

S4 GEOGRAPHY CONTINUATION..... [MR. BATTE AND MR. BUYONDO]

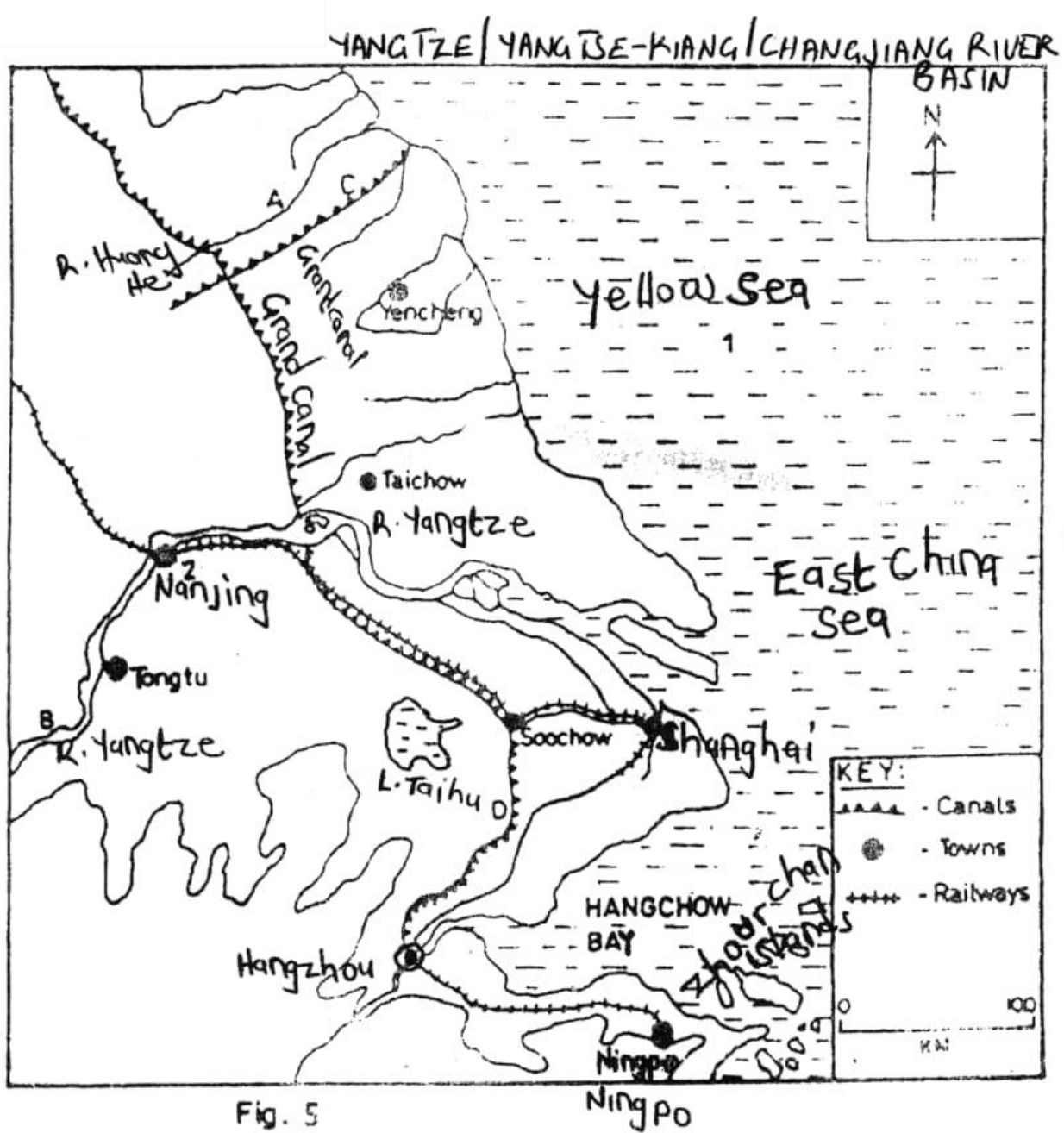
THE DEVELOPMENT OF THE YANGTZE (YANGTZE – KIANG) RIVER BASIN AND WATERWAY.

