

Lisha

HUMAN GEOGRAPHY OF EAST AFRICA FORESTRY

Forestry refers to the science of developing, managing and conserving forests. A forest is a collection of trees growing together in a given place either occurring naturally or planted by man.

Types of forests

Forests are broadly divided into two types;

- (a) Natural forest.
- (b) Plantation forest.

Natural forests

These are forests which grow naturally due to the existing environmental conditions. These forests have a variety of hard wood tree species e.g. mahogany, red heart, Ebony, green heart, stinkwood, rosewood oak etc.

Examples of natural forest in East Africa include Mabira forest, Budongo forest, Bugoma, Maramagambo, Marabigambo, Bwindi impenetrable forest, Kalinzu - Kasyoha, Ssesse, Kibale, Rwenzori etc in Uganda.

In Kenya and Tanzania natural forests are mainly found on the slopes of Mt. Kenya and Mt. Kilimanjaro.

Plantation forests

These are forests which have been deliberately planted by man either in areas where previously covered by natural forests or in completely new areas.

Most plantation forests are covered by exotic tree species e.g. Eucalyptus, pines, cyprus, podo etc. Examples of plantation forests in East Africa include Lendu, Muko, Abera Agwata, Mafuga, katera etc in Uganda.

In Kenya soft wood plantations are found at Lugari, Kakamega in western Kenya.

PROBLEMS HINDERING EXPLOITATION OF FORESTS IN EAST AFRICA

- Valuable tree species do not appear in pure stands making exploitation difficult.
- Hard wood timber is bulky thus difficult to transport to market centres.
- Pests and diseases which attack and destroy specific tree species thus affecting the quality of forest products.
- Forests fires which destroy large areas of forest cover.
- Most of the indigenous tree species take long to mature which limits constant exploitation.
- There are very few tree species of a high commercial value leading to low demand.
- Most of the natural forests are located in remote areas which makes transportation of forest products difficult.
- Inadequate capital to purchase modern machinery to be used in forest exploitation.
- Shortage of skilled labour to carry out forest exploitation.
- Unfavourable climatic changes e.g. prolonged drought which lead to stunted growth of trees.
- Accidents which occur during tree felling causing death to workers.

Study the table below showing area under forest cover in East Africa
East Africa: Areas under forest cover (000's ha) 1980 - 2000

Countries	1980	1990	2000
Uganda	7,011	64,000	6,104
Kenya	1,358	1,309	1,292
Tanzania	38,004	34,123	32,510
East Africa	46,373	41,832	39,906

- (a) Draw a line graph to show the trend of forest cover destruction in East Africa.
- (b) Calculate the percentage change in the area under forest for each country.

CAUSES OF RAPID FOREST DESTRUCTION IN EAST AFRICA

- Increased demand for timber for the construction industry.
- Population increase leading to increased demand for land for settlement.
- Increased level of industrialization leading to clearance of forests.
- Increased need for fuel resources like firewood and timber.
- Outbreak of forest fires which destroy large areas of forest land.
- Increased demand for furniture and other forest products.
- Pests and diseases which attack and destroy specific tree species.
- Weak government policies on forest conservation.
- Over dependence on charcoal and firewood due to limited alternative sources of fuel.
- Damage caused on forests by grazing animals e.g. elephants.
- Poor methods of logging resulting into wastages.
- Unfavorable climatic changes e.g. prolonged drought.

MEASURES OF CONSERVING FORESTS IN EAST AFRICA

- Encouraging afforestation and re-afforestation programmes.
- Encouraging people to use alternative sources of fuel e.g. bio-gas HEP etc.
- Ensuring regular forest patrols to curb down illegal tree cutting.
- Sensitizing/educating masses on the dangers of forest destruction.
- Training forest personnel to manage and conserve forests.
- Introducing exotic tree species which are first maturing to meet the increasing demand for forest products.
- Encouraging people to use selective methods of tree cutting.
- Spraying the affected trees with chemicals to combat the effect of pests and diseases.
- Encouraging the use of alternative building and constructing materials e.g. metallics.
- Establishing various authorities e.g. National Forest Authority (NFA) to manage and conserve forests.
- Encouraging agro-forestry.
- Gazetting/setting aside more forest areas as forest reserves.
- ~~Setting and enforcing strict laws against forest encroachers.~~
- Controlling population growth by encouraging use of birth control measures.
- Campaigning against de-gazetting of forest areas.

EFFECTS OF FOREST DESTRUCTION ON THE ENVIRONMENT

- It leads to reduction in the amount of rainfall hence desertification.
- Leads to accelerated soil erosion.
- It leads to reduction in soil fertility and productivity.
- It exposes the land to mass wasting/landslides.
- Leads to destruction of habitats of wild life.
- It leads to flooding due to silting of rivers.
- It results into pollution of water bodies with silt from areas where forests have been cleared.
- It leads to destruction of valuable tree species.
- It leads to decline in wood fuels and energy for industrial and domestic use.

N.B: Draw a sketch map of East Africa showing major forests

POPULATION IN EAST AFRICA

The term population refers to the total number of people living in an area or country at a given period of time.

The total population of any given country is obtained through conducting regular population census. The population census is usually conducted every after 10 years.

According to the 2014 population census, Uganda's population is at 34.6 million people.

Population related terms

Population census: This is the counting of the number of people in an area at a particular time.

The main purpose of population census is to plan services of the people.

Population density: This is the average number of people living per unit area of land usually a square kilometer.

Example: Given Uganda's total population is 34.6 million and her total land area is 244,400 km². calculate her population density.

$$\text{Density} = \frac{\text{Total population}}{\text{Total land area}}$$

$$\text{Density} = \frac{34,600,000}{244,400}$$

$$= \underline{141.6 \approx 142 \text{ people per sq km}}$$

Population growth: This is the increase or change in the number of people living in the country.

Population growth rate: It refers to the rate at which population changes/increases over time. The population growth rate for East Africa is estimated at 3.2%.

Birth rate: It refers to the number of live births per 1000 of total population in a year.

Death rate: It is the number of people who die per 1000 of the total population in a year.

Fertility rate: It is the average number of children a female being can bear in her productive life i.e. usually between 15 – 45 years.

Life expectancy: It is the average age at which most people in a country die.

Infant mortality rate: It refers to the number of new born babies who die before reaching age of one year per a thousand of the total population.

Maternal mortality rate: It refers to the number of pregnant women who die per a thousand of the total population per year.

Over population: It refers to a situation where the number of people in the country is more than the available resources to support them.

Under population: It refers to a situation where the available natural resources are more than the existing population to exploit them.

Optimum population: It refers to a situation where the existing population is equal to the available natural resources.

POPULATION GROWTH IN EAST AFRICA

The population of East Africa has been rapidly increasing over the past years at a high rate. The average population growth rate for East African countries is said to be 3% per annum.

The table below shows East Africa's total population between 1994 to 2001.

Year	1994	1995	1996	1997	1998	1999	2000	2001
Population in m	73	76	78	80	82	84	86	88

- (a) Draw a line graph to show the trend of population growth in East Africa between 1994 and 2001.
- (b) (i) Describe the trend of population growth in East Africa between 1995 to 2001.
(ii) Calculate the percentage change in East Africa's population between 1994 and 2001.

CAUSES OF RAPID POPULATION GROWTH IN EAST AFRICA

- High fertility rate among women.
- Early marriages hence women start producing early.
- High birth rates.
- Low death rates due to improved medical facilities.
- Religious beliefs opposed to the use of birth control methods e.g. the catholic religion.
- Cultural practices like polygamy thus women compete in giving birth.
- Social and cultural beliefs which make people to believe in large families e.g. girls are seen as a source of wealth through paying dowry.
- Decrease in maternal mortality.
- Decrease in infant mortality rates.
- Improved nutrition trends.
- High rate of immigration from neighboring countries affected by civil wars e.g. south Sudan, Congo etc.
- High levels of ignorance on the use of birth control measures.
- Low levels of education leading to early marriages.
- Presence of a large female population compared to the male population.

MEASURES OF CONTROLLING HIGH POPULATION GROWTH

- Encouraging use of birth control methods to reduce birth rates.
- Discouraging cultural practices like polygamy.
- Formulation and enforcement of strict laws regarding early marriages.
- Sensitizing the people on the dangers of a large population size.
- Putting in place strict measures to reduce on the number of immigrants.
- Encouraging voluntary outward migration.
- Subsidizing small families and taxing the big families.
- Educating masses on the use of family planning methods.
- Encouraging women and girl-child education.

ADVANTAGES OF A LARGE POPULATION SIZE

- It creates a large tax base which increases government revenue.
- It provides a large labour force required in exploitation of natural resources which facilitates economic development.
- It provides a large market for goods and services produced within a country.
- It facilitates maximum utilization of resources in the country for economic development.
- It encourages investment in the country.
- It encourages development of social and economic services e.g. schools, hospitals, roads etc.
- It provides a large security force to defend the country.

DISADVANTAGES OF A LARGE POPULATION SIZE

- Results into encroachment on forests, wetlands etc in search of land for settlement and agriculture.
- It results into high levels of unemployment leading to under development.
- It increases pressure on social and economic services thus becoming costly to provide and maintain.
- It results into high crime rates e.g. robbery, drug abuse, pick pocketing etc.
- It increases poverty levels due to high dependency ratios.
- It results into land shortage leading to land fragmentation and land conflicts.
- It results into slum development due to poor housing facilities.
- It leads to over use of the land resulting into soil exhaustion.
- It leads to moral decay and loss of cultural values especially in urban areas.
- It results into overcrowding which increases the chances of spreading diseases.
- It results into scarcity of food leading to famine e.g. in urban areas.
- It leads to destruction of habitats for wild life to create room for settlement.
- It increases government expenditure on social and economic services to cater for the excess population.

MEASURES WHICH CAN BE TAKEN TO SOLVE THE PROBLEM OF A HIGH POPULATION

- Encouraging use of family planning methods to reduce birth rates.
- Education and awareness to the people on how to control population growth.
- Adopting land consolidation programmes to avail land to the landless population.
- Encouraging industrialization to create more employment opportunities.
- Provision of low cost houses to low income earners to solve housing problems.
- Diversification of the agricultural sector to produce more food stuffs to cater for the growing population.
- Strengthening the local police to handle the high crime rates.
- Provision of social amenities to the growing population.
- Effective utilization of space to reduce congestion.

DISADVANTAGES OF A SMALL POPULATION SIZE

- It discourages investment in the country.
- It discourages the development of social and economic services e.g. hospitals, roads, schools, etc.
- It limits the market for goods and services produced in a country.
- It leads to shortage of labour in the various sectors to exploit the natural resources.
- It leads to low levels of revenue collected in the country because of a small tax base.

