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Geography (UACE 250/2) paper 2 Revision questions for development of transport in the world

1. Account for the development of road transport in **either** South Africa or Zambia. (25 marks)
(Candidates have to select a country and describe the current status of road transport in the country chosen)

South African

Has a well-developed transport network than any other roads in the whole of Africa

It has major roads connecting the country with the neighboring countries such as Zimbabwe, Namibia, Lesotho, Mozambique and Botswana. There are also major road networks connecting from major towns like Johannesburg to Cape town, Port Elizabeth, East London and Durban

Zambia

Zambia is a land locked country therefore there is great importance attached to roads. It has major road network linking it up with neighboring countries such as Angola, Tanzania, Democratic Republic of Congo, Mozambique and Zimbabwe For instance Lusaka – Harare, Lusaka – Lilongwe; Lusaka – Mbeya; Lusaka – Gaborone, etc.

Factors for the development of road transport

These are more or less similar for both South Africa and Zambia and they include:

- Historical factors i.e. influence of first settlers or colonial influence. Roads were developed for effective administration.
- Presence of raw materials such as minerals forestry, agricultural raw materials
- To ease access to tourism sites such as national parks, the cape, the table mountains and Victoria falls in Zambia
- Favourable government policy towards road development
- The need to facilitate dissemination of social services
- The need to facilitate administration of the country
- The need to open up remote areas for development
- High level of technology
- Presence of large sums of capital
- Plenty of skilled and semi-skilled labour force

- Favourable relief
 - Presence of commercial activities
 - Availability of vast land
 - Presence of dense population /urban centres
 - Political stability
 - Presence of research
 - Presence of alternative means of transport like water, air, railway that need to be linked up
2. Describe measures being taken to improve inland water transport in either China or United States of America. (25marks)

(Candidates should select any one country and describe the current status of the Inland water transport system. Then proceed to describe the measures being taken to improve the Inland water transport)

CHINA

China has many inland navigable water courses by rivers, canals, etc. The navigable rivers include: Hwang Ho, Yangtze, Mekong, Hong-Kiang, Si-Kiang, Wei-Ho etc.

Canals include:- the Grand Canal joining the North to South China, the Peh - Kiangsu joining the western to the Eastern part of China. Both canals connect to the Pacific Ocean.

U.S.A

It has a well-developed inland water system. Examples include

- The St Lawrence Seaway which connects the great lakes region to the Eastern sea board of USA.
- The Missouri-Mississippi inland water system which links the mid-west to the Gulf of Mexico
- The River Sacramento system in the west
- The rivers are supplemented by canals such as the Welland canal, the Marie-salt canal, Soo canal, Mendota canal, the Friant canal, the State Berge canal, etc.

The measures being taken to improve inland water transport in both countries are more or less similar.

Steps being taken to improve water transport in USA

- Widening or enlargement of the sea way at the Sault, St Marine canal to accommodate more traffic and collect more revenue from the vessels using the Seaway.
- U.S.A and Canada have begun deepening of the existing shallow waters examples at Sault, St. Marine canal and lower St. Lawrence sea way to accommodate bigger ships and collect more revenue
- Constant dredging is done along the Welland canal, Suds burg and Trois-Riviere to control siltation and encourage smooth utilization of the seaway.

- There is construction of embankments and dams to control floods along the Saulte Ste Marine canal, Beauharnois and Barnhart so as to encourage settlement along the seaway.
- There has been blasting of rock/islands along the Saulte Ste Marine and near Beauharnois near the river braiding so as to reduce accidents due to collision with rocks and also enable use by big ships.
- There has been construction of canals e.g. State Berge canal, Welland canal, Soo canal to avoid rapids and water falls and to increase the size of the hinterland so as to handle more traffic along the sea way.
- There has been construction of gates at the Soo canal, Saulte Ste Marine canal, St Lambert Lock at Montreal to control traffic congestion
- There has been development of modern port facilities at Kingston, Quebec, and Montreal to control traffic congestion
- There has been development of modern port facilities at Kingston, Quebec, and Montreal to handle traffic and merchandise.
- There has been introduction of ice breaks on the seaway during winter (Dec-March) to remove the frozen snow or ice to make the sea way operational throughout the year.
- There has been straightening of river courses and canals e.g. Grenville canal to minimize distance and costs along the Seaway.
- There has been introduction of containerization to ease transportation, handling, loading and packaging of merchandise to effectively utilize the available limited space.
- There has been construction of roads and railways to link the port and hinterlands to reduce overdependence on the St. Lawrence sea way.
- There has been development of industries along the sea way to handle imports and exports e.g. at Pittsburg, Detroit, Chicago etc.
- There has been recruitment of many traffic wardens and police to control traffic flow as well as stamp out piracy and insecurity along the seaway.
- There has been construction of twin Locks to create a navigable(deep) water level along the seaway so that bigger ships can use the seaway and increase the revenue collected from the vessels.
- There has been improvement in lighting systems to improve on visibility so as to encourage smooth flow of traffic and reduce accidents along the seaway.
- There has been mobilization of funds to maintain the seaway by constructing canals, dams, locks to control water level enlargement and dredging to deepen the channel for use by big ships by both Canada and USA
- The government is supplementing water transport with road and railway transport
- Use of high level technology e.g. containerization, fork lifts for loading and unloading, high quality ships etc.
- Effective planning and time tabling to enable ease movement of cargo
- Reduction in river utilization tariffs to promote inland water transport
- Promotion of regional and international cooperation for better management of shared inland water resources
- Promotion of economic activities in the hinterland areas to avail cargo and humans for transportation e.g. trade, agriculture, mining, tourism, manufacturing industries etc.
- Weather forecasting and warnings e.g. on typhoons, hurricanes, frost etc.

