals to other countries like Japan, Britain, China, USA.

Political stability and security helping in attracting investors, limiting expenditure on defence and investing in economic activities like mining.

Improved science and technology leading to availability of skilled labour using modern methods of mining and helping in processing and exploitation like using open cast mining and aidt.

Presence of labour supply both the skilled and unskilled like using expatriates, immigrants in mining and processing factories because of increased population in towns like Ndola, Kitwe, Kasama.

Presence of industries making mining equipments, processing the minerals and using minerals as raw materials e.g. copper smelting, iron and steel rolling.

Presence of entrepreneurs and big companies like Anglo-American company providing capital and good management for large scale and commercial mining.

Good international relations and regional cooperation helping in getting labour supply, loans and transport. USA, Japan, Tanzania.

Presence of research stations helping in mineral exploitation, processing and marketing and environmental conservation.

Improved science and technology helping in processing and exploitation.

Problems facing mining in LDCs (Zambia)

There are physical and human problems hindering the development of mining.

- Poor science and technology affecting exploitation and processing and causing low production.
- Limited market because of few industries and competition with other countries like DRC, China.
- Over exploitation of minerals causing exhaustion especially the exposed minerals.
- Minerals found in deeper layers (concealed minerals) increasing on cost for exploitation by using adit mining.
- Limited skilled labour to help in the exploitation of minerals and to work in processing factories leading to high costs of using expatriates.
- Occurrence of accidents causing destruction of people and property, scaring the miners because of floods, landslides, power problems.
- Presence of minerals in small quantities e.g. lead, zinc, aluminum, manganese.
- High transport costs because of minerals in deeper layers and for exporting minerals because Zambia is landlocked.
- Presence of physical obstacles affecting exploitation like relief features, land forms, thick vegetation, drainage features.
- Limited power supply because of depending on HEP affecting exploitation and processing.
- Limited capital to purchase modern equipment to construct processing factories, transport routes because of low income which leads to low production.
- Presence of other economic activities depending on other resources causing diversion of labour and capital like into agriculture, trade.
- Poor government policies like high taxes, not giving loans affecting the mining sector.
- Profit repatriation by foreign investors like Anglo-American company causing capital outflow and lowering the national income.

- Marketing problems because of price fluctuations on the world market, poor advertisement, having substitutes.
- Pollution of air and land around the mining areas, processing factories, affecting labour supply.
- High costs of living around mining areas because of dense population leading to high costs of labour like in the mining towns of Ndola, Kitwe.
- Political instabilities and insecurity in neighbouring countries like DRC, Zimbabwe, Angola scaring foreign investors and attracting transport routes.

Importance / effects of mining in Zambia

- Source of government revenue by taxing people, companies, helping in improving government income and social services.
- Source of foreign exchange by exporting minerals and their products e.g. copper, cobalt, to China, Japan.
- Provision of employment opportunities by working in mines and processing factories leading to high standards of living e.g. copper, zinc at Ndola, Kitwe, Kasama.
- Growth of urban centres like Ndola, Kitwe, Kasama, Kabwe because of increased population, industrial activities helping in promotion of trade and improving social services.
- Promotion of international relations and regional cooperation because of international trade e.g. Japan, China, Britain.
- Improvement in transport and communication like construction of roads, connecting mining areas like in the areas of Ndola, Kitwe construction of Tanzam railway line benefiting surrounding communities.
- It has led to the development of industries making mining equipments, processing the mineral and using mineral raw materials and related industries e.g. copper and cobalt, iron and steel rolling in Lusaka, Kitwe.
- Promotion of economic diversification by influencing other economic activities, trade, transport, industrialization reducing on the dependency burden.
- Promotion of education and research by visiting mining areas, processing factories leading to acquisition of skills and improvement in science and technology.
- Alternative land use in areas with limited resources and other economic activities like dry areas, infertile areas, rocky areas in the Zambia copper belt.
- It has led to improvement in social services like water, power supply, health facilities, education institutions around mining areas e.g Ndola, Kasama.

- Development of tourism industry by visiting the mining areas, earning foreign exchange and because of high incomes leading to entertainment.
- Source of capital for other development projects through taxation, foreign investors through exports.

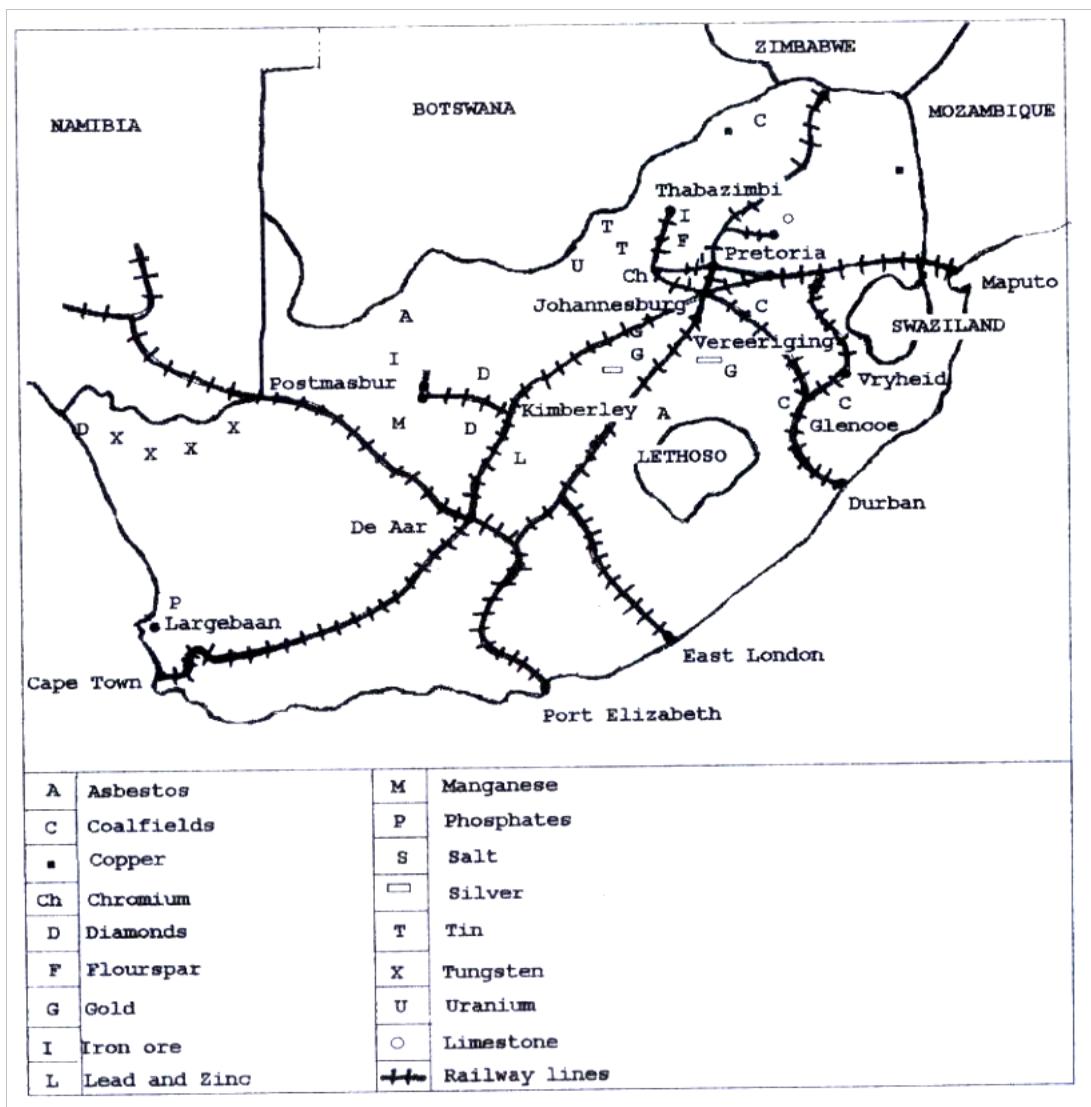
Negative

- Profit repatriation by foreign investors like Anglo-American company causing capital outflow and lowering national income.
- It causes pollution of air, water and land because of mineral wastes and sewage destroying plants and animals e.g. copper, cobalt mines in the areas of Ndola, Kitwe.
- It leads to environmental degradation because of deforestation, swamp reclamation and destruction of landscape by using open cast method.
- Displacement of people and activities by gazetting mining areas discouraging agriculture, settlement, construction of transport routes e.g. Zambia copper belt.
- Promotion of rural urban migration causing urban problems and rural problems like development of slums, high costs of living like in the areas of Kitwe, Ndola.
- It leads to diversion of labour and capital into the mining sector affecting other economic activities like agriculture.
- It leads to soil erosion like Gully, sheet, rill erosion leading to soil exhaustion by using open cast mining.
- It leads to landslides and mass wasting like rock fall, rock slide, rock slump causing destruction of people and property.
- It leads to breeding grounds for disease vectors because of depressions created by mining.
- Promotion of accidents destroying people and property because of floods, landslides, power problems and collapsing of the mines.

MINING IN SOUTH AFRICA.

South Africa is rich with mineral resources like Gold, Diamond, Oil, Iron ore, Coal, Uranium, Copper and the mining areas with waters Rand, Kibery, Natal, Cape Province, Drakensburg, Transvaal, Krugersdrop.

A SKETCH MAP OF S. AFRICA SHOWING MINING AREAS.



Factors for the development of mining in S. Africa

- Presence of good quality minerals which cause less pollution and have high demand on the world market e.g. gold, diamond, iron ore.
- Relief which is flat and gentle sloping helping in transport mechanization, drainage in the mining areas like with Waters Rand, Kimberly, Natal.
- Presence of large quantities of minerals leading to mining for a long time and making the mining industry profitable e.g. gold, diamond, copper, coal.
- Presence of capital provided by the government and private investors e.g. Anglo-American company, De Beers the capital is used for purchasing modern equipment, constructing industries, transport routes.

- Limited physical obstacles like relief features and drainage, land forms, thick vegetation, making mineral exploitation easy and cheap e.g. in areas of Witwatersrand, Natal, Cape Province, Transvaal.
- Positive and supportive government policies like gazetting mining areas, attracting investors, giving loans, training skilled labor, constructing industries.
- Presence of wide market both internal and external because of population in towns having industries using minerals like chemical industries, iron and steel rolling, ammunition industry, using uranium and exporting minerals to other countries e.g. gold to Britain, Japan, China.
- Improved transport and communication like the construct of roads, pipelines, railway lines, modern ports connecting mining areas to industries and marketing centres in the areas of Witwatersrand, Kimberly.
- Presence of power supply like using HEP, coal, natural gas, used in the mines and processing factories leading to high production for commercial purposes.
- Presence of minerals near the earth surface cheap for exploitation using open cast method e.g. like iron ore, diamond, exposed coal.
- Improved science and technology leading to availability of skilled labour and using modern methods of mining, open cast, Adit mining and helping in processing minerals.
- Presence of water supply used in the mines like removing the wastes for domestic work, cooling machines and for dumping wastes and sewage e.g. R. Vaal, Limpopo, Indian, Atlantic ocean.
- Political stability and security helping in attracting investors and diverting resources to economic activities like mining especially after 1994 when they got independence ending the Apartheid era.
- Limited resources and economic activities in the mining areas like the Drakensburg mountains, dry areas with infertile soils, rocky areas making mining the best land use pattern.
- Presence of good international relations and regional operation helping in marketing, getting labour supply e.g. with Britain, USA, Zimbabwe.
- Some minerals are found side by side hence mined together reducing on the cost of production e.g. gold is with silver and uranium.
- Presence of entrepreneurs and big companies providing capital and good management for commercial and large scale mining e.g. PC Beer, Anglo American.
- Presence of labour supply both skilled and unskilled working in the mines and processing factories because of high population in towns e.g. Pretoria, Johannesburg and using expatriates and immigrants.

- Presence of industries related to mining like making mining equipment e.g. explosives, excavators, iron smelting e.g. chemical industry use oil, electronics use copper.
- Presence of research stations helping in mineral exploration, processing, marketing and helping in environmental sustainability.
- Rock structure facilitating the process of mining like Hard rocks for Adit mining and soft rocks for open cast mining.

Effects / importance of mining in South Africa

Positive:

- Source of government revenue by taxing people and companies leading to high incomes and the improvement in social services and investment opportunities, development of industries.
- Provision of employment opportunities like in mining gold, diamond in areas of wit waters rand, Kimberly and in processing factories leading to high standards of living.
- Source of foreign exchange by exporting minerals and their products like gold, diamond to countries like USA, Britain, Japan helping in importation and investment.
- Improvement in social services around mining areas like water supply, power supply, health facilities leading to increased standards of living like in the mining areas like Transvaal, OFS.
- Economic diversification by influencing other economic activities like trade, transport, industrialization in the wit waters rand, reducing on the dependence burden.
- Development of tourism industry by visiting the mining areas like Drakensburg mountains, Kimberly and because of high incomes leading to entertainment activities.
- Promotion of education and research by visiting mining areas, mineral processing factories leading to acquisition of skills, improvement in science and technology like gold mines in wit waters rand and diamond mines at Kimberly.
- Growth of urban centres like towns and ports because of high production industrial activities, helping in promoting trade and improving social services like the Rand conurbation like Pretoria, Johannesburg, Jemsson, Upington.
- Promotion of international relations and regional cooperation by exporting minerals and their products e.g. with USA, good relations, Britain, Japan.
- Improvement in transport and communication by constructing roads, railway lines, modern ports, connecting the mining areas and marketing centres.

- Alternative land use in areas with limited resources like Drakensburg mountains, areas with infertile soils, dry areas which are not good for other economic activities.
- Provision of power supply like using coal, oil, natural gas for domestic and industrial purposes.
- Development of agriculture like minerals used for making equipment, for making fertilizers and market for food crops provided by miners.
- Source of capital for other development projects like for developing industries, for promoting trade because of mineral revolution.

Negative

- Pollution of air, water and land because of mineral wastes and sewage affecting plants and animals in the mining areas like Witwatersrand, Kimberly, Transvaal.
- Environmental degradation because of using open cast mining destroying plants, animals and the landscape.
- Destruction of the landscape by creating scars, pits, depressions, soil heaps destroying scenic beauty e.g. the soil heaps from the gold rand near Johannesburg.
- Displacement of people and activities by gazetting mining areas discouraging settlement, agriculture, industrialization, construction of transport routes. E.g. gold mines in the Orange Free State.
- Promotion of conflicts and tensions leading to destruction of people and property (Apartheid, scramble and partition, Anglo Boer wars, labour strikes)
- Urban problems because of rural urban migration like high costs of living, development of slums like in the areas of Johannesburg, Pretoria and from neighbouring countries leading to political unrest.
- Over exploitation of minerals causing mineral exhaustion and minerals are non renewable e.g. gold mines near Johannesburg.
- Promotion of landslides and mass wasting like rock fall, slide, slump.
- Promotion of soil erosion e.g. gully erosion, sheet erosion.
- Profit repatriation by foreign investors like Anglo-American company causing capital outflow.
- Some minerals have a low demand hence they are just stock pilled. E.g. the end of the 2nd World War, the demand for uranium, a source of atomic energy reduced hence low income derived from it.
- Neglect of other sectors of the economy e.g. agriculture as the more able bodied youth move for better paying jobs in the mines on the Rand.
- Fluctuation in world market prices of minerals such as iron ore and gold hence

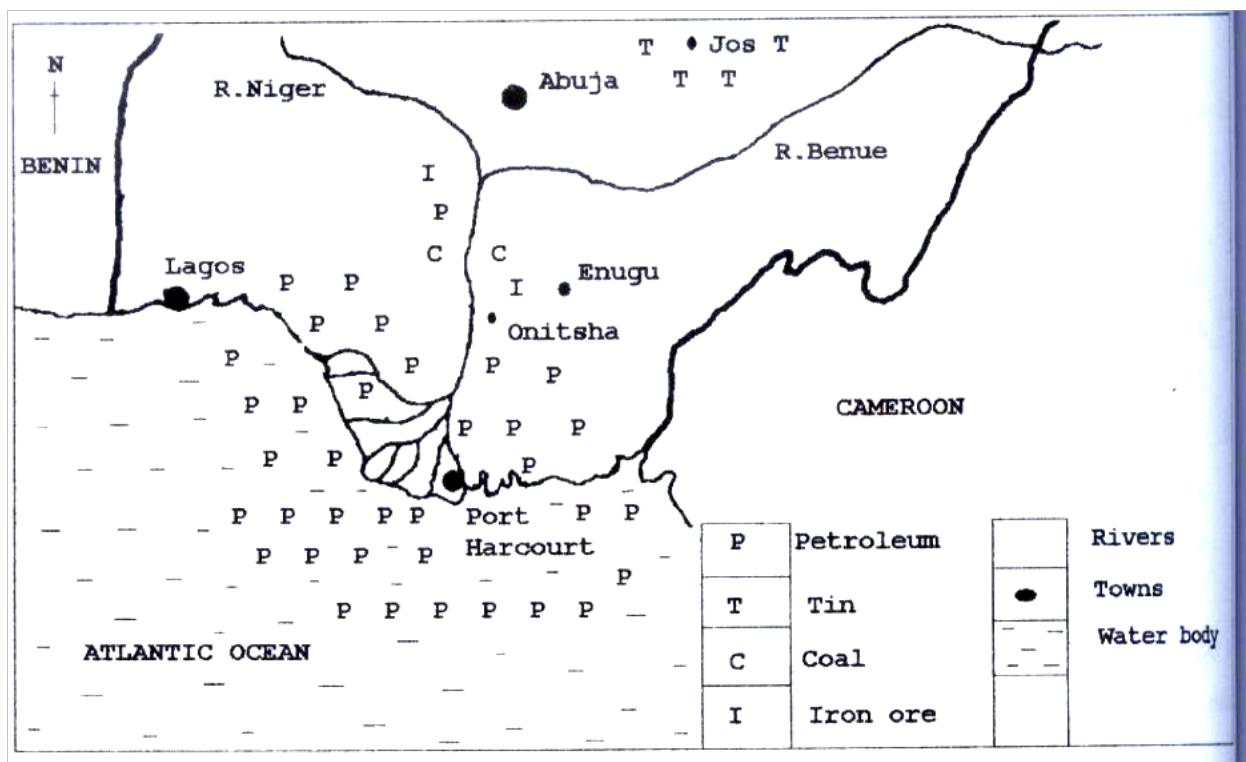
affecting the incomes received of the country.

- Encroachment on agricultural land e.g. coal mining in Natal province.
- Loss of lives due to collapsing roots, too much dust and other gases, accidents.

MINING IN NIGERIA

Nigeria is important for mineral resources like oil, natural gas, coal, iron ore, tin and the mining areas include R. Niger areas, R. Benue, Kaduna state, Jos plateau, Niger delta.

A SKETCH MAP OF NIGERIA SHOWING MAJOR MINING AREAS.



Factors for the development of mining in Nigeria

- Presence of minerals in large quantities leading to mining for a long time and making it profitable e.g. oil, coal in the areas of Kaduna states, Niger delta.
- Presence of water supply used in the mines for domestic work and for dumping wastes and sewage e.g. R. Niger, Berue, Atlantic ocean, L. Kainji.
- Minerals with low depth, cheap for exploitation using open cast mining e.g. iron ore.
- Relief which is flat and gently sloping helping in transport, mechanization, drainage like in the areas of Jos plateau, Niger delta, Kaduna state.

- Nature of the rocks like hard rocks leading to Aid mining and soft rocks leading to open cast mining.
- Limited resources discouraging other activities like Kaduna state in the desert area not good for other economic activities.
- Presence of minerals of good quality helping in marketing and causing less pollution e.g. coal, iron ore, oil, natural gas.
- Limited physical obstacles like relief features, water bodies, thick vegetation, landforms making the exploitation of minerals easy and cheap like oil in Kaduna state, iron ore in the Jos plateau.
- Presence of large capital base provided by the government, private investors, for financing mining activities like oil mining and processing.
- Improved transport like the construction of roads, railway lines, pipelines, modern ports like Lagos, Port Harcourt connecting the mining areas to industries and processing factories.
- Presence of labour supply both skilled and unskilled because of dense population like in the towns of Abuja, Lagos, Enugu and using immigrants and expatriates.
- Nature of the population being hardworking, innovative, enterprising, good planners helping in resource exploitation like mining.
- Improved science and technology leading to availability of skilled labour helping in mineral exploitation and processing like using open cast mining and Adit mining.
- Presence of wide market for minerals for their products because of having industries, chemical oil refining and exporting minerals like oil to countries like USA, Japan, Britain.
- Presence of industries related or supporting the mining sector like for making mining equipment, processing minerals like oil refining at Lagos and using minerals as raw materials.
- presence of big companies and entrepreneurs providing capital and good managerial skills for large scale and commercial mining e.g. shell, basing on SUA, Caltex Germany, Total (France).
- Presence of research stations helping in mineral exploration, processing of marketing, and environmental conservation.
- Good international relations and regional cooperation helping in marketing getting loans, labour supply with USA, Japan, Britain.
- Strategic location near the coast of Atlantic ocean leading to development its own ports like Lagos, Port Harcourt and using cheap water transport.

- Presence of power supply like using coal, oil, natural gas, and HEP from Kainji dam, used in the mines and processing factories.
- Political stability and security helping in attracting investors and diverting resources to economic activities like mining.
- Positive and supportive government policies like giving loans, gazetting mining areas, training skilled labour, attracting investors, carrying out mineral exploration.

Importance of mining in Nigeria

Positive

- Source of government revenue by taxing people and companies leading to increased incomes and the improvement of social services and investment opportunities, development of industries.
- Provision of employment opportunities like in the mining of coal, oil in Kaduna, Lagos, Jos plateau and processing industries leading to high standards of living.
- Source of foreign exchange by exporting minerals and their products to France, Germany and USA helping in importation and investment.
- Improvement in social services around the mining areas like water supply, power health facilities leading to high standards of living of people like in the mining areas of Kaduna state, Niger areas, Benue areas.
- Economic diversification by influencing other economic activities like trade, transport, industrialization, in the Kaduna state reducing on the dependency burden.
- Development of the tourism industry by visiting mining areas like around R. Benue, R. Niger because of high incomes leading to entertainment activities.
- Promotion of education and research activities by visiting mining areas, mineral processing areas (factories) leading to the acquisition of skills, improvement in technology like in oil refining at Lagos.
- Growth of urban centres like town and ports because of high population, industrial activities, helping in promoting trade and providing social services like at port Harcourt.
- Promotion of international relations and regional cooperation by exporting minerals and their products e.g. the USA, Germany, good relations with Britain.
- Improvement in transport and communication by constructing roads, railway lines, modern ports connecting the mining areas with marketing centres e.g. port Harcourt.

- Source of capital accumulation for other development projects like for developing industries and for promoting trade because of mineral revolution.
- Provision of power supply like using coal, oil, natural gas for domestic and industrial purposes.
- Alternative land use in areas with limited resources like around Jos plateau, R. Niger, R Benue with infertile soils, dry areas which are not good for other economic activities.
- Pollution of air, water and land because of mineral wastes and sewage affecting plants and animals in the mining areas like around R. Benue, R. Niger.
- Positive and supportive government policies like giving loans, gazetting mining areas, training skilled labour, attracting investors, carrying out mineral exploration.

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minerals and their products e.g. to USA, Germany, good relations with Britain.

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- Provision of power supply like using coal, oil, natural gas for domestic and industrial purposes.
- Alternative land use in areas with limited resources like around Jos plateau, R. Niger, R. Benue with infertile soils, dry areas which are not good for other economic activities.
- Pollution of air, water and land because of mineral wastes and sewage affecting plants and animals in the mining areas like around R. Benue, R. Niger.
- Environmental degradation because of using open cast mining, destroying plants and animals and landscape.
- Destruction of landscape by creating scars, pits, depressions, soil heaps destroying the scenic beauty.
- Displacement of people and their activities by gazetting mining areas discouraging settlement, agriculture, industrialization, construction of transport routes.
- Promotion of conflicts and tensions leading to destruction of people and property i.e. between the Moslems and Christians over oil (Niger Delta).
- Urban problems because of rural urban migration like high costs of living, development of slums like in the areas of Abuja, Harcourt.
- Regional imbalance.
- Landslides and mass wasting.
- Unemployment after mineral exhaustion due to over exploitation of minerals.
- Breeding grounds.
- Soil erosion.
- Diversion of labour and capital affecting other sectors.
- Profit repatriation because of investors.