POPULATION DISTRIBUTION IN EAST AFRICA

East Africa's population varies greatly from one area to another. Some areas are densely populated; others are moderately populated while others are sparsely populated.

Areas with high population densities in East Africa include

- Areas around the shores of Lake Victoria.
- Kenya highlands,
- Kigezi highlands in south western Uganda,
- Slopes of mountain Elgon and Rwenzori,
- Southern highlands of Tanzania e.g. Kipengere ranges etc
- Islands of Zanzibar and Pemba along the East African coast.
- Coastal ports like Mombasa, Kilwa, Tanga, Mtwara etc
- Major towns and cities e.g. Kampala, Nairobi, Dodoma, Dar-el-Salaam, Kisumu, Nakuru, Eldoret etc.

- **Areas with moderate population density in East Africa include**
- The northern parts of Uganda covering districts like Gulu, Lira etc.
- Some parts of the rift valley in Kenya and Tanzania.
- Areas between the coast and Nairobi in Kenya, western region covering districts like Hoima, Kibale etc

- **Areas with sparse population density in East Africa include**
- North eastern Uganda covering districts like Kitgum, Kotido, Moyo, Karamoja etc.
- North and North eastern Kenya covering areas like Marsabit, Lodwar, Wajir, Turkana land, Mandera etc.
- Western and central Tanzania covering the Miombo woodlands,
- Southern Tanzania,
- Ankole - Masaka dry-corridor.
- The Lake Albert region in western Uganda.

FACTORS INFLUENCING POPULATION DISTRIBUTION IN EAST AFRICA

Population distribution in East Africa is influenced by both physical and human factors which include the following.

(a) Physical factors

Climate

It is the major factor that influences population distribution in East Africa.

Areas which receive heavy and reliable rainfall throughout the year that supports crop cultivation attract dense settlements e.g. shores of Lake Victoria.

Areas which receive little and unreliable rainfall e.g. north eastern Uganda, northern Kenya etc discourage settlement and are sparsely populated.

Fertile soils

Areas which have fertile soils that support crop cultivation e.g. the volcanic highlands of East Africa attract dense settlements.

Areas with infertile soils e.g. central Tanzania, northern Kenya etc discourage settlement and are sparsely populated.

Relief

Gentle slopes are well drained and have deep fertile soils which encourage crop cultivation and thus are densely populated.

Flat and low land areas e.g. swamps are poorly drained and therefore discourage settlement leading to low population density.

Steep slopes of highlands discourage settlement because of severe cold conditions and are therefore sparsely populated.

Vegetation

Areas with thick forests, woodlands, swamps, bushlands etc are unfavourable areas for human settlement because they harbor dangerous wild animals and disease vectors e.g. tsetse flies in the Miombo woodlands of Tanzania.

Biotic factors

Areas which are infested with pests and disease vectors like the tsetse flies discourage settlement and are therefore sparsely populated e.g. Miombo woodlands of Tanzania, Hoima and Masindi districts of Uganda.

(b) Human factors

- Presence of mineral deposits. Areas with large mineral deposits and mining centers e.g. Magadi in Kenya, Kasese in Uganda, Shinyanga in Tanzania etc attract many people for the available job opportunities leading to high population density.

- Historical factors: Areas which were severely affected by slave trade activities e.g. southern Tanzania are sparsely populated.

- Areas which were capitals of ancient kingdoms e.g. Kampala for Buganda, Kabarore for Toro Hoima for Bunyoro etc attract many people and are therefore densely populated.
- Urbanisation and industrial development. Urban and industrial centers like Nairobi, Kampala, Mombasa, Dar-el-Salaam etc attract many settlements because of the various economic activities and therefore are densely populated.
- Government policy: Areas which have been gazzeted by the government as national parks, game reserves, forest reserves etc are sparsely populated because of restricted human settlement.
- Setting up of settlement schemes by the government i.e. in Kiryandongo district has led to dense settlements.
- Transport with improved transport and communication networks attract dense settlements because of the easy mobility of the people.
- Areas with poorly developed transport systems e.g. southern Tanzania, North eastern Uganda discourages settlement and are sparsely populated.

N.B. Draw a sketch map of East Africa showing population distribution

POPULATION MIGRATIONS

Population migration refers to the movement of people from one place to another.

Types of population migration

- Rural – urban migration.
- Urban – rural migration.
- Urban – urban migration.
- Rural – rural migration.

RURAL – URBAN MIGRATION

This is the movement of people from villages to towns.

Causes of Rural – urban migration (Push factors and pull factors)

- Urban areas have more economic activities than rural areas which causes people to move from villages to towns.
- Better educational facilities e.g. improved schools which are found in urban areas have forced people to move away from villages to towns.
- Existence of better paying jobs or employment opportunities which are adequate in urban centers than in rural areas.
- Improved medical facilities in urban areas have forced rural people to migrate to towns.
- The young people migrate to towns because they are running away from their cultural norms e.g. women circumcision, heavy bride price etc.
- Improved social services in towns like roads force people to migrate from villages to towns.
- The good standards of living in urban areas also causes rural – urban migration.
- Conflicts and political instability causes people to migrate from villages to towns and vice-versa.
- Presence of better security in urban areas than in rural areas also causes rural – urban migration.

EFFECTS OF RURAL – URBAN MIGRATION

- Unemployment due to the wide spread population in urban areas.
- Inadequate social amenities like hospitals, recreation facilities which leads to poor standards of living.
- It brings about creation of slums in urban areas characterized by poor health conditions.
- It reduces market for goods and services in rural areas.
- It also brings about regional imbalance where most rural areas are left under developed than urban areas.
- Overcrowding with associated poor sanitation may arise.
- Environmental degradation where forests, swamps are cleared for settlement.

- It also causes environmental pollution e.g. water pollution, air pollution etc brought about by industries and noise pollution due to running machines in urban areas.
- It increases government expenditure in providing social services.
- There is increased crime rate due to the increase in population in urban areas.

MEASURES OF CONTROLLING RURAL – URBAN MIGRATION

- Relocation of industries to rural areas in order to provide employment to rural people so as to reduce rural – urban migration.
- Training rural people on application of better methods of farming.
- Restoration of peace and security in rural areas to curb down the crime rate.
- Seminars and workshops have been conducted to sensitize people on the dangers of rural – urban migration.
- Training of job creators rather than job seekers has been done so as to control rural – urban migration.
- Extension of similar social and economic amenities in rural areas

WILDLIFE CONSERVATION AND TOURISM IN EAST AFRICA

Wildlife refers to both plants and animals in their natural habitats. It includes both flora and fauna. The animals include mammals, reptiles, and birds etc which live in forests, woodlands, grasslands and water.

Wildlife is the leading form of tourist attraction in East Africa.

Wildlife tourist attractions can be found in gazetted areas such as national parks, game reserves, sanctuaries, zoos, forest reserves etc.

MAJOR NATIONAL PARKS AND GAME RESERVES IN EAST AFRICA

A national park is a large protected area where wildlife is conserved and managed.

National parks are directly controlled and managed by the government. In these areas, settlement and hunting are strictly prohibited.

Most of the national parks and game reserves are located in areas which experience little and unreliable rainfall with sparse population.

UGANDA

The major examples of national parks in Uganda include the following;

1. Murchison fall National Park

It is the largest national park in Uganda covering an area of about 4,000 square kilometers.

It has a wide variety of wild life in form of animals e.g. elephants, buffaloes, lions, giraffes, antelopes, hippos and crocodiles.

Tourists here enjoy activities like game drives, boat rides, bird viewing, water rafting at the Murchison falls etc

2. Queen Elizabeth National Park

It is the second largest national park in Uganda covering an area of about 2,000 square kilometers.

It has a wide variety of tourist attractions which include animals like elephants, lions, leopards, buffaloes, kobs, chimpanzee, monkeys, the giant forest hog etc.

Other tourist attractions in the park also includes lakes like Edward and George, the Kazinga channel, crater lakes and a wide variety of birds including large flocks of flamingoes in lake Munyanyange

Tourists here enjoy activities like game watching, boat rides on the Kazinga channel, bird watching, forest tracking, swimming.

3. Kidepo Valley National Park

It is found in north eastern Uganda (Karamoja region) covering an area of about 1,400 square kilometers.

It has a wide variety of animals e.g. lions, giraffes, leopards, hyenas, elephants, buffaloes, zebras, antelopes and a number of bird species e.g. ostriches.

4. Lake Mburo National Park

It is located between the towns of Masaka and Mbarara in western Uganda. It covers an area of about 260sq km.

Major tourist attractions in the park include animals like zebras, antelopes, impalas, hippos, crocodiles and a variety of birds like the kingfishers, eagles etc.

5. Bwindi National Park

It is found in south western Uganda and covers an area of about 33 square kilometers.

The major tourist attractions here include the Bwindi impenetrable forest, mountain gorillas, a variety of birds, monkeys, waterfalls etc.

Tourists in this park enjoy activities like gorilla tracking, bird watching, forest tracking etc.

6. **Mountain Elgon National Park**

It is found in north eastern Uganda and covers an area of about 1500 square kilometers.

Major tourist attractions here include forest monkeys, antelopes, buffaloes, elephants, zebras, bamboo forests and Mt. Elgon.

7. **Rwenzori National Park**

It is found along the western boarder of Uganda and covers an area of about 1000 square kilometers.

Tourists are attracted here by mountain climbing. It also has monkeys, chimpanzee, a variety of birds and varicd vegetation e.g. bamboo forests, heath and moorland at the high altitudes.

8. **Semliki National Park**

It is located in Bundibugyo on the Congo boarder and covers an area of 220 square kilometers.

Tourist attractions in this park include forest buffaloes, elephants, leopards, hippos, crocodiles and birds. It also has L. Albert, R. Semliki and the Sempaya hot springs which are the major tourist attractions.

9. **Kibale National Park**

It is a tropical rainforest national park which covers an area of about 780 square kilometers.

It is a home for red colobus monkey, chimpanzee, buffaloes, antelopes, elephants and the giant forest hog.

10. **Mgahinga National Park**

It is located on the slopes of the Mufumbiro ranges in Kisoro district south western Uganda.

It covers an area of 33 square kilometers.

The main tourist attractions here include the volcanic cones of Mgahinga, Muhavura and Sabinyo, gorillas, monkeys, chimpanzee, Mgahinga forest reserve, L. Bunyonyi, several birds etc.

Tourists in this park enjoy activies like Gorilla tracking, mountain climbing, bird watching, boat rides etc.

Examples of wildlife game reserves in Uganda include:

Ajai wildlife reserve in Arua district.

