

24. Aids to Commerce – Transport (II)

Objectives

At the end of this chapter, students should be able to explain transport by water, list the important types of water transport and the types of vessel used. They should also be able to explain transport by pipeline and list the products transported by pipeline. Students should also be able to list and explain the common terminologies used in transportation as well as mention the documents used in transportation. They should be able to list and explain factors that influence the choice of transports. They should, finally, be able to explain the Nigerian Ports Authority (NPA), its functions and relationship with the Department of Customs and Excise.

24.1 Transport by Water

Water transport can be divided into two main types. One is the water transport within and around a country which operates on the rivers and in the creeks. Examples of this in Nigeria is water transport on the Niger, Benue and Ethiope rivers, referred to as inland waterways.

The second category operates on the oceans and seas, usually referred to as international waters e.g. the Atlantic, Indian and Pacific Oceans, or on the Black Sea (between Turkey and Russia) and the Caspian Sea (between Iran and Russia). Boats and canoes are used on inland waters while ships or liners are means of transport on the oceans and seas, collectively referred to as the high seas.

24.1.1 Classification of Inland or Means of Water Transport

There are four main categories of vehicles in use for inland water transport:

- (i) *Engine boats*: These are motor-driven boats. They are useful for carrying both goods and passengers and are very common on Rivers Niger and Benue. Some of them are comfortably furnished with sleeping and recreational facilities.
- (ii) *Ferry boats*: These are like engine boats in all their uses and forms, except that they are manually operated. One would find ferry boats actively at work carrying both passengers and goods at the Apapa quays and Marina in Lagos and on River Ethiope in Bendel State.
- (iii) *Launches*: These are boats of much higher status than the two vessels above in their provisions of luxurious facilities for passengers. Launches are large motor-driven boats used for carrying passengers on rivers, lakes, harbours, etc. They serve the whole of the riverine area around Calabar, Port Harcourt, Warri, Lagos; and the rivers Benue and Niger.
- (iv) *Canoes*: These are boats that are rowed with either oars or paddles, that is, they are propelled by human labour. Canoes are the commonest means of transport in the creek areas. They carry goods and passengers. They are particularly handy for the fishermen who use them extensively for fishing and for hawking their catches.

24.1.2 Classification of International Means of Water Transport

Just as air routes are usually referred to as "Air Lines", so also the routes followed by

ships on the high seas and oceans are referred to as "Ocean Lines". Consequently, ships are customarily classified into:

- (i) Ocean liners
- (ii) Coastal liners (Steamers)
- (iii) Tramp liners
- (iv) Freighters

There is another form of classification into passenger and cargo liners. However, the distinction is only academic, since passenger liner usually carry some cargo; while cargo liners also carry some passengers as well. It is only a matter of which of the two (passenger or cargo) is carried on a larger proportion.

- (i) *The ocean liners*: These are ships that sail on the high seas and oceans around the world. They can be classified into passenger liners and cargo liners depending on which of the two (passengers or cargoes) is carried to a greater extent.
 - (a) *Passenger liners*: These are luxurious ships and they are by far one of the largest vessels ever designed by man. In size, they surpass trains, aeroplanes or motor vehicles. They could carry thousands of people on a single voyage. They combine speed with comfort. They have luxurious facilities for communal and social lifelike, theatres, cinemas, swimming pools, dancing halls in addition to comfortable living cabins. They run on regular routes with fixed time-tables that are advertised well in advance of their voyages.
 - (b) *Cargo liners*: These, like the passenger liners, travel on definite routes and on fixed time-tables that are given wide advertisement in advance of voyages, so that their customers know where and when to join and disembark or to forward and collect their cargoes.
- (ii) *Coastal liners (or steamers)*: These are the commonest types of sea transport along the creeks in Nigeria. They are most adapted to penetrate deep into the low rivers and creeks without the risks of grounding – this is because their bottom is flatly designed. In the main, their services involve collecting goods along the coasts for onward transfer to the bigger ships waiting at the major ports, i.e. they are the links between business firms on the coasts and the cargo liners on the high seas or oceans. They compete successfully with the roads and the railways. They are otherwise referred to as *tugs*.
- (iii) *Tramp liners*: What is remarkable about the tramp liners is that they could be referred to as the "taxis" of the high seas. They keep to no fixed or definite lines. Rather, they follow the routes where goods are available for carriage. (They would go anywhere within their capabilities in search of customers). They specialize in the lighter bulk of goods, e.g. raw materials
- (iv) *Ship-types*: These deserve special mention because their introduction has almost brought a revolution into sea transport system. In shipping, ship-type is a term used to refer to large ships specially designed and built for specific products. Once such a vessel is seen, it is easy to tell what type of cargo it carries, e.g. petroleum products, chemicals, containers, general cargo, frozen foods, etc. They include refrigerated ships, oil tankers, container ships and other bulk carriers of mineral, manufactured and agricultural products. They are usually owned by producers or manufacturers such as international oil companies.