3. With reference to specific examples, explain the importance of inland water transport to either United States Of America (USA) or Western Europe. (25marks)

(Candidates should select one region and identify the major inland water transport system, and then then explain the importance of inland water transport to the development of the country / region chosen.)

USA.

- The St Lawrence Seaway which connects the great lakes region to the Eastern sea board of USA.
- The Missouri-Mississippi inland water system which links the mid-west to the Gulf of Mexico
- The River Sacramento system in the west
- The rivers are supplemented by canals such as the Welland canal, the Marie-salt canal, Soo canal, Mendota canal, the Friant canal, the State Berge canal, etc.

Western Europe

- The Rhine waterway which links the countries of the Rhine lands i.e. Switzerland, Germany, Belgium, Luxemburg, Netherlands to the North Sea.
- The Rhone waterway which connects the Southern parts of Western Europe to the Mediterranean Sea.
- Canals e.g. Dortmund, Ems canal Lipesite canal. Mossel which connects to the Lorraine Iron ore fields in France etc.

Importance of Inland Water Transport in USA

Positive Contributions

- The Inland water ways have opened up remote areas like the prairie provinces of Alberta, Saskatchewan, and Manitoba in Canada, Minnesota, and Dakota in U.S.A for trade and the Service industry.
- Promoting international trade by handling both exports such as wheat, timber, iron and imports like oil from, the middle East
- Have led to the development of towns or ports such as Duluth, Chicago, Detroit, Pittsburg, Kingston, Prescott, Quebec etc. These provide accommodation, intellectual and health services thus improving people's standards of living.
- Promoted development of industries through facilitation of raw material importation for example oil imports have led to the development of petro-chemical industries, oil refineries at Chicago, Duluth and Quebec and this has led to development.

- Promoted agricultural development through improved transportation for example wheat and corn farming along the prairies is harvested and transported to market centres for sale by use of the seaway.
- Encourages settlement along the water way. The great lakes region is one of the highly populated regions in U.S.A in the Duluth Chicago, and Detroit thus provision of quality services to the people such as recreation facilities, education, better accommodation, improved transport services leading to improved standards of living of the people.
- Promotes tourism which is a source of foreign exchange used for development because of the beautiful natural and manufactured features such as Niagara Falls, Soo canal, Welland canal and easing of holiday cruises, sports fishing like angling.
- The water way has strengthened international Cooperation between U.S.A. Canada and other countries like Spain, Japan, UK whose. Vessel for different merchandise imports and exports like fish, electronics, weapons, and processed foods use the sea way route for international trade.
- Have led to acquisition, of foreign exchange used for development of the country by establishing power stations, research stations, roads and railway, others through handling of exports like wheat and manufactured goods like Ammunition, Electronics and Machinery e.tc.
- Source of government revenue used for development through taxation (customs) and fees Charged on vessels that use the Sea way. Such revenue is used to develop hospitals, power stations, schools and other constants f development.
- Have led to technological development such as Marine technology and construction of canals, Locks, loading and offloading, containerization to save packing space e.g. Welland and Soo canal. This has led to future use of rivers for transport and generation of hydroelectricity.
- Stimulated exploitation of natural resources e.g. iron ore from the Messabi ranges, timber from British Columbia in Canada leading to development of the states where it's done.
- Stimulated generation of H.E.P for example at Iroquois dam, Burn hart dam, Long Sault dam. This has promoted industrialization and high standards of living of the people since it's used for domestic lighting, cooking in schools, hospitals.
- Created different forms of employment to people of different categories such as tax collectors, traffic wardens, freight (vessel) captains, police and e earn income to improve their standard of living by acquiring personal needs like health care, clothing, shelter foodstuffs etc.
- The water ways have facilitated development of other forms of transports e.g. roads, railway and canals that link up to the route thus leading to development because they all stimulate trade, settlement and growth of industries and agriculture in the areas they meander through. Examples are the Greenville and Carillon canals from Montreal and Ottawa in Canada.
- The water ways form a natural boundary barrier between U.S.A. and Canada thereby limiting the costs of maintaining the boarder boundary and controlling territorial conflicts between the two countries.