This is the longest river in Asia and the third longest in the world next to the Nile and Amazon Rivers. It stretches for 6300km long having its source in the Tibetan highlands and emptying her waters into the East China Sea. The Yangtze River is crucial to the agricultural development through provision of water and at the same time acting as a water way allowing mobility of goods and services in the country.

STEPS WHICH WERE TAKEN TO DEVELOP THE YANGTZE RIVER BASIN.

- ✓ Construction of strong dykes to cut off the East China Sea incursions (waves).
- ✓ Construction of numerous canals to facilitate the flow of water for agricultural lands for irrigation.
- ✓ Establishment of Many dams to provide water for generation of HEP for domestic and industrial use.
- ✓ Construction of numerous reservoirs to store water during the flood periods to be used during the dry season.
- ✓ Development of many embankments to control periodic flooding of the river.
- ✓ Regular dredging of some sections of the river to allow fast flow of the water.
- ✓ Construction of numerous bridges and culverts for easy transport and communication across the river.
- ✓ Construction of modern roads and railways to connect Yangtze basin to other parts of china.
- ✓ Widening the river valley in some sections to allow large ocean going vessels to utilize the river.

A SKETCH MAP SHOWING LOCATION OF THE YANGTZE RIVER BASIN.



BENEFITS OF THE YANGTZE KIANG RIVER.

- It provides water for extensive irrigation.
- It has opened up the interior of china through improving navigation on the river and the associated canals.
- It provides water for both domestic and industrial use.
- It has encouraged growing of crops throughout the year hence improving food production in the country.
- It has led to growth of towns due to the dense population attracted by the rich agricultural and industrial activities hence bringing urban like benefits to the people.
- It has promoted industrial development hence creating more job opportunities for the Chinese population.
- The river has attracted development of infrastructure such as roads and railways connecting the basin to the rest of the country hence improving mobility of goods and services.
- It has provided employment opportunities to the people who work on its maintenance as water way e.g. engineers earning them income to improve on their standards of living.
- It has promoted fishing activities thereby increasing food stocks for the people.
- Floods have been controlled on the waterway hence reducing periodic loss of human lives and property.
- The formerly unproductive land for agriculture has been turned into useful land through provision of water for irrigation hence encouraging optimum utilization of natural resources.
- The river is an important tourist attraction for students and recreation services earning foreign to the government of china a used for development.

PROBLEMS RESULTING FROM THE DEVELOPMENT OF THE YANGTZE RIVER BASIN.

- Loss of fertile alluvial soils due to the construction of the dam.
- Siltation of the river which requires periodic dredging that is very expensive and costly.
- Pollution of air, water and land by the established industries in the Yangtze River basin.
- Salination of the crop fields due to high evaporation and transpiration rates which reduces soil productivity.
- High spread of water borne diseases carried by vectors such as snails putting people's lives at risk.
- Displacement of the people by reservoirs created after construction of the dams.
- It led to water logging in the formally well drained areas.
- There is constant dredging of canals to reduce the silt which is very expensive.

SOLUTIONS TO THE PROBLEMS ABOVE.

- Dredging of the river and canals to reduce silting.
- Establishment of health services to treat the water borne diseases.
- Resettlement of the displaced people by the dams to new areas.
- Treatment of industrial wastes before releasing them into the environment to reduce pollution.

THE YANGTZE RIVER WATERWAY.

As earlier discussed, River Yangtze is the third longest in the world after Nile in Africa and Amazon River in Latin America. The river has provided one of the most important waterways in China facilitating the movement of goods and services from the coast to the interior of the country.

FACTORS THAT HAVE FAVOURED THE GROWTH AND DEVELOPMENT OF THE YANGTZE WATERWAY.