Matheniko game reserves in Kotido and Moroto districts.

Bokora corridor in Kotido and Moroto districts

Pian-upe in Moroto and Nakapiripiriti districts.

East Madi wildlife reserve in Adjumani

Katonga wildlife reserve in Kyenjojo and Kamwenge districts.

Karuma wildlife reserve in Masindi district.

Kigezi wildlife reserve in Rukungiri, Kanungu and Bushenyi districts etc

KENYA

The major examples of National parks in Kenya include the following

Tsavo National Park

It is the largest national park in Kenya divided into two i.e. East Tsavo and West Tsavo.

The park has a number of tourist attractions which include game animals like elephants, lions, leopards, buffaloes, giraffes, ostriches etc.

Lake Nakuru National Park

It covers an area of 188 square kilometers. It is famously known for flamingo birds.

The main activity enjoyed by tourists in this Park is bird watching.

3. **Malindi marine National Park**

It is found on the East African coast and covers an area of 6 square kilometers.

The main tourist attractions include the Indian Ocean with its sand beaches and cliffs, fringing reefs, historical sites, Vasco-Dagama pillar and mangrove forests.

Other national parks in Kenya include,

- 4. Sibiloi national park near L. Turkana to the east.
- 5. Meru national park in Meru district east of Mt. Kenya.
- 6. Aberdare national park in Nyeri district, central highlands.
- 7. Mombasa marine national park on the coast near Mombasa.
- 8. L. Amboseli national park seven kilometers from Nairobi.
- 9. Mt. Kenya national park east of Nairobi.
- 10. Hell's Gate national park in Nakuru district.
- 11. Oldonyo Sabuk south east of Thika town.

Game reserves in Kenya include the following

- Marsabit game reserve in northern Kenya.
- Masai-Mara on the border with Tanzania.
- Arawale game reserve.
- L. Bogoria game reserve.
- Rahole game reserve.
- Kola game reserve.
- Lambwe game reserve.

TANZANIA

In Tanzania, the major examples of national parks include

1. **Serengeti National park**

It is the largest national park in Tanzania covering an area of about 14,763 km².

It had a large number of herbivores such as zebras, antelopes, wild beasts, buffaloes, elephants, impalas, elands and carnivals include lions, leopards, cheeters, hyenas, wild dogs, jackals, etc.

There are also elephants, Rhinos, giraffes, hippos, monkeys and baboons.

Ruaha National park

It is the second largest national park found in central Tanzania.

It has elephants, lions, buffaloes, crocodiles, cheeters, leopards, antelopes, and hundreds of bird species.

Lake Manyara National park

It is located in the Tanzanian part of the rift valley. It has buffaloes, impalas, elephants, wild beasts, lions, hyenas, hippos, crocodiles and hundreds of flamingos.

Arusha National Park

It is located south west of Arusha town with animals like elephants, buffaloes, antelopes, leopards, tree climbing lions, hyenas, baboons, monkeys etc.

Ngorongoro conservation area

It is located between L. Manyara and Serengeti national park

It has the archeological site of Olduvai gorge, animals like zebras, wild beasts, lions, leopards, cheeters, elephants, hyenas, impalas, antelopes, etc.

Mahale national park

It is located on L. Tanganyika to protect thousands of chimpanzees.

1. **Manyara national park.**

It is located south east of Manyara with animals like elephants, rhinos, zebras, lions, leopards, buffaloes etc.

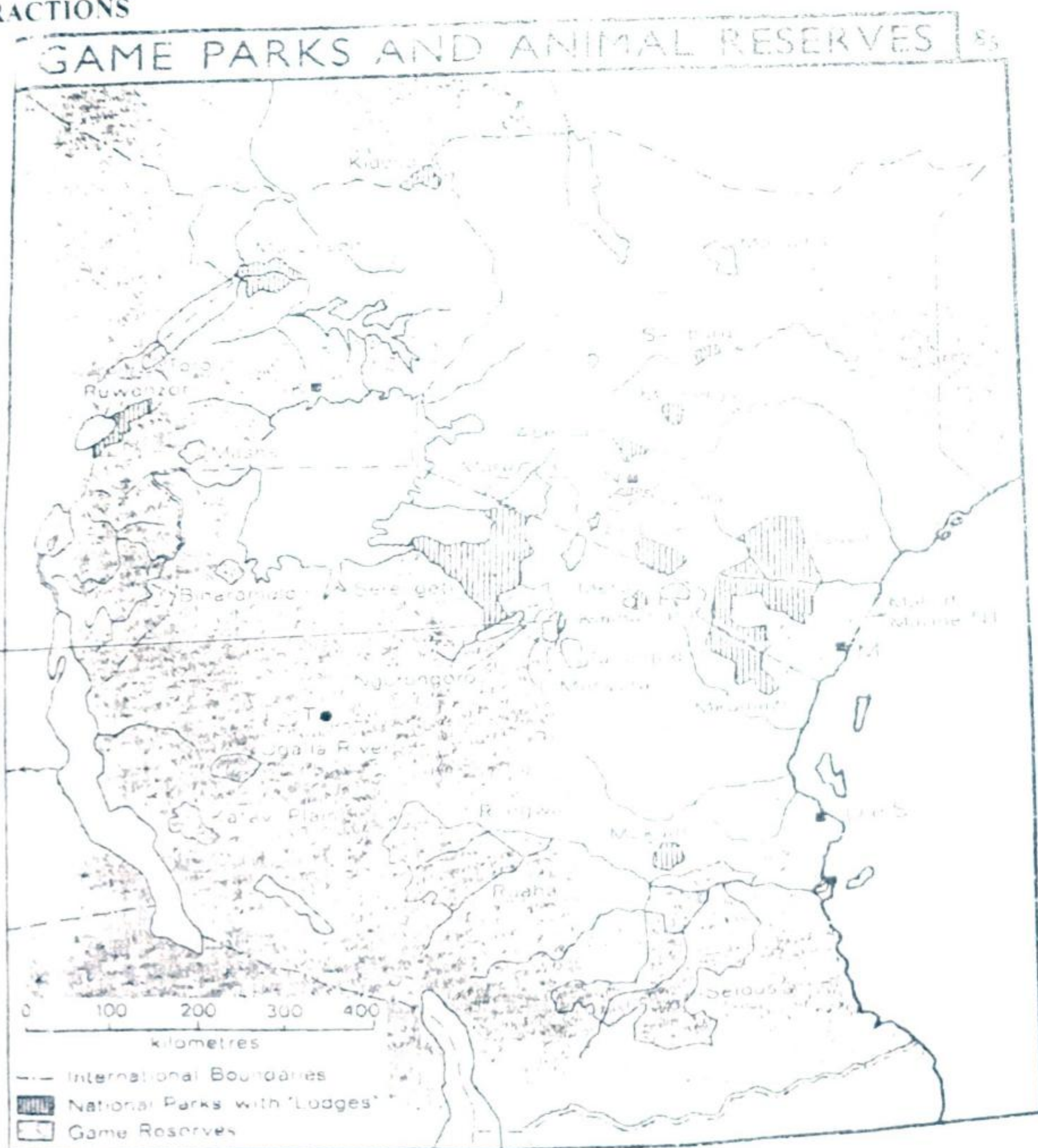
8 **Gombe streams national park**

It is located on L. Tanganyika near Burundi boarder with hippos, elephants, crocodiles, buffaloes etc.

Game reserves in Tanzania include the following;

1. Seleous game reserve: It is the largest game reserve in East Africa with elephants, buffaloes, rhinos, zebras, giraffes, leopards, cheeters, hynas, and wild beasts.
2. Biharamulo game reserve: It is found on south western shores of L. Victoria.
3. Mkomazi game reserve: It is found near the coast on the border with Kenya.
4. Katavi plains game reserve.

A SKETCH MAP OF EAST AFRICA SHOWING NATIONL PARKS AND GAME RESERVES/TOURIST ATTRACTIONS



TOURISM INDUSTRY IN EAST AFRICA

Tourism is the act of travelling from one place to another for pleasure, curiosity, adventure and study purpose.

Tourism is divided into two types namely;

Domestic tourism: This involves traveling from one place to another within the same country.

International tourism: This involves traveling from one place to another outside one's country.

Examples of tourists include;

Students.

Business men

Delegates.

Holiday makers.

In transit visitors.

Note: The tourism industry therefore includes all activities concerned with providing goods and services to tourists.

MAJOR TOURIST ATTRACTIONS IN EAST AFRICA

East Africa is endowed with a variety of tourist attractions ranging from natural, manmade features.

These include the following

Wildlife: It is the most important form of tourist attraction in East Africa. It includes;

(i) Wild animals found in national parks, game reserves, sanctuaries, zoos etc (Fauna)

(ii) Vegetation (flora) e.g. tropical rainforests, bamboo forests, heath and moorland.

(iii) Birds like flamingoes, crested crane, king fisher etc.

Magnificent sceneries: These include the snow-capped ranges like Rwenzori, Kenya and Kirimanjaro, the East African rift valley, escarpments etc.

Drainage features: These include water bodies like the Indian Ocean, lakes like Victoria, rivers like Nile, Tana, Ruvuma and associated features like waterfalls.

Historical sites: These include Kasubi tombs, Namugongo martyrs shrines, Nyero rock paintings, Bigobyamugenyo, Fort Jesus at Mombasa, Olduvai gorge in Tanzania, Zanzibar slave market etc.

Cultural heritage: This includes traditional dances, cultural ceremonies; dress code of tribes like Masai, Karamajong, local hand crafts e.g. the Masai wood curvings, way of life of people like the Batwa etc.

The equator which crosses through Kenya and Uganda. It is marked at Kayabwe in Mpigi, Kasese and Gethemu in Kenya.

Sunny warm climate which attracts tourists from colder regions especially during the winter season.

Coastal features e.g. the beautiful sand beaches at Mombasa and Dar-el-Salaam, cliffs, lagoons etc.

Rereaction sites E.g Uhuru park in Nairobi, Kenya, city square in Uganda, Leisure parks, theatres, museums etc.

Sports activities like mountain climbing, sport hunting, sport fishing, swimming, sand bathing and water rafting.

FACTORS WHICH HAVE FAVOURED THE DEVELOPMENT OF THE TOURISM INDUSTRY IN EAST AFRICA

Presence of a wide variety of tourist attractions e.g. wild life, drainage features etc which attract many tourists

Presence of a sunny warm climate which attracts tourists from cold regions during winter seasons.

Presence of extensive land for setting up national parks, game reserves where tourist attractions like wild life can be found.