- The water ways especially the sea way has solved flooding particularly in shallow sections from Kingston to Montreal thus controlling destruction of crops, settlement and disease outbreak.
- The water ways provide water for domestic and industrial use particularly for the textile, timber and pulp paper industries at Ottawa, Kingston and Quebec.

Negative contributions

- Congestion along the St Lawrence leads to delays affecting business enterprises because a lot of time is taken for goods to pass through the seaway and getting cleared.
- Pollution from oil spills, gaseous emissions in urban centres like Detroit, Montreal. Pittsburg affecting both aquatic life and man.
- Has led to growth of towns like Chicago, Detroit and their associated problems like gambling, prostitution, crime proliferation, and congestion which compromise the people's standard of living.
- Involve high costs of water treatment and maintenance costs like dredging, removal of ice during winter thus leading to increased government expenditure and neglect of other sectors of the economy.
- So many locks used to control the level of water to enable use by big ships along the Sea way lead to delays and disruption of business.
- Construction of canals, dams e.g. Barnhart dam, movement of ships affects aquatic life like salmon fish along the water ways have affected the fishing industry.
- Limited visibility in spring causes accidents which claim people's lives and loss of property after ship collision especially along the mouth of St Lawrence River. It also slows down the movement of ships to avoid collisions.
- Resulted into over exploitation of resources for example the British Columbia's forests, iron ore from Messabi ranges (Pittsburg) thus threatening the future of some industries based on those resources. Seasonal flooding at the lower St. Lawrence destroys settlements and their properties and destroys agricultural fields leading to losses to the farmers.
- The St Lawrence Sea way allows ships to sail far in the interior up to Chicago, Duluth hence reducing the importance of New York port and reduction of revenue used to develop New York.
- Its construction involved displacement of settlements with minimum compensation and this led to loss of properties like houses, agricultural land to the people.
- Have led to regional imbalances in development between areas along the water way and those distant away thus affecting balanced economic development.

Importance of Inland Water transport in Western Europe

Positive contribution

- The inland water waterways opened up remote areas in Germany, France, and Netherlands for international trade which is a source of revenue and income to the people.
- Led to development of towns such as Rotterdam in Netherlands, Mainz and these provide social facilities like better accommodation, security, education, health care that improve people's standards of living.
- Led to agricultural development through provision of accessibility to agricultural regions such as Vine growing for wines in the Rhine valley in Germany.
- Stimulated industrial growth such as iron and steel, chemicals, electronic and engineering industries in Germany through facilitation of both raw material importation and exportation of manufactured goods.
- Rhine waterway stimulated International trade by handling exports and imports from Germany; France, Switzerland and Netherlands and this has brought in a lot of revenue used to develop the countries where it passes.
- Encourage settlement along the waterways for example at Basel, in Switzerland, Rotterdam in Netherlands and Mainz in Germany and this has led to development through stimulation of trade and provision of services like health care, education etc.
- Have promoted tourism by facilitation of river cruises and the spectacular drainage features along e.g. locks and canals e.g. Rhone, Rhine canal. The foreign exchange is used to develop the respective countries
- Have led to acquisition of foreign exchange used for development to Netherlands, France, Germany and Switzerland by way of handling exports.
- Have led to acquisition of local revenue through taxation of ships and boats that use the waterway and this is used for development
- Have led to technological development such as marine technology and construction of various locks, canals and various ports such as Euro port, Rotterdam necessary for development
- Led to generation of HEP which is used for home use such as cooking, lighting and industrial use such as processing of raw materials, storage of perishable commodities, lighting.
- The Rhine waterway has strengthened cooperation between France. Germany, Netherlands and Switzerland thus promoting security amongst the countries and promoting international trade which is a source of revenue used for development
- Have provided employment opportunities to various forms of labour e.g. Traffic wardens, marine engineers etc. This helps them to earn incomes with which they improve their standards of living.
- Has stimulated the exploitation of natural resources such as coal and iron ore from the Ruhr coal fields of Germany, timber resources from the Rhone Alps of France etc.
- Has facilitated development of other forms of transport that link to the rivers/canals
- Provides water for domestic and industrial use for example the textile and Brewery industries in Basel and Frankfurt of Switzerland and Germany respectively.
- Has solved the problem of flooding along its lower section in Netherlands around Rotterdam thus encouraging settlement and farming.