- Strategic location of the river connecting china to the greater pacific which made it very accessible for usage.
- Presence of the Yangtze River and navigable tributaries that made water transport possible along the river.
- Presence of a rich hinterland of central and southern china with a variety of goods and passengers to be transported.
- Presence of dams that control the natural flow of the river and depth which allows sailing of larger ships.
- The supportive government policy that aimed at diversifying the transport sector in china to reduce over dependence on roads and railway networks.
- The ice-free conditions of the river throughout the year which enables navigation from the interior to the pacific coast with minimum interference.
- The nearness of the waterway to the Pacific Ocean where large ocean going vessels are able to dock at the mouth of the river.
- Presence of advanced technology used to make navigation wagons for the transportation of goods and passengers.
- The booming trade and industrial development of china necessitates better transport for the bulky goods and raw materials hence encouraging development of the Yangtze River waterway.
- The rugged nature of the landscape in the mid-central region hindered easy construction of roads and railways, airports making water transport a necessity thereby developing the Yangtze River waterway.
- The need to improve accessibility in some remote villages in the interior of china necessitated construction of the Yangtze waterway.
- The growing rate of urban centers created need to improve accessibility to alternative transport means which could be met by developing the Yangtze water way.

IMPORTANCE OF THE WATERWAY TO THE DEVELOPMENT OF CHINA.

- It has led to development of towns such as Kunming, Shanghai and Nanjing with their related infrastructure which improve on people's standards of living.
- It has improved on inland shipping especially from Shanghai to Wuhan allowing movement of goods and services.
- The waterway promotes fishing activities within the river hence providing sources of food to the people.
- It has encouraged industrialization by providing water which acts as a coolant in the industries and at the same time, working as a raw material for the beverage and food processing industries.
- The waterway has generated employment opportunities to the ship captains, boat engineering which earns them income to improve their standards of living.
- The waterway has promoted tourism due to presence of a river with varied fauna and flora that attracts tourists hence earning foreign exchange to China used for development.
- The government earns a lot of revenue through taxation of the shipping companies which is used for development.
- The waterway has opened up the interior of China to the coastal towns like Shanghai allowing easy movement of goods and services within the country.
- It has attracted a large population within central China hence boosting tourism, agriculture and other economic activities.
- It has promoted international trade and relations between China and other countries due to its link to the outside world e.g. North America and Africa via the Pacific Ocean allowing the inflow of foreign aid into the country.

PROBLEMS FACED BY THE WATERWAY.

- Sedimentation and silting which narrows the waterway for large ships.
- The source of the river in the Tibetan plateau makes the section un-navigable due to the ruggedness of the relief.
- The ongoing power project interrupts the natural flow of the water affecting navigation as well.
- The waterway lacks capacity in some inland parts which limits the movement of large ships that cannot dock there.
- Presence of wild aquatic plants which disrupt navigation leading to loss of goods and passengers.
- Dangerous wild animals along the waterway e.g. crocodiles and hippos which claim people's lives.
- Fluctuation of the water levels especially in the north which affects the size of the sailing ships.
- Congestion on the waterway leading to delays in delivery of goods and services. Flooding during summers making some sections of the river dangerous for navigation.
- Presence of narrow valleys with gorges which limit the size and carrying capacity of the ships.
- Some tributaries of the river are not navigable due to rapids, waterfalls and freezing.

- Industrial waste discharge which pollutes the river making it unhealthy for navigation purchases.

SOLUTIONS

- Timetabling of the ships is done to reduce congestion along the waterway.
- The system of containerization is used on ports such as shanghai to minimize delays.
- Regular dredging is done to reduce solve the problem of sitting
- Establishment of health centers to water borne diseases of affecting the people along the waterway.
- Construction of canals where waterfall and rapids exist to enable passage of water vessels.
- Treatment of industrial waste before dumping them into water bodies to reduce pollution.
- Using alternative means of transport such as water and roads to reduce congestion on the water way.

INDUSTRIALIZATION IN CHINA.

Industries and construction account to about 48% of China's G.D.P and it ranks second in industrial output worldwide. Today china has become a preferred destination for the relocation of global manufacturing facilities due to the abundant skilled labor and a wide market.

THE MAJOR INDUSTRIAL REGIONS OF CHINA.