Presence of beautiful and attractive sceneries like the snow capped mountains with glacial features e.g. pyramidal peaks, sand bathing, sport fishing etc.

Availability of a rich cultural heritage involving traditional dances, cultural ceremonies etc which tourists enjoy seeing.

- Availability of many historical sites e.g. Fort Jesus, Nyero rock paintings, Olduvai gorge etc which tourists enjoy seeing and studying about.
 - Availability of improved transport networks for easy movement of the tourists to the tourist centers.
 - Availability of improved accommodation facilities in form of hotels where tourists can stay comfortably.
 - Availability of adequate capital to invest in the tourism industry in building roads to tourist centers and hotels to accommodate tourists.
 - Availability of skilled and semi skilled labour to work as tour guides and in hotels accommodating tourists.
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- Existence of relative political stability and security which allows free movement of tourists in the East African countries.
 - Availability of positive government policies like construction of roads leading to tourist sites and liberalizing the tourism sector.
 - Availability of many financial institutions like banks which provide capital in form of loans for developing the tourism industry.
 - There is intensive advertisement on mass media like televisions, newspapers etc which increases awareness about East Africa's tourist potentials.
 - The people of East Africa have excellent hospitality of welcoming tourists, entertaining them which encourages many tourists to come.
 - There are efficient tour packages in form of travel, accommodation, guides and feeding which makes visiting East Africa cheap.

CONTRIBUTIONS OF THE TOURISM INDUSTRY TO THE DEVELOPMENT OF EAST AFRICA

- Tourism is an invisible form of export which earns foreign exchange that is used in international trade.
- It is a source of revenue to East African countries in form of taxes which is used to provide better services like education, health etc.
- Tourism is a source of employment to people like the tour guards thus earning income for improving their standards of living.
- It has helped in diversifying the East African economies thus widening the source of income.
- Tourism has promoted international relationships between East African countries and foreign countries resulting into foreign investments and trade.
- It has facilitated the effective utilization of marginal lands like mountains thus promoting economic development.
- It has facilitated the development of economic infrastructures like roads, railway lines, air ports etc thus enabling easy movement of goods and people.
- Tourism has promoted the development of social infrastructures like bore holes, hospitals, schools etc to communities surrounding national parks thereby improving on people's social lives.
- The tourism industry has promoted preservation of nature resources like wildlife for future generations.
- It has led to the growth of towns like Kasese, Kisoro, Malindi, Mombasa etc which offer better social and economic services.
- It has helped people to acquire skills in tourism management thus improving on their productivity and efficiency.
- The tourism industry provides market for locally produced goods e.g. food stuffs, local hand crafts etc thus generating income to the local people.
- Tourism has led to the preservation of culture for future generation.

PROBLEMS FACING THE TOURISM INDUSTRY IN EAST AFRICA

- There is stiff competition with other countries outside East Africa like South Africa and Egypt which are alternative destinations for tourists.
- Poaching which has reduced some wild animals that attract tourists like elephants and rhinos.
- There is insecurity in some areas which have tourist potential like northern Kenya, western Uganda, thus discouraging tourists.
- Some tourists sites are located in remote areas with poor transport networks making it difficult for tourists to reach such areas.
- There is a problem of seasonal migration of some animals and birds that cannot be seen by tourists during certain seasons.
- There is a problem of some hostile tribes like the Nandi, Masai and Karamajong thus tourists are scared of visiting such areas.
- There is a problem of shortage of skilled labour to work as guards and in hotels offering service to the tourists.
- There is a problem of inadequate capital to build social and economic infrastructures like roads leading to poor services.
- There is encroachment of wild life conservation areas by communities surrounding such areas causing some animals to migrate.
- There is a problem of limited advertisement on mass media thus some tourists potentials are not well know abroad.
- ~~There is a problem of pest and diseases which attack and kill wild animals like hippos in Kazinga channel.~~
- There is a problem of poor accommodation facilities which discourages foreign tourists.
- Tourism is a seasonal activity which results into loses to the service providers during some seasons.
- There is destruction of wildlife conservation centers and antiquities by fires e.g. Kasubi tombs.
- There is a small domestic market due to poor attitude and high levels of poverty.
- Climatic changes e.g. prolonged drought force some animals to migrate to other areas.
- Some animal species are extinct in some areas e.g. the white rhinos thus reducing on tourist attractions.

STEPS TAKEN TO PROMOTE THE TOURISM INDUSTRY IN EAST AFRICA

- Setting up anti-poaching squads and conducting regular patrols around national parks to reduce poaching.
- Training of local man power to equip them with proper managerial skills to provide better services to tourists.
- Rehabilitation of road and railway networks and construction of air strips to improve on the access to tourist centers.
- Disarming the hostile tribes like the Nandi and Karamajong to improve on security in areas with tourist potentials.
- Spraying animals with chemicals and treating the effected one to spread on the incidence of pests and diseases.
- Building modern hotels that can provide better accommodation facilities to the tourists.
- Sensitizing the local people through the mass media on the value of conserving wildlife.
- Liberalizing the tourism industry to allow private companies into the sector who can provide better services.
- Encouraging extensive advertisement through local and international media to increase on people's awareness about East Africa's tourist potentials.

FISHING IN EAST AFRICA

Fishing refers to the extraction of all forms of aquatic life from water bodies either for food or other commercial purposes.

There are two main forms of fishing carried out in East Africa namely;

(a) Fresh fishing

This is the form of fishing carried out in fresh water/inland water bodies like lakes, rivers and swamps. The major fish species caught in the fresh water bodies include Tilapia, Nile perch, lung fish, mud fish, cat fish, silver fish/Dagaa, Haplochromis, Bagrus, Proterus, Momyrus, Clarias, etc.

(b) Marine fishing

This is the type of fishing that is carried out in salty waters like Oceans and seas.

In East Africa, marine fishing is carried out in the Indian Ocean along the coast of Kenya and Tanzania in areas like Malindi, Lamu, Mtwara, Islands of Pemba and Zanzibar.

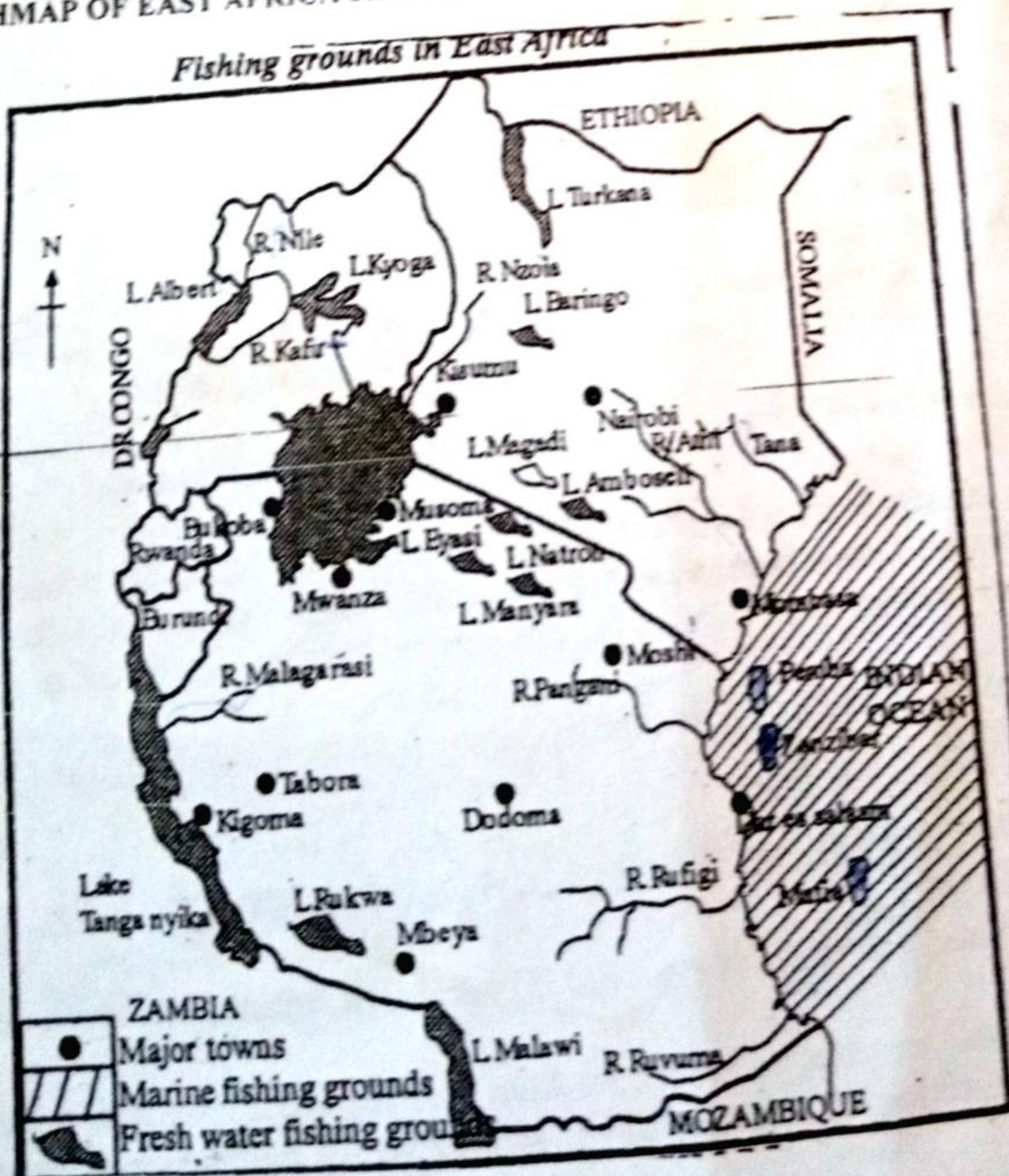
The main fish species caught in the marine fishing grounds of East Africa include; Sardines, Marlin (Sword fish), Lobsters, crab, prawns, tuna, queen fish, oysters etc.

Types of fish

Pelagic fish: These are found close to the surface of the water body e.g. tilapia, Nile perch, haplochromis, etc.

Demersal fish: These are found deep in the water or at the bottom of the sea. Examples include Tuna, Crabs, Cods, Lobster.