Negative contributions

- Have led to over exploitation of resource e.g. coal from the exposed Ruhr coal field, increased deforestation in the Rhone Alps which threatens the future existence of the related industries.
 - Involve pollution of the River Rhine due to oil spills particularly as a result of vessel collision and this affects fish and fishing activities.
 - There is congestion due to heavy traffic along the waterway hence causing delays of merchandise and slow down business transaction leading to loss of income.
 - The waterways allow ships to sail far deep inland thus reducing the importance of Rotterdam as a port and also reduces the total revenue collected.
 - Led to growth of towns and their associated evils such as slum development, prostitution, poor hygiene which affects the people's standard of living.
 - There are high costs of water treatment due to polluted water as well as constant dredging to control siltation thus government spending which reduces the profitability of the route.
 - Delays caused by single locks along the waterway slow down movement and international trade leading to loss of incomes to both the revenue collectors and traders.
 - There is unemployment due to excessive use of modern port handling facilities hence decline in people's earnings which affects their standard of living.
4. With reference to specific example, describe the steps that have been taken to improve inland water transport in either USA or Western Europe. (25marks)

(The candidates are expected select one country and describe the steps that have been taken to improve inland water transport in the region. The water transport system be identified.)

USA.

The main inland water transport of USA include

- The St Lawrence Seaway which connects the great lakes region to the Eastern sea board of USA.
- The Missouri-Mississippi inland water system which links the mid-west to the Gulf of Mexico
- The River Sacramento system in the west
- The rivers are supplemented by canals such as the Welland canal, the Marie-salt canal, Soo canal, Mendota canal, the Friant canal, the State Berge canal, etc.

The main inland water transport of Western Europe include

- The Rhine waterway which links the countries of the Rhine lands i.e. Switzerland, Germany, Belgium, Luxemburg, Netherlands to the North Sea.
- The Rhone waterway which connects the Southern parts of Western Europe to the Mediterranean Sea.

- Canals e.g. Dortmund, Ems canal Lipesite canal. Mossel which connects to the Lorraine Iron ore fields in France etc.

Steps being taken to solve the problems affecting (Inland Water Ways) are more or less similar

USA

- Regional cooperation to enhance the development and use of the water ways e.g. between USA and Canada. Also between Netherlands, Germany and Switzerland in Western Europe.
- Widening or enlargement of the sea way at the Sault, St. Marine canal to accommodate more traffic and collect more revenue from the vessels using the seaway.
- U.S.A and Canada have begun deepening of the existing shallow waters for example at Sault, St. Marine canal and lower St. Lawrence sea way to accommodate bigger ships and collect more revenue.
- Constant dredging is done along the Welland canal, Suds burg and Trios Riviera to control Siltation and encourage smooth utilization of the seaway.
- There is construction of embankments and dams to control floods along the Sault Ste Marine canal, Beauharnais and Barnhart so as to encourage settlement along the seaway.
- There has been blasting of rock/islands along the Sault Ste Marine canal, Beauharnais near river braiding so as to reduce accidents due to collision with rocks and also enable use by big ships.
- There has been construction of canals e.g. State Berge canal, Welland canal, Soo canal to avoid rapids and water fails and to increase the size of the hinterland so as to handle more traffic along the Seaway.
- There has been construction of gates at the Soo canal, Sault Ste. Marine canal, St. Lambert Lock at Montreal to control traffic congestion
- There has been development of modern port facilities at Kingston, Quebec, and Montreal to handle traffic and merchandise.
- There has been introduction of ice breaks on the seaway during winter (Dec-March) to remove the frozen snow or ice to make the sea way operational throughout the year.
- There has been straightening of river courses and canals e.g. Grenville canal to minimize distance and costs along the Seaway.
- There has been introduction of containerization to ease transportation, handling, loading and packaging of merchandise to effectively utilize the available limited space.
- There has been construction of roads and railways to link the port and hinterlands to reduce over dependence on the St. Lawrence sea way.
- There has been development of industries along the sea way to handle imports and exports e.g. at Pitts burg. Detroit, Chicago etc.
- There has been recruitment of many traffic wardens and police to control traffic flow as well as stamp out piracy and insecurity along the sea way.
- There has been construction of twin Locks to create a navigable (deep) water level along the seaway so that bigger ships can use the seaway and increase the revenue collected from the vessels.

- There has been improvement in lighting systems to improve on visibility so as to encourage smooth flow of traffic and reduce accidents along the seaway.
 - There has been mobilization of funds to maintain the seaway by constructing canals, dams, locks to control water level enlargement and dredging to deepen the channel for use by big ships by both Canada and USA who owns the route.
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 - NB. Candidates should avoid using what should be done.
5. Explain the contribution of the St. Lawrence Seaway to the development of either USA or Canada (25 marks)

(Candidates should select one country and explain the contribution of the St. Lawrence Seaway to its development.)