24.1.3 Canals (waterways)

These are man-made waterways. They are channels cut through land for the use of boats or ships. They are not common in West Africa or Nigeria. The best examples of canal in the world are;

- (i) Suez Canal, linking the Red Sea and the Mediterranean Sea.
- (ii) Panama Canal, linking the Atlantic and the Pacific oceans.

Advantages

- (i) Canals form one of the cheapest forms of transport system because they are planned and man-made.
- (ii) They are safe and smooth for transporting fragile goods.
- (iii) Water vehicles plying a canal can be loaded or unloaded at any point on the banks at the user's convenience.

Disadvantages

- (i) Their capacities are limited.
- (ii) They are not available over a large area.
- (iii) Delays in using them could arise from summer drought, low level of water or winter ice which could be block passages.

24.2 Transport by Pipelines

This is the carriage of certain category of goods usually liquid or gas through pipes in surface or underground pipes between one geographical location and the other. For instance, once the Kaduna refinery was built and put into use, there were crude oil pipelines from the oilfields in the southern states of Nigeria to the Kaduna refinery. In the developed economies of Europe and USA, the use of pipelines is a common features of transport system.

The introduction of pipelines as a means of transport, some claim, has introduced some revolution into the transport system. The reason for this claim is because of the very many advantages to commerce that come with the use of pipelines.

Advantages

- (i) *Solves the problem of transporting liquid products over a distance:* There is a host of liquid substances hitherto carried by road tankers which are now transported through pipelines. Examples of such are palm-oil, gas, natural oil and oil products.
- (ii) *Easy access to the delta oil fields and the swampy terrain:* Oil fields are found in certain creeks and delta areas which are far beyond the reach of tankers. Oil pipelines are easy means of reaching such delta areas for crude oil and oil products, from where they are carried to refineries far and near or to the ports for transportation abroad as export products. In addition, natural gas is delivered by pipeline to the gas-powered electricity stations like those in Ugheli and Sapele in Nigeria.
- (iii) *A better economic alternative to road tankers:* A pipeline will easily carry the volume of liquid substances for which a fleet of tankers would be required. As a result there is economy of delivery costs from which consumers can benefit in form of lower prices.
- (iv) *Cheaper cost of maintenance:* Maintenance of pipelines once the pipelines are laid is less expensive than that of road tankers, air planes or railways.

- (v) *Economy of time*: Road tankers take a long time to reach their destinations; whereas oil can be pumped from many stations within a short time and without the risk of a breakdown so inherent in the use of road tankers.
- (vi) *Reduction in fraud committed during delivery of goods*: Oil tanker drivers are known for interference with the liquid products they carry while in transit. These tanker drivers pilfer and sell such substances along the route of their journeys. Such frauds account for the existence of very many traders in liquid oil, e.g. petrol, kerosene, engine oil, gas, etc, at the roadsides on major highways in Nigeria before a decree in 1984 brought such illegal businesses to an end.
- (vii) *Absence of contamination or adulteration*: Risks of contamination or adulteration of liquid products in transit by drivers or any other persons are almost completely removed.

Disadvantages

- (i) It is limited only to liquid products and no more.
- (ii) It is prone to bursts and leakages.
- (iii) It is expensive to construct or lay.
- (iv) It is very vulnerable to vandalism.