A SKETCHMAP OF EAST AFRICA SHOWING THE FRESH AND MARINE FISHING GROUNDS



L. Victoria
- Mwanza
- Mwanza
- Kisumu
- Bukoba

MAJOR FISHING GROUNDS IN EAST AFRICA

WATER BODY	FISHING LANDSING SITES	FISH SPECIES
L. VICTORIA	<ul style="list-style-type: none"> - Gaba, Masese, Kasenyi, Ssesse, Buvuma, Lambu, Kasensero etc in Uganda. - Mwanza, Bukoba, Musoma, Ukerewe, Islands etc in Tanzania. - Kisumu, Homa bay, Karungu, Usengi etc in Kenya. 	<ul style="list-style-type: none"> - Nile perch, Tilapia, silver fish, cat fish, Bagrus, Lung fish, momyrus, haplochromis etc.
LAKE KYOGA	<ul style="list-style-type: none"> - Lwampanga, Namasale, Bukungu, Bugondo, Lalle, Tumba, Kalle, Makinda, Mutonde etc. 	<ul style="list-style-type: none"> - Tilapia, Nile perch, Lung fish, mud fish, silver fish, cat fish etc
LAKE ALBERT	<ul style="list-style-type: none"> - Butiaba, Tonya, Kiiso, Buhuka, Ntoroko, Wanseko 	<ul style="list-style-type: none"> - Nile perch, Tilapia, Synodontis, cat fish, alertes.
LAKE GEORGE AND EDWARD	<ul style="list-style-type: none"> - Kasenyi and Kahendera on Lake George. - Katunguru, Rwenshama and Katwe in Lake Edward. 	<ul style="list-style-type: none"> - Clarias, photopterus, Bagrus, Tilapia.
LAKE TANGANYIKA	<ul style="list-style-type: none"> - Kigoma, Ujiji, Buriru, Ikola, Karema, Kipili, Kasanga 	<ul style="list-style-type: none"> - Dagaa (kapenta) clarias, Bagrus, Lates, Luciolates etc
INDIAN OCEAN	<ul style="list-style-type: none"> - Lindi, Lamu, Mtwara, za,nzibar, Pemba, Mafia, Tanga, Dar-el-Salaam etc 	<ul style="list-style-type: none"> - Sardines, Lobsters, Tuna, Queen fish, Oysters, Prawns, Crabs, etc.

FISHING METHODS USED IN EAST AFRICA

These are divided into two broad categories namely;

(a) Simple/traditional fishing method.

These are used to carry out fishing on small scale in shallow waters like swamps and rivers.

They include,

- Basket trap method,
- Simple hook/hand line method,
- Spearing method,
- Fencing method.

(b) Modern fishing methods

These are used in carrying out fishing on a large scale for commercial purposes. They are mainly used in large water bodies like lakes, Oceans and seas. They include;

- Gill netting/drafting,
- Purse seining,
- Trawling,
- Long lining,
- Light/Lampara.

Gill netting

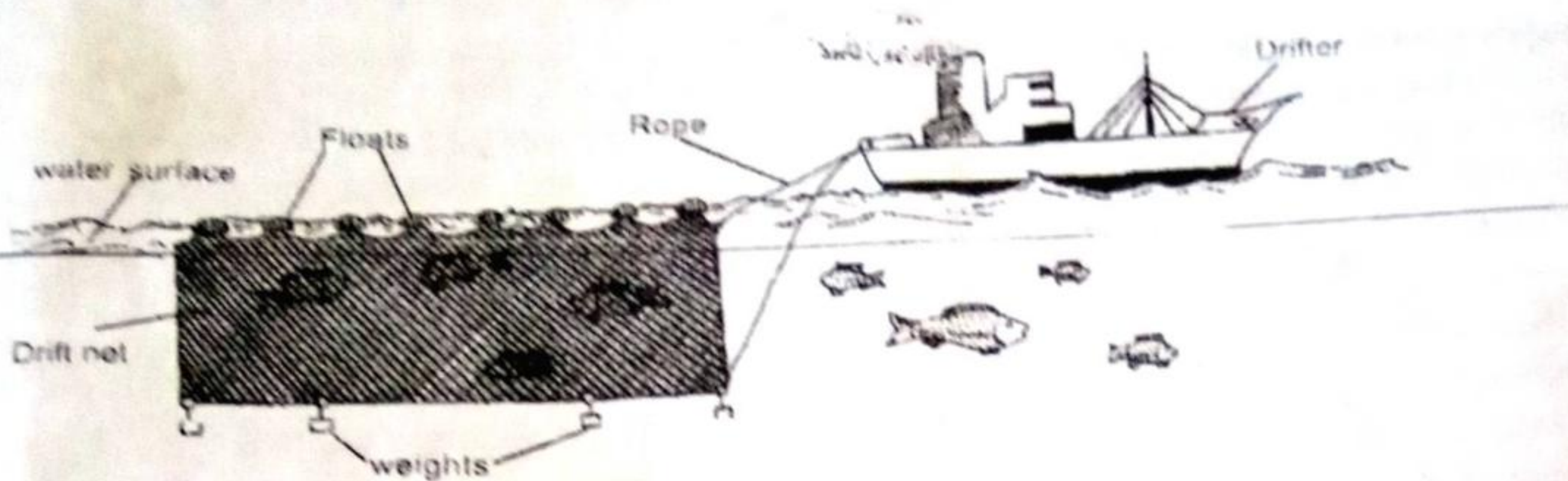
It is the most common method used to catch fish for commercial purposes in East Africa. It is mainly used to catch pelagic fish.

The method involves use of a long net which is laid vertically in water.

The net is held vertically by floats on top and weights at the bottom.

When the fish try to swim through the net, they are caught by their gills in the net. The net is then pulled out of the water onto the boat and transported to the shoreline.

An illustration of the gill netting method



Purse seining method

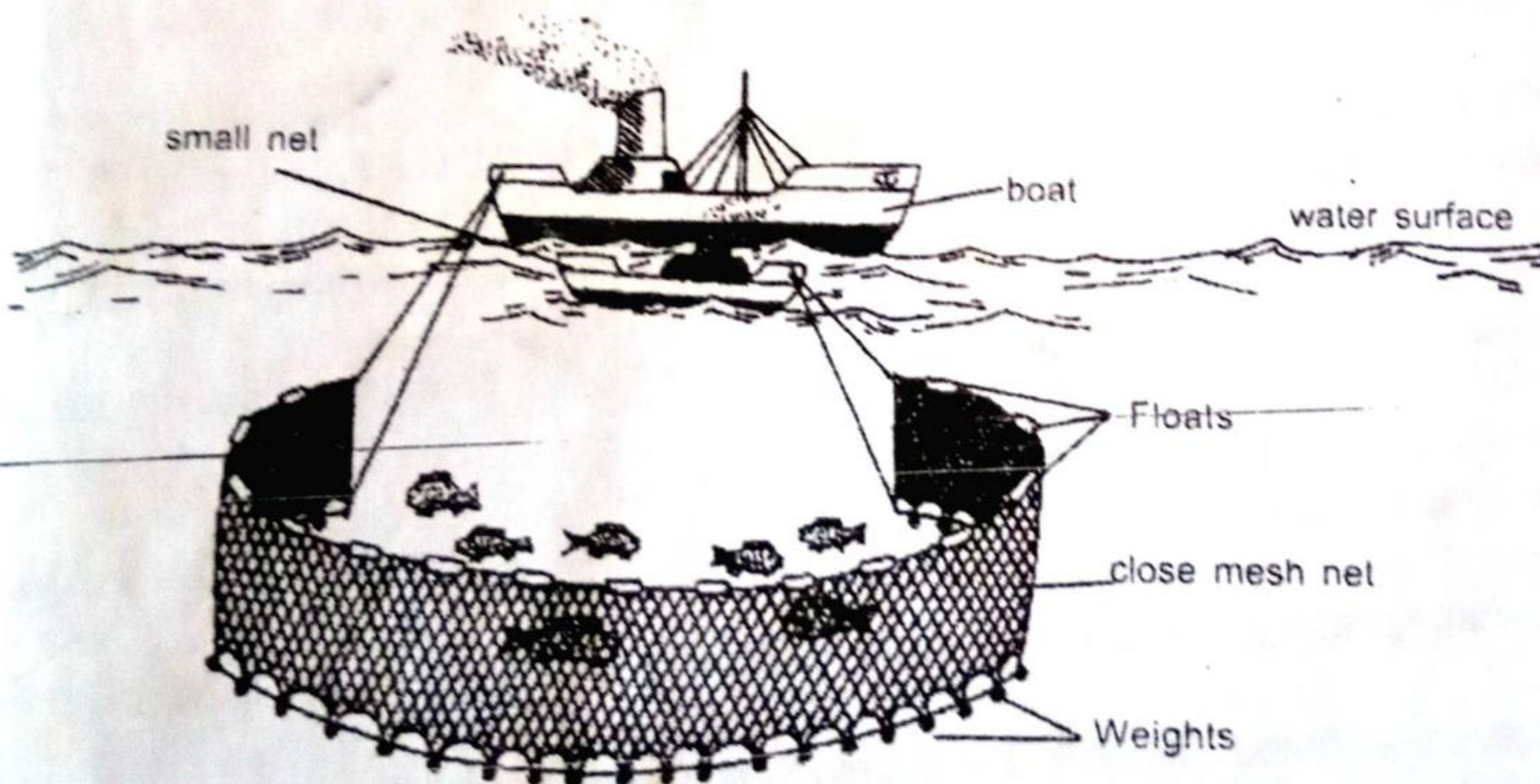
This method is used to catch the demersal fish. It involves use of a circular net which is laid down to enclose a shoal of fish.

At the bottom of the net, there are rings attached through which the ropes pass.

Once the net has been laid in a circular pattern, the ropes are pulled so as to trap all the fish that is surrounded.

The net is then pulled out of the water into the boat and transported to the shoreline.

An illustration of the purse seining method



Trawling method

It is also used to catch demersal fish.

It involves the use of a wide cone-shaped net whose mouth is kept open by wooden boards.

The net is made stronger at the cod-end where fish is trapped.

The net is dragged/pulled along the sea bed by a small boat called a trawler.

As the net is pulled along the sea bed, fish enters into the net through the wide open mouth.

The net is then removed from the water onto the boats and transported to the shoreline.

- Existence of fish predators in some water bodies i.e. crocodiles in Lake Kyoga and the Nile perch which consume other fish species.