The seaway is an inland water way which was jointly funded by USA and Canada. It stretches for about 3760 km from Port Duluth on the Western shores of Lake Superior through Montreal to the Atlantic coast.

The contributions of the sea way are similar for both countries. They include;

Positive contribution of inland transport to the Great Lake region

- The Sea way has opened up remote areas like the prairie provinces of Alberta, Saskatchewan, and Manitoba in Canada, Minnesota, and Dakota in U.S.A. for trade and the Service industry.
- Promoting international trade by handling both exports such as wheat, timber, iron and imports like oil from the middle East
- Has led to the development of towns or ports such as Duluth, Chicago, Detroit, Pittsburg, Kingston, Prescott, Quebec etc. These provide accommodation, intellectual and health services thus improving people's standard of living.
- Promoted development of industries through facilitation of raw material importation for example oil imports have led to the development of petro-chemical industries, oil refineries at Chicago, Duluth and Quebec and this has led to development.
- Promoted agricultural development through improved transportation for example wheat and corn farming along the prairies is harvested and transported to market centres for sale by use of the seaway.
- Encourages settlement along the water way. The great lakes region is one of the highly populated regions in U.S.A in the; Duluth, Chicago, and Detroit thus provision of quality services to the people such as recreation facilities, education, better accommodation, improved transport services leading to improved standards of living of the people.
- Promotes tourism which is a source of foreign exchange used for development because of the beautiful natural and man-made features such as Niagara falls, Soo canal, Welland canal and easing of holiday cruises, sports fishing like angling etc.
- The Sea way has strengthened International Cooperation between U.S.A and Canada who own it and other countries like Spain, Japan. UK whose vessels for different merchandise

- imports and exports like fish, electronics, weapons, foods use the route for international trade.
- It has led to acquisition of foreign exchange used for development of the country by establishing power stations, research stations, road,,; and many others through handling of exports like wheat and manufactured goods like Ammunition, Electronics and Machinery etc.
 - Source of government revenue used for development through taxation (customs) and fees Charged on vessels that use the Sea way. Such revenue is used to develop hospitals, power stations, schools and other constants of development.
 - Has led to technological development such as Marine technology and construction of canals, Locks, loading and offloading, containerization to save parking space e.g. Welland and Soo canal. This has led to future use of rivers for transport and generation of hydroelectricity.
 - Stimulated exploitation of natural resources e.g. iron ore from the Messabi ranges, timber from British Columbia in Canada leading to development of the states where it's done.
 - Stimulated generation of H.E.P for example at Iroquois dam, Bum hart dam, Long Sault dam.
 - It has promoted industrialization and high standards of living of the people since it's used for domestic lighting, cooking in schools, hospitals.
 - Created different forms of employment to people of different categories such as tax collectors, traffic wardens, freight (vessel) captains, police and these earn income to improve their standard of living by acquiring personal needs like health care, clothing, shelter, foodstuffs etc.
 - The Sea way has facilitated development of other forms of transport e.g. roads, railway and canals that link up to the route leading to development.
 - The Sea way forms a natural boundary barrier between U.S.A. and Canada thereby limiting the costs of maintaining the hoarder boundary and controlling territorial conflicts between the two countries.
 - Has solved flooding particularly in shallow sections from Kingston to Montreal thus controlling destruction of crops, settlement and disease outbreak.
 - The Sea way provides water for domestic and industrial use particularly for the textile, timber and pulp paper industries at Ottawa, Kingston and Quebec.
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Negative contributions of inland transport to the Great Lake region

- Congestion along the St. Lawrence leads to delays hence affecting business enterprises because a Jot of time is taken for goods to pass through the seaway and getting cleared.
- Pollution from oil spills, gaseous emissions in urban centres like Detroit, Montreal, Pitts burg affecting both aquatic life and man.
- Leads to growth of towns like Chicago, Detroit and their associated problems like gambling, prostitution, crime proliferation, and congestion which compromise the people's standard of living.

- Involves high costs of water treatment due to polluted water and maintenance costs like dredging, removal of ice during winter thus leading to increased government expenditure and neglect of other sectors of the economy.
- So many locks used to control the level of water to enable use by, big ships along the Sea way lead to delays and disruption of business.
- Construction of canals, dams e.g. Barnhart dam, movement of ships affects aquatic life like salmon fish along the seaway have affected the fishing industry.
- Limited visibility in spring causes accidents which claim people's lives and loss of property after ship collision especially along the mouth of St Lawrence River. It also slows down the movement of ships to avoid collisions.
- Has resulted into over exploitation of resources for example the British Columbia's forests, iron ore from Messabi ranges (Pittsburg) thus threatening the future of some industries based on those/ resources.
- Seasonal flooding at the lower St. Lawrence destroys settlements and their properties and destroys agricultural fields leading to losses to the farmers.
- The St. Lawrence Sea way allows ships to sail far in the interior up to Chicago, Duluth hence reducing the importance of New York port and reduction of its revenue used to develop New York.
- Its construction involved displacement of settlements with minimum compensation and this led to loss of property/houses, agricultural land to the people.
- Has led to an imbalance in development between areas along the Seaway and those distant away thus affecting balanced economic development.