24.3 Common Terms in Transport

- (a) *Common carriers*: (i) These are by law professional carriers. Examples are the railway corporation and the shipping lines. (ii) Unless on very reasonable grounds, they must not refuse to carry goods for the public, and once they accept to carry goods they are responsible for the safe delivery of such goods to their destinations. (iii) However, they may refuse to carry goods if their vehicles are already full; or if goods are of a dangerous nature, or if the goods are contraband. (iv) In like manner, they cannot be liable for the safe delivery of goods if, the goods were destroyed in transit by any natural disaster such as winds and waves; or if an enemy action in times of war made safe delivery impossible. (vi) Nevertheless, it must be added that not all transporters are common carriers. For instance, the buses or taxis which specialize in carrying passengers and only occasionally carry goods are not common carriers.
- (b) *Consignor*: This is the sender (firm or person) of the goods.
- (c) *Consignee*: This is the person to whom the goods are sent.
- (d) *Consignments*: These are the goods being sent.
- (e) *Plimsoll line*: This is a sign that must be painted on the ship to show the depth to which the ship may be loaded to avoid sinking. In essence, a *plimsoll* line is safety line. It is also called plimsoll mark.
- (f) *Lloyds Register of Shipping*: We mentioned this under marine insurance:
 - (i) The marine insurers must possess accurate information about ships.
 - (ii) Lloyds undertakes the functions of keeping a register of all ships of 100 tons capacity and above.
 - (iii) Lloyds is the world famous (reputed) registrar of vessels.
 - (iv) All ships or vessels registered with Lloyds carry special classification marks A² known as the *maltese cross*.

- (v) The cross indicates that the ship carrying it was built under the close and active supervision of Lloyds engineers.
- (vi) The letter indicates the sound condition of the *hull* (in descending order), while the number indicates the sound condition of the ship's equipment (in descending order) with A¹ being the best condition.
- (vii) The ship owners, therefore carry out regular repairs and keep up the maintenance of their ships order to retain their ships' classifications.

24.3.1 Measurement of Ships

Ships must be indicated, among other things, by their capacities in order to decide their suitability for a particular cargo and to determine the rents payable for their hire, or chargeable port dues.

- (i) *Gross registered tonnage*: This is determined by the total area (space) covered by the ship. Port dues are based on gross registered tonnage.
- (ii) *Net tonnage*: This is a gross tonnage less space occupied by crew, engines, and other equipment.
- (iii) *Cargo capacity*: This is measured in tons, and each ton is taken as 40 cubic feet.
- (iv) *Actual weight*: This is referred to as the *dead-weight* tons of the ship.

Basis of charges: Bulky cargoes are charged by measurement in tons while heavy goods are charged on deadweight. Some valuable goods are charged on value rate (i.e. *ad valorem*).

24.4 Documents Involved in Transportation

24.4.1 Charter Party

This is a contract by which the owner of a carrier hires out his vessel to a firm or person who wants to transport his goods for a charge known as *freight*. There are two main types of charter parties:

- (i) *Time charter*: This is hiring the vessel for a number of journeys. For instance, for delivery of imported rice from USA to (Nigeria) Lagos in two different voyages, or when the hire is for a period of time.
- (ii) *Lease charter*: When the hire is in form of a lease, then the control of the ship captain and crew becomes that of the charterer or hirer. Alternatively, if the contract simply specifies that the hirer's cargoes be carried by a particular ship, then the control of the ship captain and crew remains that of the ship owner – these also apply to the charter of aircrafts. Charter party could be in respect of all other means of transport.
- (iii) *Voyage charter*: This is when the hire is for a specific journey, e.g. from London to Lagos in Nigeria. Some of the provisions of the voyage charter cover the sea worthiness of the ship, the specific amount of cargo to be allowed, freight according to the agreed tonnage, allowance for the lay days, payment of demurrage by the charterer and dispatch money by the ship owner. Freight is the amount of money paid by the charterer.

The contents of a charter party

- (i) Description of cargo to be carried
- (ii) Ports of call and destination of ship

- (iii) The number of days allowed free of charge for loading and unloading – these are known as *lay days*
- (iv) Freight payable for voyage
- (v) A confirmatory statement by the ship owner that the ship is seaworthy.

Peculiar terms in charter party

- (i) *Dead Freight*: If ships are chartered on the basis of their capacities and the charterer fails to utilize the capacities to the full, he is charged “dead freight” on the unused or idle capacities. This must not be confused with “dead weight tons” which we referred to above as the actual weight of the ship.
- (ii) *Lump sum*: In the alternative, if a fixed amount is agreed to be paid for the period of hire, we refer to such amount as a *lump sum*; in which case, it does not matter whether or not there are unused capacities.
- (iii) *Demurrage*: if dead freight is payment for idle ship capacities, demurrage is freight payable for an idle period, i.e. the period for which the ship is left unused. For instance, where a ship that is allowed Tuesday and Wednesday as “lay days” does not start sailing until the following Monday, demurrage would be paid for Thursday to Sunday, i.e. the four idle days.
- (iv) *Bill of lading*: This is a testimony issued by the ship-owner to the effect that he has accepted certain goods from the owner for shipment to the port of destination. The importance of bill of lading is as follows:
 - (a) Bill of lading is a documentary title to the goods mentioned therein.
 - (b) The owner of goods in possession of a bill of lading could offer the goods for sale in advance of taking delivery of the goods.
 - (c) The goods stated in the bill of lading could be passed on to a third party on mere endorsement and delivery of the documentary title.