MINING IN GERMANY

Germany is a developed country in Western Europe and it is rich in mineral resources i.e. coal, oil, natural gas, iron ore, gold, salt, lead, zinc. The mining areas are around R. Ruhr, R. Lippe, R. Wupper on R. Rhine around Duisburg, Essen, Bonchum, Duisdorf.

A SKETCH MAP OF GERMANY SHOWING MINING AREAS.

Factors for the development of mining in Germany

- Presence of minerals in large quantities leading to mining for a long time and making it profitable e.g. coal and iron ore around R. Ruhr and areas of Essen.
- Availability of water supply used in the mining, processing factories, for domestic work, dumping wastes and sewage e.g. R. Ruhr, Lippe, Wupper.
- Relief which is flat and gentle sloping in the Ruhr conurbation helping in transport, mechanization, drainage, construction.
- Presence of rock structure like hard rocks for Adit mining, for concealed gold and iron ore and soft rocks for open cast mining for exposed coal and iron ore.
- Presence of good quality minerals causing less pollution and having increased demand e.g. coal, gold where selling will be easy.
- Strategic location of the Ruhr conurbation near R. Rhine and its tributaries i.e. R. Ruhr, Lippe helping in using cheap water transport and near industries for market.
- Presence of minerals with low depth, cheap for exploitation using open cast mining like exposed coal, iron ore near R. Ruhr.
- Limited resources in the Ruhr conurbation like land, fertile soils, being rocky discouraging other activities and promoting mining.
- Limited physical obstacles like water bodies, thick vegetation, land forms, relief features, making exploitation and processing factories.
- Presence of power supply using coal, oil, natural gas, HEP in mineral exploitation and processing factories.
- Positive and supportive government policies that help in construction of industries, paying labour, providing loans, gazetting mining areas, constructing transport routs, getting expatriates.
- Presence of large capital base provided by the government and private investors for financing mining activities, industrial activities for research, for constructing transport routes.
- Improved science and technology leading to availability of skilled labour and using modern methods of mining like adit and open cast mining and helping in mineral exploration and processing.
- Availability of labour supply both skilled and unskilled because of high population in towns, like Duisburg, Essen, using immigrants in mines and processing factories.
- Availability of wide market for minerals and their products because of having many industries like iron and steel rolling, chemical industries, because of high population and exporting to other countries like Japan, USA, Britain.
- Improved transport and communication like the construction of roads, railway

lines, modern ports, pipeline and canals e.g. Upesite, EMS canals connecting mining areas to industries and markets in the Ruhr conurbation.

- Presence of industries supporting the mining sector like iron and steel rolling, chemical industries, mineral processing factories, making mining equipments.
- Good international relations and regional cooperation, helping in marketing, transport e.g. countries like Netherlands, Ruhr for exporting, Japan, USA.
- Presence of entrepreneurs, big companies, and the nature of population, innovative, good planners, enterprising helping in resource exploitation, economic growth and development.
- Political stability and security after Germany unification helping in attracting investors, improving infrastructure, social services and financing developmental activities.

Problems facing mining in developed countries (case study Germany)

- High transport costs because of minerals in deeper layers like concealed coal and iron ore transported by using railway wagons moving on conveyor belts.
- Temperate climate like winter and snow affecting transport and labour productivity because the roads are frozen and people keep indoors.
- Over exploitation using mineral exhaustion like exposed coal and iron ore leading to high costs of using Adit mining.
- Competition with other countries like coal from S. Africa using other substitutes i.e. Nuclear energy for powers, scrap for iron and steel reducing market for minerals.
- Limited and unskilled labour like casual workers to work in the mines, factories because of increased standard of living, low population growth rate leading to increased costs of using immigrants.
- Accidents in the mines destroying people and property caused by floods, power problems, landslides making the mining sector risky.
- Increased costs of living because of death population in the mining areas of Ruhr conurbation leading to expensive labour.
- Poor quality minerals in small quantities and scattered not good for commercial exploitation like gold, lead, zinc.
- Minerals in deeper layers like concealed coal, iron ore, leading to high costs for exploitation, transport and causing many accidents.
- Presence of physical obstacles like relief features, drainage features, thick vegetation affecting exploitation and transport in the Rhine rift valley.
- Government policies like gazetting mining areas for environmental conservation discouraging mineral exploitation.

- Pollution in the mining areas and industries because of wastes and sewage discouraging labour supply.
- Presence of other resources leading to other economic activities like industrialization, agriculture, trade, transport, causing diversion of labour and capital.
- Marketing problems because of competition, price fluctuations, having other substitutes like using scrap affecting planning.
- Conflicts and tensions like labour strikes in the mines causing destruction of people and property.
- Limited power supply due to exhaustion of coal, oil, natural gas, limited potentials of HEP and limiting the use of nuclear by United Nations.

Importance / effects of mining in Germany

- Source of government revenue by taxing people and companies leading to increased incomes and the improvement in social services and investment opportunities, development of industries.
- Provision of employment opportunities like in the mining of coal, oil in Essen, Duisburg, Bonchum and processing industries leading to high standards of living.
- Source foreign exchange by exporting mineral and their products to France, Germany and USA helping in importation and investment.
- Improvement in social services around the mining areas like water and power supply, health facilities leading to high standards of living of the people like in mining areas of Essen, Duisburg, Duisdolf.
- Economic diversification by influencing other economic activities like trade, transport, industrialization in the Essen, Duisburg reducing on dependency burden.
- Development of tourism industry by visiting mining areas like around R. Danube, Rhine because of high incomes leading to entertainment activities.
- Promotion of education and research activities by visiting mining areas, mineral processing areas leading to acquisition of skills, improvement in science and technology in the Ruhr conurbation.
- Growth of urban centres like towns and ports because of high industrial activities helping in promoting trade and improving social services like in the Ruhr conurbation, Cologne, Duiseldorf.
- Promotion of international relationships and regional cooperation by exporting minerals and their products with USA, good relations with Japan, Canada.
- Improvement in transport and communication by constructing roads, railway lines, modern ports connecting the mining areas and marketing centres.

- Alternative land use in areas with limited resources like Ruhr conurbation land with infertile soils, rocky which are not good for other economic activities.
- Provision of power supply like coal, oil for domestic and industrial purposes.
- Source of capital for other development projects like for developing and promoting trade because of mineral revolution.

Negative

- Pollution of air, water and land because of mineral wastes and sewage affecting plants and animals in the mining areas like Essen, Duisburg, Disseldorf.
- Neglect on all other sectors in the economy e.g. agriculture as the more able bodied youth move for better paying jobs in the Ruhr conurbation.
- Over exploitation of minerals causing mineral exhaustion and minerals are non renewable.
- Destruction of landscape by creating scars, pits, depressions, soil heaps destroying scenic beauty.
- Displacement of people and activities by gazetting mining areas discouraging settlement, agriculture, industrialisation and construction of transport routes.
- Urban problems because of rural urban migration like high costs of living, development of slums like in the areas around the Ruhr conurbation.
- Promotion of landslides and mass wasting like rock fall, slide, slump.
- Some minerals have a low demand and hence they are just stock pilled.
- Fluctuation in world market prices of minerals such as iron ore and gold hence affecting the incomes received by the country.
- Loss of lives due to collapsing roofs, too much dust and other gases, accidents.
- It leads to breeding grounds for disease vectors because of depression caused by mining.

MINING IN USA

USA is a developed country in North America and it is rich with mineral resources like iron ore, phosphates, aluminum. Mining areas in USA are the Great Lakes, Mesabi region, California desert, Tennessee valley, Rock mountains, and Apalacian mountains.

A SKETCH MAP OF USA SHOWING MINING AREAS.

Factors for the development of mining in USA

Presence of large reserves for large quantities of minerals leading to mining for a long time and making the mining industry profitable e.g. iron ore, coal, like around the Great Lakes, California desert.

Wide market because of high population having industries and exporting mineral products e.g. ammunition-uranium, chemicals, iron and steel products.

Improved science and technology leading to availability of skilled labour and using modern methods of mining e.g. open cast and Adit mining.

Improved transport and communication like the construction of roads, railway lines, modern ports like using St. Lawrence sea way, New York port.

Strategic location like the Great Lakes, St. Lawrence seaway for internal and cheap water transport and using pacific and Atlantic ocean.

Availability of large capital provided by the government and private investors used for constructing industries, buying equipments, paying workers.

Presence of entrepreneurs, big companies and nature of the population being hard working, innovative, good planners, helping in resource exploitation and developing economic activities.

Political stability and security because of good governance, defence, international relations, defence leading to a favourable investment climate and diverting resources to economic activities like mining.

Presence of industries supporting the mining sector like for processing minerals, making mining equipment using minerals as raw materials like chemical industries, using oil, iron and steel using iron ore, Ammunition industries using uranium.

Presence of water supply used in the mines, processing factories for domestic work, dumping wastes and sewage like Great lakes, R. St. Lawrence, Atlantic ocean.

Positive and supportive government policies like gazetting mining areas, attracting investors, constructing transport routes and helping in carrying out research.

Presence of power supply like using coal, oil, natural gas, HEP from Niagrara falls, Tennessee, dams in California, Shasta dam and the power is used in mineral exploitation and processing.

Low depth of minerals / exposed minerals near the earth surface, cheap for exploitation, using open cast method like coal, iron ore.

Good quality of minerals having increased demand on the world market and causing less pollution e.g. iron ore, coal.

Good international relations helping in marketing minerals and their products like with Canada, Britain, Japan.

Presence of labour supply both the skilled and unskilled working in the mines, processing factories because of dense population in towns e.g. Chicago, New York and using immigrants from less developed countries.

Presence of rocks like hard rocks for Adit mining with concealed minerals in deeper layers and soft rocks for open cast mining with exposed minerals near the earth surface.

Limited physical obstacles making mineral exploitation easy and cheap e.g. California desert with oil, the Great Lakes conurbation, Mesabi region.

Limited resources discouraging other activities like California desert with infertile soils and dry climatic conditions, rocky mountains, Appalachian.

Presence of research stations helping in mineral exploitation, processing, marketing leading to mining on a large scale for commercial purposes.

Effects of mining on environment / importance

- Source of government revenue by taxing people and companies leading to high incomes and the improvement in social services and investment opportunities like development of industries.
- Provision of employment opportunities like in mining gold, coal in areas of Great Lakes, Rocky mountains in processing factories leading to high standards of living.
- Source of foreign exchange by exporting minerals and their products like gold, coal, oil to countries like Germany, Canada, Japan and Britain.

- Improvement in social services around the mining areas like water and power supply, health facilities leading to high standards of living like in the mining areas of Great Lakes, Mesabi region, Tennessee river.
- Economic diversification by influencing other economic activities like trade, transport, industrialization in the Mesabi region, Great Lakes reducing on the level of dependence burden.
- Development of tourism industry by visiting mining areas like the Rocky mountains, Mesabi, Appalachian mountains because of high incomes leading to entertainment activities.
- Promotion of education and research activities by visiting mining areas, mineral processing areas leading to acquisition of skills, improvement in science and technology in the Great Lakes region, Tennessee valley.
- Growth of urban centres, ports and towns because of high industrial activities helping in promoting trade and improving social services like in the Tennessee valley, Mesabi region.
- Promotion of international relations and regional cooperation by exporting minerals and their products Germany, good relations with Canada and Japan.
- Improvement in transport and communication by constructing roads, railway lines, ports connecting the mining areas and marketing centres.
- Alternative land use in areas with limited resources like California desert, Rocky and Apalacian mountains with infertile soils which are not good for other economic activities.
- Provision of power supply like coal, oil, natural gas for domestic and industrial purposes.
- Source of capital for other development projects like for developing industries, promoting trade because of mineral revolution.
- Development of agriculture like minerals used for making equipment, for making fertilisers and market for food crops provided by miners.

Positive

- Profit repatriation by foreign investors like Anglo-American company causing capital outflow.
- Pollution of air, water and land because of mineral wastes and sewage affecting plants and animals in the mining areas like Tennessee valley, Mesabi.
- Environmental degradation because of using open cast mining, destroying plants and animals and the landscape.
- Destruction of the landscape by creating scars, pits, depressions, soil heaps, destroying scenic beauty like in the Rocky and Appalacian mountains.

- Displacement of people and activities by gazetting mining areas discouraging settlement, agriculture, industrialization, construction of transport routes.
- Promotion of conflicts and tensions leading to destruction of people and property.

Solutions to problems of mining / steps / measures / policies / ways of development

- Increasing power supply by constructing new dams using other power potentials leading to high production.
- Training skilled labour by promoting science and technology leading to engineers, technicians, mechanics, surveyors.
- Improvement in transport and communication by constructing roads, railway lines, pipelines, water ways connecting mining areas to industries and markets.
- Acquisition of loans for financing the mining sector from development agencies, world bank, African development bank.
- Positive and supportive government policies like getting expatriates, gazetting mining areas, constructing mining transport routes.
- Market expansion by exporting minerals and their products to other countries through proper advertisement using mass media.
- Improvement in science and technology leading to use of modern methods of mining like open cast, Adit mining and helping in processing the minerals.
- Economic diversification by exploiting other resources reducing on dependence burden, poor terms of trade, balance of payment.
- Mass education and mobilization helping one environmental conservation and reducing on ignorance and backwardness, backward cultures.
- Political stability and security through regional cooperation, good governance leading to favourable investment climate.
- Promotion of research in mineral exploration, processing, marketing and environmental sustainability.
- Development of industries, supporting mining sector, helping in processing the minerals, adding value, helping in transport, marketing.
- Privatization helping in attracting investors, capital accumulation, good management leading to increased production.
- Economic integration helping in joint investments, marketing, bargaining, political stability.
- Control of accidents by using modern equipment, training labour, skilled labour, modern methods of mining helping in reducing risks.

Qns:

1. Account for the development of the mining sector in either Nigeria or California.
2. Discuss the effects of mining on the environment in either the Rand conurbation of South Africa or Ruhr conurbation of Germany.
3. Describe the methods of mining.
 - b. Explain the factors for the development of the mining sector in either Ghana or USA.
4. Examine the problems facing the mining sector in either Ghana or USA.
5. To what extent has the presence of mineral resources contributed to the economic development of either Congo basin or Temperate region.

INDUSTRIALISATION IN THE WORLD

Industrialization is the turning of raw materials into finished products using labour and capital. It involves manufacturing, processing, assembling, construction.

Types of industries

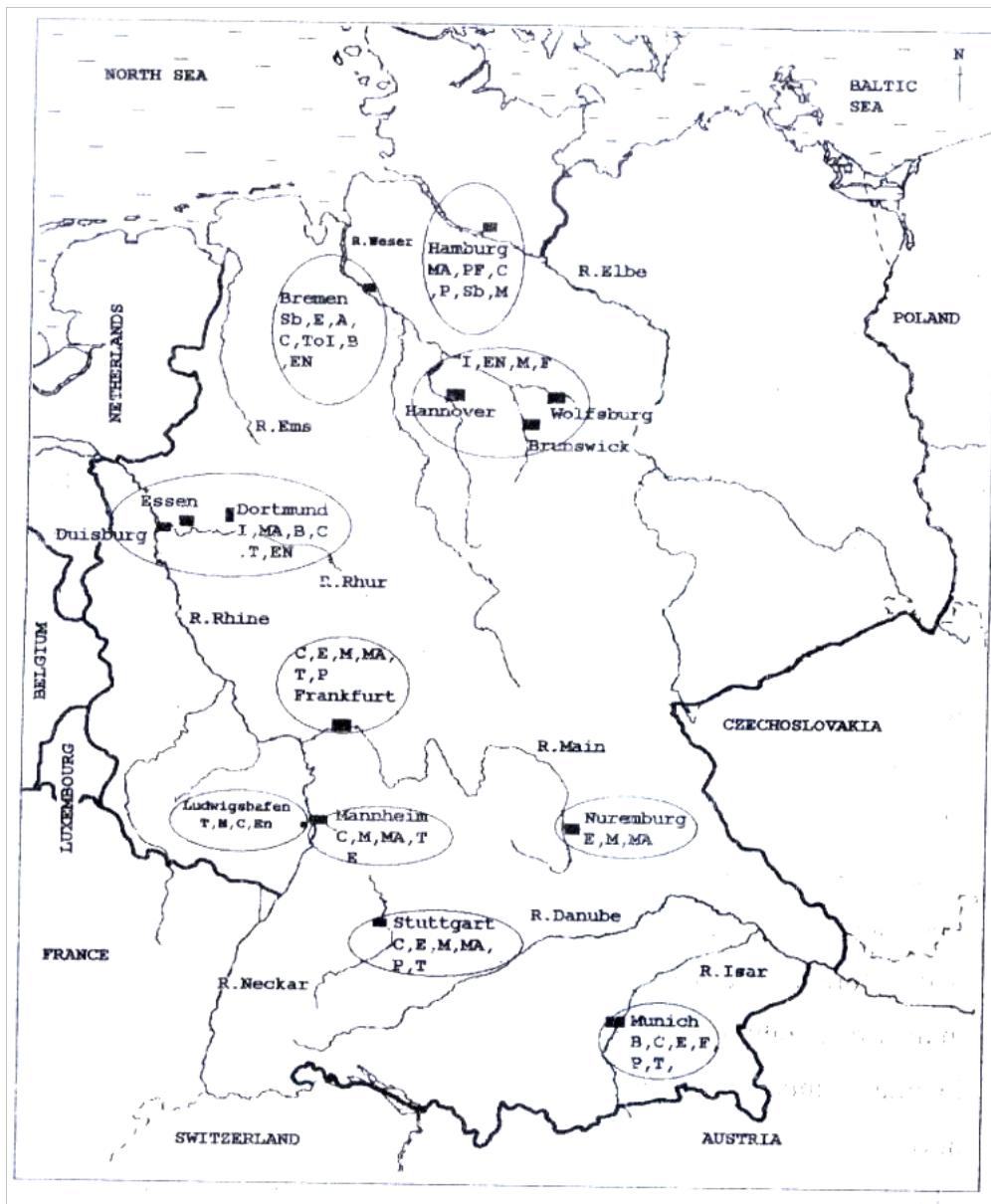
- (a) Primary industries: These are concerned with the exploitation of natural resources (gifts from nature). They produce semi-finished products like raw materials and they are most common in LDCs like S. Africa, Equatorial region and the tropics, Africa, leather tanning, G. smelting, coffee processing. This is because of limited capital poor science and technology, limited skilled labour and availability of natural resources.
- (b) Secondary industries: These deal in the manufacture of finished products or consumer goods e.g. food processing, breweries, carpentry and furniture, chemical industries, tea processing, iron and steel rolling. They are common in developed countries like Europe, North America, parts of Asia, Temperate region, Scandinavian countries because of capital, improved science and technology, and presence of skilled labour.
- (c) Tertiary industries: These deal in the production of services which are invisible and lucrative e.g. tourism, insurance, transport, advertisement and they are common in developed countries like Europe, North America due to high standards of living and high levels of income.

INDUSTRIALIZATION IN RUHR CONURBATION IN GERMANY

Germany is a developed country found in Western Europe and it is important for manufacturing and secondary industries like vehicle assembling, iron and steel rolling,

chemical industries, engineering, textile, electronics, food processing, art and craft, mineral processing, metal works, auto mobile with industrial areas around R. Ruhr, Lippe, Wupper and in the areas of Bonchum, Duisburg, Dusseldorf, Cologne, Essen, Dortmund.

A SKETCH MAP SHOWING INDUSTRIAL AREAS AND TYPES IN THE RUHR CONURBATION



Factors for industrial development in Germany

There are physical and human factors.

- Presence of raw materials like oil for chemical industries, cotton for textile, iron

ore for metal works like in the areas of Bonchum, Essen, Dortmund. This reduced on transport costs and it causes high production.

- Presence of power supply like using coal, natural gas, HEP leading to development of heavy industries which need a lot of power e.g. vehicle assembling, ship building.
- Strategic location in the heart of Europe surrounded by rich countries which provide market e.g. France, Switzerland, Belgium and being R. Rhine and distributaries for cheap water transport.
- Presence of water supply used in factories for cooling machines, as a raw material, for domestic work and for dumping wastes and sewage e.g. R. Rhine, Wupper, R. Ruhr.
- Industrial inertial leading to economies of scale due to localization, attracting industries in the R.C like iron and steel rolling near vehicle assembling, chemical industry near textile.
- Historical factors like industrial revolution which invented the use of machines leading to mass production and developing from small scale industries to large manufacturing industries.
- Improved transport and communication like the construction of roads, railway lines, canals, modern ports connecting industrial areas to marketing centres like R. Rhine water way, Duisburg port, Lippesitte canal, Dortmund's canel.
- Presence of labour supply both skilled and unskilled because of high population in towns like Duisburg, Essen, Bonchum and using immigrant labour from less developed countries.
- Presence of capital provided by government and private investors for financing industrial activities like vehicle assembling, developing infrastructure, ship building.
- Presence of wide market both internal and external like Essen, Bonchum and exporting industrial products to other countries like USA, Japan.
- Positive and supportive government policy like gazetting industrial areas, developing infrastructure, improving social services in RC.
- Political stability and security after Germany unification leading to favourable investment climate and diverting resources to economic activities, social services and infrastructure.
- Presence of entrepreneurs, big companies and nature of the population being hard working, innovative, good planners helping in providing capital and good management.
- Commercial services like banking, insurance, warehousing, advertisement agencies and social services like power and water supply attracting individuals to

urban centres like Duisdolf.

- Availability of extensive land gazetted for industrial development in areas which are flat, gentle sloping helping in construction, drainage and medianisation (Duisdolf, Bonchum, Dortmund).
- Good international relations and region cooperation with USA, Britain, Japan helping in marketing, getting raw materials and immigrant labour from less developed countries and it also helps in cheap transport.
- Limited resources in Ruhr conurbation and land discouraging other activities and making industrial development a best landing pattern.
- Improved science and technology leading to availability of skilled labour like engineers, mechanics, for the development of large scale manufacturing industries like vehicle assembling.

Characteristics of industries in more developed countries (Ruhr conurbation)

- Industries are evenly distributed covering a big area.
- They are mainly manufacturing and secondary and heavy industries.
- They produce better quality products because of improvement in science and technology.
- Mass production for internal and foreign market.
- They are capital intensive technology, machines, canes, lifts.
- Main source of power is coal supplemented by HEP, natural gas.
- It is manly based on coal as source of power near R. Ruhr.

Importance / effects of industrialization on the environment in R.C / Germany

Positive

- Provision of employment opportunities leading to high standards of living e.g. ship building, iron and steel rolling around Duisburg, Essen, Dortmund.
- Growth of urban centres because of high population promoting trade and improving social services e.g. Duisburg, Essen.
- Development of tourism industry because art and craft industries, visiting industries and use of high income around Ruhr conurbation.
- Promotion of education and research by visiting industries leading to acquisition of skills and improvement in science and technology.
- Foreign exchange by exporting industrial products like machines, vehicles.
- Resource exploitation through mining of coal, lumbering contributing to economic growth and development.
- Improvement in transport and communication like construction of roads, railway

lines, canal e.g. Lepesite, Dortmund canal.

- Industries have helped in self sustenance by providing basic needs e.g. chemicals, clothes, processing food leading to economic development.
- Alternative land use around urban areas with limited land and resources for other activities.
- Economic diversification by creating other activities like mining, trade, transport and tourism reducing on dependency burden.
- Promotion of agriculture by providing equipment inputs.
- Improvement in social services like water supply, health facilities, power supply leading to high standards of living around industrial areas.
- Promotion of international relations and regional cooperation through export and import like USA, Japan, Britain.
- Capital accumulation through foreign exchange earnings, capital investment leading to high incomes.

Negative effects

- Pollution of air, water and land because of sewage and waste affecting plants and animals for example ship building at Duisburg, iron and steel rolling at Essen.
- Environment degradation through deforestation, swamp reclamation, destruction of the landscape through construction work e.g. around Essen, Duisburg.
- Destruction of the ozone layer by industrial gases containing chlorine and carbon contributing to global warming e.g. chemical industries, metal works.
- Limited land by occupying big areas displacing people and activities around the gazetted industrial areas.
- Urban problems because of high population leading to high costs of living around the Ruhr conurbation.
- Unemployment because of specialization and using capital intensive technology like using robots, lifts.
- Over exploitation of resources causing exhaustion like exposed coal near R. Ruhr.
- Promotion of accidents through machine cuts, accidents leading to destruction of people and property.
- Diversion of labour and capital into the industrial sector affecting other economic activities like agriculture.
- Regional imbalance causing economic problems like the Ruhr conurbation developing more than other areas in Germany e.g. East Germany.