- ❖ **MANCHURIA.** This is the greatest industrial complex in Asia located in the north east of the country. The Manchuria region is known for heavy industries such as iron steel, engineering, automobiles, factory equipment and chemical industries. The development of industries in this region is based on large deposits of iron ore.
- ❖ **TIANJIN-BEIJING.** This is well known for ship-building, textiles, and chemicals and metallurgical, together with engineering industries. Industrial development here is based on coal in the Shanxi and Hubei regions.
- ❖ **SHANXI –BAOTAN/ SHANSI- PAOTOU.** This has industries like agricultural equipment, iron and steel, chemicals etc. This region has the largest coal fields in china and large qualities of iron ore.
- ❖ **LOWER CHANG- JIANG/YANGTZE- Kiang.** This has industries like textiles, mills, oil refineries, shipyards, still plants engineering etc.
- ❖ **WUHAN AREA.** This has iron and steel, railway equipment, ship building, chemical machinery etc.
- ❖ **XI-GIANG/ SI-KIANG DELTA AREA.** This is located at the mouth of River Sikiang with industries like chemicals, breweries, food processing, textiles, ship building etc.

FACTORS WHICH HAVE FAVOURED INDUSTRIAL DEVELOPMENT IN CHINA.

- Presence of large pieces of land for setting up industries and the related infrastructure.
- Presence of large volumes of water from river such as Huang Hi, Yangtze, Sikiang which used for cooling machine and acting as a raw material for breweries and food processing industries.
- Presence of a variety of power sources such as HEP and Coal used for the running of the industries.
- Presence of a variety of mineral resources used for setting up and running industries by acting as raw materials e.g. iron ore in the Manchuria region.
- Availability of abundant cheap skilled labor provided by the large population of china engaging in the extraction of raw materials, processing them and marketing of produce.
- The ongoing innovation of the Chinese people in relation to appropriate technology and use of substituted raw materials has boosted industrial development.
- Presence of large sums of capital used to invest in industries through buying raw materials, machinery, payment of workers and securing storage facilities.
- Availability of a ready market provided by the large population of china and outside the country for the industrial products manufactured.
- The supportive government policy that aims at promoting both light and heavy industry for the provision of consumer goods where the government has offered tax holidays and industries.
- The well-developed transport network for not only transporting raw materials and finished goods but also linking industries to potential market centers.
- The prevailing political stability in china which has attracted both domestic and foreign investors into the industrial sector.
- The foreign policy of china that encourages overseas investments has promoted extensive market for Chinese industrial products.

CONTRIBUTIONS OF THE INDUSTRIAL SECTOR TO THE DEVELOPMENT OF CHINA

POSITIVES

- The government earns a lot of foreign exchange through exportation of industrial products which is used to fund the development of the country.
- Industrial workers earn a lot of income which has helped to improve on their living standards.
- There has been international trade and relation between china and her trade partners which has widened market for her products from other economic sectors.
- It has generated employment opportunities to the Chinese people ranging from raw material production to processing and sale of consumer goods which earns them income to improve on their living standards.
- It has helped expand and construct infrastructure in china ranging from roads to railway network allowing mobility of goods and services in the country.

- It has provided revenue to the government through taxing workers imported raw materials and exported finished goods and services which is used to develop other economic sectors.
- There has been provision of consumer goods and services for both, domestic and foreign consumption which has improved peoples living standards.
- There is increased market for agro-based products which work as raw materials in the industries which has helped to expand the agricultural sector.
- It has promoted acquisition of skills for industrial workers such as driving, accounting, engineering skills which help to improve on the working standards of the Chinese.
- It has promoted urbanization in the industrial areas with related advantages such as better roads, schools and hospitals e.g. Beijing.
- It has promoted self sufficiency of china reducing capital outflow in form of importation of industrial goods.
- It has diversified the economy of china thereby reducing overdependence on mining and agriculture.

NEGATIVES.