A bill of lading is prepared in separate sets of five in respect of each consignment. The shipper and the ship owner retain one copy each, while the third copy, plus two other unsigned copies (three in all) are dispatched to the importer (consignee).

The following are the particulars on a bill of lading:

1. Name of the sender of goods
2. Date and place of shipment
3. Description and destination of goods
4. Name and destination of ship (vessel)

A *clean bill* is a confirmation by the ship captain that the goods accepted for shipment are in very good condition; whereas a *foul bill* means that the goods are already in a damaged state, e.g. if two crates are already broken.

- (v) *Freight forward*: This means freight would be paid by the importer at the port of destination.
- (vi) *Manifests*: This could be ship manifest or airline manifest. It is simply a statement of cargo or passengers carried by the carrier. The office of the carrier holds one copy while the pilot or captain keeps the other copy. Manifests assist relatives to check on the arrival of their passenger relatives. In case of an accident, through the use of manifests, the names

of passengers aboard are readily available.

- (vii) *Consignment note*: This is a document issued by the common carrier (the transporter) when goods are to be dispatched from one person (consignor) to another person (consignee). The consignment note is completed or made out by the consignor, the person who employs the carrier to carry his goods. It is a form of contract between the consignor and the carrier and embodies the terms on which the carrier has agreed to carry the goods, e.g. whether the goods are carried carriage paid or carriage forward or free on board and at whose risk the goods are being carried. The goods and the completed document are handed over to the carrier who, in turn, will get the consignee to sign the document when the goods are delivered as proof of delivery.
- (viii) *Air waybill (Air Consignment Note)*: This document is used in place of bill of lading for all goods that are sent by air. The air waybill is made out in three parts. The first part is signed by the consignor and is given to the carrier to keep. The second part is signed by both the consignor and the carrier and it accompanies the goods; while the third part is signed by the carrier and it is given to the consignor to serve as his receipt for his goods accepted for shipment or dispatch by the common carrier.
- (ix) *Delivery note (Despatch Note)*: The delivery note is almost and always used when the seller delivers goods by his own transport. It is sometimes used when goods are delivered by common carrier. A delivery note or despatch note is usually a copy of the invoice without prices which accompanies the delivery of goods. It enables the receiver to check the items received. If satisfied, the receiver then signs a copy of the note and hands it over to the deliverer as an acknowledgement of delivery.
- (x) *Shipping note*: This is a document or note addressed to the ports authority (the docks superintendent) by an exporter or consignor, and it accompanies the goods which are delivered to the docks for shipment. It contains instructions regarding the shipment, for instance, the details of the goods, the port of destination and the ship that will carry the goods. A copy of the shipping note which is signed and returned to the consignor is known as dock receipt/dock warrant/warfinger's receipt.
- (xi) *Certificate of insurance*: The certificate of insurance is a document which provides proof that the goods in transit have been insured against certain risks such as loss or damage. It is the exporter (consignor) who takes the insurance policy and sends the certificate to the importer (consignee) for his use in the event of any claim arising from any of the risks insured against.

24.5 Factors Determining Choice of Means of Transport

- (i) *Urgency of needs*: When there is urgent need for cargo, speed becomes the primary consideration; and despite the bulk of the goods and the high cost of transport, air transport may be preferred.
- (ii) *The weight of goods*: Under normal circumstances, bulky goods are sent by sea or by rail, while light goods are airlifted. Again, this depends on the emergency attached to their delivery.
- (iii) *Nature of cargo*: Fragile goods are better handled by sea transport. The label "Fragile! Handle with Care" could be inscribed on the packages. Perishable goods are better transported in refrigerated ships, while tankers are suitable for liquid product transportation.