Problems facing industries in More Developed Countries (Germany)

- Limited skilled labour like casual workers due to high standards of living leading to high costs of using immigrants. It is also caused by low population growth rate.
- Competition with other countries like vehicles from Japan, engines from China, India.
- Physical obstacles like relief features water bodies, thick vegetation, land forms like the German rift valley increasing costs for industrialization.
- Accidents destroying people and property through machine cuts, power problems/
- High transport costs because of congestion in towns and because of highlands and mountains e.g. Black forest, vorges.
- Limited raw materials like minerals because of the exhaustion and agricultural raw materials because of temperate climate leading to high costs of exploitation.
- Limited land for industrial expansion because of high population in urban areas making land expensive.
- Limited power supply due to exhaustion of coal, discouraging the use of nuclear and limited other power potentials.
- Government policies like gazetting industrial and mining areas for environmental conservation and shifting industries from urban areas leading to diseconomies of scale.
- Conservative technology leading to production of expensive goods which are old fashioned getting marketing problems.
- Economic depression e.g. credit crunch affecting the marketing of industrial products.

INDUSTRIALISATION IN SWITZERLAND

Switzerland is a developed country found in West Europe and it is important for manufacturing and secondary industries with industrial centres around Zurich, Bern, St. Gallen, Nuchatel, Geneva. Industrial types like watch making, chemical, electronics, food processing, art and craft, iron and steel rolling, transport equipment, engineering.

Factors of industrialization in Switzerland

There are physical and human factors accounting for the location, growth and development of industries in Switzerland.

- Political stability and security due to its policy of neutrality leading to a favourable investment climate and reducing expenditure on the defense.
- Presence of raw materials like cotton for textile industries, oil for chemical

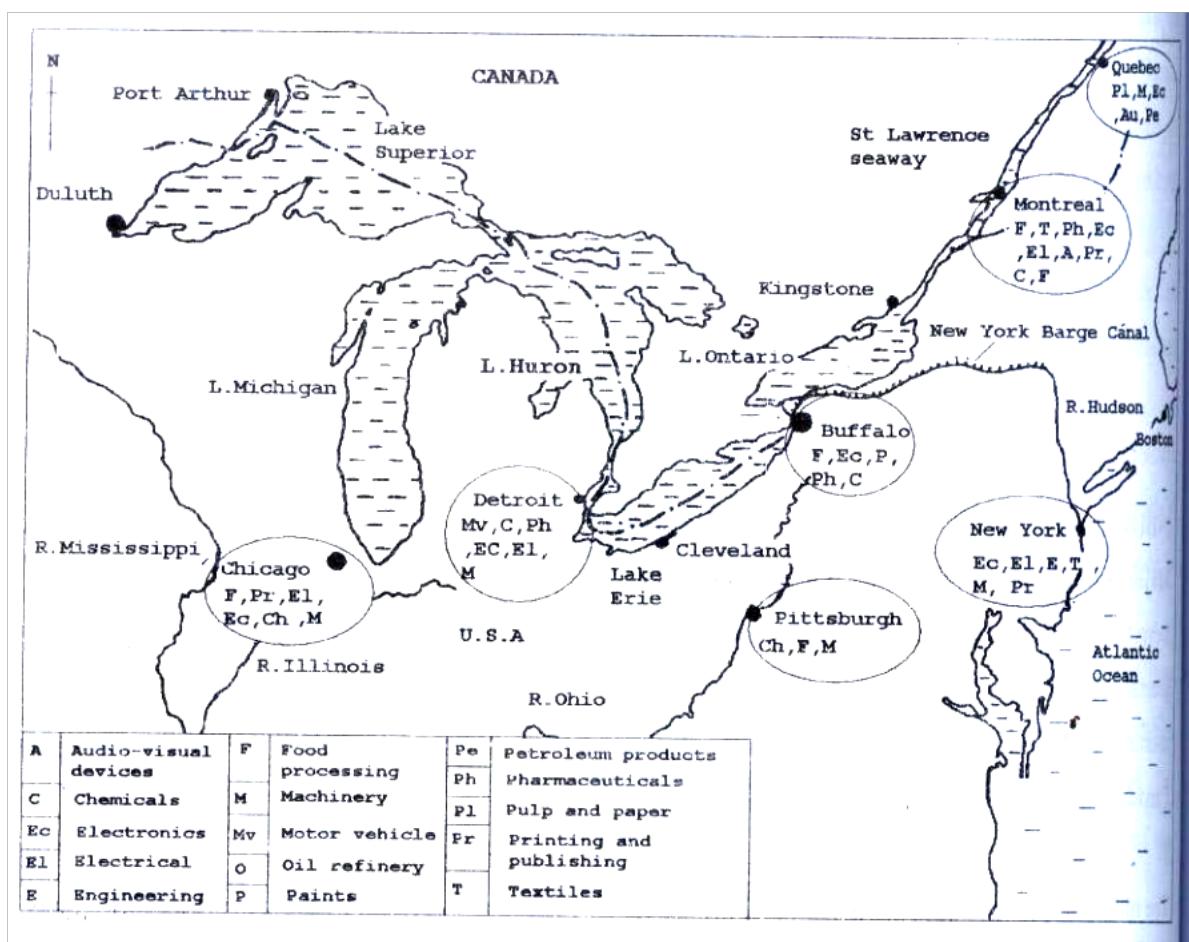
industries, timber for furniture, iron ore for iron and steel rolling.

- Water supply used in the industries for domestic work and for dumping wastes and sewage e.g. R. Rhine, L. Geneva, L. Zurich.
- Power supply like using coal, natural gas, oil and HEP leading to development of heavy manufacturing industries like engineering, chemical industry, textile industry.
- Strategic location in the heart of Europe surrounded by rich countries providing market e.g. Germany, France, Belgium also using cheap water transport like R. Rhine, Rotterdam port and Amsterdam port.
- Improved science and technology leading to availability of skilled labour helping in improving quality and quantity e.g. watch making industry.
- Labour supply both the skilled and unskilled because of high population in towns, using immigrants from other countries.
- Improved transport and communication through the construction of roads, railway lines, pipelines, connecting industrial areas and marketing centres.
- Wide market both internal and external because of increased population in towns e.g. Zurich, Bern, Basel and also exporting to USA, Japan, Britain.
- Commercial services and social services like banking, insurance, warehousing, advertisement agencies attracting individuals to urban areas e.g. Zurich, Bern, Basel, St. Gallen, Geneva.
- Presence of entrepreneurs big companies and cooperation providing capital, good management, better services, contributing to high production e.g. watch making.
- Good international relations and regional cooperation due to its policy of neutrality helping in marketing, getting raw materials, transport.
- Industrial inertia attracting industries in the Swiss plateau for economies of scale and advantages of localization e.g. chemical.
- Availability of land gazetted for industrial development in areas which are flat and gentle sloping around Geneva, Zurich, Basel, Gallen, Bern.
- Specialisation in small scale industries, light industrials making small items like watches, calculators, chemicals, reducing on the cost of transport and raw materials.
- Limited resources and land because of being mountainous, having minerals, having temperate climate discouraging other activities.
- Nature of the population being hardworking, innovative, hardworking, helping in exporting resources, development in economic activities, improving social services and improved infrastructure.

INDUSTRIALISATION IN U.S.A

USA is a developed country found in North America and it is the most industrialized in the world with industrial areas; coastal towns and New York Angel(s), Great Lakes conurbation (Chicago, Detroit) Tennessee valley, Boston i.e. New England, Washington DC. Types of industries; iron and steel rolling, ship building. Ammunition industries; Air crafts, vehicle assembling, food processing. Chemical industries, Engineering industries, film industries, art and craft industries, metal works, printing and publishing.

A SKETCH MAP OF USA SHOWING INDUSTRIAL AREAS AND TYPES.



Factors for the location, growth and development of industries in USA

- Availability of land gazetted for industrial development in areas which are flat and gentle sloping and with the required industrial utilities (social services) e.g.

Great Lakes, New York City, Boston, Chicago with industries like ship building and metal works.

- Presence of raw materials used for industrial development like cotton for textile industries, iron ore for iron and steel, uranium for ammunition, oil for chemical industries.
- Presence of water supply used in the industries for domestic work as a raw material and for dumping wastes and sewage i.e. in the Great Lakes, Atlantic ocean, Pacific ocean, R. Tennessee, R. Colorado, Sacramento.
- Strategic location near Atlantic ocean, Pacific ocean, Great Lakes leading to development of ports and using cheap water transport internally and externally.
- Presence of power supply used in the industries like HEP, using coal, Nuclear energy leading to development of heavy manufacturing and secondary industries e.g. ship building, vehicle assembling, iron and steel rolling.
- Political stability and security leading to a favourable climatic and diverting resource to economic activities like industries.
- Presence of labour supply both the skilled and unskilled because of high population in towns like Chicago, New York City, Boston and using immigrants from less developed countries.
- Limited resources and land discouraging other activities like in urban areas like New York city, Chicago, Detroit, Boston.
- Presence of market both internal and external because of increased population in towns like the Great Lakes conurbation, New York City, Washington DC and foreign market by exporting to other countries like Canada.
- Presence of capital for financing industrial development because of increased incomes leading to development of heavy manufacturing industries like making air craft.
- Improved science and technology leading to availability of skilled labour and helping in improving quality and quantity of industrial products like engineering, space craft.
- Presence of research stations helping in the exploitation of resources developing industries marketing industrial products and environmental conservation leading to sustainable development.
- Improved transport and communication like the construction of roads, railway lines, modern ports, water ways like using St. Lawrence Seaway, ports like New York, Los Angeles.
- Good international relations and regional cooperation helping in marketing, getting labour supply with Canada, Britain, Japan.
- Presence of entrepreneurs, big companies and nature of the population being

hardworking, innovative, good planners helping in exporting resources and developing industries.

- Positive and supportive government policies like giving loans, gazetting industrial areas, improving transport, carrying out research.
- Industrial inertia leading to economies of scale, advertisement of localization, attracting industries and the Great Lakes, New York City, Chicago, Boston e.g. Iron and steel near ship building.
- Presence of commercial services or industrial utilities like banking, insurance, warehousing, advertisement agencies attracting industries to urban areas like Chicago, Duluth, Los Angeles, San Francisco.
- Presence of relief which is flat and gentle sloping around the Great Lakes, Tennessee valley, New York City, Boston helping in transport, mechanization, drainage, construction.
- Specialization in manufacturing heavy and large scale industries like ship building, iron and steel rolling, vehicle assembling, ammunition reducing on competition.

Changing patterns of industries in USA

Industries in USA have shifted from coastal areas like from New York for the South cotton belt, California desert and in New England they have shifted to areas of Boston, Spring field, New Haven, Rhode Island, New Hampshire connected and this is because of following factors or reasons.

Reasons / factors for industries to shift

- Strategic location like areas where exploitation and importation is easy e.g. coastal towns like Los Angeles in California.
- Availability of skilled labour composed of immigrants, Negroes, from S. America found in the interior.
- Presence of power supply like HEP and coal in Tennessee valley and using other sources like Natural gas.
- Improvement in transport like the construction of roads, railway lines attracting industries to the interior.
- Reduction and exhaustion of raw materials like cotton, timber, minerals in the coastal areas leading to use of synthetic fibres.
- Large market in the interior because of increasing population and income.
- Increased labour cost around urban areas increasing the costs of production.
- Limited space for industrial expansion making land expensive causing congestion, pollution.

- Discovery of new raw materials like minerals in the interior like oil and iron ore in the South California desert.
- Government policy of regional specialization and economic diversification.
- Change from large scale to small scale like art and craft electronics, watch making reducing on the cost of raw materials and transport.
- Environmental conservation like gazetting industrial areas reducing on pollution and environmental degradation.

Effects of industrialization in USA

Positive:

- Provision of employment opportunities leading to increased standards of living e.g. ship building, iron and steel rolling, around Great Lakes, New York City, Chicago.
- Growth of urban centres because of high population promoting trade and improving social services e.g. pollution, New York City, Boston.
- Development of tourism industry because of art craft industries, visiting industries and use of increased income around Great Lakes, Tennessee valley.
- Promotion of education and research by visiting industries leading to acquisition of skills and improvement in science in technology.
- Foreign exchange through exporting industrial products like machines, vehicles.
- Resource exploitation through mining of coal, lumbering contributing to economic growth and development.
- Improvement in transport and communication like construction of roads, railway lines and ports i.e. New York Port.
- Industries have helped in self sustenance by providing basic needs e.g. chemical, clothes, processing, food leading to economic development.
- Alternative land use around urban areas with limited land and resources for other activities.
- Economic diversification by creating other like mining, trade, transport and tourism reducing on dependency burden.
- Promotion of agriculture by providing equipment inputs.
- Improvement in social services like water supplies, health facilities, power supply leading to increased standard of living around industrial areas.
- Promotion of international relations and regional cooperation through export and

import like Britain, Japan.

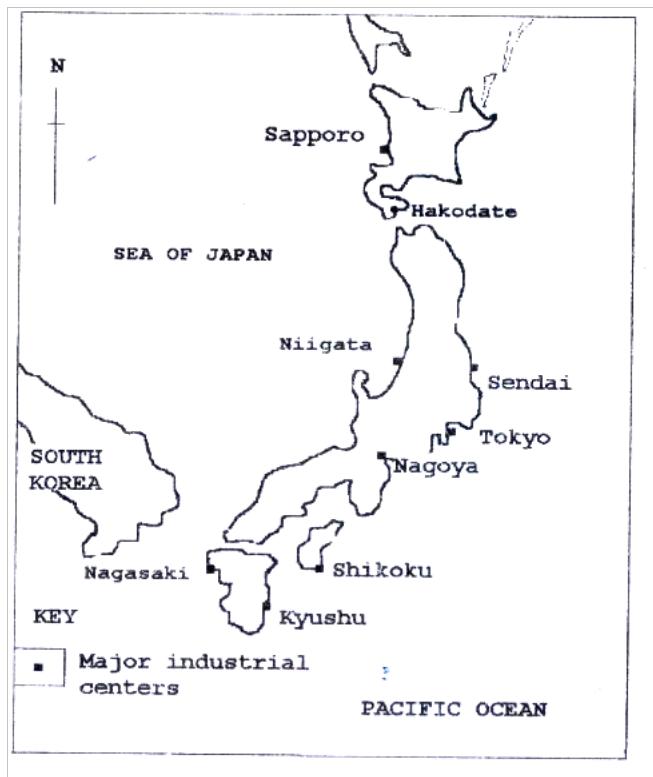
- Capital accumulation through foreign exchange earnings, capital investment leading to high incomes.

INDUSTRIALISATION IN JAPAN

Japan is developed country found in S. East Asia / Monsoon Asia and it is important for manufacturing and secondary industries with industrial areas like Tokyo, Yokahama, Nagoya, Nagasaki, Hirashima, Hirashima, Hitachi, Kyoto, Najita, Kanazawa, Kawasaki, Osaka, Kobe.

Types of industries include; Vehicle assembling, fish processing, electronics, watch making, textile industries, chemical industries, Auto mobile, music instruments, food processing, iron and steel rolling, ship building.

A SKETCH MAP OF JAPAN SHOWING INDUSTRIAL AREAS.



Factors for the development of industries in Japan.

- Presence of raw materials like cotton for textile industries, iron ore for iron and steel rolling, oil, oil for chemical industry leading to the development of industries

in the areas of Tokyo and Yokahama.

- Presence of power supply like using coal, HEP, leading to development of heavy manufacturing industries like vehicle assembling, ship building, iron and steel rolling.
- Presence of labour supply because of high population in towns like Tokyo, Yokahama and using immigrants from less developed countries.
- Strategic location near the coast of Pacific ocean leading to development of ports like Tokyo using cheap water transport and near developing countries in Asia which provide market and labour.
- Presence of positive and supportive government policies; gazetting industrial areas, paying labour, employing expatriates, building industries, carrying out research.
- Improved science and technology leading to availability of skilled labour, like engineers, technicians, mechanics and helping improving quality and quantity of industrial products like vehicle assembling, ship building.
- Presence of capital provided by the government and private investors like bans after the 2nd World War helping in financing industrial projects.
- Presence of wide market both internal and external because of high population in towns Tokyo, Nagasaki, Hiroshima and exporting industrial products to other countries like vehicles to USA, Britain, Uganda.
- Presence of entrepreneurs in big companies providing capital and good management skills e.g. Toyota company, Yamaha company, Mitisubish company, Suzuki company.
- Presence of water supply used in the industries for domestic work from pacific ocean, sea of Japan, China sea, Yellow sea.
- Improved transport and communication like the construction of roads, railway lines, modern ports, water ways, connecting industrial areas to markets and helping in transporting raw materials.
- Good international relations and regional cooperation helping in marketing raw materials, immigrant labour with USA, Britain, Uganda.
- Limited resources like land, because of being mountainous in the interior leading to development of industries in the coastal towns because of limited other economic activities.
- Industrial inertia leading to economies of scale and advantages of localization like in the areas of Tokyo, Yokahama like chemical industry near textile, iron and steel near vehicle assembling.
- Political stability and security after the 2nd World War leading to a favourable

investment climate and diverting resources to economic activities like industries.

- Presence of research stations using the policy of Kaizen which has helped in copying technology and making better products and it has also helped in mineral exploration, marketing.
- Presence of relief which is flat and gentle sloping around the coastal towns like Tokyo, Nagoya, Kobe, Osaka helping in transport mechanization and reduction.
- Nature of the population being hardworking, innovative, good planners helping in exploiting resources and developing economic activities.
- Presence of extensive land gazetted for industrial development in areas which are flat and gentle sloping and having industrial utilities or social services, infrastructure like in Tokyo, Hitachi, Nagoya, Nagasaki.
- Specialisation in small scale industries like watch making, electronics, chemical industries, reducing on the costs of transport and raw materials and large scale manufacturing industries reducing on competition.

Effects / importance

Positive

- Employment opportunities leading to high standards of living like in vehicle assembling industries, fish processing factories like in the areas of Tokyo, Yokahama.
- Source of foreign exchange by exporting industrial products like vehicles, machines, ships, spare parts to countries like USA, Britain.
- Growth of urban centres like towns and ports because of increased population like Tokyo, Yokahama leading to development of trade and improvement in social services.
- Economic diversification by influencing other economic activities, trade, transport, tourism, agriculture, reducing on the dependency burden.
- Source of government revenue by taxing people and companies helping in improving the national trade with USA, Britian, Uganda.
- Improvement in social services around industrial areas like water and power supply, health facilities like in the areas of Tokyo, Yokahama.
- Promotion of education and research by visiting industries like vehicle assembling, fish processing, chemical industries for better skills and technology.
- Development of tourism industries by visiting industries, developing art and craft and because of increased incomes leading to entertainment activities.
- Self sustenance by producing basic and essential goods like clothes, chemicals,

processing food.

- Resource exploitation through mining, fishing, lumbering leading to economic growth and development.
- Production of power supply, HEP, coal, nuclear energy used for domestic and industrial purposes.

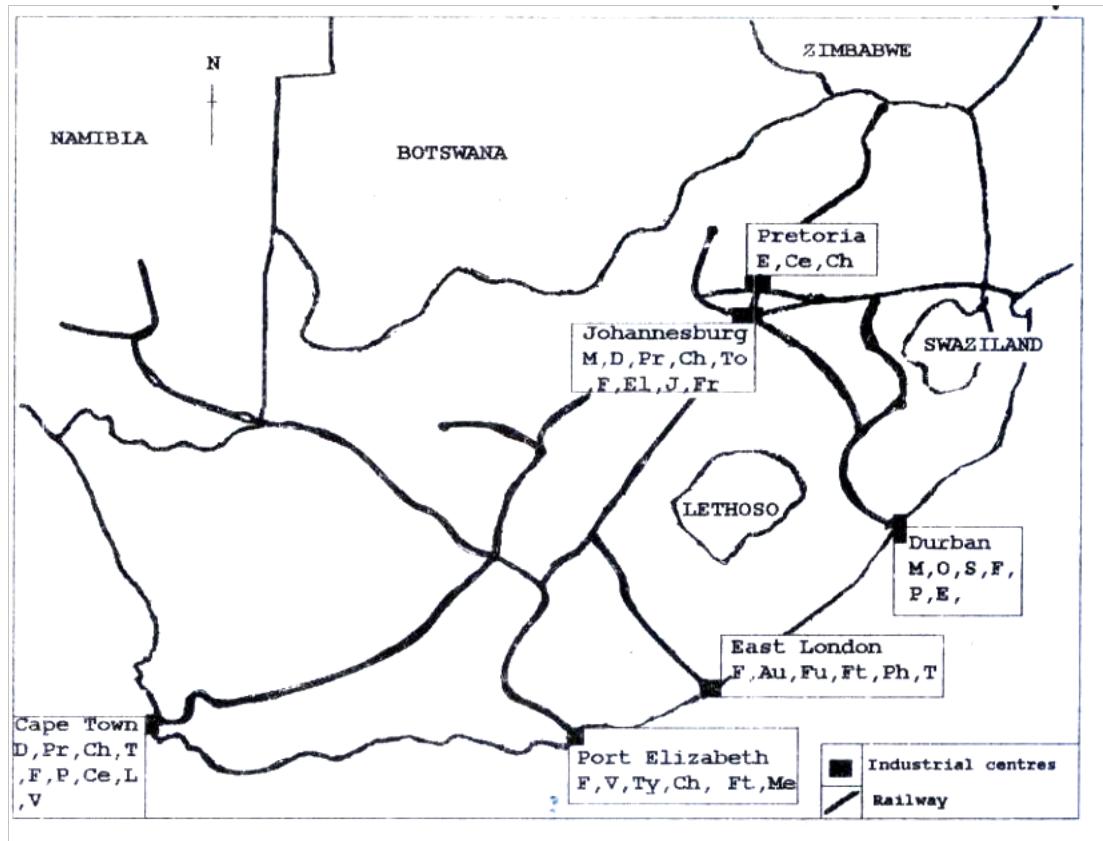
Negative

- Pollution of water, air and land because of wastes and sewage affecting plants and animals and destroying the ozone layer.
- Environmental degradation because of deforestation, swamp reclamation, destruction of the landscape by constructing industries and getting raw materials.
- Regional imbalance causing economic problems like in the coastal industrial towns of Tokyo, Nagoya, Yokahama.
- Diversion of labour and capital into the industrial sector affecting the economic activities like agriculture.
- Over exploitation of resources causing exhaustion like minerals, forests, water bodies, water resources.
- Promotion of accidents destroying people and property through machine cuts, power problems.
- Unemployment because of specialization and using capital intensive technology.
- Displacement of people and activities by gazetting industrial areas like in the areas of Tokyo, Osaka, Kobe, Nagasaki.
- Promotion of conflicts and tensions like developing nuclear energy, ammunitions, causing problems with neighbours and United Nations.

INDUSTRIALISATION IN SOUTH AFRICA

S. Africa is a developing country and important for manufacturing and secondary industries. It is the most industrialized country in Africa with industrial areas in the Rand conurbation like towns of Johannesburg, Pretoria, Port Elizabeth, Durban, Jameson, Orange Free State, Transvaal. Types of industries in South Africa include; mining industry, food processing industry, textile industry, chemical industry, iron and steel rolling, ammunition industry, onarmament industry (gold), sugar refining, fish processing, ship building and repairing, forests (furniture and carpentry), vehicle assembling, beverages industries.

A SKETCH MAP OF S. AFRICA SHOWING INDUSTRIAL AREAS AND TYPES



Factors for the industrialization in S. Africa

There are physical and human factors accounting for industrial development in S. Africa.