- Pollution of the environment by releasing industrial toxic wastes into the air, land and water.
- Releasing of smoke and fumes from the industries has increased carbon dioxide concentration to the atmosphere leading to global warming.
- Profit repatriation by the foreign countries in USA, Germany and Britain which reduces development options for china.
- Displacement of people with small or no compensation.
- Land degradation through construction of industries and related infrastructure like roads as well as mining which leaves behind hollows and pits.
- It has led to destruction of vegetation cover in order to provide land for establishment of industries.
- Urban, related problems such as congestion, high crime rate and slum development.
- It has led to the distortion of soil profile through extraction of minerals such as iron ore and coal.
- Easy spread of respiratory diseases such as lung cancer from industrial fumes and mines which have claimed people's lives.
- Industrialization has created land shortages for other economic activities in the country such as agriculture and forestry.
- Soil exhaustion is experienced in an effort to extract raw materials from the ground.

PROBLEMS FACED BY THE INDUSTRIAL SECTOR IN CHINA.

- Limited energy for industrialization.
- Mineral potential is limited due to over exploitation of oil and iron ore.
- Limited skilled labor in heavy industries due to the risks involved which scare away workers.

- Competition with high quality goods from Japan, Germany and U.K reducing the market potential for Chinese goods.
- Protectionist policies against Chinese industrial inputs in countries like Germany U.S.A.
- They suffer high production costs of industrial goods due to the long distance from china to the major countries where the exports are sold.
- Manufactured goods are very expensive and costly their marketing difficult.
- Harsh winter conditions which lead to closure of some ports like shanghai
- China has limited entreports leading to congestion and delays at Hong Kong.
- Sea pirates are a great problem since they affect the movement of cargo to the destined area.

SOLUTIONS.

- Importation of raw materials to reduce their shortage.
- Construction of modern transport routes to ease transportation of manufactured goods.
- Strengthening police and security agencies to overcome the problem of pirates.
- Importation of materials and raw materials to supplement the few available ones.
- Producing high quality goods to overcome international competition.
- Hiring migrant labor to overcome the problem of labor shortage.
- Creating international relations to reduce the efforts of protectionism against Chinese industrial goods.
- Encouraging foreign investors to inject more capital into the industrial sector.

THE MANCHURIA INDUSTRIAL AREA.

This is the largest industrial complex in China and on the Asian landmass. The region is located north-east of China and it has become an important global industrial center due to its minerals potential of coal, iron ore and magnesium coupled with the rich agricultural sector where the communes exist. The Manchuria industrial area is well known for the iron and steel industries, factory equipment, engineering, automobiles and chemical industries.

The region is strategically located and well linked to the France-Siberian railway which connects China to potential markets in Russia and Europe.

N.B. The sketch map of Manchuria shall be drawn later in class and for the factors favoring industrialization in Manchuria, benefits of industries, problems facing the sector and their solutions, refer to the previous general notes of industries in China.

URBANIZATION IN CHINA.

China's urbanization began almost 4000 years ago and in fact, villages had begun to appear in the river valleys 1000 years before that by the end of the 1940's china had a total of 59 cities and by 2007, the number had increased to 670 cities due to migration of people from villages as well as natural increase. The major cities in the country today include Beijing, Shanghai, Hong Kong, Canton, Manchuria, Nanjing, Guangzhou etc.

FACTORS THAT HAVE FAVORED THE GROWTH AND DEVELOPMENT OF URBAN CENTERS IN CHINA.