6. Explain the problems affecting the development of railway transport in either Nigeria or Zambia.

(Candidates should select one country and describe pattern of the railway network and then discuss the problems **limiting the development of railway transport**)

Nigeria.

The South and Central Jos plateau have more railways. The West and the South East have poor railway network. The railway network joins the Worthier town of Kano-Sokoto-Jos-Abuja-Makudi etc. to the southern towns / ports of Ibadan, Lagos, Port Harcourt., Enugu etc.

Zambia.

The railway network is concentrated in the North-East along the border with DRC and in the South along the border with Zimbabwe. The railway line connects Lusaka, the copper belt towns to Dar-es-Salaam in Tanzania, Maputo in Mozambique and Luanda in Angola.

The problems are similar, except for those which are specified.

- Harsh climate such as too much rainfall around the south west of Nigeria and western part of Zambia causes damage or deterioration of railway lines by causing erosion thus leaving the railway sleepers hanging above the ground making it risky for trains to use.
- Political unrest or insecurity in Nigeria destabilizes the process of building and rehabilitating of railway lines. The Boko Haram extremists in Nigeria often burn and destroy railway lines.

- Limited technology for modernization of railway lines in Zambia and Nigeria limits development of the railway system. For example there is no electric railway system in both countries.
- Competition with other forms of transport like roads which are highly flexible has limited development of railway lines in Nigeria and Zambia.
- High costs of construction and maintenance of railways in poor countries like Zambia, Nigeria is a factor limiting development of railway lines.
- Limited skilled labour in form of engineers to construct and maintain the railway lines has limited development of the railway line network.
- Thick forest vegetation especially in south east Nigeria makes construction of railway lines difficult and expensive because they have to be cleared.
- The rugged-landscape in Nigeria with steep slopes makes construction of the railway lines difficult and expensive because the hills have to be either avoided or excavated.
- The low altitude areas of the coast which are below sea level have poor railway network in Nigeria. In Zambia the North West high lands have poor railway network.
- Limited economic activities in some areas where there are no mines or industries discourage investment in the railway network because they would have little to transport.
- Poor drainage such as swamps along the Nigerian coast and in some parts of the South for the case of Zambia makes construction difficult and expensive because a lot of rocks and soils have to be used to stabilize the soft ground before the lines can be laid.
- Unfavorable government policies such as over taxation of railway transport investors have limited the number of investors in railway transport.
- Slow nature of railway transport such that it's not viable to perishable agricultural commodities like milk, flowers because they would get spoilt along the way.
- Limited economical activities in some areas. Industrial towns and mining centres have been well connected with railways away from the industrial towns the railways are fewer or at times non-existent.

7. Explain the role of railway transport in the development of either Switzerland or the republic of South Africa.

(Candidate must select one country and explain the role of railway transport to the selected country)

Contribution of railway transport in S. Africa

Positive contributions

- Facilitated mineral exploitation through linking to mining areas and transportation of minerals to market centres e.g. gold from the Rand, Diamonds from Kimberley to Pretoria, Johannesburg.
- Facilitated movement of labour from localities like Soweto to mining centers like the Rand or towns like Pretoria leading to development of the mining sector.
- Provided employment to traffic wardens, captains, ticketing agents
- Lead to growth of towns e.g. Cape town

- Opened up interior (remote) regions for trade and economic development
- Stimulated international trade between South Africa and her neighbors like Mozambique and other countries such as USA.
- Promoted agriculture through transportation of crops harvested like sugar cane, tea, fruits to market centres for sale.
- Promoted industrial development through transportation of raw materials to the industries and finished products to the market for sale
- Source of government revenue from taxation of workers
- Promoted tourism which is a source of foreign exchange
- Promoted international trade through transporting imports and exports
- Promoted international cooperation through facilitating international trade.
- Encouraged skill acquisition such as railway traffic control, ticketing, maintenance
- Facilitated other forms of transport such as roads that link up to the railway.