- Presence of raw materials like copper for electronics, iron ore for iron and steel), oil for chemical industry in the areas of Durban, Cape town.
- Presence of labour supply both skilled and unskilled because of dense population in towns like Johannesburg, Durban, Cape Town like using immigrants from Zimbabwe and expatriates from developed countries.
- Presence of extensive land in areas with industrial utilities like gazetted land in Durban, Pretoria, Johannesburg and in areas which are flat and gentle slopping.
- Presence of capital provided by the government because of mineral revolution, private investors leading to development of heavy manufacturing industries e.g. ship building, vehicle assembling, ammunition industries.
- Strategic location near the coast of Indian ocean, Atlantic ocean leading to development of ports and using cheap water transport and it is near low developed countries like Zambia and Zimbabwe providing market and cheap labour.
- Improved transport and communication like the construction of industries, railway lines, modern ports connecting industrial areas to markets like ports of Cape town, Durban, East London.
- Presence of wide market both internal and external because of high population in towns like Durban, Johannesburg and exporting to other countries like USA, Japan, Britain, Uganda, Zambia.
- Presence of water supply used in the industries for domestic work and for dumping waste and sewage even as a raw material like breweries, textiles like R. Vaal, Orange, oceans.
- Presence of power supply like using HEP from R. Orange, Vaal using coal, oil leading to development of heavy manufacturing industries like vehicle assembling.
- Good international relations and regional cooperation, marketing, giving loans, labour supply e.g. Britain, Japan, USA, Zimbabwe.
- Presence of entrepreneurs and big companies providing capital and good managerial skills leading to better services, good management e.g. sugar refining company, breweries, vehicle assembling.
- Nature of the population being hardworking, innovative, good planners, helping in resource exploitation, and rapid economic growth and development.
- Political stability and security after the apartheid era leading to a favourable investment and diverting resources to economic activities like industries. This is

because of good governance, defense and international relations.

- Improved science and technology leading to availability of skilled labour like engineers, technicians, mechanics, surveyors, helping in improving in quality and quantity of industrial products like making ornaments, chemical industries.
- Presence of research stations helping in mineral exploration for raw materials development of industries, marketing and environmental conservation.
- Presence of commercial services attracting industries to urban areas like banking, insurance, warehousing, advertisement agencies in towns of Johannesburg, Pretoria, Durban.
- Positive and supportive government policies like gazetting industrial areas, improving transport and communication, providing loans, constructing industries.
- Industrial inertia leading to economies of scale and advantages of localization like iron and steel near mineral processing, vehicle assembling e.g. in Cape town, Durban, Pretoria.
- Historical factors like ship building and repairing at Cape town since the time of exploration, mineral processing because of mineral revolution e.g. in Wit Waters rand and around Kimberly.
- Alternative land use because of limited resources and land in urban areas like Durban, Johannesburg discouraging other activities.

Importance / effects on environment

Positive

- Provision of employment opportunities leading to increased standards of living e.g. ship building at Cape town, sugar refining at Natal.
- Foreign exchange by exporting industrial productions like sugar, ornaments, vehicles, ammunition.
- Economic diversification by influencing other activites like trade, transport, tourism, reducing on dependency burden.
- Growth of urban centres like towns and ports because of dense population leading to trade and better social services like East London, Durban.
- Source of government revenue by taxing people, companies improving National income.
- International relations and regional co-operation because of export and import trade like with USA, Japan, Britain, Uganda, Zimbabwe.
- Improvement in transport and communication, construction of roads, railway lines, modern ports benefiting surrounding community like in the rand conurbation.
- Development of tourism industry by visiting industrial areas for experiments,

research, training because of increased incomes leading to entertainment activities.

- Promotion of education and research by visiting industrial areas with limited land and resources like in cape town, Johannesburg, Pretoria.
- Improvement in power supply like H.E.P and other social services like infrastructure, health facilities, leading to increased standards of living in the Rand conurbation.
- Resource exploitation, like mining of diamond, gold, fishing, lumbering contributing to economic growth and development.
- Source of capital by foreign investors through taxes, salaries leading to development of other economic projects.
- Self sustenance by developing import substitution industries, export industries and producing essential and basic needs like chemical, clothes, spare parts reducing on dependency burden.

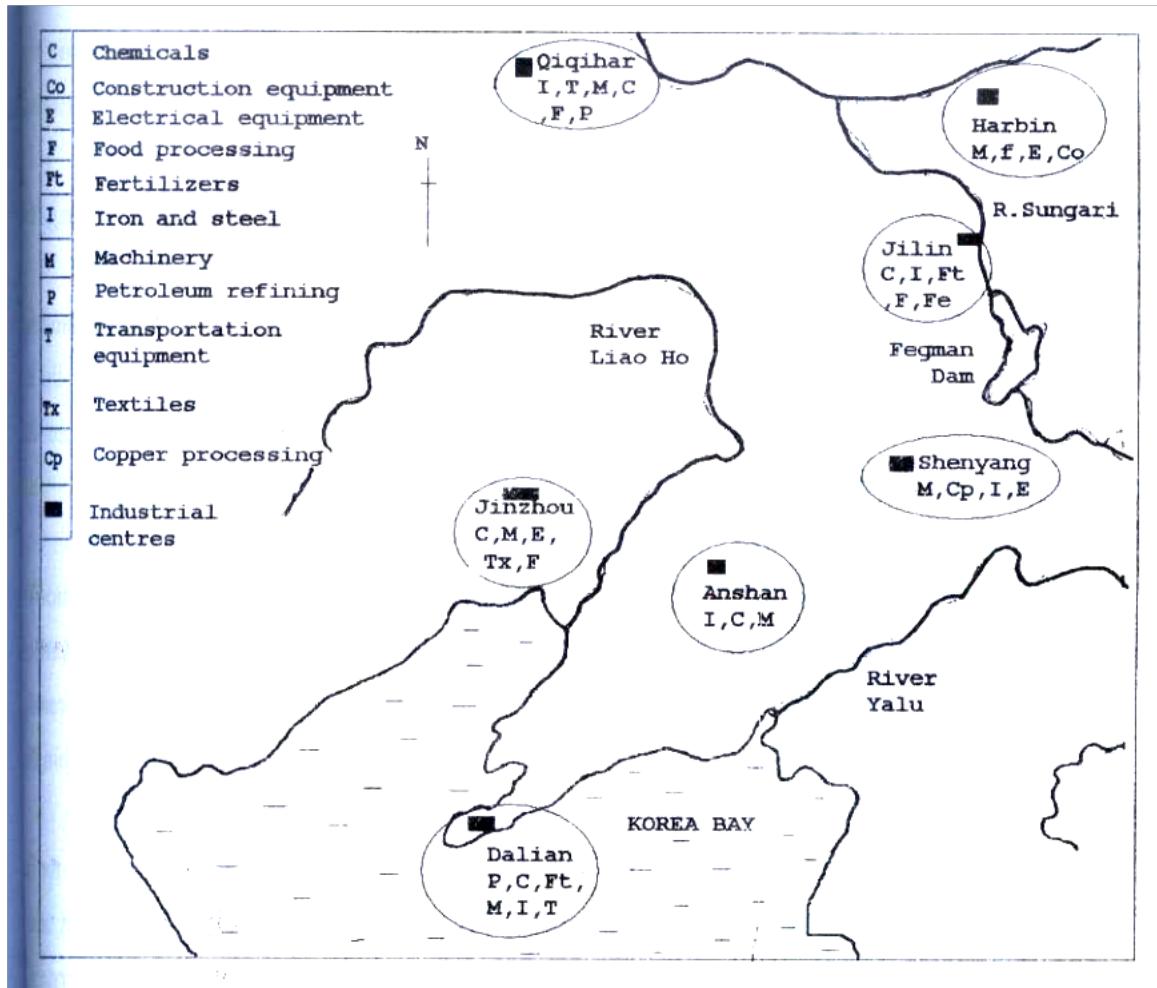
Negative:

- Pollution of air, water and land because of industrial waste and sewage and leading to the destruction of the Ozone layer.
- Displacement of people and activities by gazetting industrial areas, like cape town, Pretoria, Johannesburg.
- Urban problems because of rural urban migration, dense population causing slums in Johannesburg, Soweto leading to increased crime rates, increased cost of leaving, unemployment.
- Profit repatriation by foreign investors from USA, Japan causing capital outflow.
- Over exploitation of resources like minerals causing exhaustion, forests, fishing potentials, environmental degradation because of construction work getting raw materials like in Johannesburg.
- Unemployment because of specialization and using capital intensive technology like iron steel rolling industry, breweries.
- Regional imbalance like in the Rand conurbation causing economic problems.
- Promotion of accidents destroying people and property through machine cuts, power problems.

INDUSTRIALISATION IN CHINA

China is a developing country in South East Asia / Monsoon Asia and it has industrial areas like Beijing, Manchuria, Shanghai, Canton valley, Tainjin, Yangtze, Changaung, Shanxi, Skian, Shiang, Kiang. Types of industries in China include; Textile, electronics, ship building, oil refining, home appliances, hardware industries.

A SKETCH MAP OF CHINA SHOWING INDUSTRIAL AREAS AND TYPES.



Factors for industrialisation in China

- Presence of raw materials like copper for electronics, iron ore for iron and steel, cotton for textile industries, oil for chemical industries leading to development of heavy manufacturing industries like in Beijing, Shanghai, Sikiang.
- Presence of power supply like using coal, oil, hydro electricity, biomass, leading to development of Engineering industries, vehicle assembling, ship building.
- Presence of water supply used in the industries for domestic work as a raw material and for dumping wastes and sewage like China sea, pacific ocean, R. Yangtze.
- Improved transport and communication like the construction of roads, railway

lines, modern ports around industrial areas like Shanghai province, Canton valley for transporting workers, materials and finished goods.

- Availability of wide market because of using expatriates and immigrant from other countries and exporting to other countries like Uganda.
- Presence of labour both skilled and unskilled because of increased population in towns like Beijing, Manchuria, using immigrants and expatriates.
- Strategic location near Pacific ocean leading to development of its ports like Beijing, Tiajing, Hong Kong, using cheap water transport and near poor countries like India and Burma giving market and labour.
- Positive and supporting government policies like giving loans, gazetting industrial areas, carrying out research, constructing transport routes, political stability.
- Improved science and technology leading to availability of skilled labour like Engineers, Technicians, Mechanics helping in improving quality and quantity like chemical industries, electronics, engineering.
- Political stability and security by the community especially after the 2nd World War under the leadership Mau-tsetang helping in attracting investors and reducing expenditure on defence.
- Good international relations and regional co-operation helping in marketing, immigrant labour e.g Japan with Uganda, South Korea, India, Burma getting loans.
- Alternative land use because of limited land and resources in urban areas like Beijing, Tiasing, Shanghai and the Northern parts of China are mountainous and dry discouraging other activities.
- Availability of land gazetted for industrial development in areas which are flat and gentle sloping like Shanghai and areas with industrial activities like Beijing.
- Industrial inertia attracting other activities because of economies of scale because of advantages of localization in urban areas like Shanghai e.g. iron and steel rolling near vehicle assembling.
- Availability of capital provided by the government investors, generated from agriculture, getting loans for financial large scale manufacturing industries like vehicle assembling.
- Nature of population being hardworking, innovative, good planners helping in exploitation of resources and developing industries.
- Presence of entrepreneurs and big companies providing capital, good management leading to better services and high production like the chemical industries, food processing, iron and steel industries.

Importance / effects

- Provision of employment opportunities leading to increased standards of living e.g chemical industry, food processing like in Beijing, Manchuria.
- Source of foreign exchange from industrial products e.g. building materials, radios, watches, TVs, home appliances, razorblades.
- Source of government revenue through taxing people and companies improving the national income.
- Growth of urban centres because of dense population like in Beijing, HongKong, Manchuria, Shanghai, Tiasing.
- Improvement in transport and communication like the construction of roads, railway lines, modern ports, around industrial areas like Shanghai, Beijing.
- International relations and regional corporation because of export and import trade like with Japan, Britain, Uganda.
- Promotion of education and research by visiting industries leading to better skills and technology like chemical industries, textile, ship building.
- Source of capital for other development projects like from investors, taxes, salaries, foreign exchange earnings.
- Economic diversification by influencing other activities like trade, transport, tourism, agriculture reducing on the dependence burden.
- Self sustenance by producing basic and essential goods like clothes, chemical, spare parts.
- Alternative land use because of limited land and other resources like in urban areas of Manchuria, Beijing, Shanghai.
- Development of tourism industry by visiting industrial areas, developing art and craft industries, increased income leading to entertainment activities.
- Improvement in social services like water and power supply, health facilities, education institutions leading to increased standards of living like in Beijing, Tianjin, Shanhai.
- Resource exploitation leading to economic growth and development like mining in Manchuria, fishing in Pacific ocean, lumbering and agriculture in Kanton valley.

Negative:

- Promotion of conflicts and tensions like the development of nuclear energy which is not allowed by United Nations.
- Pollution of air, water and land because of industrial wastes and sewage with toxic and acidic elements i.e. chemical industries, iron and steel rolling.
- Environmental degradation, swamp reclamation, destruction of the landscape like in Shanghai province.
- Urban problems because of dense population like high cost of living,

unemployment like Beijing, Shanghai, Tiansin.

- Regional imbalance causing economic problems like Shanghai, Beijing.
- Diversion of labour and capital affecting other sectors like agriculture.
- Over exploitation of resources causing exhaustion, like minerals, forests, fish.
- Displacement of people and activities by gazetting industrial areas like in the areas of canton valley, Tiansin, Beijing.
- Profit repatriation by foreign investors from Japan, USA causing capital outflow.
- Accidents in industries destroying people and property caused by machine cuts, power problems.
- Unemployment because of specialization using capital intensive technology.

Problems / factors hindering industrial development in LDCs.

There are physical and human factors hindering industrial development in LDCs like in Africa, S. Africa, parts of Asia in the tropics, equatorial regions.

- Limited capital because of low incomes to purchase modern equipment leading to small scale industries and low production.
- Poor science and technology because of poor education systems leading to limited skilled labour e.g. Engineers, electricians, mechanics.
- Political instabilities and insecurity destroying industries, infrastructure scaring investors, workers and diverting resources to defence e.g Somalia.
- Limited market because of low incomes, low population leading to small scale industrial production like the parts of Asia e.g. in textile factories.
- Poor transport and communication in rural areas making areas remote and backward affecting the transportation of raw materials, finished products and labour supply like land locked countries with increased transport costs e.g. Uganda.
- Profit repatriation by foreign investors causing capital outflow lowering the National income and leading to low capital accumulation.
- Historical factors like colonialism which led to specialization in agriculture, primary industries and they caused uneven distribution of industries e.g. in Western Uganda.
- Limited skilled labour like engineers, technicians, mechanics leading to high expenses of using expatriates.
- Corruption and embezzlement leading to poor services, mismanagement causing low production like in Uganda.
- Competition with other countries like developed countries leading to collapse of

infant small scale industries.

- Poor government policies like increased taxes, not giving loans, not gazetting land.
- Economic dependence and its associated problems like B.O.P problems, poor terms of trade and inflation.
- Poor entrepreneurship skills leading to poor management.
- Poor planning and supervision causing low production.
- Poor economic integration like East African Community, COMESA, PTA affecting joint investment marketing and causing competition.
- Presence of other resources leading to other economic activities diverting labour and capital.
- Shortage of land in densely populated countries and urban areas making land expensive like in Kampala, Nairobi, India.
- Limited power supply because of not exploiting all the potentials and resources causing land shedding and low production.
- Limited research affecting the exploitation of resources developing industrial strategy and marketing the products.

Solutions/steps / measures / policies / ways of developing industries in LDCs.

- Positive and supportive government policies like giving loans, training skilled labour, availing land, attracting investors and putting some physical policies.
- Improvement in transport and communication by constructing modern ports, roads, developing water ways, using pipelines for the transportation of raw materials, workers and final goods.
- Political stability and security through good governance, defense and through international relations reducing on defence budget and leading to good investment climate.
- Increasing market by exporting to other countries like from LDCs to MDC in improving people's income to increase on the purchasing power.
- Increased power supply constructing new dams and using other sources of power like bio mas, bio gas using energy.
- Training skilled labour by promoting sciences, vocational studies, practical work in Engineers, mechanics, electricians.
- Promotion of research helping in resource exploitation, marketing industrial products, developing appropriate technology, developing import substitution and developing small scale industries.
- Promotion of economic integration and regional cooperation like COMESA,

African Union helping in marketing, joint investments and reducing on competition.

- Acquisition of loans from financial institutions, developing agencies like soft loans which are long term with small interest for financial industrial project.
- Training people in entrepreneur skills by using formal education, informal education, seminars, workshops.
- Developing import substitution industries, export promotion industries reducing on dependence burden.
- Fighting corruption using commissions and inquiries, tender boards, procurement towns, public accounts committee.
- Importation of raw materials like oil, iron ore using recycling and scrap.
- Environmental protection by gazetting areas proper waste management helping in controlling pollution and using resources sustainably.
- Control of accidents by using protective wear like overall, gumboots and using skilled labour.

*Qn: Discuss the effects of industrialization on environment in either Japan or Egypt.
To what extent has the presence of raw material and power supply influence the development of industries into either S. Africa or Germany.
Account for the development of industries in either USA or Kenya.
Examine the problems hindering industrial development in any one tropical African country (Uganda).
Examine the steps being taken to reduce problems with industries in respect to any one LDC.*

TRANSPORT AND COMMUNICATION IN THE WORLD

Transport is the movement of goods and passengers from one place to another finishing the process of production by enabling goods to reach the final consumer so as to provide utility.

Communication is the movement of information or transfer of information from one place to another using radios, TVs, Newspapers, internet due to improved science and technology.

WATER TRANSPORT

Water transport is by use of water bodies like lakes, rivers, seas, oceans, canals using

transport vessels like boats, ships, ferries, canoes. Water transport is cheap for transporting bulky, heavy goods for long distances like between continents like transportation exports, minerals, agricultural products, timber, machinery, tourists, oil and its products.

Types of water transport

- Inland water transport: is by use of inland water ways like lakes, rivers in the interior.
- Marine transport is by use of seas, oceans, water transport. Is mainly developed in MDCs like in Europe, North Africa, temperate region, parts of Asia, Scandinavian countries and less developed in LDCs like African, Austria, S. Africa, in the tropics, equatorial regions because physical and human problems.

Problems facing water transport in LDCs.

The problems are physical and human and include the following;

- Poor science and technology to develop ports making transport vessels and improving water ways.
- Limited capital to develop ports to purchase transport vessels because of low income.
- Shallow and narrow water bodies to accommodate big ships carrying exports, imports like the oil tankers.
- Presence of rapids and waterfalls causing accidents e.g. on R. Nile, Niger, Congo.
- Floating vegetation like water hyacinth, papyrus disrupting navigation like R. Congo, Nile, L. Kyoga.
- Presence of physical obstacles like potholes, gorges, rock out crop, river meanders e.g. on R. Congo, Niger.
- Limited government support in form of loans and poor policies like increased taxation on fuel making water transport expensive.
- Occurrence of accidents caused by strong waves, waterfalls, rapids, poor weather, over loading, scaring passengers and investors.
- Political instabilities and insecurity scaring investors and workers, coast of Somalia with sea pirates.
- Presence of wild animals like snakes, hippos, crocodiles causing accommodation and scaring passengers.
- Competition with other means of transport like using air, roads and railway lines because the water transport is slow and economical.

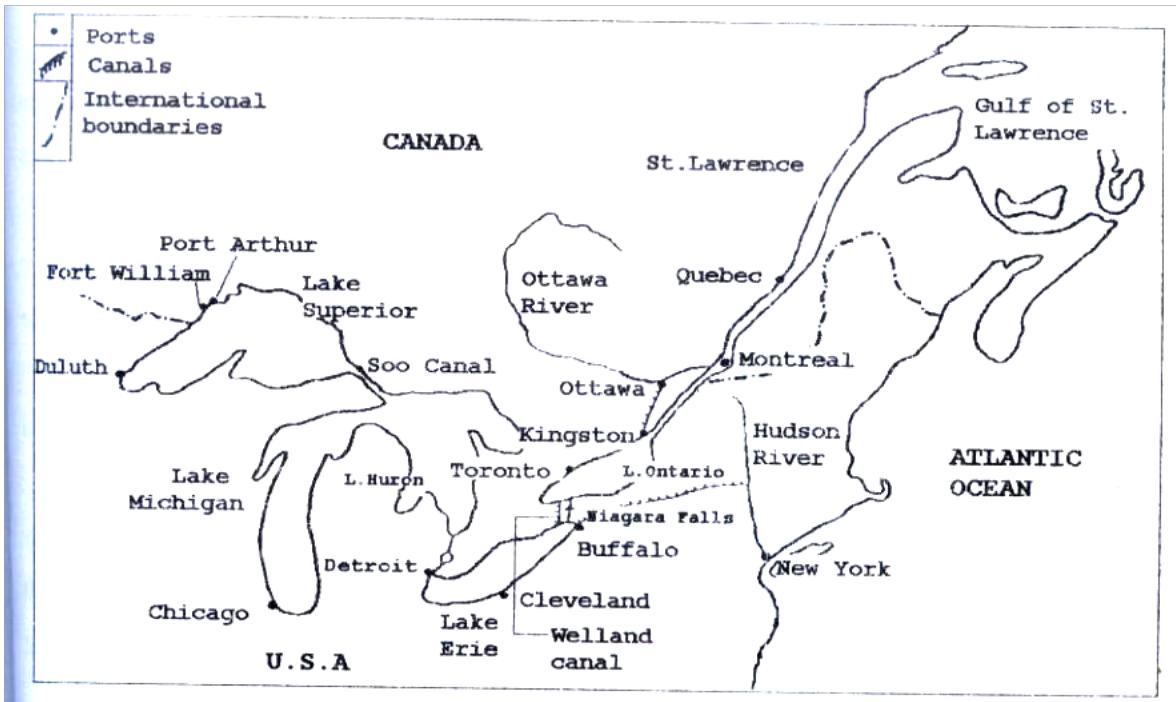
- Climatic changes causing fluctuation in water levels like seasonal rivers in dry areas.
- Presence of sand bars, lagoons, deltas, floating islands affecting development of ports and navigation like R. Nile in Egypt.
- Poorly developed ports with poor handling facilities affecting loading, offloading and causing inconveniences and delays.
- Poor international relations affecting joint investments like E. African community, COMESA, PTA.
- Low population densities in areas with water bodies affecting development and marketing like in the Congo basin, Amazon basin.
- Limited resources leading to limited economic activities like in the Sahel, Kalahari region and middle East countries.
- High costs of maintenance and rehabilitation like constant dredging like removing silts, sediments, deposits like on R. Nile.
- Presence of river meanders and high speed in the youthful stage causing accidents and affecting navigation.
- Presence of hostile tribes scaring investors and passengers like pygmies in DRC.

ST. LAWRENCE SEAWAY

It is found around the great lakes like L. Huron, Erie, Michigan, Superior, Ontario. It is used by USA and Canada. The idea of construction was started by Canada and USA, first resisted it because of fearing to lose custom duties and having railway lines. Construction started in 1964 and ended in 1969.

Before the construction they were using Erie canal which connected to New York port.

SKETCH MAP OF ST. LAWRENCE SEAWAY.



Problems faced before the construction of St. Lawrence Seaway.

Navigation on the great lakes was affected by physical and human problems.

- Rapids and falls around Niagara, St. Marie, Uloquis which hindered navigation.
- Freezing during winter season because of temperate climate leading to increased expenses of using other routes, presence of physical obstacles, rocks potholes gorges between L. Ontario and Montreal port.
- Presence of shallow and narrow parts hindering the movement of big ships.
- Floating islands and vegetation navigation.
- Increased expenses for loading and offloading in areas with obstacles.
- Floods which caused siltation sedimentation and deposition leading to increased costs of constant dredging.
- Presence of mist and fog accidents because of poor visibility.
- Poorly developed ports with a lot of luggage and many passengers and causing inconveniences and delays.
- Increased expenses for using other routes (transport means) like using trains, Vancouver port.
- Fluctuating water levels affecting navigation.
- Presence of river meanders with sharp bends causing accidents and hindering the movement of big ships.
- Construction of dams.

Solutions / steps / measures

- Construction of locks and gates and dams at Niagara, St. Marie regulating the flow of water.
- Blasting or removing of rocks between L. Ontario and Montreal using explosives.
- Constant dredging by removing silt, sediments, deposits through regular maintenance and rehabilitation.
- Widening the narrow parts and deepening the shallow areas to accommodate big ships.
- Using boats and ships with head lamps for proper visibility during winter season and in areas with mist and fog.
- Using ice breakers like ships and boats with warm conditions and melting ice.
- Removing floating islands and vegetation for proper navigation.
- Gazetteering areas around St. Lawrence Seaway and Great lakes for transport.
- By limiting human activities which cause siltation.
- Development of alternative transport routes like roads, railway lines using other routes like Vancouver port reducing congestion.
- Developing modern ports with good handling facilities for easy loading and unloading like using cranes and lifts.
- Improvement in transport and infrastructure like around the Great lakes through construction of roads, railway lines, pipelines, ports for easy connection and supplement.