- (iv) *Value of goods*: When goods are valuable and precious like jewels, airlifting may be more appropriate. Alternatively, if transportation is inland, precious goods could be carried in the firm's own vehicle.
- (v) *Distance involved*: Where distance is short, road transport by car may be quicker. However, if distance is long and roads are rough and rugged, trains or aeroplanes are more suitable.
- (vi) *Location*: Where the location of destination is remote, motor cars are capable of interior penetration. Transportation by rail or air could only be economical when such locations are close to railway stations and airports.
- (vii) *Costs of transportation*: Although economy in costs is the watchword of an entrepreneur, yet costs are weighed against other factors like convenience, urgency, nature of goods, and available means of transport.
- (viii) *Land or water transport*: An article which is transported by water, if it is from overseas, will just have to be moved by road or rail if it is to be transported from one part of the country to another.
- (ix) *Convenience*: This depends on the person's choice with regard to variety and availability of various types of transportation where he resides.
- (x) *Availability*: The type of transport readily available will be preferred to the one that is not readily available.
- (xi) *Customer's preference*: A customer may prefer one mode of transport to another and so may give instruction to that effect.

In general, the choice is not always an easy one. In most cases, more than one of the factors mentioned above are closely considered before taking a decision.

24.6 Facilities Offered by Nigeria Ports Authority (NPA)

Good ports are part of the infrastructural facilities that are necessary for the rapid economic development and speedy industrial take-off of a nation. This is why port congestion in Nigeria had adverse economic effect during the military regimes of Gowon and Murtala Mohammed. The care and control of Nigeria's ports are in the hands of the Nigerian Ports Authority (NPA) which performs the following duties.

- (i) It keeps the water channels clear by using dredgers.
- (ii) It provides lights and buoys on the navigation channels for use of ships.
- (iii) It provides loading and unloading facilities for all vessels.
- (iv) It makes available to all ships the rules and regulations in respect of prohibited anchorage, signals and lights; and all parameters of safety.
- (v) It provides facilities for maintenance work and ship repairs. In essence, the ports authority makes dry docks available to enable the ship engineers to work on the submerged parts of the vessel's hull.
- (vi) It renders towage services, using tugs to help large ships into and out of docks.
- (vii) It provides warehouses with up-to-date mechanical cargo handling equipment.
- (viii) It provides pilots that go on board to guide the ships to the harbour.
- (ix) It provides guards or security to monitor the movement of ships in and out of the ports.

- (x) It provides office space facilities for various organizations such as Customs, Immigration, Police, Public Health Department and Shipping Companies to carry out their daily activities.
- (xi) It provides commercial premises such as warehouses, bonded warehouses, grains elevators and other special facilities needed for certain purposes.
- (xii) It assists in effective handling of passenger's travelling: ports should provide landing stages, baggage, and passenger halls, and facilities for customs examination.
- (xiii) It collects dock duties as tolls on behalf of the government and operates general cargo and customs quays in most of the ports in Nigeria such as Lagos, Port Harcourt, Warri and Calabar.

24.7 Modern Ports' Equipment

To enable a modern port to discharge its function efficiently, the following equipment ought to be provided.

- (i) *Equipment for loading and unloading:*
 - (a) *Quay* are special solid spaces for loading and unloading.
 - (b) *Cranes and hoists* are special types of elevators for lifting heavy cargoes from and into vessels.
 - (c) *Suction elevators* are in form of enlarged vacuum cleaners. They are useful for handling loose grains or seeds.
- (ii) *Landing facilities:* The port layout must be such that would enable even the very large ships to engage conveniently in all their necessary manoeuvres in the course of handling all packages.
- (iii) *Storage facilities:* Provision must be made for temporary covers in form of transit sheds to house cargo that is being unloaded. Refrigerated warehouses must be available also for transportation and storage of frozen goods like meat, dairy products, vegetables, fruits and tobacco leaves.
- (iv) *Standardized containers:* Should also be available for storing away cases, crates, cartons, etc in order to decongest the docks all the time.
- (v) *Landing accounts:* These are very essential for keeping inventory of damaged cargoes. Information is passed from here to the owners of damaged cargo discovered on landing, so that responsibility for damage is not unduly passed to the ports authority. The accounts also keep records of all dock charges incurred on the cargo, and the importer is expected to pay the charges before he can be handed his goods.
- (vi) *Dock warrant:* This is a document of title like the bill of lading, which is issued and sent to the owner of the goods when such goods are being warehoused on arrival at the docks. A dock warrant is transferable by mere endorsement, in which case the title or ownership is equally transferred. Consequently, he who presents the dock warrant can lay claim to clearing the goods. If such goods are 'bonded', then the warrant holder must first pay the duties on such goods.