MEASURES/STEPS BEING TAKEN TO PROMOTE THE FISHING INDUSTRY IN EAST AFRICA

- Training the fishermen/workers to provide better skills in fishing activities.
- Formation of fishing cooperative societies to provide loans to the fishermen.
- Improving the transport network to and from the landing site through construction of new roads and rehabilitation of old ones.
- Formation of beach management units to ensure controlled fishing and improved sanitation at fish landing sites.
- Encouraging fish farming (aquaculture) to supplement on the natural fish sources.
- Encouraging foreign investors into the fishing industry to provide the required capital.
- Finding other external markets for fish in order to widen the market.
- Ensuring implementation of strict government policies on illegal fishing and sale of immature fish.
- Ensuring strict quality control for better fish marketing.
- Provision of security by establishing marine patrol units.
- Sensitizing the fishermen on the dangers of using poor fishing methods like fish poisoning.
- Introduction of modern fish preservation like fish canning to improve on quality for export.
- Enforcing strict laws against pollution of water bodies.
- Ensuring proper disposal and treatment of industrial wastes to reduce on the impact of pollution.
- Introduction of new fish species which are of high commercial value.
- Removal of the water hythen from water bodies through mechanical and biological means.
- Constructing of fish processing factories near fish landing sites to improve on quality.
- Restocking of the overfished waters with new fish species.

BENEFITS OF THE FISHING INDUSTRY TO THE DEVELOPMENT OF EAST AFRICA

- It provides employment to people thus generating income for improving their standards of living.
- It leads to the development of other industries through provision of raw materials which provide employment to people.
- It is a source of foreign exchange through exportation of fish and other products which is used to develop other sectors like roads.
- Fish is a valuable source of animal protein that improves people's diet.
- It promotes economic diversification thereby widening on the sources of income for East African governments.
- It is a source of revenue to the government through taxation which is used for infrastructural development.
- They encourage scientific research and education for improved skills and knowledge.
- It promotes urbanization through development of ports which provide better social and economic services.
- It facilitates development of social infrastructures around landing sites e.g. schools, hospital etc leading the improved people's social welfare.
- It facilitates development of roads for easy movement of people and goods.
- It promotes international cooperation with foreign countries leading to improved trade, peace and investments.
- Fish is a source of medicine value whereby improving people's health.
- It promotes activities like sport fishing which attract tourists thereby earning foreign exchange.

MINING IN EAST AFRICA

Mining is the extraction of valuable minerals and other geological materials from the earth's crust.
Mining is an example of a primary industry.
It is sometimes referred to as a robber industry because minerals get exhausted and cannot be renewed or regenerated.

Types of minerals

(a) **Metallic minerals**

These are the most valuable mineral resources. They include tin, zinc, gold, copper, aluminum, silver, cobalt, manganese, wolfram, Tungsten, lead etc

(b) **Non-metallic minerals**

These include potash, salt, diamonds, graphite, soda ash (trona), Asbestos, Uranium, limestone, phosphates, sulphur, mica, sand, clay etc.

(c) **Mineral fuels/Energy fuels**

These include coal, oil and natural gas.

METHODS OF MINING IN EAST AFRICA

The following are the common methods of mining used in East Africa.

(i) **Open cast mining**

It is the cheapest and easiest method of mining used in East Africa.

It is usually used to mine minerals which occur or close to the earth's surface.

It involves use of heavy excavators to remove the rocks covering the mineral ore.

When the mineral bearing rock is exposed, it is blasted into smaller particles using explosives.

The broken particles are then loaded onto trucks and transported to processing centers where they are sorted and graded for export.

N.B: This method is used to carry out diamond mining at Williamson Diamond mines in Shinyanga Tanzania and limestone mining at Tororo and Hima in Uganda.

(ii) **Underground/Adit mining**

This method is used when the ore containing the mineral lies deep underground.

In this method vertical shafts are sunk into the ground to reach the mineral bearing rocks.

From the vertical shafts, horizontal tunnels supported by strong steel and concrete beams are constructed to reach the mineral bearing rocks.

The rock is then blasted using explosives and the broken particles are then transported to processing centers where they are sorted and graded for export.

(iii) **Drilling**

It is used to extract liquid and fluid minerals like oil and natural gas.

A drill is sunk into the ground to reach the mineral using a **Derrick**.

The mineral (liquid) rises up through pipes to the earth's surface due to pressure differences.

It is then taken to the refining centers and transformed into numerous products e.g. liquid petroleum, gasoline, hard oils, body Vaseline etc.

(iv) **Placer/Alluvial mining**

It is used when mining minerals found in alluvial deposits. The original mineral bearing rock is broken down by processes like erosion, transported and deposited by running water.

The deposits are then dug and mixed with a lot of water, lifted and rotated until when the lighter particles are washed leaving behind the heavier ones.

This method does not require a lot of equipment and it is mainly used by individuals in areas like Buhweju, Kassanda and Karamoja to mine Gold.

FACTORS WHICH HAVE FAVOURED MINING IN EAST AFRICA

- Presence of large deposits of minerals like limestone, cobalt, salt etc which encourage mining activities to take place.
- Presence of reliable sources of water which is used to soften rocks during excavation and in the smelting processes.

- Existence of mineral ores near the surface which makes mining easy and cheap.
- Availability of adequate capital for buying mining equipments.
- Availability of skilled and semi-skilled labour to carry out mining activities.
- Availability of an improved transport system in form of roads and railways for transporting the ores or products to major trade centers.
- Existence of supportive government policies which promote mining activities i.e. building infrastructure.
- Existence of relative political stability which encourages mining activities to take place.
- Availability of advanced technology used to carry out large scale commercial mining.
- Availability of a ready market both at home and abroad for purchasing the minerals.
- Availability of reliable sources of power which is used to run machines in industries e.g. smelting plants.
- Improved research and exploration which has led to discovery of new mineral potentials in East Africa.

PROBLEMS FACING THE MINING SECTOR IN EAST AFRICA

- Inaccessibility due to remote location of most of the mining centers in East Africa.
- Inadequate capital to invest in the mining sector i.e. buying mining equipment, paying workers etc.
- Limited skilled labour to carry out mining activities, exploration etc.
- Limited foreign market due to stiff competition with other countries.
- Political instabilities in some parts of East Africa e.g. western Uganda discourage full exploitation of some minerals.
- Most minerals in East Africa occur in small quantities which makes it uneconomical to mine them.
- Low levels of technology to undertake mineral exploitation resulting into small scale mining and poor quality of products.
- Shortage of power which hinders large scale mining activities.
- Fluctuation of prices for some minerals on the world market which has resulted into closure of some mining centers.
- Exhaustion of some mineral ores in some areas since mineral ores are non-renewable resource leading to closure of some mines.
- Low grades of most minerals in East Africa resulting into limited demand on the world market.
- Limited research and exploration which hinders the discovery of existing mineral potentials in East Africa.

MEASURES BEING TAKEN TO PROMOTE MINING IN EAST AFRICA

- Attracting local and foreign investors to provide the necessary extra capital needed to carry out mining activities.
- Construction of new roads and improvement on the existing ones to improve on the access to the remote areas with mineral deposits.
- Improving and rehabilitation of the mineral processing industries in order to improve on the quality of mineral produce for export.
- Strengthening the geological survey departments to facilitate the discovery and exploitation of the existing mineral wealth.
- Training local man power in mining related activities to provide the required skilled labour needed in the mining sector.
- Restoration of political stability in order to create a conducive environment which can attract foreign investors and allow mining activities to take place.
- Carrying our market research outside to exploit new markets for East Africa's mineral wealth.
- Importation of modern machinery to facilitate large scale mining activities.

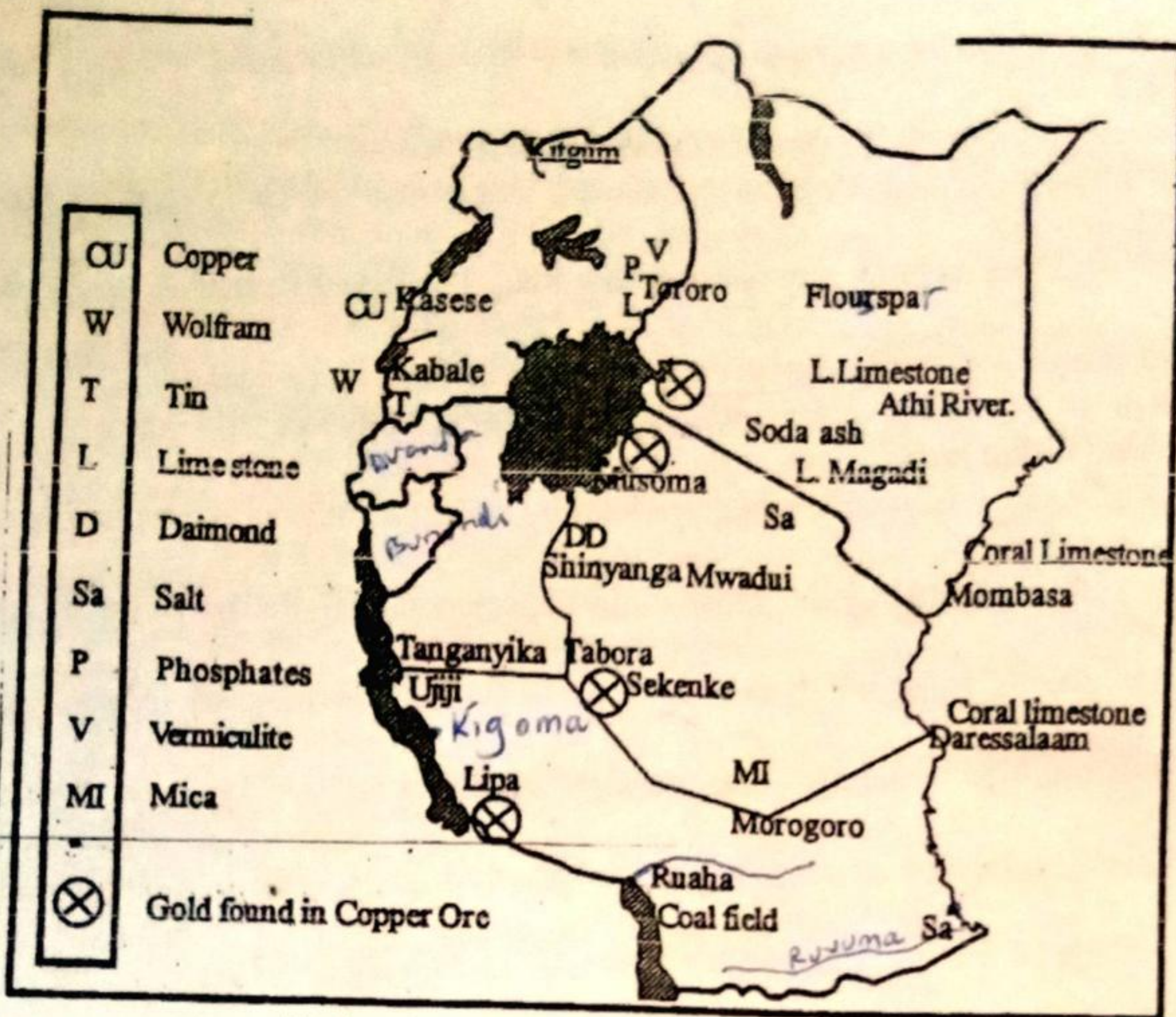
CONTRIBUTIONS OF THE MINING SECTOR TO THE DEVELOPMENT OF EAST AFRICA

- Provision of foreign exchange to the East African governments through exportation which is used in infrastructural development.
- Provision of employment opportunities to the people thus generating income.
- A source of government revenue through taxation on mining companies which is used to provide better source and economic services.
- Promotes development of industries through provision of raw materials thereby creating employment opportunities to people.
- Promotes economic diversification thus widening on the sources of income in the country.
- Promotes the development of economic infrastructures like roads, railways, air ports etc thus facilitating regional and international trade.
- Promotes the development of social infrastructure like schools, hospitals, boreholes etc around mining centers thus improving people's social welfare.
- Promotes the development of towns like Kilembe, Magadi, and Shinyanga which provide better social and economic services.
- Provision of income to the people involved in mining activities which is used to improve their standards of living.
- Promotes international relationships resulting into foreign investments as well as boosting international trade.
- Provision of market for locally produced goods e.g. food stuffs thus generating income for some people.
- Enables people to acquire skills in mining related activities thus improving on their efficiency and productivity.