Importance / effects of St. Lawrence Seaway.

- Improvement in transport and communication through navigation by constructing roads, railway lines, modern ports, canals around the Great lakes.
- Provision of employment opportunities like in the transport sector, industries and tourism in the areas of Chicago, Detroit, Toronto and trading activities.
- Provision of water for domestic, industrial purposes and for dumping wastes and sewage line in the towns of Duluth, Chicago, Buffalo, Detroit, Cleveland.
- Source of government revenue by taxing people, companies, getting custom duties helping to improve the national income.
- Production of HEP like at Niagara falls, St. Marie, Iroquois dam used for domestic and industrial purposes.
- Development of trade both internal and external by connecting different towns like Chicago, Detroit, Toronto and different countries like USA and Canada.

- Economic diversification by influencing other activities like tourism, industrialization, trade, transport reducing on the dependence burden.
- Promotion of international relations and regional corporations like between USA and Canada leading to international trade.
- Growth of urban centres because of population increase, industrial activities leading to improvement in social services and development of trade.
- Development of tourism industries because of land forms like Niagara falls, industrial activities and high incomes leading to entertainment activities.
- Source of foreign exchange by paying custom duties at ports like Chicago, Montreal through export trade helping in importation and investments.
- Promotion of education and research because of landforms like Niagara falls, industrial activities, plants and animal species leading to better skills and technology.
- Improvement in social services like water, power supply, health facilities leading to increased standards of living around the Great lakes conurbation.
- Environmental protection through climate modification providing habitats for plants and animals.
- Alternative land use by suing the Great lakes like Lakes Superior, Michigan, Ontario for navigation.
- Promotion of fishing activities in the Great lakes.

Disadvantages

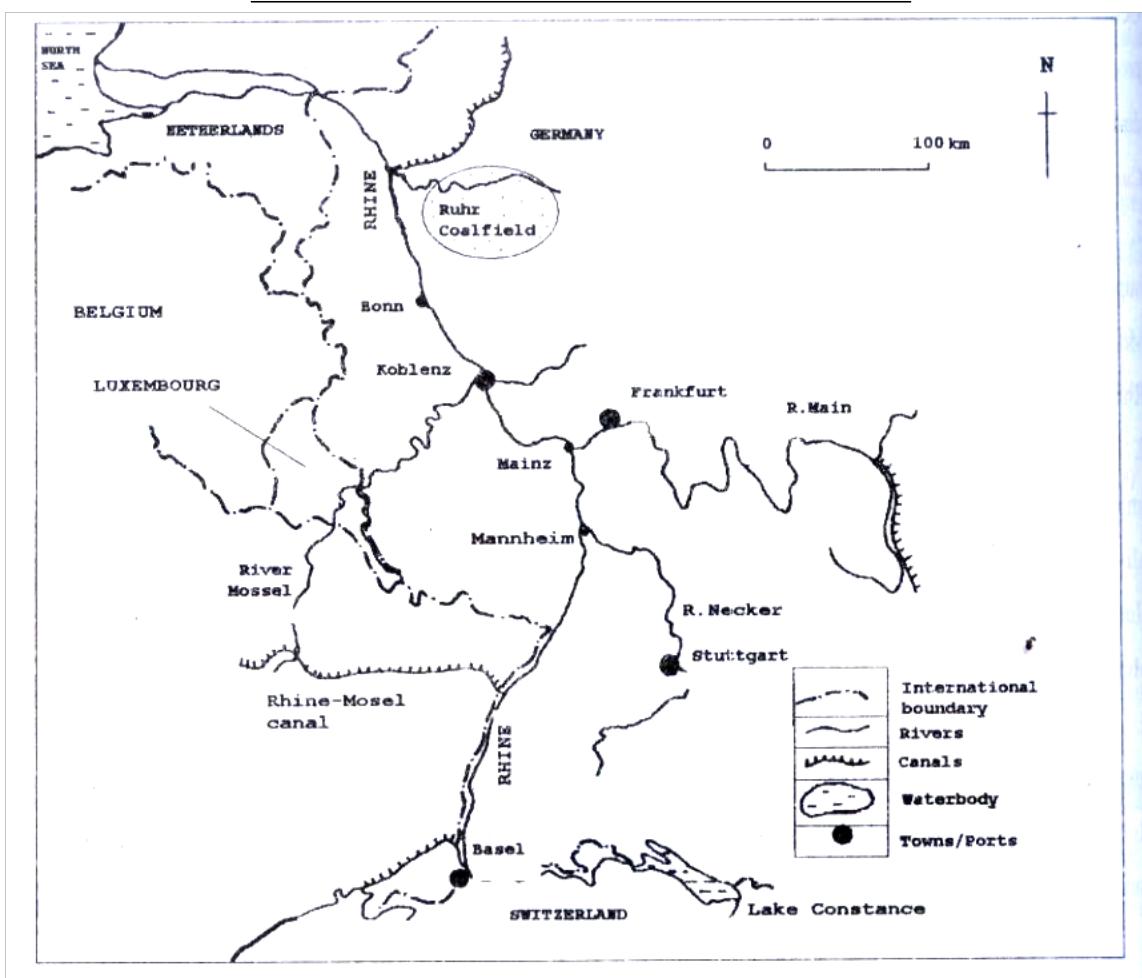
- Increased costs of maintenance in rehabilitation like constant dredging by removing silt, sediments, deposits.
- Displacement of people and activities by occupying big areas and being gazetted for transport.
- Promotion of accidents destroying people and property because of mist and fog causing poor visibility, strong waves, obstacles.
- Diversion of labour and capital into the transport sector affecting other economic activities.
- Pollution of air, water and land because of industrial wastes transport vessels, dense population affecting plants and animals.
- Competition with other means of transport making them uneconomic like road transport, air because water transport is cheap.
- Environmental degradation because of deforestation, swamp reclamation, destruction of the landscape because of construction work like St. Lawrence Seaway, Quebec, Toronto, Chicago, Detroit.

- Urban problems because of population increase like development of slums in Chicago, congestion, high crime rate, unemployment.
- Congestion at ports because of heavy traffic passengers causing inconveniences and delays.
- Regional imbalance causing economic problems like the Great lakes conurbation.
- Soil erosion, landslides and mass wasting because of steep banks and shores.
- Freezing during winter season causing delays and increasing on transport expenses.

RIVER RHINE WATERWAY

It is most important inland water way in Europe. It starts from Basel port in Switzerland ends at Rotterdam and Amsterdam at the North sea. The countries using it are known as the Rhinelands which include Germany, Switzerland, Netherlands, Belgium, Luxemburg. The countries use R. Rhine and its tributaries like Ruhr, Wupper, Lippe, Maimz, Emscher and it has canals lippesitte canal, Dortmund canal, EMS canal and it has ports like Basel, Duisburg, Rotterdam, Amsterdam. It is described as a gateway because it opens Europe to other countries and an artery because of its economic importance.

A SKETCH MAP OF RIVER RHINE WATERWAY.



Conditions / factors for the development of R. Rhine waterway.

There are physical and human factors.

- Limited waterfalls and rapids making it navigable from its source to its mouth including its distributaries.
- Deep and wide accommodating big ships like the oil tankers, ships handling exports, imports.
- Limited obstacles like gorges, sand banks, floating vegetation, islands leading to easy navigation.
- Constant water volume because of glaciations in the temperate climate and having many tributaries which ass water like Ruhr, Wuppe.
- It is ice free less affected by snow making it navigable throughout the year from its source to its mouth including its distributaries.
- The construction of canals like Dortmund, Lippcuite adds on luggage, passengers and connection to different parts of Europe.

- Strategic location in Europe serving the most industrialized and productive countries and near the north sea, Rotterdam port, Amsterdam port.
- Presence of modern ports with good handling facility like cranes, lifts, containers for the easy loading and offloading in a short time reducing on delays, inconveniences and congestion.
- Deep and natural harbours covering a big area well sheltered from strong waves accommodating big ships like Rotterdam with 17km.
- Presence of rich and productive hinterland with a lot of resources economic activities leading to many exports, imports, passenger like fish and timber from Scandinavian countries, like minerals from France (iron ore industries in Germany).
- Good international relations and regional corporation by European union member countries helping in marketing, maintenance e.g. Germany, Holland, Swiss.
- Positive and supportive government policies like gazetting areas where it passes providing capital for its development.
- High population density in Europe leading to many passengers exports, imports like Germany, Switzerland, Netherlands.
- Political stability and security leading to a favourable investment climate and diverting resources to economic activities like the transport sector, social services and infrastructure.

Effects / contributions of R. Rhine waterway.

- Provision of employment opportunities in the transport sector in industries, trading activities, in the Ruhr conurbation at Rotterdam port leading to increased standards of living.
- Source of water for domestic and industrial purposes, irrigation for dumping wastes and sewage.
- Improvement in transport and communication through Navigation like Switzerland which is land locked the construction of roads, canals, modern ports in the surrounding areas.
- Growth of urban centres around ports and industrial areas because of population increase helping in promoting trade and improving social services for example Basel, Rotterdam, Amsterdam, Duisburg.
- Source of government revenue by taxing people, companies, custom duties at ports like Rotterdam improving national income and leading to accumulation for other development projects.
- Development of tourism industry like Switzerland around Rotterdam because of land forms, industrial activities and increased income leading to entertainment

activities.

- Promotion of international relations and regional corporation leading to international trade and political stability for European countries.
- Resource exploitation leading to economic growth and development in tourism in Switzerland, lumbering and fishing around the North sea.
- Development of industries like ship building and repairing, iron and steel in the Ruhr conurbation, oil refining at Rotterdam.
- Economic diversification by influencing other countries like trans, trade and reducing on dependency burden.
- Alternative land use by using R. Rhine and its tributaries for providing cheap transport.
- Environmental protection by providing habitats for plants and animals and through climate modification through sea and land breeze.
- Fishing for commercial and subsistence purposes in R. Rhine and around the North sea.
- It has led to production of H.E.P because of waterfalls, rapids leading to construction of dams in its upper parts e.g. in Switzerland.
- Promotion of education and research because of landforms, wildlife, construction work, industrial activities leading to better skills and technology.

Positive effects / disadvantages or problems

- Increased costs of maintenance like constant dredging, building walls and embankments to control flooding.
- Competition with other means of transport like road, air, water transport because water transport is cheap.
- Pollution of air, water and land because of heavy traffic, population increase, industrial activities discouraging activities like fishing.
- Congestion of ports like Rotterdam, Amsterdam, Basel because of heavy traffic, many passengers, luggage causing inconveniences and delays.
- Diversion of labour and capital into the transport sector discouraging other activities like agriculture.
- Regional imbalance causing economic problems like the Ruhr conurbation around Rotterdam, Basel, Dortmund port.
- Promotion of accidents destroying people and property because of mist and fog causing poor visibility, strong waves, presence of obstacles.
- Promotion of soil erosion, landslides, mass wasting because of floods and steep

banks in its upper parts like Switzerland.

- Displacement of people and activities by occupying big areas which are gazetted around Rotterdam port, Duisburg, Basel, Dortmund.
- Environmental degradation because of construction work like at Rotterdam port, building walls and embankments destroying plants and animals.
- Urban problems because of population increase and industrial activities like slums, increased cost of living, in towns like Duisburg, Rotterdam, Amsterdam.
- Freezing during winter season leading to high costs of using ice breakers and alternative routes.
- Over exploitation of resources causing exhaustion like coal in Germany forest and fish from Scandinavian countries.
- Flooding causing submergency along R. Rhine and its tributaries.

PROBLEMS

- The waters of R. Rhine and its banks have been heavily polluted by the running vessels and industries with exhaust fumes and industrial wastes respectively.
- With increasing of vessels and ships on the waterway, there is serious congestion especially at shipping terminals like Rotterdam, Duisburg, Essen and Basel. This is also determined by the size of the Cargo handled at every station.
- The Rhine water experiences stiff competition from other means of transport like roads, railways, canals like the Lippesite canal, the Dortmund, Elms canal and oil pipeline that run from Rotterdam to Basel through sharing incomes and limiting expansion and development.
- The Rhine water has shallow positions with average depth of a meter in the Rhine rift valley and sharp bends along the Rhine gorge thus restricting the movement of large ocean going vessels to the final terminals of Basel.
- The use of different sized vessels at different positions due to different in depth and water volumes call for drainage of goods and delays in delivery cargo.
- The Rhine waterway experiences frequent floods especially the Rhine rift valley and coastal delta region in Netherlands which make navigation loose the right course leading to accidents and destruction of property and lives.
- There are frequent accidents along the waterway by vessels and ships colliding capsizing, hitting rocks, banks and poor visibility leading to destruction of human lives and property.
- The Rhine waterway experiences season fluctuation in water levels with a drastic fall in winter and rise in summer affecting systematic flow of cargo consequently leading to a decline in output and incomes.
- The Rhine waterway is constantly silted by heavy run-off from the Rhine gorge,

black forest saadt mountains leading to shallow waters hence a decline in cargo carriage.

- Parts of R. Rhine waterway freeze during the winter periods especially at Basel affecting the inflow and out of goods and services from the interior to Europe to the Rhine terminals of Rotterdam, Amsterdam and Hegues for export. This has consequently affected incomes and lowers people's standards of living.
- The Rhine waterway like Rotterdam and Amsterdam face stiff competition from sister and rival ports like Antwerp, Bergain and Bordeaux in France leading to the drop in Cargo and incomes consequently.
- Some parts of the Rhine waterway are covered by rock shoals like the boarders of Germany and Netherlands and the edges of the Rhine rift valley near Wuppertal and Cologne causing damages to the sailing vessels and destruction of property and human lives.
- At times the conflict like the Germany conflict, France etc influence poor relations among the user countries thus calling for diversion of the route courses to alternative parts calling for a decline in cargo carried and profit margins.
- The Rhine waterway has experienced inconsistent funding by user countries for repair and maintenance leading to neglect and decline in capacity usage.
- Along the Rhine waterway there are numerous waterfalls and rapids which require construction of locks, sluice gates and canals like at the Rhine gorge making it expensive for the user countries.

SOLUTIONS

- The narrow and bottleneck positions of the Rhine waterway have been enlarged and widened to allow large ocean going vessels to access the extreme terminals of cologne and Basel.
- The shallow points have been deepened to create considerable water depth for large and highly commercialized vessels for increased cargo output.
- The government of the Rhineland have constantly dredged and distilled the Rhine river channel for maintaining constant water depth for continuous navigation.
- Along the Rhine waterway embankments have been constructed to control floods and maintain water channels.
- Rock shoals and islands with water channels have been blasted in order to widen and deepen water passages for convenient navigation and cargo carriage.
- Channels have been constructed like the Lippesite canal, the Dortmund-Elms canal and the Dortmund canal for supplement cargo carriage on the congested waters of the Rhine, Lippe, Ruhr and Wuppertal as major feeder tributaries to the main channel.

- Modern ports like Rotterdam, Amsterdam, Basel, Duisburg with modern port handling facilities like containers, plates, cranes, railway bridges have been constructed and developed to facilitate increased cargo output and reduce congestion.
- Modern technology like containerization, polarization, electrified and increased powered vessels and ships has been developed in order to ease and solve the problem of congestion.
- The user countries especially Netherlands, Germany, Switzerland, France, Austria, Czech and Russia have maintained good international relations for consistent exportation and importation of goods and services through the waterway.
- The user countries have faithfully and equally had joint funding to meet costs of standardization assisting in maintenance for continuous exports and imports.
- Transport patterns like Netherlands, Germany and Switzerland have constructed roads, railways, pipelines, canals in order to reduce pressure on the waterway for easy and convenient handling of imports and exports.
- The sharp bends along the Rhine gorge have been straightened allowing large ocean going vessels sail through easily and conveniently.
- Ice breakers and ice smelters have been introduced near Basel to remove ice and allow perennial navigation and continuous inflow and outflow of cargo.
- Industrialisation wastes have been recycled in order to reduce on the rates of pollution and minimize environmental decline.
- Aforestation, creation of bush woods and planting cover croppers has been adopted in order to reduce on the increasing rates of erosion and siltation of waterways.
- Periodical discharge of cargo mainly on inland ports to reduce congestion of cargo e.g. Duisburgm Dusseldorf, Wuppertal and Basel.
- Industries have been constructed and developed along the waterway for easy and convenient handling of imports and exports.

RAILWAY TRANSPORT

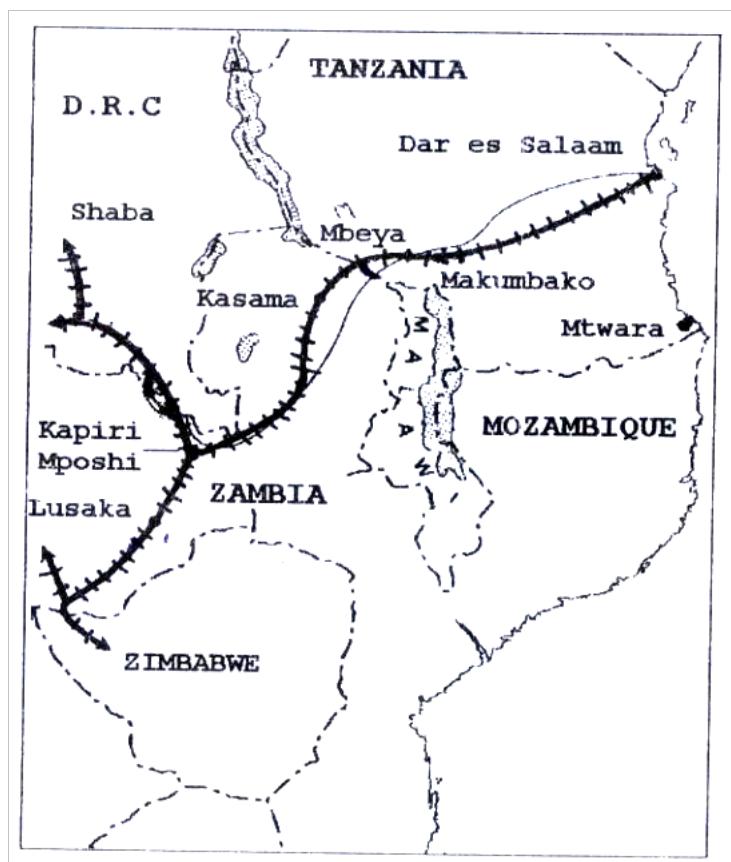
This is by use of trains on railway lines. It is mostly used in developed countries like USA, Switzerland and less common in LDCs because of physical and human problems.

It is good for transporting bulky and heavy goods like exports and imports, composed of timber, minerals, industrial products, oil, for long distance. However it is affected by climate and weather. Inconveniences because of following timetable, short distances and only stopping at stations.

TANZAM RAILWAY LINE

It is found in Zambia and southern Tanzania. It was constructed by the Chinese in 1975. TD solve transport problems for Zambia which is land locked and for Southern Tanzania which had a lot of resources and it is remote and backward. It starts at Dar-el-Salaam port and ends at Kapiriposhi in Zambia. It has 147 stations, 310 bridges, 21 tunnels. It is used by countries like Zambia, Tanzania, DRC, Mozambique, Zimbabwe. The countries were using southern routes but they were affected by political problems e.g. South Africa, Angola, Namibia, Mozambique.

A SKETCH MAP OF TANZAM RAILWAY LINE.



IMPORTANCES OF THE RAILWAY LINE

- Improvement on transport and reducing on transport costs for southern Tanzania and for Zambia.
- Provision of employment opportunities in the transport sector, industries, trading activities around stations like Das-el-Salaam, Lusaka, Mbeya.
- Promotion of international relations and regional corporation between countries like Zambia, Mozambique, DRC leading to international trade and political

stability.

- Exploitation of resources contributing to economic growth and development e.g. copper and cobalt mining in Zambia, Tin and lead and southern Tanzania and tourism and lumbering in S. Tanzania plus agriculture like growing tea and sugarcanes in S. Tanzania.
- Source of government revenue by taxing people, companies like custom duties paid at Dar-el-salaam port leading to increased incomes and capital accumulation for development of other economic activities.
- Growth of urban centres at railway stations because of population increase, industrial activities, promoting trade and improving social services e.g. Mbeya, Lusaka, Faraka, Dar-el-salaam, Kasama, Kabwe.
- Development of tourism industries because of volcanic land forms in S. Tanzania, development of many urban centres and because of high incomes leading to entertainment activities.
- Economic diversification by influencing other activities like trade and communication, tourism, transport and communication, mining, Agriculture, industrialization.
- Development of industries e.g. ship building and repairing, oil refining, copper and cobalt smelting, tin processing, sugar refining.
- Promotion of education and research around railway stations because of land forms in S. Tanzania, copper mining in Zambia leading to better skills and technology.
- Promotion of agriculture like tea growing around Mbeya, sugarcane growing around Kilombero.

Positive effects

- Pollution because of heavy traffic, population increase affecting air, water and land e.g around stations like Kabwe, Lusaka, Dar-el-Salaam.
- Promotion of accidents causing destruction of people and property in highlands with rugged and steep slopes, landslides, mass wasting because of fog and leading to poor visibility.
- Competition with other means of transport like air, road transport making them uneconomically because railway transport is cheap.
- Diversion of labour and capital into the transport sector, trading activities around stations like Lusaka, Mbeya affecting people's economic activities.
- Displacement of people and activities by occupying big areas, gazetted around railway stations, railway lines discouraging forestry and agriculture.
- Environmental degradation by constructing railway line stations causing

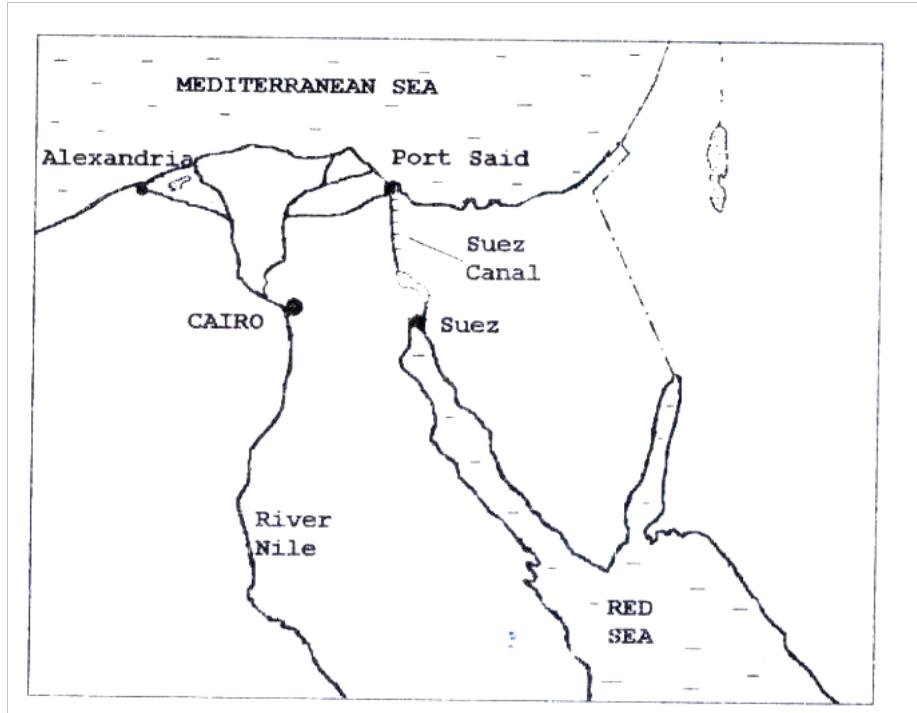
deforestation, swamp reclamation and destruction of landscape like Zambia copper belt, S. Tanzania.

- Increased costs of maintenance and development causing diversion of labour and capital affecting other economic activities.
- Urban problems because of rural urban migration around railway stations like Mbeya, Kapiriposha like development of slums, lack of labour force in the area.
- Regional imbalance like Zambia copper belt, Dar-el-salaam port causing economic problems.
- Over exploitation of resources causing exhaustion like copper and cobalt from Zambia, Tin, lead and timber from S. Tanzania.
- Landslides, mass wasting like Rock fall, Rock slump and soil erosion (gully) leading to soil exhaustion.
- Profit repatriation by the Chinese who constructed it and maintained it for some time causing capital outflow and lowering the national income.
- Economic dependence for Zambia because of loans during its construction and because of specializing on railway transport.
- Congestion at Dar-el-salaam port because of having many passengers, imports causing inconveniences and delays.