- Favorable geographical location of urban near the Pacific Ocean making them very accessible with easy contact of foreign trade e.g. Beijing shanghai and Hong Kong.
- Presence of hard basement rocks that laid a firm foundation for the construction of commercial buildings as well as heavy infrastructure in Wuhan and Shanghai.
- Presence of the rich agricultural hinterland of central and east china with well-established communes providing food and raw materials for the urban centers like Beijing and shanghai.
- Presence of a variety of minerals such as crude oil, coal, iron ore, manganese etc. which attracted settlements and industries leading to urban development.
- Existence of large scale industries which employ large populations that in turn attract a basic infrastructure and services.
- The well-developed transport and communication systems for easy movement of goods, services and people such as air, railway and roads.
- Supportive government policy of encouraging regional uniform development from trade, agriculture and industry which saw some urban centers located away from the coast.
- The existing large population provided ready market and labor for the development of industries and agriculture in the cities.
- Influence of former empires such as the grand khan, that set up royal capitals which were later transformed into administrative cities e.g. Beijing.
- The relatively flat land for easy construction of structures and infrastructure e.g. Wuhan in the Sikiang basin.
- Presence of extensive land which enabled expansion of urban centers like Beijing and Hong Kong.
- Availability of abundant water supply for both domestic and industrial use from rivers such as Sikiang and Huang Hi which led to development of cities along the river valleys.
- Presence of large sums of capital to invest in construction of urban infrastructure such as airports and railways in Beijing and shanghai.
- Historical factors e.g. the building of the great china wall which provided security for the natives attracting industries and settlement in cities like Beijing.

CHALLENGES/ PROBLEMS OF URBANIZATION IN CHINA.

- Limited jobs due to a large number of job seekers other than job creators.
- Limited land for the expansion of urban areas due to the growing population and infrastructural development.
- Rural –urban migration with related problems like unemployment high crime rate and easy spread of contagious diseases.
- Congestion of traffic causing delays in delivery of goods and services.
- Increasing pressure on the available social amenities such as hospitals, schools, roads etc.
- Pollution of the air, water and land due to the increasing domestic and industrial discharge leading to high costs of water purification.
- Climate change where polar ice bergs are melting away increasing ocean water levels that lead to flooding in Hong Kong and Shanghai.

- Energy consumption is too high leading to high costs per unit.
- Increasing levels of income inequality between the rich poor in terms of property ownership and accessibility.
- Food shortages due to limited land for farming.
- High crime rates which put people's lives at risk e.g. robbery
- There is poor sanitation and hygiene leading to low living standards and easy spread of diseases.
- They are faced with slum development characterized by low living standards of people.

SOLUTIONS

- Building sky scrapers to economise space.
- Diversification of the economy to absorb the surplus labour.
- Putting in place anti-pollution laws to curb down the levels of pollution.
- Importation of food to feed the additional urban population
- Destruction of slums and putting up new modern houses to improve people's living standards.
- Construction of flyovers and tunnels to reduce traffic congestion
- Establishment of health centers and hospitals to treat the diseases.
- Construction of low cost good houses affordable by poor citizen to reduce slum development.
- Restricting rural-urban migration to reduce congestion in the cities.
- Encouraging afforestation and reforestation to deal with the problem of climate change.