EFFECTS OF MINING ON THE ENVIRONMENT

- Mining causes air pollution due to stone dust and fumes from the processing industries.
- Mining causes noise pollution since it involves use of explosives to blast rocks.
- Mining weakens the rock structure thus increasing on the possibility of landslides.
- Destruction of natural vegetation during mining causes micro-climatic changes like reduced rainfall amounts, increased temperatures etc.
- Clearing of vegetation during mining leads to destruction of wildlife habitats.
- Mining leads to lowering to the water table due to reduced water infiltration.
- Mining exposes the land to accelerated soil erosion which lowers soil productivity.
- Mining leaves behind large pits which became breeding grounds for disease causing vectors like mosquitoes.
- Mining reduces productivity of the soils when waste materials are dumped on the useful agricultural land.

A SKETCH MAP OF EAST AFRICA SHOWING MAJOR MINING CENTRES



A TABLE SHOWING DISTRIBUTION OF MAJOR MINERALS IN EAST AFRICA

Mineral	Areas	Method	Uses
Limestone	Hima (Kasese), Tororo, Bamburi near Mombasa in Kenya. Wazo hills and Tanga in Tanzania.	Open cast	- Making lime and cement for building purposes
Soda ash (trona)	Lake Magadi in Kenya	Dredging, placer mining.	- Making glass, soap, dyes, detergents, insecticides, and aluminum paper
Gold	Kigezi, Busia, Mubende, Karamoja in Uganda. Mbeya in Tanzania. Western Nyanza and Kakamega in Kenya.	Placer mining, open cast	- Manufacturing jewelry
Diamond	Mwadui near Shinyanga in Tanzania	Open cast	- Making jewelery - Drilling bits, cutting and grinding equipments.
Copper	Kilembe (Kasese) in Uganda	Adit and open cast mining	- Making electric cables, tokens and coins, jewelery like rings and bangles
Salt	Lake katwe, Kibiro hot spring in Uganda. Uvinza in Tanzania Lake Magadi in Kenya.	Placer mining	- Making of edible and animal salt.
Cobalt	Kilembe (Kasese)	Adit mining	Making jet engines and high speed cutting tools.

Asbestos	Kiptumet (Kenya)	Adit and open mining	Making roofing sheets, sewage pipe and fire proof gadgets.
Phosphates	Bukusu, Tororo, Minjingu in Kenya.	Adit and open cast	Making fertilizers
Coal and iron ore	Ruhuhu valley in southwestern Uganda. Kipengere ranges, Kiwira in Tanzania.	Adit, open cast	Making fuel (coal), roofing sheets, iron bars, nails etc
Oil	Semliki delta on Lake Albert i.e. Hoima, Masindi, Buliisa, Ntoroko etc	Drilling	Making plastics, dyes, liquid petroleum, body Vaseline etc
Flour spar	Kerio valley in Kenya.	Open cast	Making of metal alloys, toothpaste, aerosol cans.
Mica	Machakos, Embu, Meru in Kenya.	Adit mining	Making paints.
Gypsum	Garissa and Malindi in Kenya.	Open cast	Making medical plasters chalk and lime for building.

INDUSTRIALISATION IN EAST AFRICA

Industrialization is the process through which countries increasingly become involved in the production of manufactured goods.

Manufacturing on the other hand is the processing and transformation of raw materials into finished products.

Industries are classified into three categories namely

(a) **Primary/extractive industries**

These deal in the extraction of raw materials in their natural form. Examples include mining, fishing, forestry, agriculture, quarrying etc.

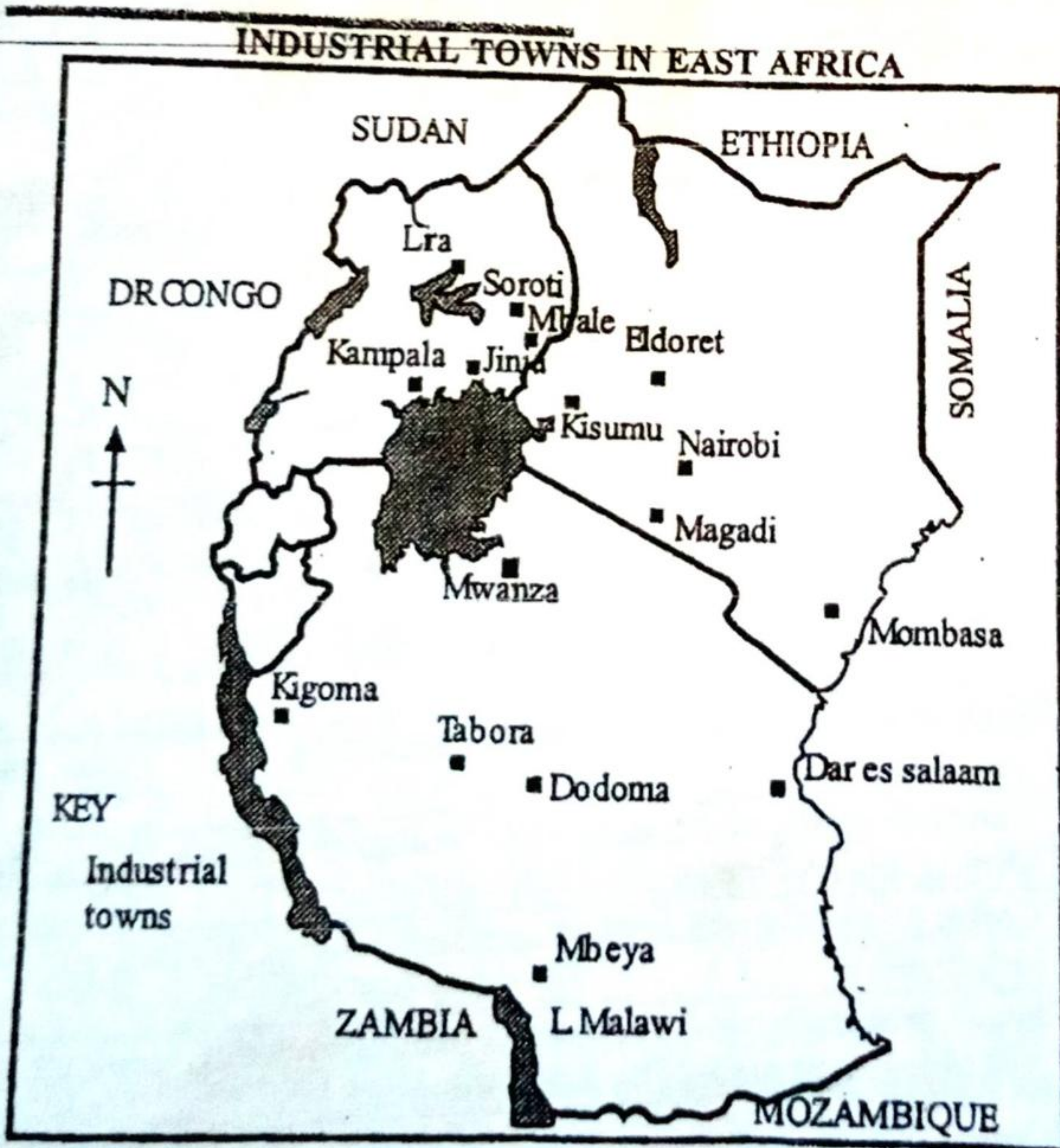
(b) **Secondary industries**

These transform or process raw materials into consumer or finished products. Examples include textiles, saw milling, steel rolling, breweries, soft drinks manufacturing, ship building etc.

(c) **Tertiary industries**

These provide support services to other industries and people but do not actually produce goods. Examples include banking, tourism, transport, health, communication, insurance, hotels etc.

A SKETCH MAP OF EAST AFRICA SHOWING MAJOR INDUSTRIAL TOWNS



Factors favouring the growth of Nairobi as an industrial town.

FACTORS FAVOURING INDUSTRIAL DEVELOPMENT IN EAST AFRICA

- Availability of a wide variety of raw materials like minerals, agricultural commodities, forests etc which are used in industries.
- Availability of adequate capital provided by foreign investors and the government for buying land, industrial machinery etc.
- Availability of improved transport systems in form of roads and railway for transporting raw materials and finished products.
- Availability of a ready market for the industrial products both at home and abroad.
- Availability of favorable government policies which encourage investments in industries e.g. giving tax holidays and tax exemptions to investors.
- Availability of many financial institutions like banks which offer loans to industrialists for setting up industries.
- Availability of various power sources like wood fuel, HEP, solar energy etc used to run machines in industries.
- Availability of many foreign investors from countries like China, India, Pakistan etc who have provided the necessary capital for industrial development.
- Existence of relative peace and stability which has attracted foreign investors to set up industries in East Africa.
- Presence of reliable water sources like Lake Victoria which provide water for cooling machines in industries.
- Presence of vast/extensive land for setting up industries.
- Privatization of formally government owned industries has resulted into better management and increased capital inflow.