SUEZ CANAL IN EGYPT

Suez Canal connects the Mediterranean Sea and Red sea covering a distance of 160km. It was constructed in 1969 by a French company. It has a width of 62km depth of 10m it accommodates 20,000 ships, 80,000 tonnes in a year and it is used by European countries, Middle East countries for handling exports and imports.

A SKETCH MAP OF SUEZ CANAL



Importance of Suez Canal

- Promotion of trade by exports, imports, passengers for Africa, Middle East and Europe.
- Promotion of transport and reducing on transport costs for Europe, Middle East and Africa.
- Source of government revenue by taxing people and companies like custom duties and at ports like port Said, Alexandria.
- Growth of urban centres because of population increase and industries activities like port Said and port Alexandria.
- Development of tourism industry like in Sinai peninsular, Persian gulf, construction work and because of increased income like Mt. Olive.
- Resource exploitation like mining of oil, iron ore around the Red sea, Persian gulf (Sinai peninsula)
- Employment opportunities like in the transport sector, industrial activities, trade, mining activities leading to increased standards of living.
- Land reclamation by promoting irrigation in the dry area and controlling floods,

pests and diseases attracting people for settlement and agriculture.

- Source of water for domestic, industrial purposes, irrigation and for dumping wastes and sewage e.g. ports Sayyid.
- Education and research because of land forms, construction work leading to better skills and technology.
- Environmental protection by providing habitats for plant species and animal species through climate modification in the surrounding areas.
- International relations and regional corporation between Europe, Africa and Asia.
- Economic diversification influencing other economic activities like trade, mining reducing on the dependency burden
- Development of industries e.g. ship building, oil refining.

Negative effects

- Conflicts and tension like S. C crisis between France and Britain promoting scramble of Africa.
- Urban problems like slums, increased cost of living and around port Sayyid, Alexandria.
- Promotion of accidents destroying people and property due to strong waves.
- Profit repatriation by the French company causing capital outflow.
- Environmental degradation because of the construction work of ports canals.
- Pollution because of heavy traffic, many people, industries.
- Increased costs of maintenance and rehabilitation affecting other activities.
- Regional imbalance like port Sayyid, Alexandria, Persian Gulf causing economic problems.
- Over exploitation of resources like oil, iron ore in the Sinai peninsula.
- Congestion at port Sayyid, Alexandria because of heavy traffic, many passengers causing inconveniences and delays.
- Displacement of people and activities by gazetting areas discouraging settlement and agriculture.

ROAD TRANSPORT

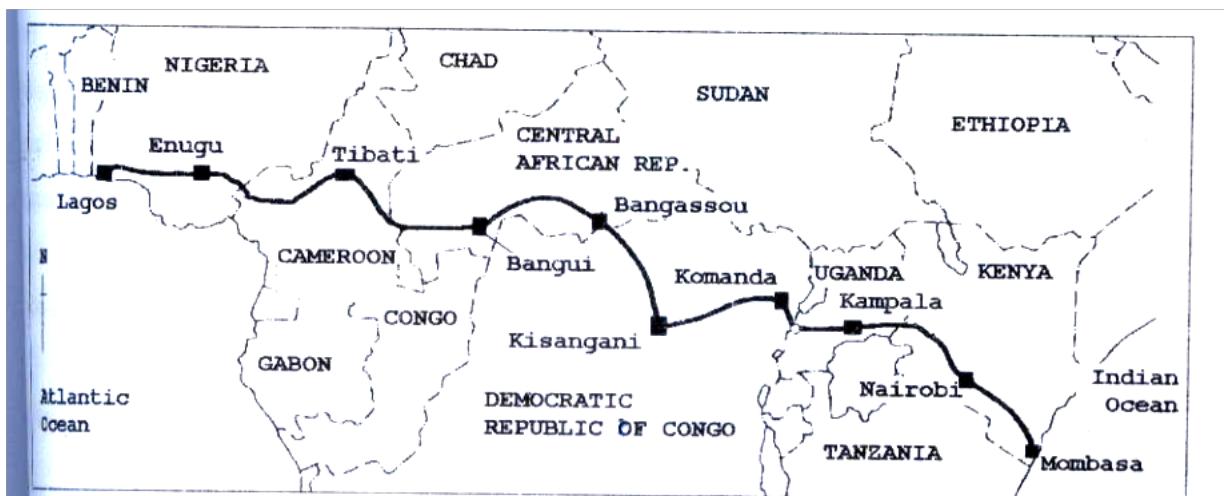
TRANS-AFRICAN HIGHWAY

It starts from Mombasa and it ends at Lagos connecting E. African countries, central African countries and W. African countries with a distance of 6,500km. The idea for construction started in 1971 by OAU countries at a cost of 300m dollars with assistance from World Bank, European Union, OAU member countries. It covers over countries like Kenya, Uganda DRC, Central African Republic, Cameroon, Nigeria.

Aims and objectives

- To provide an alternative route for landlocked countries like Uganda suing the Indian ocean.
- To encourage interstate trade among countries where it passes e.g. Kenya, Nigeria.
- To help in exploitation of resources in the Congo basin e.g. minerals, forests tourism and fishing potentials.
- To promote international relations and regional corporation between E. Africa, West Africa and central African countries.
- To provide employment opportunities and improve people's standards of living.
- Diversify transport and communication reducing on dependence burden.
- Promote economic activities for employment and investment opportunities.
- To develop urban centres for trade, social services.

A SKETCH MAP OF THE TRANS-AFRICAN HIGHWAY.



Problems

Trans-African highway is not yet successful, some areas in DRC, central African Republic, Gabon are not complete because it is affected by physical and human problems.

- Political instability and insecurity because of rebel activities in DRC scaring investors and workers.
- Presence of rugged and steep slopes in highlands and mountains increasing on expenses for construction.
- Equatorial forests in the DRC, Gabon, C.A.R delaying construction work.
- Wet equatorial climate affecting construction and increasing on expenses.
- Poor drainage around R. Congo and its tributaries like R. Kasai, Ubanju, Luluuba, Ebora and swampy areas.
- Poor international relations and regional corporation between Frank Forne countries and Anglo Forne countries.
- Poor science and technology leading to limited skilled labour leading to increased costs of using expatriates.
- Presence of wild animals in DRC, Gabon, CAR, animals like lions.
- Low population leading to shortage of labour and limited economic activities.
- Limited capital by OAU member countries to finance the construction.
- Presence of hostile tribes like the Pygmies scaring investors and workers
- Weakness of OAU in implementing its aims and objectives with a lot of conferences, meetings.
- Sabotage by developed countries and multinational companies like British Airways, Air France.
- Competition with other transport systems like Air, Water, railway transport and countries using Indian ocean like E. Africa countries and W. Africa countries using Atlantic ocean.

DEVELOPMENT OF PORTS

ROTTERDAM PORT IN NETHERLANDS / PORTS

A port is an area at the coast handling imports, exports, passengers connecting the interior the coast and other countries.

Rotterdam port is found in Netherlands. Holland at the North sea and mouth of R. Rhine. It is called Euro port because it's used in month it is used by European countries in the Rhine lands like Germany, Netherlands, Belgium, Luxemburg. It is called an eater port because of handling many ports and it serves the most productive industrialized and

developed areas of Western Europe. It was constructed by Holland with assistance from other European union Member countries.

A SKETCH MAP OF ROTTERDAM PORT.

Factors for the location, growth and development of Rotterdam

- Hard basement rocks composed of granite, quartz helping in the construction of buildings, transport and routes.
- Presence of natural harbours well sheltered from strong waves because of headlands, islands, bays, gulf.
- Presence of deep waters accommodating big ships carrying exports, imports like the oil tankers.
- Flat and gentle slopes helping in construction, transport and drainage.
- Strategic location near the North sea and mouth of R. Rhine making it good for navigation for the Rhineland countries.
- Rich and productive hinterland with a lot of exports and imports like minerals, fish, timber.
- Extensive land for its expansion around R. Rhine and the North sea.
- Climate like frost free conditions making it operational throughout the year.
- Limited physical obstacles like rocks, swampy vegetation, relief features making it easy approachable for navigation.
- Low tidal range leading to weak waves reducing on accidents and easy landing of ships.
- Improved transport like construction of roads, canals, railways, airports reducing on congestion and leading to easy connection and bringing a lot of exports and imports.
- Good international relations and corporation by European countries helping in marketing, construction and maintenance.
- Large capital base produced by Rhineland countries for investment in the port.
- Improved science and technology helping in its maintenance, improving infrastructure, economic activities and social services.

- Positive and supportive government policies like gazetting areas, providing capital and helping in marketing.
- Improved social services like power and water supply, health facilities attracting people for settlement and economic activities.
- Increased population density and insecurity in Europe leading to favourable investment climate and diverting resources to economic activities, infrastructure.
- Presence of economic activities like ship building, oil mining attracting dense population.
- Presence of entrepreneurs and big companies like shipping lines, clearing agents, providing capital and good management.
- Mining, fishing, forestry due to presence of natural resources leading to many economic activities.

Importance of Rotterdam port.

Positive

- Employment opportunities leading to increased standards of living like traders in industries, transport sector.
- Promotion of trade both internal and external around Rotterdam with countries like Germany, Switzerland.
- International relations and regional corporation leading to international trade for Rhineland countries.
- Source of revenue like custom duties, taxes, improving the national income and capital accumulation.
- Development of industries like oil refining, ship building and repairing because of easy transportation of raw materials.
- Promotion of education and research because of land forms, industries, economic activities.
- Development of tourism industry because of land forms, industries and increased incomes leading to entertainment activities.
- Economic diversification by influencing other activities like resource exploitation like minerals, forests, fishing potentials.
- Provision of areas for settlement and accommodation, offices because of buildings, improvement in infrastructure like the construction of roads, railway, canals, airports.
- Improvement in social services since it is a few like water supply, power supply leading to increased standards of living.
- Source of foreign exchange because of custom duties, export trade, tourism

helping in importation and investment.

Negative

- Pollution because of heavy traffic, population increase, industrial activities leading to destruction of plants, animals and the ozone layer.
- Congestion because of many exports, imports, passengers causing inconveniences and delays.
- Accidents because of obstacles, strong waves, mist and fog like during winter season leading to destruction of people and property.
- Increased costs of maintenance and rehabilitation removing silts, sediments, deposits.
- Urban problems like increased cost of living, congestion, development of slums.
- Temperate climate with winter and snow affecting labour and transport.
- Unemployment and under employment especially the unskilled labour, immigrants.
- Environmental degradation because of constructing buildings, transport routes destroying plants and animals.
- Poor social services because of dense population leading to low standards of living.
- Displacement of people and activities by occupying big areas.
- Floods causing siltation, sedimentation and deposition, siltation and submergence.
- Poor urban planning because of many people with limited resources and facilities.
- Over exploitation of resources causing exhaustion e.g. minerals.

Problems facing transport in LDCs.

- Competition with other transport means like water, railway limiting on the effective use of roads.
- Presence of thick forests making the construction of roads very difficult.
- Presence of rugged relief especially steep slopes making the construction of transport routes like roads very difficult and costly.
- Limited capital for the development of better roads thus making transport on roads very difficult and costly or to develop transport routes and facilities.
- Limited government support in form of loans and poor road policies like high taxes on fuel making it expensive.
- High costs of maintenance and rehabilitation hence causing potholes and delays on roads.
- Corruption and embezzlement hence most of the roads are stolen hence delays

in construction of better roads.

- Low level of technology used leading to construction of poor infrastructure that is weak hence leading to easy development of portholes.
- Countries are too big to be effectively served by road and railway network.
- Most LDCs experience an equatorial type of climate with heavy rainfall washing away vital sections and railway lines and making roads too muddy to be used/
- The presence of waterfalls and rapids along river courses and their tributaries thus making river transport difficult.
- Transshipment is costly due to costs incurred in loading and offloading from railway to water and vice versa.
- Problems resulting from transshipment such as delays and damage to the goods.
- Dependence on other countries for import and export of goods e.g. goods from Eastern Congo are largely imported and exported through Uganda and Kenya.
- Poor planning of transport services.
- Political instability caused by civil wars.

Solutions

- Since large areas are covered by impenetrable rain forests, air transport for both domestic and international connections is being developed.
- Government policy to be linked to other countries of Africa like through the Trans-African highway.
- Containerization of the ports and harbours for effective handling of goods and reduce delays.
- Building of railway lines e.g. from Maunda to Matadi to avoid expenses of transshipment.
- Development of other ports e.g. at Banana to establish a straight link between Shab and Zaire port.
- Restoration of political stability through peace talks and other means.
- Encouraging acquisition of loans from banks to encourage the development and construction of better roads.

Qns:

Examine the steps which have been taken to improve inland water transport on either on R. Rhine in Western Europe or R. St. Lawrence seaway in North Africa.

Compare and contrast Mombasa and New York port.

Explain the contribution of railway transport to the development of either Switzerland or Zambia.

Examine the factors which have favoured the development of either Rotterdam or Cape

Town as an international port.

With reference to any one country in tropical Africa examine the problems faced by transport sector.

What are the solutions to the above problems.

URBANISATION IN THE WORLD

Urbanization is a process whereby large proportion of the country's population live in countries and towns. It is the growth of towns and ports characterized by population density, improved infrastructure, improved social services, presence of many economic activities having different functions and gazetted by the government e.g. Paris, New York, Nairobi, Switzerland.

There are different categories of towns depending on size, functions, infrastructure, social services, economic activities.

Trading centre: this is found in rural areas with small population and having retail traders e.g. Kilombe.

Urban area or municipality: This has organized management like a town council, town board, wholesalers, division headquarters e.g. Kampala, Mbarara, nakawa Tc, Bombo Tc, Kawempe, Kiira.

Town: This has headquarters of districts with improved infrastructure, social services like ports, regional headquarters, regional hospitals, higher institutions of learning e.g. Gulu, Mbarara, Kampala, Mbale, Jinja, Entebbe, New York city, Mombasa, Nairobi, Dar-el-salaam.

Capital city: This one has headquarters of the government like president's office, parliament, embassies e.g. Kampala, Washington DC, Abuja, Dodoma, Rome.

Conurbation or Mega Polis: This is formed by merging or amalgamating two or more neighbouring cities and towns forming a large city with increased population, many economic activities, improved infrastructure, social services e.g. Rand conurbation in S. Africa, Ruhr conurbation in German, Great Lakes conurbation in USA, Eastern sea board of USA, China (Eastern part) Japan (island of Pokaido).

Sphere on influence of a town: These are areas served by a town in terms of social services, infrastructure, marketing, commodities, purchasing goods (hinterland),

Agglomeration e.g. Kampala (Uganda), Mombasa (Uganda, Kenya, Rwanda, DRC, BR-hinterlands) NYC (USA and Canada).

Qn:

Urbanization is an unavoidable aspect. Discuss with reference to specific examples.

Examine the effects of urbanization or conurbation on the environment.

Importance of urbanization

- Provision of employment opportunities like in government offices, private companies, business enterprises leading to increased standards of living.
- Improvement in social services like health facilities, water and power supply, education institutions leading to increased standards of living.
- Development of trade both internal and external because of marketing centres, shopping centres having importers, exporters.
- Source of government revenue by taxing people and companies improving the national income and leading to capital accumulation.
- Improvement in transport and communication like the construction of roads, railway lines, modern ports, telephone services attracting people for settlement and economic activities.
- Development of tourism industries because of entertainment centres like hotels, beaches because of increased incomes.
- Development of industries because of cheap labour and market provided by increased population.
- Promotion of education and research by visiting economic activities, settlement patterns, traffic flow leading to better skills and technology.
- Provision of areas for settlement and accommodation like for government offices, NGOs, private companies (UN) in NYC EAC (Arusha).
- Promotion of national unity and regional corporation because of meeting different people, cultures making the world a global village.
- Exploitation of resources for economic growth and development by providing market, capital for mining, fishing and agriculture.
- Political stability and security because of army, police attracting people and investors for settlement.
- Alternative land use because of limited resources and land discouraging other activities.
- Economic diversification by influencing other activities like trade, transport, tourism.

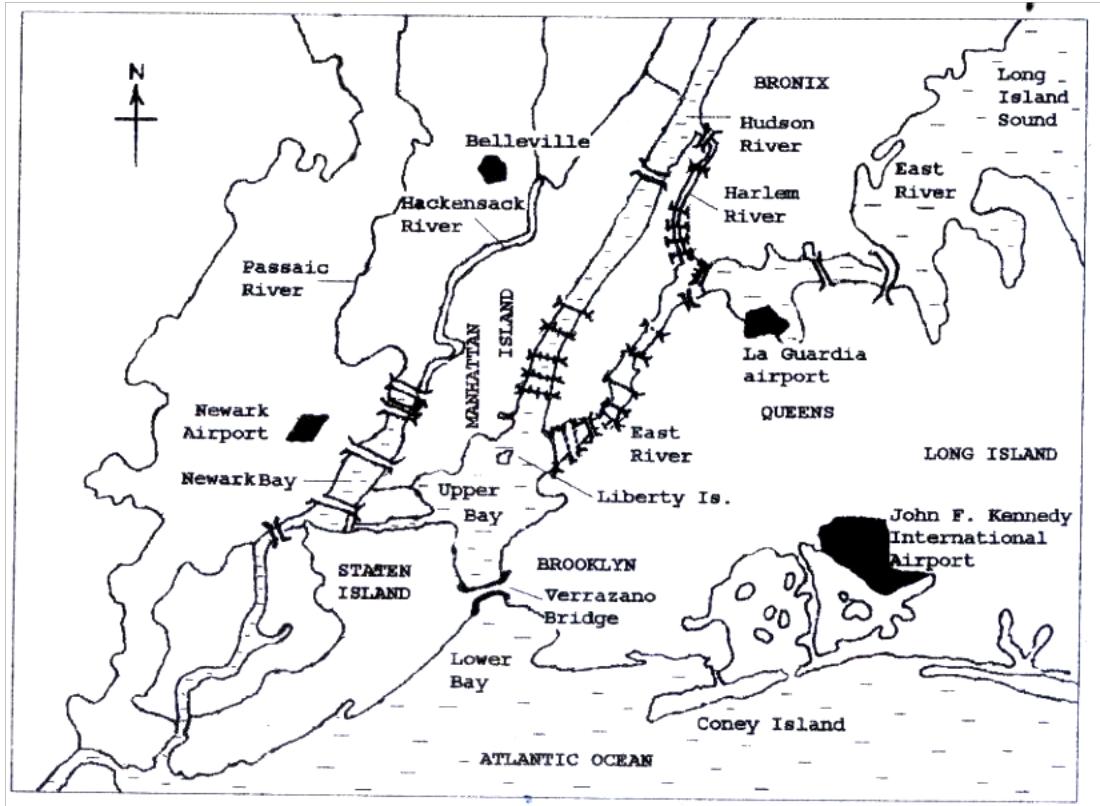
Negative

- Easy spread of diseases and government policies because of easy interaction, communication.
- Pollution of air, water and land because of urban and industrial wastes destroying plants and animals and the ozone layer.
- Increased social problems and increased crime rate like prostitution, drug addiction, robbery.
- Rural urban migration causing urban and rural problems like slums in towns, lack of labour force in rural areas.
- Congestion in terms of traffic and housing causing inconveniences and delays.
- Unemployment and under employment leading to low standards of living especially the unskilled labour,, illiterate.
- Poor infrastructure, roads, drainage channels like in slum areas.
- Increased cost of living because of paying for basic needs leading to poverty.
- Poor urban management of limited resources like garbage collection.
- Promotion of conflicts and tensions like strikes, demonstrations.
- Over exploitation of resources like timber, fish causing exhaustion.
- Displacement of people and activities like areas for agriculture.
- Environmental degradation because of construction work (destroying wetlands, forests)
- Poor social services.
- Regional imbalance.
- Change of cultures.
- Development of slums.
- Increased cost of maintenance.

NEW YORK CITY IN NORTH AFRICA

It is the largest city in the world found in USA, North America, it is serving as a port, a town and an industrial area. It is situated on Manhattan island and other surrounding islands like Staten, Bronklyn, Long, Richmond, Bronx, Queen's on the coast of Atlantic ocean. Eastern side of USA near Hudson river. It has a high population, many economic activities, improved infrastructure, social services and it is gazetted as a city e.g. Boston, Providence, Philadelphia, Baltimore, Washington DC, Jacksonville, Orlando neighbouring countries.

A SKETCH MAP OF NEW YORK CITY.



Factors for the growth and development of NYC

- Strategic location near Atlantic ocean making it good for navigation as a port.
- Presence of hard basement rocks composed of granite quartz leading to easy construction of storage buildings and transport routes.
- Flat and gentle slopes helping in construction, transport and drainage.
- Low tidal range because of weak waves reducing accidents and making it good for navigation.
- Presence of natural harbours well sheltered from strong waves by headland and having deep waters for big ships.
- Approachable shore line because of limited obstacles like coastal features, swampy vegetation leading to easy anchoring of ships.
- Rich and productive hinterland because of having many exports, imports like wheat from Canada, industrial products from the Great lakes.
- Presence of power supply by using oil, natural gas for domestic and industrial purposes attracting many people for settlement and economic activities.
- Increased population density of over 10 million people providing enough labour, market for economic activities like industries.
- Political stability and security attracting many people for settlement, economic

activities by using the pentagon in their defence i.e FBI, CIA.

- Improved social services like water and power supply, health facilities for increased standards of living like Columbia university.
- Improved science and technology leading to availability of skilled labour like engineers, technicians helping in constructing buildings, maintenance, rehabilitation.
- Presence of economic activities like trade, tourism, industrialization, transport attracting dense population for investment and employment.
- Improved transport and communication like the construction of roads, railway lines, canals, water ways, airports like Kennedy, New Ark, using internet services for communication purposes.
- Presence of international bodies e.g. UN, government offices, embassies attracting many people for employment and investment.
- Presence of entertainment centres, historical sites, cultural centres, museums for leisure and creation.
- Good international relations and regional corporation with Germany, Britain, Japan, Canada leading to development of trade.
- Positive and supportive government policies like gazetting areas for expansion, social services, maintaining security, infrastructure.
- Adequate capital provided by the government and private investors for financing developmental activities.
- Frost free conditions making it operational throughout the year as a portion attracting a dense settlement.
- Presence of water bodies providing water for domestic purposes like Hudson river, Atlantic ocean and also for dumping wastes and sewage.
- Nature of people being hardworking, investing, good planners, enterprisers helping in exploiting resources, developing economic activities, social services and infrastructure.
- Historical factors like early settlers from Europe, S. Africa, India who came to experience and skills like the Red Indians, Jews, Negroes.

Problems facing New York City

- Congestion in terms of traffic and housing causing inconveniences, delays, stress, pressure.
- Pollution of air, water and land because of wastes from industries and homesteads.
- Development of slums with poor living conditions occupied by unemployed

people, immigrants.

- Increased crime rates and social problems like prostitution, drug addiction because of unemployed people like immigrants, pick peters.
- Easy spread of diseases which are contagious because of population like cough, influenza, TB.
- Unemployment and under employment because of population leading to poor standards of living.
- Limited land for expansion on Manhattan island making land expensive.
- Racial discrimination like the Negroes, immigrants causing conflicts and tension.
- Increased cost of living because of paying on basic needs like food, shelter, health facilities causing poverty.
- Encroachment of gazetted areas for settlement, industrial expansion and for constructing transport routes.
- Environmental degradation because of deforestation, swamp reclamation, destruction of the landscape because of construction work.
- Poor urban planning and increased costs of urban management because of population with limited facilities.
- Poor infrastructure like drainage systems causing floods especially in summer.
- Increased government expenditure on social services and urban infrastructure like cost and maintenance, rehabilitation.

Solutions / measures / policies

- Vertical expansion by building storage houses by minimizing space like World trade centre.
- Modernization of transport and communication by constructing underground tunnels, highways, fly overs, traffic lights and using public transport like buses and trains.
- Restrictions on the number of immigrants by not giving visas and putting strict conditions.
- Population control using modern methods of family planning and setting population policies e.g. Age and times of marriage, number of children.
- Separating industrial areas from residential areas and shifting some of the urban services helping to decongest the city.
- Change on the constitution reducing on discrimination, conflicts and tension.
- Training skilled labour by promoting sciences leading to job creators.
- Giving loans to finance small income generating projects.
- Improvement in political stability and security like using the pentagon mostly of

defence, FBI, CIA.