Negative contributions

- Led to growth of towns such as Soweto, Kimberley and associated negative consequences such as congestion, increased crime rate, prostitution etc.
- High cost of maintenance in form of replacing worn out/stolen rails
- Led to destruction of forests during construction of railways
- Led to displacement of people during railway construction
- Cause atmospheric pollution through release of a big cloud of smoke
- Accidents cause loss of life
- Profit repatriation from foreign employees
- Promotes over exploitation of resources such as forests.

8. Explain the importance of inland water transport to the development of either the Great lakes region of North America or the Rhineland.

(Candidates should select one region; and explain the positive and negative importance of inland water transport to the development of the region)

The main inland water transport of USA include

- The St Lawrence Seaway which connects the Great Lakes region to the Eastern seaboard of USA.
- The Missouri-Mississippi inland water system which links the mid-west to the Gulf of Mexico
- The River Sacramento system in the west
- The rivers are supplemented by canals such as the Welland canal, the Erie Canal, the Suez Canal, the Welland canal, the Erie Canal, the Suez Canal, the Erie Canal, the Erie Canal, etc.

The main inland water transport of Rhineland include

The Rhine waterway which links the countries of the Rhine lands i.e. Switzerland, Germany, Belgium, Luxemburg, Netherlands to the North Sea.

The contributions of the sea way are similar for both countries. They include;

Positive contribution of inland transport to the Great Lake region

- The Sea way has opened up remote areas like the prairie provinces of Alberta, Saskatchewan, and Manitoba in Canada, Minnesota, and Dakota in U.S.A. for trade and the Service industry.
- Promoting international trade by handling both exports such as wheat, timber, iron and imports like oil from the middle East
- Has led to the development of towns or ports such as Duluth, Chicago, Detroit, Pittsburg, Kingston, Prescott, Quebec etc. These provide accommodation, intellectual and health services thus improving people's standard of living.
- Promoted development of industries through facilitation of raw material importation for example oil imports have led to the development of petro-chemical industries, oil refineries at Chicago, Duluth and Quebec and this has led to development.
- Promoted agricultural development through improved transportation for example wheat and corn fanning along the prairies is harvested and transported to market centres for sale by use of the seaway.
- Encourages settlement along the water way. The great lakes region is one of the highly populated regions in U.S.A in the; Duluth, Chicago, and Detroit thus provision of quality services to the people such as recreation facilities, education, better accommodation, improved transport services leading to improved standards of living of the people.
- Promotes tourism which is a source of foreign exchange used for development because of the beautiful natural and man-made features such as Niagara falls, Soo canal, Welland canal and easing of holiday cruises, sports fishing like angling etc.
- The Sea way has strengthened International Cooperation between U.S.A and Canada who own it and other countries like Spain, Japan. UK whose vessels for different merchandise imports and exports like fish, electronics, weapons, foods use the route for international trade.
- It has led to acquisition of foreign exchange used for development of the country by establishing power stations, research stations, road,,; and many others through handling of exports like wheat and manufactured goods like Ammunition, Electronics and Machinery etc.
- Source of government revenue used for development through taxation (customs) and fees Charged on vessels that use the Sea way. Such revenue is used to develop hospitals, power stations, schools and other constants of development.

- Has led to technological development such as Marine technology and construction of canals, Locks, loading and offloading, containerization to save parking space e.g. Welland and Soo canal. This has led to future use of rivers for transport and generation of hydroelectricity.
- Stimulated exploitation of natural resources e.g. iron ore from the Messabi ranges, timber from British Columbia in Canada leading to development of the states where it's done.
- Stimulated generation of H.E.P for example at Iroquois dam, Barnhart dam, Long Sault dam.
- It has promoted industrialization and high standards of living of the people since it's used for domestic lighting, cooking in schools, hospitals.
- Created different forms of employment to people of different categories such as tax collectors, traffic wardens, freight (vessel) captains, police and these earn income to improve their standard of living by acquiring personal needs like health care, clothing, shelter, foodstuffs etc.
- The Sea way has facilitated development of other forms of transport e.g. roads, railway and canals that link up to the route leading to development.
- The Sea way forms a natural boundary barrier between U.S.A. and Canada thereby limiting the costs of maintaining the border boundary and controlling territorial conflicts between the two countries.
- Has solved flooding particularly in shallow sections from Kingston to Montreal thus controlling destruction of crops, settlement and disease outbreak.
- The Sea way provides water for domestic and industrial use particularly for the textile, timber and pulp paper industries at Ottawa, Kingston and Quebec.