PROBLEMS HINDERING INDUSTRIAL DEVELOPMENT IN EAST AFRICA

- Inadequate capital to set up industries, pay workers etc.
- Limited skilled labour to operate machines in the industries.
- Shortage of land for industrial establishment and expansion especially in major industrial towns like Kampala, Nairobi, Dar-el-Salaam etc.
- Stiff competition from the well developed industrial countries like USA, Germany, and China etc which reduces market for East Africa's industrial goods.
- Political instabilities/insecurity in some parts of East Africa which discourage investment into the industrial sector.
- Poorly developed mean of transport like roads and railways which hinder easy transportation of raw materials and distribution of finished goods.
- Inadequate power supply which discourages establishment of heavy industries.
- Shortage of valuable minerals like iron ore, coal etc which discourages establishment of heavy industries.
- Low levels of technology resulting into limited industrial development and expansion.
- Over dependence on foreign capital or loans which have to be repaid at very high interest rates discourages investments in industries.
- Unfavourable government policies like heavy taxes discourage local and foreign investment into the industrial sector.

STEPS BEING TAKEN TO PROMOTE INDUSTRIAL DEVELOPMENT IN EAST AFRICA

- Training of man power to equip them with technical skills required in the industries.
- Construction of new roads and rehabilitation of the existing ones to ease transportation of raw materials and distribution of industrial products.
- Attracting foreign investors into the country to provide the necessary capital for industrial development.
- Protection of local industries by using tariff barrier in order to reduce on the competition for market with imported goods.

- Carrying out extensive market research in outside countries in order to widen market for East Africa's industrial goods.
- Organizing of trade shows, trade fairs and exhibitions to create awareness about locally produced goods and thus widen the market.
- Joining large regional and international business organizations i.e. PTA, COMESA, AGOA etc to widen market for the locally produced goods.
- Restoration of political stability through peace talks to create a conducive environment for industrial development.
- Construction of more power dams to generate more power required for the establishment of heavy industries.
- Subsidizing local investors by giving them tax holidays and tax exemptions to encourage investment in Industries.
- Gazetting more land for industrial establishment to attract foreign investors.
- Privatization of formerly state owned industries to improve on efficiency and management etc.

CONTRIBUTIONS OF THE INDUSTRIAL SECTOR TO THE DEVELOPMENT OF EAST AFRICA

- Provision of employment opportunities to people thereby generating income for improving their standards of living.
- Exportation of industrial goods earns the country foreign exchange which is used to develop other ~~sectors like roads.~~
- A source of government revenue through collecting taxes imposed on industries which is used to develop social services like schools, hospitals etc.
- It promotes economic diversification in the country thereby reducing on over dependence on the unpredictable agricultural sector.
- Provision of manufactured goods to the local population for home consumption thus saving the country's valuable foreign exchange that would have been spent on exports.
- It stimulates exploitation of natural resources like minerals, forests etc thereby promoting economic development.
- It promotes the development of towns like Kampala, Nairobi, Dar-es-Salaam etc which provide better social and economic services.
- It facilitates development of economic infrastructures like roads, railways etc for easy movement of people and goods.
- Provision of market for locally produced raw materials like agricultural commodities thus improving on people's income.
- Stimulates development of social infrastructures like hospitals, schools, water, electricity etc thus improving on people's social welfare.
- Exportation of industrial goods promotes international relationships thus boosting international trade and increasing capital inflow.
- Industries act as tourist attractions to both local and foreign investors thereby promoting research.

PROBLEMS RESULTING FROM DEVELOPMENT OF INDUSTRIES

- It results into environmental pollution i.e. water, air and noise pollution by the smoke, fumes and oils from industries.
- It results into rural – urban migration and all its associated problems e.g. high crime rates etc.
- It leads to exhaustion of natural resources due to continuous exploitation of raw materials to feed the industries i.e. the minerals
- It increases the rate of forest destruction due to increased demand to get land for industrial establishment.
- It also leads to reclamation of swamps for industrial expansion leading to environmental degradation.
- It leads to profit repatriation since most industries are owned by foreign investors resulting into under development.

It leads to traffic congestion and jam due to many cars.

TABLE SHOWING MAJOR INDUSTRIAL CENTERS IN EAST AFRICA

TOWNS	TYPES OF INDUSTRIES
NAIROBI	Car assemblies, engineering, flour milling, soap making industries, soft drinks, furniture making industries, breweries, meat packing, printing and publishing, fruit canning, textiles, leather turning etc.
MOMBASA	Chemical industries, oil refinery, cement manufacturing, sugar processing, ship preparing, printing and publishing, car assemblies, soap making etc
THIKA	Fruit canning, leather turning, car assembling, agro processing etc
WEBUYE	Sugar cane processing, fruit canning, maize milling, pulp and paper making etc
ELDORET	Textiles, agro-processing, dairy processing etc
NAKURU	Textiles, agro-processing dairy processing etc
DAR-ES-SALAAM	Petrol refining, ship preparing, textile industries, cement making, breweries, grain milling, pulp and paper industries, chemical industries, soap making, meat packing, printing and publishing etc.
BUKOBA	Agro processing, saw milling, soft drinks manufacturing, meat packing, textile etc
DODOMA	Food processing, beverage making, furniture making, textiles, chemical industries, meat packing etc.
TANGA	Cement making, chemical industries, textiles, food processing, soap making etc
ARUSHA	Agro-processing, breweries, tyre making etc
KAMPALA	Food processing, soft drink manufacturing, breweries, fish processing, general engineering, motor vehicle repair, textiles, chemical industries, furniture making, printing and publishing, steel rolling, foot ware industries, soap making etc
JINJA	Textiles, breweries, steel rolling, soap making, chemical industries, grain milling, bakeries, leather turning, fish processing, sugar processing etc
TORORO	Cement industry, chemical industry, flour milling, steel rolling, furniture making, beverages etc
MBARARA	Soft drink manufacturing, milk processing, steel mills, meat packing.
KASESE	Cement manufacturing, cobalt processing, cotton processing, flour milling, steel rolling etc
MBALE	Coffee processing, food processing, soap making, textiles, cosmetic industries etc
MUKONO	Sugar processing, tea processing, mattress making, printing and publishing, agro processing steel rolling etc

HUMAN GEOGRAPHY OF EAST AFRICA
FORESTRY

Forestry refers to the science of developing, managing and conserving forests.
A forest is a collection of trees growing together in a given place either occurring naturally or planted by man.

Types of forests

Forests are broadly divided into two types;

- (a) Natural forest.
- (b) Plantation forest.

Natural forests

These are forests which grow naturally due to the existing environmental conditions.
 These forests have a variety of hard wood tree species e.g. mahogany, red heart, Ebony, green heart, stinkwood, rosewood oak etc.
 Examples of natural forest in East Africa include Mabira forest, Budongo forest, Bugoma, Maramagambo, Marabigambo, Bwindi impenetrable forest, Kalinzu - Kasyoha, Ssesse, Kibale, Rwenzori etc in Uganda.
 In Kenya and Tanzania natural forests are mainly found on the slopes of Mt. Kenya and Mt. Kilimanjaro.

Plantation forests

These are forests which have been deliberately planted by man either in areas where previously covered by natural forests or in completely new areas.
 Most plantation forests are covered by exotic tree species e.g. Eucalyptus, pines, cyprus, podo etc.
 Examples of plantation forests in East Africa include Lendu, Muko, Abera Agwata, Mafuga, katera etc in Uganda.
 In Kenya soft wood plantations are found at Lugari, Kakamega in western Kenya.

PROBLEMS HINDERING EXPLOITATION OF FORESTS IN EAST AFRICA

- Valuable tree species do not appear in pure stands making exploitation difficult.
- Hard wood timber is bulky thus difficult to transport to market centres.
- Pests and diseases which attack and destroy specific tree species thus affecting the quality of forest products.
- Forests fires which destroy large areas of forest cover.
- Most of the indigenous tree species take long to mature which limits constant exploitation.
- There are very few tree species of a high commercial value leading to low demand.
- Most of the natural forests are located in remote areas which makes transportation of forest products difficult.
- Inadequate capital to purchase modern machinery to be used in forest exploitation.
- Shortage of skilled labour to carry out forest exploitation.
- Unfavourable climatic changes e.g. prolonged drought which lead to stunted growth of trees.
- Accidents which occur during tree felling causing death to workers.

Study the table below showing area under forest cover in East Africa
East Africa: Areas under forest cover (000's ha) 1980 - 2000

Countries	1980	1990	2000
Uganda	7,011	64,000	6,104
Kenya	1,358	1,309	1,292
Tanzania	38,004	34,123	32,510
East Africa	46,373	41,832	39,906

- (a) Draw a line graph to show the trend of forest cover destruction in East Africa.
(b) Calculate the percentage change in the area under forest for each country.

CAUSES OF RAPID FOREST DESTRUCTION IN EAST AFRICA

- Increased demand for timber for the construction industry.
- Population increase leading to increased demand for land for settlement.
- Increased level of industrialization leading to clearance of forests.
- Increased need for fuel resources like firewood and timber.
- Outbreak of forest fires which destroy large areas of forest land.
- Increased demand for furniture and other forest products.
- Pests and diseases which attack and destroy specific tree species.
- Weak government policies on forest conservation.
- Over dependence on charcoal and firewood due to limited alternative sources of fuel.
- Damage caused on forests by grazing animals e.g. elephants.
- Poor methods of logging resulting into wastages.
- Unfavorable climatic changes e.g. prolonged drought.

MEASURES OF CONSERVING FORESTS IN EAST AFRICA

- Encouraging afforestation and re-afforestation programmes.
- Encouraging people to use alternative sources of fuel e.g. bio-gas HEP etc.
- Ensuring regular forest patrols to curb down illegal tree cutting.
- Sensitizing/educating masses on the dangers of forest destruction.
- Training forest personnel to manage and conserve forests.
- Introducing exotic tree species which are first maturing to meet the increasing demand for forest products.
- Encouraging people to use selective methods of tree cutting.
- Spraying the affected trees with chemicals to combat the effect of pests and diseases.
- Encouraging the use of alternative building and constructing materials e.g. metallics.
- Establishing various authorities e.g. National Forest Authority (NFA) to manage and conserve forests.
- Encouraging agro-forestry.
- Gazetting/setting aside more forest areas as forest reserves.
- ~~Setting and enforcing strict laws against forest encroachers.~~
- Controlling population growth by encouraging use of birth control measures.
- Campaigning against de-gazetting of forest areas.

EFFECTS OF FOREST DESTRUCTION ON THE ENVIRONMENT

- It leads to reduction in the amount of rainfall hence desertification.
- Leads to accelerated soil erosion.
- It leads to reduction in soil fertility and productivity.
- It exposes the land to mass wasting/landslides.
- Leads to destruction of habitats of wild life.
- It leads to flooding due to silting of rivers.
- It results into pollution of water bodies with silt from areas where forests have been cleared.
- It leads to destruction of valuable tree species.
- It leads to decline in wood fuels and energy for industrial and domestic use.

N.B: Draw a sketch map of East Africa showing major forests