- Economic diversification leading to many economic activities reducing on dependence burden.
- International relations and regional corporation leading to export and import trade and foreign investment (coca cola, shell)
- Improvement in science and technology helping companies, maintenance, rehabilitation of the urban infrastructure and social services.
- Environmental protection through proper waste management for gazetting national parks, game reserves, planting grass, flowers.
- Improvement of infrastructure and social services like water supply, drainage systems, health facilities leading to increased standards of living.

GROWTH AND DEVELOPMENT OF CONURBATIONS

A conurbation is formed by merging or amalgamating of two or more neighbouring cities or towns forming a large town or city covering a big area with many economic activities gazetted by the government with improved infrastructure and social services.

Examples of conurbation:

Ruhr – this is found in Germany in Europe around R. Rhine and its tributaries like R. Lippe, Ruhr, Wupper. It is formed by towns like Duisburg, Duisdorf, Essen, Cologne, Dortmund, Bonchum, Wessel, Liverkusen, Wuppertal.

Great lakes – this is found in USA and Canada in North America around the Great Lakes e.g. L. Huron, L. Superior, L. Michigan, Erie, Ontario. Formed by towns like Chicago, Duluth, Buffalo, Quebec, Montreal, Detroit, Ottawa, Toronto, Pittsburgh.

Rand – this is found in the middle of S. America formed by towns like Johannesburg, Pretoria, Germiston, Springs, Upington, Kimberly, Krugersdorp, Vereeniging around R. Limpopo in the mining areas of gold and diamond.

Eastern sea bond of USA at the coast of Atlantic ocean and it is formed by towns like New York City, Washington DC, Philadelphia, Boston, Baltimore.

Eastern sea board of China at the coast of Pacific ocean formed by towns like Beijing (Peking), Shanghai, Tianjin.

Hamishin region and Japan at the Island of Hokkaido formed by towns like Tokyo, Yokohama, Kawasaki, Hitachi also found at the coast of Pacific ocean.

Factors for the growth and development of conurbations.

Case study Rand conurbation in S. Africa.

- Presence of natural resources like Gold at Wit waters rand, diamond at Kimberly attracting many people for employment and investments.
- Extensive land gazetted for the construction of urban areas or urban development e.g. Pretoria, Johannesburg.
- Flat and gentle slopes forming an undulating landscape leading to easy transport, construction and drainage.
- Presence of water supply from R. Limpompo used for domestic, industrial purposes and for dumping wastes and sewage.
- Limited obstacles like relief, drainage features, landforms making construction easy and cheap.
- Strategic location around the mining areas near transport routes like roads, railway lines leading to easy connection with the coastal towns.
- Ice and forest free conditions attracting many people for settlement and cool temperatures leading to limited pests and diseases.
- Presence of hard rocks composed of granite quartz, giving a hard basement for the construction of buildings, transport routes.
- Presence of power supply used for domestic purposes, industrial development, mining activities and providing social services like using coal, natural gas and HEP.
- Positive and supportive government policies like gazetting areas using Pretoria as the capital city attracting investors.
- Political stability and security attracting investors, people for settlement, employment because of good governance.
- Improved transport and communication like the construction of roads, railway lines, telephone services leading to easy movement of goods, passengers and easy interaction.
- History, culture and traditions making it good for tourism and because of mineral revolution.
- Improved social services leading to increased standards of living like water and power supply.
- Presence of capital provided by the government private investors, used for economic activities, infrastructure, social services.
- Improved science and technology leading to availability of skilled labour for

developing economic activities improving infrastructure and social services.

- Nature of the population being enterprising, innovative, hardworking leading to economic growth and development.
- Rich and productive hinterland with a lot of resources like minerals, forests, fish with many exports, imports, passengers.

Problems faced around the Rand conurbation

- There are problems because of population increase and because of its physical expansion and the problems are physical and human.
- Congestion in terms of traffic and housing causing inconveniences and delays like in Johannesburg, Pretoria.
- Development of slums with poor living conditions like Soweto in Johannesburg.
- Pollution of air, water and land because of wastes from industries, urban settlements causing destruction of plants, animals and the Ozone layer.
- Increased crime rate and social problems like prostitution, drug addiction, robbery.
- Unemployment and under employment leading to low standard of living especially uneducated people and unskilled labour.
- Increased cost of living because of paying for basic needs like food, accommodation, health facilities causing poverty
- Easy spread of diseases which are contagious because of poor sanitation and facilities.
- Increased government expenditure on the provision of social services and developing infrastructure.
- Limited land for expansion making land expensive.
- Encroachment of gazetted greens like national parks, game reserves, forest resources.
- Poor urban planning because of limited resources causing conflicts and tensions.
- Political instabilities and insecurity, strikes, demonstrations because of unemployed people being idle, limited facilities.
- Racial discrimination because of mixing different tribes and cultures i.e. the blacks, whites, Indians.
- Environmental degradation because of deforestation, swamp reclamation, destruction of the landscape causing destruction of plants and animals.
- Over exploitation of resources causing exhaustion of forests, minerals.

GROWTH AND DEVELOPMENT OF PORTS

A port is an area at the coast used for handling exports, imports, passengers connecting the coast to the interior and other countries.

Mombasa a port is found at the coast of E. Africa, Indian Ocean. It is gazetted as an industrial area, port and town. It is situated on Kilindi harbour covering areas Bamburi, port and ferry, Fort Jesus, Mombasa central areas.

It serves countries like / Hinterland like counties, Uganda, Kenya, Northern Tanzania, Rwanda, Burundi, Eastern DRC, S. Sudan, S. Somalia for handling exports, imports and passengers. It is gazetted as a city with increased population, improved infrastructure, social services, economic activities like industries.

A SKETCH MAP SHOWING MOMBASA PORT

Factors for the development of Mombasa port

- Presence of natural harbours well sheltered from strong waves due to the presence of coal reefs, headlands making it good for navigation.
- Hard basement rocks composed for coral reefs helping in the construction of building and coral reefs.
- Water supply from Indian ocean used for domestic, industrial purposes and for dumping wastes and sewage.
- Limited obstacles like coastal land forms, swampy vegetation making it easy and approachable.
- Rich and productive hinterland i.e. many imports, exports and passengers like from countries like Uganda (timber and coffee)
- Political stability and security leading to available investment climate and enough resources for its development.
- Deep waters leading to easy movement of ships carrying exports, imports, passengers.
- Flat and gentle slopes leading to easy construction, drainage, mechanization.
- Positive and supportive government policies like gazetting land for its expansion, good management providing capital for its development.

- Ice and forest free conditions because it is found in the tropics making it operational throughout the year.
- Improved transport and communication like the construction of roads, railway lines, pipelines leading to easy connection and reducing on congestion.
- Strategic location at the coast of Indian ocean making it easy to connect with the interior of Africa, European countries and Asia.
- Extensive land for its expansion like for constructing industries, warehouses.
- Presence of entrepreneurs and big companies providing capital and good management like Mombasa Port Authority.
- Improved science and technology leading to availability of skilled labour for its development.
- Presence of historical sites like port Jesus attracting many people for tourism.
- Presence of economic activities like Bamburi cement, oil refining, clearing shipping companies.
- Adequate capital used for purchasing shipping equipment, paying workers.
- Improved social services leading to increased standards of living like water and power supply like at Mombasa.
- Good international relations with E. African countries, European countries and African countries.
- Power supply by using oil, coal, solar energy thermo for domestic, industry and transport purposes.
- Alternative land use because of limited land and resources for other activities.
- Hospitality helping in attracting foreigners for settlement and economic activities.

Problems faced by urban areas in Low developed countries

- Increased cost of living like paying for basic needs and necessities causing poverty.
- Pollution of air, water and land because of wastes and sewage from industries, urban settlement and because of heavy traffic.
- Unemployment and under employment especially the unskilled labour and uneducated people.
- Congestion in terms of traffic and housing hence delays and inconveniences.
- High crime rate and social problems like prostitution, robbery.
- Development of slums with poor living conditions like poor drainage, houses and ventilation, poor transport.
- High government expenditure on social services and infrastructure.
- Easy spread of diseases which are contagious like flue, cough.

- Environmental degradation because of deforestation, swamp reclamation through construction work.
- Poor drainage causing floods.
- Over exploitation of resources causing exhaustion of minerals, forests.
- Rural urban migration causing urban and rural problems.
- Change of cultures and traditions causing social problems.
- Limited land for expansion making land expensive.
- Poor social services because of increased population with limited facilities.
- Encroachment of gazetted areas like national parks and game reserves.
- Presence of conflicts and tensions like strikes, demonstrations because of people being idle.

Solutions / steps / measures

- Proper urban planning by gazetting areas for settlement and industries.
- Vertical expansion by building stored houses minimizing space.
- Improvement in social services for increased standards of living.
- Population control using modern methods of family planning like pills and condoms.
- Economic diversification reducing on dependence burden.
- Environmental conservation by gazetting wetlands, national parks.
- Proper waste management like treating, recycling.
- Development projects in rural areas and better social services and infrastructure.
- Modernisation of transport like using highways, tunnels, flyovers, trains.
- Acquisition of loans for income generating projects.
- Positive and supportive government policies like gazetting land, attracting investors, good management.
- Privatization of urban services like garbage collection, street lights, cleaning.
- Mass education and mobilization about urban management.
- Improvement in security and political stability.

Questions

- a. Examine the effects of conurbation on environment in either German or S. Africa.
- b. Account for the development of either NYC or Mombasa port as an urban area.
- c. Examine the problems faced around either Rotterdam port or Lagos port.
- d. What steps are being taken to solve the above problems.
- e. To what extent has transport influenced the development of either the Great lakes or Ruhr conurbations in Germany.

TRADE / ECONOMIC INTEGRATION

Trade refers to exchange of goods and services. Internal or domestic trade is done within a country, external or foreign trade is done between different countries.

Types of traders

Retail traders, wholesalers, importers, multinational companies, exporters, hawkers.

Importance of trade

Positive

- Source of foreign exchange used for importing and investments.
- Promotion of international relations and regional corporation through export and import trade like between LDCs and MDCs.
- Provision of employment opportunities leading to high standards of living.
- Resource exploitation and utilization like minerals, forests.
- Source of government revenue by taxing people and companies leading to capital accumulation and improving the national income.
- Improvement in transport and communication like the construction of roads, railway lines, modern ports, airports, water ports.
- Development of economic activities by providing market and capital like industrialisation, agriculture, mining, fishing.
- Growth and development of urban centres, towns and ports because of population increase around marketing areas.
- Production of basic needs or basic goods e.g. food supply, clothes, drugs, chemicals, fuel.
- Development of tourism industry by visiting markets, shopping centres and because of high incomes.
- Promotion of education and research by visiting markets, shopping centres for better skills and technology.
- Capital accumulation for other development projects from profits, salaries, taxes, wages.
- Alternative land use in areas with limited land. Other resources are not good for other activities like urban areas.
- Economic diversification by influencing other activities like fishing, forestry reducing on dependency burden.
- It leads to national unity because of people interacting in towns, shopping centres.

Negative

- Profit repatriation by foreign investors causing capital outflow and lowering the national income especially in LDCs.
- Urban problems because of population increase like development of slums, unemployment thus increased cost of living.
- Over exploitation of resources causing exhaustion e.g. forests, minerals, water resources
- Displacement of people and activities by gazetting areas for markets, shopping centres.
- Diversion of labour and capital affecting other sectors.
- Environmental degradation by constructing markets, shopping centres, destroying the landscape, plants and animals.
- Regional imbalance in economic development causing problems like wage differences, labour mobility.
- It encourages dumping affecting infant industries in LDCs.
- Pollution of air, water and land because of wastes from industries, markets, population increase, heavy traffic.

Problems facing trade in LDCs.

Low developed countries are found in Africa, S. America, Australia, parts of Asia, in the tropics, equatorial regions they have enough trade potentials but trade is under developed because of physical and human factors and these include;

- Limited capital because of low incomes leading to small scale businesses like the hawkers.
- Unfavourable government policies like high taxes, not given loans.
- Competition between different traders and on international market.
- Poor transport and high transport costs for the movement of goods, passengers and customers i.e air transport.
- Price fluctuations on the world market are affecting planning.
- Poor management causing conflicts and tensions leading to destruction of people and property like strikes, demonstrations.
- Political instabilities and insecurity scaring investors, workers diverting resources and causing destruction of people and property.
- Poor science and technology leading to limited skilled labour affecting exploitation of resources, infrastructure, social services and economic activities.
- Poor entrepreneurship skills leading to poor planning and management e.g. small scale local traders.
- Limited market because of low incomes, sparse population causing low

production.

- Presence of physical obstacles like relief features, water bodies, drainage features, land forms like in the Congo basin, Amazon basin.
- Presence of other resources diverting labour and capital.
- Backward cultures, traditions, low levels of education, ignorance and backwardness scaring investors.
- Corruption and embezzlement causing mismanagement, poor services, low production e.g. use of bribes, diversion of public funds, unfair treatment.
- Poor economic integration affecting joint investment, bargaining power, causing competition like E.A.C, ECOWAS, PTA, OPEC, AU.
- Privatization and economic liberalization encouraging foreign goods, affecting infant industries.
- Economic dependence of LDCs on MDCs causing problems like BOP problems, poor terms of trade, foreign debts.
- Poor international relations affecting export and import trade like Sudan, Milan, Syria (trade embargos)
- Cultures and traditions of having high demand for foreign goods compared to local goods leading to more imports than exports.

Characteristics of trade in LDCs (case study Uganda)

Structure of Uganda's exports.

- Wood products like timber, plywood, wood pulp.
- Fish products like fish fillet, frozen fish, fresh fish.
- Agriculture products like coffee, vanilla, tea, coca, tobacco.
- Livestock products like hides, skins, goats, sheep.
- Industrial products like textile products, iron and steel, cement.
- Alcoholic drinks like Uganda Waragi, Bell ,Nile.
- Art and craft materials.
- Services through tourism, immigrants to other countries.

Characteristics of Uganda's exports

- Mainly from the primary sector
- Mainly Agricultural products
- Few and limited
- Poor quality and not processed
- They earn low income

Structure of Uganda's imports

- Textile products
- Ammunition (guns, grenade, tear gas)
- Vehicles from Japan, Auto parts or spare parts, electronics (China), alcoholic drinks like spirits, wine
- Cosmetics (perfumes, lotions)
- Stationery and printing materials like books.
- Iron and steel
- Computers and their accessories
- Leather products (bags, shoes, belts)

Characteristics of Uganda's imports

- They are many i.e. more than exports.
- Mainly manufactured or processed
- From the secondary sector
- High value
- Take a lot of foreign exchange

Implications of trade (Uganda's trade)

- Balance of payment problems
- Poor terms of trade
- Unemployment because of few industries
- Foreign debts because imports are more than exports
- Economic dependence
- Imported inflation
- Dumping of foreign goods

Factors for development of trade

There are physical and human factors influencing the development of trade;

- Improved transport and communication like the construction of roads, railway lines, water ports, Airports, telephone services.
- Adequate capital provided by the government, private investors for financing trading activities.
- Good international relations, regional corporation leading to development of import and export trade e.g. the E. African community, African Union, PTA, COMESA.
- Positive and supportive government policies such as reduced taxes, attracting

investors, giving loans, gazetting land.

- Political stability and security leading to a favourable investment climate and diverting resources to trading activities.
- High population density helping in providing cheap labour and market e.g. in urban areas.
- Good management helping in planning, organization for the development of trade.
- Wide market both internal and external because of people and high incomes i.e. employed people.
- Presence of natural resources leading to economic activities and providing items for trade like forest for timber, water bodies for fish, mineral, strategic location lie border towns, water ports, Airports.
- Comparative and absolute advantages leading to specialization at low costs.
- Presence of entrepreneurs helping in planning, providing capital, good management e.g. Mehta, Mukwano, Madhvan, Wavamunno, Katatumba
- It depends on personality helping in marketing and hospitality.
- Flat and gently slopes leading to easy construction, drainage and transport.
- Extensive land for the construction of markets, transport routes and shopping centres.
- Limited obstacles like thick vegetation, land forms, water bodies, relief features.
- Improved infrastructure and social services like banks, insurance companies, warehouses, power supply, health facilities.

ECONOMIC INTEGRATION / TRADE BLOCKS

This is the grouping of countries for economic, political and social development e.g. E.A>C, ECOWAS, COMESA, PTA, AU, OPEC, ACT, CHOGAM, IGADO, E.U.

A SKETCH MAP SHOWING AREAS WITH ECONOMIC INTEGRATION

Importance / effects of economic integration

- Development of trade by reducing tariffs and barriers.
- Economic strength because of joint investment and bargaining.
- Regional specialization leading to international trade because of absolute and comparative advantages.
- Improvement in social services like education, power, water, energy.
- Development of international trade through exports and imports leading to international relationship and regional cooperation.
- Promotion of research leading to improvement in science and technology.
- Growth of urban centres i.e. Arusha, New York city, Nairobi.
- Exploitation of resources like minerals, forests.
- Political stability because of joint defence and security.
- Environmental conservation by gazetting areas through proper waste management like IGAD, UNOs, UNEP, LYEMP.
- Improved transport and communication like the construction of roads, railway lines.

Disadvantages

- Regional imbalance and income inequality causing problems like wage difference, labour mobility.
- Conflicts and tension because of political interference.
- Urban problems because of population increase e.g. high crime rates, unemployment.
- Over exploitation of resources causing exhausts like forests.
- Unequal sharing of benefits, developed areas benefiting more than less developed.
- Sabotaged by MDCs and multinational companies.
- Promotion of superiority by super states
- Low industrial development because of foreign aids affecting local and infant industries.

Problems affecting the development of trade

- Marketing problems because of price fluctuations affecting planning.
- Political instability and insecurity diversion of resources to defense destroying property.
- Competition between different traders leading to low prices.
- Poor entrepreneur skills causing mismanagement, poor planning.
- Limited capital leading to small scale business enterprises like hawkers.

- Poor transport and communication in rural and remote areas.
- Poor government policies like high taxes, not giving loans.
- Poor economic integration affecting joint investment causing competition.
- Conflicts and tensions of traders because of mismanagement.
- Presence of physical obstacles / barriers like water bodies, drainage features, forests.
- Corruption and embezzlement leading to poor services, mismanagement and diversion of public fund.
- Poor storage facilities causing wastage like food crops, perishable products.
- Profit repatriation by foreign investors causing capital outflow.
- Limited resources leading to limited economic activities.
- Poor marketing and advertisement by using the local media.
- Low levels of education leading to limited skilled labour and causing poor planning and management.
- Dumping of foreign goods affecting local infant industries.
- Hostile tribes and backward cultures scaring investors.
- Limited market because of low incomes, sparse population.

Solution to problems of trade in low developed countries or steps / measure and policies.

- Acquisition of loans from financial institutions and development agencies for expanding businesses.
- Improvement in transport and communication like construction of roads, ports, telephone services.
- Political stability and surety in urban areas, promotion of economic integration like PTA, COMESA, AU.
- Training of traders using workshops, seminars, courses.
- Improvement in marketing and advertisement like using the internet, trade shows, magazines.
- Limitation of government agencies and organizations like UMA, URA, UA, UNCCI, KACITA.
- Gazetting areas for markets, shopping centres, privatisation and economic liberalization attracting foreign investors.
- Diversification of trading activities reducing on dependency burden.
- Opening more areas for more trade opportunities.
- Government support by giving loans attracting investors, gazetting areas, tax holiday.

- Fighting corruption using government agencies, procurement companies, commissions of inquiry.

Questions:

Assess the role played by economic integration in the economic development of either Africa or Europe.

Examine the problems faced by trade on any one less developed country.

What steps are being taken to solve the above problems.

Account for the development of trade in any one developed or less developed country.

POWER ENERGY RESOURCES AND RIVER DAM PROJECTS

Qn. Assess the importance of river dam projects in the economic development of Africa.

Approach:

- Define river dam projects
- Identify the existing river dam projects in Africa.
- Show the economic importance of the identified river projects being both positive and negative effects.
- Give a conclusion

Answer

River dam projects refers to the transformation of river water into social uses like power production, irrigation and flood control. Dams that perform more than one of the above are referred to as multi purpose in nature.

River dam projects in Africa include;

- Hainji dam on R. Niger in Nigeria
- Akasombo dam on R. Volta in Ghana
- Aswan high dam on R. Nile in Egypt
- Senar dam on Blue Nile in Sudan
- Caborabosa dam on R. Zambezi in Mozambique
- Nalubale dam on R. Nile in Uganda
- Kiira dam on R. Nile in Uganda
- Seven forks dam on R. Tana in Kenya
- N'ziro dam on R. Congo in DRC

- Inga dam on R. Congo in DRC
- Kisangani dam on R. Kisangani in DRC
- Calueque dam on R. Gunene on the boundary of Angola and Namibia.
- Vaal dam on R. Vaal in S. Africa
- Tugera dam on R. Tugera in S. Africa
- Bloemfontain dam on R. Orange in S. Africa
- Kariba dam on R. Zambezi in Zambia

Positive importance

- Provision of water for irrigation from man made lakes (reservoirs or dams). This has led to increased agriculture production e.g. the Draw dam in Ghana, wheat farms of about 400,000 ha of land in Egypt.
- Resource exploitation (mining), environmental conservation, alternative land use.
- H.E.P has been generated out of various dams.
- Control of floods especially in the agricultural fields e.g at Mpanda-Uncya scheme in Mozambique and on the Gezira schemes in Sudan.
- Increase of foreign earnings after exportation of agricultural products and electricity e.g. Mozambique exports power to south Africa, Uganda exports power to Kenya, Rwanda and DRC.
- Industrialization has been facilitated through cheap power supply e.g. the vala Aluminium smelter at Tema using 65% volts power, dates processing factories at Elkharga in Egypt using Asan high dam and the textile industry in Jinja using power from Nalubale dam.
- Provision of employment opportunities to both skilled and unskilled man power e.g. over 40,000 men and women are employed in dam related projects at the Aswan high dam in Egypt and Sudan.
- Increased incomes are earned leading to improved people's standards of living.
- Development of tourism industry based on the development of projects like irrigation, technology, power production and distribution.
- Increase revenue to government through taxation of the employees on the dam and related activities on multi-purpose projects.
- Development of fishing on reservoirs leading to increased supply of proteins e.g. in the volta dam, lake Nasser and Kariba dam.
- It has facilitated the exploitation of other resources like minerals e.g. bauxite mining in Ghana, copper mining using power from Nziro dam in DRC and copper mining in Zambia using power from Kariba dam.
- Transport has been provided by the dam e.g navigation upstream on Zambezi as

far as Tete, North-South shipping route on Volta lake, navigation on L. Nasser linking up the central parts of Egypt to the Eastern part of Said.

- Urbanisation has been facilitated around the dam projects e.g. Jinja in Uganda, Elkharga in Egypt, Kisangani in DRC and Senar on the Blue Nile.
- Organised settlement around the river dam projects e.g. fifty two townships around the Volta dam in Ghana.
- Climate modification by existing water reservoirs through land and water breezes.

Negative importance

- Resettlement of people displaced by the projects is expensive for the government and the affected people.
- Cultural ties and friendships are broken down in the process of resettling people hence a setback in cultures.
- Urban problems like prostitution, high crime rates and poor sanitation are consequent to dam development.
- The already established communication systems are destroyed hence a setback to the economy e.g. the East-west railways and road system bridges at Adami and Sagakope were destroyed in construction of the Volta dam separating the west from the east.
- Spread of diseases like bilharzias, malaria, river blindness since stagnant waters of the lake act as breeding places for disease vectors like snails, mosquitoes.
- Increased rates of evaporation due to exposed waters of the lake leading to saline waters, reduced water capacities in the reservoirs hence a decrease in power production.
- Increased pollution by the existing industries hence degradation of the environment.
- Reduced potential for fishing especially after dam since much of the fish is trapped behind the dam.
- Siltation of the dam leading to the decline of the agricultural potential in the flood plains.
- Profit repatriation by foreign owners e.g power production at Owen falls dam (Nalubale) in Jinja by UMEME from South Africa.
- Limited land for agriculture, settlement in industrialization that is widely occupied by dams and water reservoirs.
- Environmental degradation especially by land grading, deforestation and swamp reclamation.
- Diversion of labour force from other economic activities leading to labour

deficiency hence a decline in production.

Qn. "In Africa, it is not lack of physical resources which is primarily responsible for the low levels of power development". Discuss.