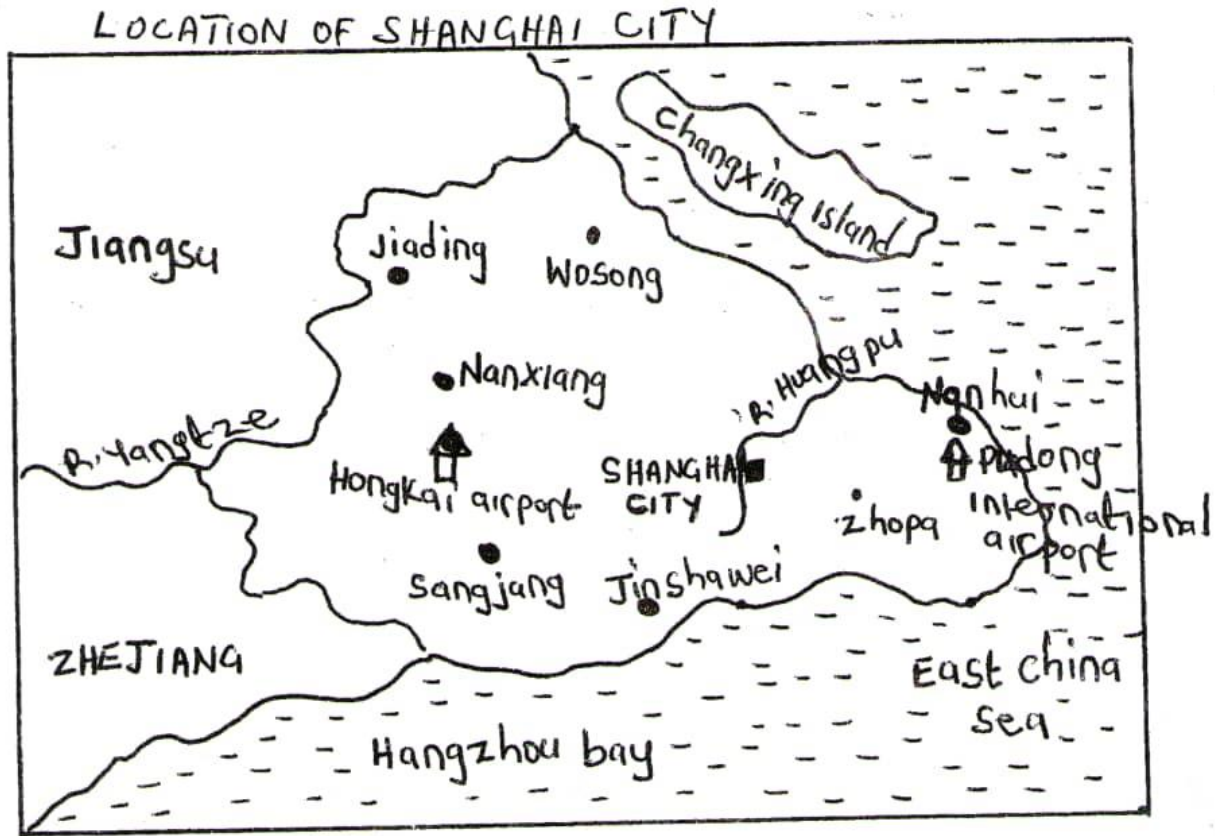
EFFECTS OF URBAN CENTERS ON THE ENVIRONMENT.

- Pollution
- High costs of production
- Straining of the social amenities
- Encroachment of water bodies
- Loss of natural vegetation by construction of infrastructures.
- Global warming due to industries in the cities.
- Swamp reclamation and drainage leading to loss of bio diversity.
- Unemployment.

SHANGHAI CITY.

Shanghai is situated at 31°-41° North latitude and 121°29° east longitudes. The city whose name literally means on the sea is located on the east china coast just to the mouth of the Yangtze River. Shanghai is washed by the East China Sea in the east and Han-Hang – Zhou bay in the south. It is one of the multicultural centers of china with both modern and traditional Chinese features.

ASKETCH MAP SHOWING THE LOCATION OF SHANGAI CITY.



FUNCTIONS OF SHANGHAI CITY.

- It is an industrial center with manufacturing and processing industries such as textiles, iron and steel, food processing.
- It is a sea port handling imports and exports of china.
- It is a commercial and financial center with banks, shopping malls and insurance companies.
- It is a leisure and entertainment center with stadiums restaurants, permanent buildings and the Mercedes bens arena.
- It is a transport and communication center with airports, roads, railways and subways e.g.
- It is a cultural center with traditions, palaces and galleries.
- It is an education center with universities and colleges e.g. Shanghai institute of biochemistry.
- It is a tourist center with a variety of museums and the ancient Chinese architectural designs.
- It is a medical/health center with a variety of hospital.
- It is an administration center having the headquarters of shanghai province.

IMPORTANCE OF URBAN CENTERS IN CHINA (SHANGHAI)

- It has promoted the import and export trade between china and her trade partners since it is a port.
- It has facilitated industrial development on foreign imports and markets.
- Many jobs have been created for the Chinese people ranging from administration to those in service delivery.
- A source of foreign exchange brought in by foreign trade and tourism.
- It is a source of government revenue by imposing taxes on workers and industries.
- It has led to infrastructural development e.g. roads, railways, port facilities.
- It has also promoted international trade and relations since it acts as a port through which imports and exports are handled.
- It has greatly improved on the beauty of china due to the existing infrastructure, annual and ethnic festivals.
- It is a source of academic phenomena of the landscape, vegetation, trade and commerce etc.