24.8 Nigerian Ports Authority's Relationship with the Department of Customs and Excise

The Department of customs and Excise which is operating under the Board of Customs and Excise is a revenue collection outfit of the Federal Government while the Nigerian Ports Authority (NPA) provides facilities for import and export by sea. The Department of Customs and Excise is always at the ports to collect revenue for the government in the form of import and export duties. The Department of Customs and Excise is a tenant of the Nigerian Ports Authority (NPA) whose facilities it uses to carry out its duties of import and export assessment for duties to be collected from importers and exporters and to prevent prohibited goods from entering or leaving the country.

Summary

- â€¢ *Means of sea transport:* There are different means of sea transport namely: engine boat, ferry boats, launches, ocean liners (passengers).
- â€¢ *Rivers and goods transport:* On the rivers there are coastal liners, tramp liners and special freighters.
- â€¢ *Canals:* The canals are man-dug waterways: the two most famous ones in the world are the Suez Canal and the Panama.
- â€¢ *Terms used in Sea transport:* In transport system, *consignor* is the sender of goods; while *consignee* is the person to whom the goods are sent. *Consignments* are the actual goods being sent. There are also peculiar terms in charter party, by which vessels are offered for hire, e.g. *time charter; lease charter; dead freight; and lump sum.*
- â€¢ *Factors influencing choice of means of transport:* These include nature of goods, urgency, value of goods, distance and costs of transportation among others.

Revision Questions

A. Essay Questions

1. Enumerate FIVE functions of Nigerian Ports Authority (*20 marks*)
2. Give FIVE advantages of transportation by pipelines
3. Briefly explain:
 - (i) coastal liners
 - (ii) ocean liners and tramp liners
4. (a) What are canals?
(b) Explain their advantages and disadvantages.
5. What factors would guide you as a business person in the choice of sending some goods from Lagos to Kano in Nigeria?

B. Objective Questions

1. The following are functions of customs authority Except
 - A. collecting custom duties on goods
 - B. collecting information on international trade
 - C. ensuring that prohibited goods are not imported
 - D. providing storage and warehousing facilities
 - E. supervising import and export trade

2. The control of harbour, docks, and waterways is by:
- Nigerian Customs & Excise
 - Nigerian Inland Waterways
 - Nigerian National Shipping Line
 - Nigerian Ports Authority
 - Nigerian Shippers Councils

(NECO 2002)

3. Which of the following provides harbours, berths and navigational aids to ships?
- Export Promotion Council
 - Shipping, clearing and forwarding agents
 - Ports Authority
 - Customs & Excise Authority

(WASSCE 2000)

4. A freight ship which travels wherever it can find cargoes to carry is
- liner
 - tramp
 - tanker
 - ferry
5. A document prepared by a shipmaster specifying the vessel, particulars of cargo and passengers on board is known as
- charter party
 - bill of lading
 - ship's manifest
 - customs declaration

(WASSCE 2000)

6. Which of the following services is not provided by the Customs and Exercise Authority?
- collection of import duties
 - improvement of ports facilities
 - checking of smuggling
 - control of goods in bonded warehouse

(WASSCE 1999)

7. Lighters are used for
- loading and unloading of aeroplanes
 - flaring natural gas
 - loading and unloading large ships
 - moving liquid and gases
8. The use of sealed metal boxes for transporting goods is known as
- standardization
 - containerization
 - bulk carrying

- D. packaging

(WASSCE 1999)

9. Which of the following does not influence the choice of a means of transport?

- A. Distance
- B. Value of goods
- C. Urgency
- D. Brand of vehicle

(WASSEC 2000)

10. Advantages of the use of pipelines in transportation

- A. idea for liquid substances
- B. a better alternative to road tankers
- C. can be damage or sabotaged
- D. economy in use of tanker drivers

Project

1. Write a real or an imaginary but interesting story of travelling in
 - (i) Tramp liners and
 - (ii) Coastal liners
2. Give a list of large sea vessels (ships) owned by
 - (i) Nigerians
 - (ii) The government of Nigeria
3. Find out about the facilities available in any part of Nigeria for repairs and services of sea vessels (boats and ships). Discuss this with anybody who can be of help in giving you this information.