Approach:

- First agree that Africa has a high potential / power development.
- Identify various power potentials in Africa.
- Show limitations of power production in Africa.
- Give a conclusion.

Answer:

Africa has a tremendous potential for power development. The continent has a variety of physical resources which can be tapped for increased power development. Most of the potentials lie south of the Sahara with most rivers flowing over numerous falls e.g.

- Jongo falls Bungoma falls, and Kaliba falls in DRC.
 - Calueque falls on R. Guene in Namibia
 - Rippon falls, Owen falls, Bujagali falls on R. Nile in Uganda
 - Kainsi falls on R. Niger in Nigeria
 - Akasombo falls on R. Volta in Ghana
 - Victoria falls on R. Zambezi in Zambia
 - Cabolabosa falls on R. Zambezi in Mozambique
 - Bloemfontain falls and Verwoerd falls in R. Orange in South Africa
 - Vaal falls on R. Vaal in South Africa
 - Tugera falls on R. Tugera in South Africa
 - Tana falls on R. Tana in Kenya
-
- Besides Africa has abundant sunshine from where solar energy can be developed.
 - The continent is endowed with volcanic features from which power can be generated and developed e.g. hot springs at Maji Moto in Kenya; Kitagata in Bushenyi and Sempaya in Bundibugyo in Uganda.
 - Geysers and fumaroles from which geothermal power can be generated in developed.
 - The continent is endowed with mineral resources which can give power e.g. coal in Zimbabwe near Marowa, Nigeria at Latia, Northern Ghana at Kumasi, Southern T.z near Mbuya, in South Africa near Durban and Pretoria.
 - Oil (petroleum) is pumped in Nigeria, Libya, Egypt and Sudan.

- The continent has a variety of forests from which charcoal and firewood can be secured for power production.
- The continent has a variety of animal excreta from which biogas and biomass can be generated as power sources.

NB: From these resources, power can be developed. However it is hindered by:-

- Limited research
- Inadequate capital for investment i.e. to buy necessary equipments and pay labour force, construct dams and power lines.
- Inadequate skilled labour force e.g. technicians, engineers, auditors and mechanics due to irrelevant training and education.
- Poor and underdeveloped technology i.e. necessary machinery is non-existent to facilitate power generation and distribution.
- Contradicting pressure from environmentalists who support the preservation and conservation of nature especially marine life.
- Poverty and low incomes of Africans. Domestic use of power is limited due to low market potential resulting from low incomes.
- The nature of African economies, Agriculture with limited industrialization presents less need for power production. This is why much that is produced is exported to fairly industrialized nations like Kenya and S. Africa.
- Poor and underdeveloped transport and communication potential areas of power generation are in areas too remote to attract investors e.g. Murchison falls, Sipi falls and Kisizi falls.
- Poor government initiatives where African government lack vision for benefits of power generation.
- Political instability in potential areas scaring investors e.g. civil wars in Angola, struggle for independence in Namibia affected power production at Gunene falls and at Calueque.
- Presence of other cheaper forms of power e.g charcoal and firewood limiting HEP production / competition.
- Where minerals like coal and oil exist, they are in small quantities hence uneconomic.
- Poor economic integration, accidents.

To what extent is limited power responsible for the low levels of industrial development in Africa?

Approach:

- Define power
- Identify the power potentials in Africa
- Show how power has limited industrial development
- Give other factors
- Give a conclusion

Answer

Power refers to substances that provide energy to or act as a source of fuel to do work and run machines power resources in Africa include;

- Coal mining for Zimbabwe, South Africa, Ghana and Tanzania
- Hydro electric power from dams like Awan, Kainsi, Kariba, Nalubale, Volta. * Geotherman from Hot springs, Biomass.
- Thermal power from Kenya, Zambia and Malawi (oil, coal, petroleum)
- Wood and charcoal mainly in DRC, Gabon and Cameroon.
- Natural gas from South Africa, Zimbabwe, Ghana Solar energy highly tapped from Nigeria, South Africa, Nuclear from uranium.

NB: Power resources in Africa are not fully developed hence the low levels of industrial development, inadequate power supply in Africa is due to:

- In some countries, power is just inadequate and the little that is used is imported e.g. Kenya from Uganda, Rwanda from Uganda and South Africa from Mozambique.
- In other countries there is little power e.g. in Somalia, Sudan, Eritrea, Djibouti leading to low levels of industrialization.
- In some countries power is very expensive e.g. Uganda, Rwanda, Tanzania hindering industrial activities.
- In some countries power resources are poor e.g. poor quality coal, Tanzania and south Africa.
- In some countries there are areas with no power e.g some parts of Sierra Leone, Angola, Kenya, Tanzania, Somalia, limiting industrial expansion and development.

Other factors include

- Lack of skilled labour force due to poor training and education
- Poor transport systems
- Limited market
- Low levels of technology
- Lack of capital

- Lack of mineral resources
- Competition from other sectors of production
- Unfavourable government policy

Sample questions

1. Assess the contribution of either Aswan high dam or the Tennessee valley authority multi-purpose project to the development of the respective country.
2. To what extent is limited power supply responsible for low industrial development in Africa.
3. Examine the role played by either Kariba dam in Zambia or Aswan high dam in Egypt in the economic development of the country.
4. To what extent is power responsible for industrial development in South Africa or Germany.

Importances of power

- Source of foreign exchange through exportation of power
- Government revenue through taxing power companies
- Improvement in social services e.g. schools
- Environmental conservation e.g HEP, Biogas which are environmentally friendly.
- Economic diversification reducing on dependence burden
- Promotion of education and research.
- Improvement in transport and communication
- Alternative land use like rivers with water falls
- National planning attracting investors
- Urbanization near power centres
- Tourism
- Entertainment centres like theatres
- International relations
- Used for exploitation like fishing and lumbering
- Employment opportunities

Positive

- Accidents through misuse of power especially in schools
- Displacement of people
- Deforestation of people in activities in areas generated with power.
- Pollution using firewood, oil, thermal engine.
- Regional imbalance

- Profit repatriation
- Conflicts and tensions through the use of nuclear and energy on China, Iran.
- Urban problems
- Diversion of labour
- Hinders transport and communication due to construction of dams.
- Loss of water because of increased evaporation rates
- Economic dependence

Factors leading to development of dams

- Presence of water supply
- Presence of rivers with water falls and rapids
- Narrow R. Valleys like a gorge
- Labour supply
- Need to control floods, pests and diseases
- Water for irrigation
- Need for H.E.P
- Presence of marked i.e. High population in towns
- Availability of land gazette in areas of sparse population.
- Positive government policy
- Nature of the population
- Strong and hard basement for construction
- Good international relations
- Political stability and security
- Relief
- Improved science and technology
- Presence of entrepreneurs, big companies providing capital

Uses of power in an industry

- Transporting labour – use of lifts
- Storage e.g freezers, cold rooms
- Lighting
- Running machines (production)
- Transporting raw materials

Problems facing power plants in LDCs

- Inadequate capital
- Poor technology
- Poor transport
- Limited research like oil in Bundibugyo

- Political instabilities
- Limited market
- Corruption
- Poor economic integration
- Poor government policies
- Competition
- Environmentalists
- Accidents
- Promotion of research
- Improvement in research
- Exploitation of difference power resources
- Loans for constructing dams
- Reducing power tariffs
- Economic integration
- Fighting corruption using IGG
- Ensuring political stability
- Government supportive policy
- Investment
- Increasing power markets
- Increasing power dams

Solutions

- Private investors
- Training skilled labour

River dam projects in USA

- St. Lawrence seaway
- Great lakes

River dam projects include Niagara falls, Ullonis dam (H.E.P)

- In California arr.; R. Sacramento, R. San Joaquin and R. Colorado.
These include: Shasta dam, Delta modenta, Houver, Friant, Cachella.
- Tva arr. R. Mississippi, R. Ohio, R. Tennessee, Cumberland.
States include: States of Mississippi, Tennessee, N. Carolina, S. Carolina, Kentucky, Ohio.
Dams include; Nashville, Hutsherville, Pickwick, Chattanooga.

Factors for its development

- To control floods, pests and diseases
- To provide HEP for domestic and industrial use
- Need to improve navigation
- Need for employment opportunities
- Need to help in soil conservation
- Presence of rivers
- Adequate capital
- Improved science and technology associated with skilled labour
- Positive and supportive government policies
- Low population rate due to availability of land for constructing water reservoirs, canal.

- Availability of market
- Relief
- Limited resources like minerals
- To promote economic growth and development
- Good international relationships
- Hard basement rocks. Give firm foundation for the construction of the dam.

Benefits

- Production of HEP
- Control of floods
- Reducing on pests and diseases
- Attracting settlement and agriculture
- Employments leading to increase standards of living
- Development of industries
- Improvement in transport and communication through navigation
- Development of trade because of industries and population increase

- Exploitation of resources
- Government revenue
- Improvement in agriculture
- Development of tourism industries
- Growth of urban centres
- Improvement in social services
- International relations e.g. States of Virginia, Alabama
- Climate modification
- Land reclamation by controlling floods
- Help in soil conservation
- Education and research

Negatives

- Displacement of people and other activities
- Breeding grounds of snails
- Environmental degradation
- Pollution and ozone layer through construction of canal, aqueducts
- Loss of fertile soils (Sedimentation, segmentation)

- Increased costs of maintenance e.g dredging
- Urban problems because of population increase
- Promotion of accidents
- Production of people and property
- Regional imbalance
- Diversion of labour and capital
- Occasional floods causing submergence

Qns.

Natural resources have led to industrial development in either China or Germany.

Discuss.

Define Natural resources, name the country. Other factors, define industrialization, types of industries and areas, explain the intl.of natural resources / physical factors, conclude with a stand point.

Industrialization is the turning of raw materials into finished products using labour and capital. China is a developing country found in S.E. Asia important for manufacturing and secondary industries. Types of industries; vehicle assembling, food processing, chemical industry, iron and steel rolling, textile industries, electronics, metal works. Industrial areas; Hongkong, Beijing, Taiwin, Manchuria, Shangai, Yangtze, Yangho, Shanxiskiang.

Industrial development is influenced by natural resources (physical factors and human factors) the intl. of natural resources is explained below.

Physical

- Water bodies; R. Yangtze, Pacific ocean.
- Raw materials furniture chemicals
- Power supply i.e natural gas, oil,

HEP

- Strategic location
- Ltd resources like land in urban areas
- Extensive land
- Flat and gently slopes

Human

- Capital
- Large manufacturing industries
- Skilled and unskilled labour (dense population)
- Science and technology
- Political stability after 2nd World War
- Good international relations with neighbours

- Transport and communication i.e pacific ocean
- Positive government policy through gazetting land
- Industrial inertia
- Nature of the population
- Presence of commercial services
- Research forgetting raw materials

Despite the presence of enough mineral potentials, the mining industry is still under developed. Discuss with reference to either Brazil or DRC.

Mining is the extraction of earth resources found in rocks. DRC is a less developed country in central Africa. It is rich with mineral resources. Minerals in DRC; Gold, copper, zinc, cobalt, diamond, uranium, oil, lead. Mining areas: Kisangani area, Goma Katanga, Bukavu, Kivu, Shaba, R. Congo, R. Kasai, R. Lubaguli.

Mining in DRC is still underdeveloped because of physical and human problems.

Physical

- Thick vegetation around Congo basin
- Poor quality of minerals, scattered small quantities
- Minerals in deeper layers eg copper
- Limited power supply
- Presence of other resources
- Limited market – low income, poor quality

Human

- Political instability
- Limited capital
- Limited science and technology
- Poor transport and communication
- Limited skilled labour
- Poor government policies

Discuss the characteristics of tropical rain forests

(b) Examine the effects of forestry industry on the environment either Gabon or Brazil.

- Tall about 30 to 50ft
- Long gestation period 30 – 50
- Hard wood timber e.g Mvule, Musizi
- Buttress roots for support
- Under growth e.g linnas, climbing plants
- Broad leaves

(b)

- Illegal activities such as mining
- Competition with other countries on world market
- Hostile tribes and backward cultures
- Profit repatriation
- Accidents
- History and colonial policies
- Poor economic integration e.g. AU

It is found in central Africa important for tropical, equatorial rain forests found in areas like around R. Ogouye, Livindo, Gentil, Oyendo, Libreville, coast of Atlantic ocean. Mt. Ibangi, Mekako, Masaku, Belinga, Mekambaku.

The forestry industries in Gabon has positive and negative effects on the physical and human environment.

Positive

- Formation of rainfall
- Capital
- Employment
- Attract tourists
- Medicine

Negative

- Displacement of people
- Habitats for wild animals
- Occupy a lot of space

**Account for the development of fishing industry in either Japan or N.E. Atlantic
Norway / Morocco**

Fishing is the extraction of aquatic animals from water bodies for commercial and subsistence purposes. N.E Atlantic include fishing grounds of Norway e.g. in Atlantic ocean, Norwegian sea, North sea, Baltic sea. Fishing landing sites; Brest, Hammerfest, Stavanger, Tromsø, Bergen, Oslo, Sebastopol. Fish species commercial marine – Haddock, cod, Herring, Mackerel.

Factors for fishing in Norway are both human and physical;

- Water bodies
- Temperate climate

To what extent have physical factor contributed to environmental degradation in either S.E. Asia (Sahel region) of S. Africa.

Environmental degradation is the destruction of natural resources in terms of quantity and quality leading to increased production. e.g. soil, wild life, vegetation, water,

resources and it is composed of biosphere, hydrosphere, stratosphere. It is characterized by soil erosion, landslides, mass wasting, famine and hunger, desertification, acidity, floods, soil exhaustion.

The Sahel region is a dry area near the Sahara desert with areas like Mali, Chad, Somalia, Nigeria, Eritrea, Mauritania. The causes of environmental degradation in S.R are physical and human. The intl. of physical factors include the following;

FISHING

N.E. Pacific

Canada (Pacific, Atlantic, R. Fraser, Skeena, Stikine) around Vancouver, Churchill, Rupert, Alaska.

N.E. Atlantic, (Norway, Hammerfest, Brest, Saranger, Iromso, Oslo, Sebastian)

S.E Pacific, (Peru, S. Africa, Lima, Pisco, Chimbote, Mollendo, Atico)

N.W. Africa (Morocco, Tangier, Agadir, Safi, Rabat, Casblanca)

TOURISM

Switzerland (winter resoirts. St. Moritz, Gasterd, Zermatt, Oberlan, Jura, and Alps)

(summer resorts; Geneva, Zurich, Bern Basel, Lugano, St. Gallen)

USA: (Appalachian mts, Rocky, Bufallo. Great lakes, mining areas of Mesabi, Tennessee valley, California desert, Holly wood)

Kenya: (rift valley, Mt. Kenya and Meru, Indian ocean, Tsavo NP, Marsabit, Fort Jesus, Malindi).

Egypt: (Nile Delta, Sinai peninsular, Persian Gulf, Aswan high dam, Suez canal, pyramids.

S.A: (Wit waters rand, Kimberly, Limpopo Np, Kregersdrop, Roben island, Zulu kingdom)

INDUSTRIALIZATION

Germany: (Duisseldorf, Wessel, Dortmund, cdogne, Essen, Duisburg) (canals – Wupper site, Lippe site, Ems canal)

Switzerland: (Zurich, Geneva, Bern, Basel, Lugano, ucern, Neuchatol)

USA: (Tennessee valley, Great lakes, New York, California, Boston).

Japan: (Yugoslavia, Hiroshima, Nagasaki, Tokyo, Yokahama, Kyoto.

S.Africa: (Durban, Cape town, Natal, Transvaal, Kimberly, Jumeson, Wit waters)

China: (Manchuria, Shangai, Skiang, Tianjing, Beijing, Hongkong)

Factors

- Raw materials

- Water supply
- Power supply
- Transport and communication
- Labour
- Market
- Technology
- Hardworking population
- Commercial services
- Strategic position
- Relief
- Availability of land
- Limited economic activities
- Limited obstacles
- Government policy
- Political stability
- Entrepreneurship

Importances

- Urban development
- Diversification
- Employment
- Increased government revenue
- Infrastructural development e.g inds.
- International relation
- Tourism
- Promotions of education and research
- Social services
- Foreign exchange

Negatives

- Over utilization of resources
- Capital outflow
- Pollution
- Displacement of people
- Accidents / loss of lives
- Conflicts and tension
- Environment degradation

- Diversification of labour and capital

MINING

Germany: (Esuen, Puivdtorf, Duisburg, Essen, Cologne, Wessel, Dortmund)

USA: (Tennessee valley, great lakes, Rock mts, Appalachian mts, California desert)

Zambia: (Kabue, Chingola, Ndola, Nkana, Chibaluma, Kaliba, Banguculu, Mweru)

SA: (Kimberley, Witt waters rand, Jameson, OFS, Transvaal, Port Durban, Natal)

Nigeria: (Jose plateau, Niger delta, port Harcourt, Sokoto, Kaduna states, R. Bense.

ENVIRONMENTAL AND NATURAL RESOURCES

Environment refers to man's surroundings. It is composed of biosphere, hydrosphere, lithospheres, atmosphere, air and its components and stratosphere (ozone layer).

Environment is the mother of life because everybody uses it. Environmental protection should be a duty of everybody because when it is destroyed everybody is affected exclusively.

Environmental degradation is the destruction of natural resources in terms of quality and quantity. It becomes unidole to sustain life like leading to low economic growth and development.

Natural resources are gifts from nature which are exploited by man to produce further wealth and promote economic growth and development.

Types of resources

Renewable natural resources; these are exploited by man and after exhaustion they can be replaced or regenerated e.g. water, soil, trees, wild life.

Non-renewable are exploited and after exhaustion they cannot be replaced.

Characteristics / indicators of environmental degradation include soil exhaustion, deforestation, reduction in plant and animal species, desertification and aridity, global warming, poverty, low economic development, landslides, mass wasting, floods, reduction in humidity, air and water bone diseases, destruction in rainfall.

Areas most affected by environmental degradation (densely populated areas) like Kampala, China, India.

Desert areas (Kalahari, N.Eastern Uganda)
Areas with political instabilities and insecurity (Somalia, Congo).
Mining areas like Great Lakes, Germany.
Industrial areas like Ruhr conurbation.
Major transport routes, Mbarara, Masaka, Kampala highway, Entebbe areas.
Areas with backward communities, Pygmies, Karamajongs.

Forms of environmental degradation

- Pollution – contamination of the environment by introducing organic or inorganic substances causing harmful or undurable effects.
- Desertification – this is the extension of desert conditions to areas which were not formerly deserts e.g. desert margin or fringes.
- Aridity
- Tropical warm deserts on Mt. Rwenzori, Mt. Kenya, Kilimanjaro.
- Famine
- Soil erosion – this is the washing away of top soil by running water, wind. Type: gully, rill, wind, rainfall.

Masswasting and landslides soil erosion

This refers to the movement of rocks and particles from a greater slope to a lower slope under the influence of gravity.

Types of masswasting

Mud flow

Soil

Solidification normally slow and less destructive

Causes of environmental degradation

Desertification, pollution, famine

Landslides.

These are physical and human factors.

- Deforestation in densely populated areas for firewood, charcoal and timber.
- Rugged and steep slopes in highlands and mountains
- Development of industries causing pollution
- Climatic changes due to global warming
- Swamp reclamation for agriculture, settlement, transport
- Pest and diseases like locusts, aphids, caterpillars

- Mining using open cast methods
- Fire outbreak caused by natural factors or human factors
- Population increase e.g. in K'ble, China, India.
- Poor farming methods causing soil exhaustion, shifting cultivation
- Political instability due to use of ammunition
- Overgrazing caused by overstocking like in national parks and areas of nomadic pastoralists.
- Ignorance, backwardness / low level of education and poverty
- Drilling of boreholes construction of valley dams and tanks
- Cold ocean currents like the cool canary and Benguelli
- Development of transport; roads and railway lines and ports
- Weak government law leading to illegal activities
- Wind systems or prevailing winds like the westerlies
- Pollution because of poor disposal of wastes and hazards
- Natural calamities and hazard like land slides especially earth quakes
- Absence of water bodies
- Poor vegetation cover
- Distance from the sea (centrality)
- Wild animals like elephants, destroying trees and herbivorous animals
- Floating vegetation, water hyacinth and papyrus
- Accidents on roads, air and water bodies
- Poor sandy soils
- Illegal methods like illegal lumbering, fishing and poaching
- Pests and diseases destroying crops and livestock like coffee stain, East coast.
- Absence of clouds leading to high temperature range which cause exhaustive and evaporation
- Relief also causes rain shadow

Effects of environmental degradation

Negative

- Reduces land for agriculture & settlement
- Leads to famine and hunger
- Lowers water table causing water shortage
- It causes global warming
- Promotes soil erosion causing exhaustion
- Encourage natural calamities, disasters, hazards
- Reduction in biodiversity like plants and animals

- Occurrence of air and water borne diseases
- It causes poverty, unemployment and low economic development
- It causes siltation, sedimentation and deposition
- Lower life span because of poor living conditions

Positive

- Tourism because of landforms earning foreign exchange
- Employment like environmentalists
- Education and research in affected areas
- Soil formation by wastes breaking rocks
- Rain formation like dust particles in the atmosphere
- Reduction in pests and diseases
- Political stability
- Development of transport and communication

Solutions/steps/measures/Environmental conservation

Environment is important to man because it has productive and protective uses hence need of conservation. The steps / measures/policies/ways include;

- Tree planting using afforestation and reafforestation programmes with soft wood species influencing the youth and women because they are the majority and to make it sustainable.
- Formation of government agencies and non government organization dealing in environmental matters helping in supervision and monitoring e.g.NEMA, NFA.
- Mass education and modernization helping in creating awareness on environmental matters by using formal and informal education.
- Using modern methods of farming helping in soil conservation like agro forestry, ranching, irrigation farming in dry areas.
- Using alternative sources of energy like solar, biogas, HEP reducing on forest destruction for firewood and charcoal.
- Strengthening laws and regulations by putting heavy fines reducing on illegal activities like bush burning, illegal lumbering, forest encroachment.
- Gazetting areas of forest reserves, national parks, game reserves helping in displacing people and activities e.g. Queen Elizabeth N.P
- Population control using modern methods of family planning like using pills, condoms and setting population policies.
- Using alternative building materials like using bricks, tiles, using iron sheets, metallic and furniture.

- Spraying using insecticides in areas having locusts, termites, ants like in Sahara and Kalahari deserts.
- Acquisition of loans from financial institutions, developing countries for financial environmental conservation programmes
- Promotion of research on tree planting species like planting the neem tree, moringa tree, planting trees with flowers, fruits.
- Political stability through regional co-operation, good governance, defence reducing the use of ammunition like developed countries.
- Using soil conservation methods helping in maintaining soil fertility like terracing, mulching, agro forestry.
- Training skilled labour like environmental officers helping in supervision, monitoring and education.
- Fire fighting by using fire extinguishers, water bombers, having control towers and planting artificial forests.
- Government support by giving loans, equipment, input, seedlings and gazetting forested areas.
- Proper waste management by gazetting dumping grounds, treatment of waste before discharge and recycling.
- Good international relations and regional co-operation like E. African Community.
- Reducing on excessive lumbering by giving licences like NFA in Uganda.
- Proper land use management by separating industrial areas and conservation areas.
- Using energy conservation methods like energy saving stoves, energy saving bulbs.
- Privatization and economic liberalization attracting investors leading to availability of capital, good management and better services.
- Improvement in transport by constructing roads, railway lines, water ways helping in conservation and exploitation.
- Improvement of soil fertility through adding organic fertilizers and inorganic fertilizers or practicing organic farming.
- Environmental sustainability by using the environment without compromising needs of the future e.g. by cutting trees and planting others.
- Environment diversification by having many economic activities and exploiting different resources for employing people and reducing on dependency burden.
- Using local communities for planting forests leading to easy supervision, monitoring and mobilization.

Revision Qn.

1. Examine the causes, effects and solution of environmental degradation.
- 2a. Account for the occurrence of environmental degradation in either Nigeria or Ethiopia.
- b. Outline the steps being taken to solve the problem of environmental degradation in the country chosen in (a) above.
3. "The famine problem in Africa is primarily a result of human factors." Discuss.
- 4a. Explain the causes of desertification in either Botswana or Mali.
- b. Outline the steps being taken to combat desertification in the country chosen in (a) above.
5. To what extent is man responsible for environmental degradation in East Africa.