Negative contributions of inland transport to the Great Lake region

- Congestion along the St. Lawrence leads to delays hence affecting business enterprises because a lot of time is taken for goods to pass through the seaway and getting cleared.
- Pollution from oil spills, gaseous emissions in urban centres like Detroit, Montreal, Pittsburgh affecting both aquatic life and man.
- Leads to growth of towns like Chicago, Detroit and their associated problems like gambling, prostitution, crime proliferation, and congestion which compromise the people's standard of living.
- Involves high costs of water treatment due to polluted water and maintenance costs like dredging, removal of ice during winter thus leading to increased government expenditure and neglect of other sectors of the economy.
- So many locks used to control the level of water to enable use by, big ships along the Sea way lead to delays and disruption of business.
- Construction of canals, dams e.g. Barnhart dam, movement of ships affects aquatic life like salmon fish along the seaway have affected the fishing industry.
- Limited visibility in spring causes accidents which claim people's lives and loss of property after ship collision especially along the mouth of St Lawrence River. It also slows down the movement of ships to avoid collisions.

- Has resulted into over exploitation of resources for example the British Columbia's forests, iron ore from Messabi ranges (Pittsburg) thus threatening the future of some industries based on those/ resources.
- Seasonal flooding at the lower St. Lawrence destroys settlements and their properties and destroys agricultural fields leading to losses to the farmers.
- The St. Lawrence Sea way allows ships to sail far in the interior up to Chicago, Duluth hence reducing the importance of New York port and reduction of its revenue used to develop New York.
- Its construction involved displacement of settlements with minimum compensation and this led to loss of property/houses, agricultural land to the people.
- Has led to an imbalances in development between areas along the Seaway and those distant away thus affecting balanced economic development.

Importance of Inland Water transport in Western Europe

Positive contribution

- The inland water waterways opened up remote areas in Germany, France, and Netherlands for international trade which is a source of revenue and income to the
- Led to development of towns such as Rotterdam in Netherlands, Mainz and these provide social facilities like better accommodation, security, education, health care that improve people's standards of living.
- Led to agricultural development through provision of accessibility to agricultural regions such as Vine growing for wines in the Rhine valley in Germany.
- Stimulated industrial growth such as iron and steel, chemicals, electronic and engineering industries in Germany through facilitation of both raw material importation and exportation of manufactured goods.
- Rhine waterway stimulated International trade by handling exports and imports from Germany; France, Switzerland and Netherlands and this has brought in a lot of revenue used to develop the countries where it passes.
- Encourage settlement along the waterways for example at Basel, in Switzerland, Rotterdam in Netherlands and Mainz in Germany and this has led to development through stimulation of trade and provision of services like health care, education etc.
- Have promoted tourism by facilitation of river cruises and the spectacular drainage features along e.g. locks and canals e.g. Rhone, Rhine canal. The foreign exchange is used to develop the respective countries
- Have led to acquisition of foreign exchange used for development to Netherlands, France, Germany and Switzerland by way of handling exports.
- Have led to acquisition of local revenue through taxation of ships and boats that use the waterway and this is used for development
- Have led to technological development such as marine technology and construction of various locks, canals and various ports such as Euro port, Rotterdam necessary for development

- Led to generation of HEP which is used for home use such as cooking, lighting and industrial use such as processing of raw materials, storage of perishable commodities, lighting.
- The Rhine waterway has strengthened cooperation between France, Germany, Netherlands and Switzerland thus promoting security amongst the countries and promoting international trade which is a source of revenue used for development
- Have provided employment opportunities to various forms of labour e.g. Traffic wardens, marine engineers etc. This helps them to earn incomes with which they improve their standards of living.
- Has stimulated the exploitation of natural resources such as coal and iron ore from the Ruhr coal fields of Germany, timber resources from the Rhone Alps of France etc.
- Has facilitated development of other forms of transport that link to the rivers/canals
- Provides water for domestic and industrial use for example the textile and Brewery industries in Basel and Frankfurt of Switzerland and Germany respectively.
- Has solved the problem of flooding along its lower section in Netherlands around Rotterdam thus encouraging settlement and farming.

Negative contributions

- Have led to over exploitation of resource e.g. coal from the exposed Ruhr coal field, increased deforestation in the Rhone Alps which threatens the future existence of the related industries.
- Involve pollution of the River Rhine due to oil spills particularly as a result of vessel collision and this affects fish and fishing activities.
- There is congestion due to heavy traffic along the waterway hence causing delays of merchandise and slow down business transaction leading to loss of income.
- The waterways allow ships to sail far deep inland thus reducing the importance of Rotterdam as a port and also reduces the total revenue collected.
- Led to growth of towns and their associated evils such as slum development, prostitution, poor hygiene which affects the people's standard of living. .
- There are high costs of water treatment due to polluted water as well as constant dredging to control siltation thus government spending which reduces the profitability of the route.
- Delays caused by single locks along the waterway slow down movement and international trade leading to loss of incomes to both the revenue collectors and traders.
- There is unemployment due to excessive use of modern port handling facilities hence decline in people's earnings which affects their standard of living.

Thank you

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