WILD LIFE CONSERVATION AND TOURISM IN EAST AFRICA.

Tourism is an invisible form of trade. A tourist is the one who travels from his home country to a foreign country for curiosity and pleasure.

Tourist therefore, it the act of travelling with an aim of seeing and studying specific things.

The person who travels by tax or bus to simply make a round is not a tourist. He / she become a tourist if he travels with an aim of studying physical features, economic activities, vegetation, settlements in the area where he visits.

The main tourist attraction in E.A includes physical features, drainage features, wild life and historical sites.

i. Wild life i.e. wild vegetation and animals.
    1. This is the major tourist attraction in East Africa because E.Africa is one of the few remaining areas in the world where wild life is conversed in natural habitats. Areas are set aside for conservation of wild life such as National parks, game parks/ reserves and sanctuary.

ii. Climate.
    1. The hot temperatures and abundant sunshine throughout the year in E.A is a tourist attraction especially to the people from the temperate world that come for some bathing.

iii. Physical features.
    1. E.Africa is enclosed with a variety of beautiful sceneries in different parts which attract tourists. A tracing point are the mountains with glacial features, with volcanic features, the rift valleys etc.

b. Culture.
    1. African traditional customs and culture equally serve as source of tourist attraction international tourists. Aspects of culture which attracts tourists include traditional dances, afirs, foods and dishes.

c. Drainage features such as lakes, rivers, hot springs and other water bodies that drain E.A also has attracted tourists.

d. Beaches and coastal features.
    1. Kenya and Tanganyika have a coastal fringe with fine beaches. Many tourists therefore who love to spend most of their holiday besides the sea for sports and swimming find pleasure in such areas.

e. Annual festivals like independence anniversaries, colonation anniversaries for traditional kings etc.

f. Historical sites such as forts, shrine, tombs, palaces etc.

IMPORTANCE OF TOURISM IN EAST AFRICA.

- Tourists pays foreign exchange to the economies of E.A for the services they enjoy inform of meals, accommodation, transport etc. This is used for development purposes.
- It provides employment to people who work in hotels, game parks, recreational centres etc. This improves their standards of living.
- Tourism generates income/ revenue to E.A government through taxes imposed on tourists operators.
- It stimulates rural development through improvement of transport networks and infrastructures like electrification and clean water.
- It promotes the art and craft industry because tourists provide the biggest market to art and craft pieces.
- It also promotes international friendship with countries of tourists origin.
- It is one way of advertising the country and its wealth which facilitates economic development.
- It makes good use of marginal areas e.g. National parks and game reserves which are habitant to wild animals are located in marginal lands which would not have been used for agriculture since they are dry plateaus.
- Game parks acts as educational and research fields as many people go there for study.
- Tourism helps in diversifying the economies of E.A hence avoiding dependence.
- Sometimes, animals in National parks are killed and their products such as skins and hides are used in the leather industry, the horns are used in the making of buttons etc.

PROBLEMS FACED BY THE TOURIST INDUSTRY.

- Political instability in some areas with tourist attraction e.g. in Bwindi, Bundibujo, Kenya rift valley regions and Northern Kenya, tourists are killed by criminals.
- Limited tourist facilities in some areas with tourist attraction e.g. poor hotels and lodging facilities.
- Inadequate capital to maintain the parks and sites facilities.
- Poor transport and communication systems in some tourist areas e.g. some national parks are inaccessible because of poor roads (Sese island).
- Poaching in game parks which lead to extraction of some animal species.
- The geographical location of E.A in relation to other countries of the world i.e. E.A is far from international tourists thus suffers competition of other countries.
- There is encroachment in conservation areas which reduces land for wild animals.
- Inadequate skilled labour to work on tourism department as guides, rangers etc.
- Seasonal migration of tourist attraction due to weather changes. This also makes tourism a seasonal business.
- The seasonality of international tourists because E.A depends on international tourists.
- Lack of tourist culture among the local people parthy as a result of ignorance and poverty.
- Hostile tribes such as the Kalamajongs, Turkana, Masai etc.

- Pests and diseases e.g. anthrax which has killed many hippos in queen Elizabeth park. Action.
- Competition for tourists among E.A countries because they offer similar attractions.
- Insufficient advertising on international level to promote large scale tourism.
- Poor managerial skills, corruption and embezzlement of funds in tourism sector.
- There is a destruction of tourist's sites e.g. dam construction at Bujagali and Murchison falls.

SOLUTIONS/ MEASURES TO IMPROVE ON TOURIST INDUSTRY.

- Training of skilled man power e.g. tour guides, travel agent, game warders/ rampers to work in tourist sector.
- Improvement/ renovation of infrastructures like roads improve tourist. New tourist's facilities should be added.
- Liberalization of the tourist sector which will lead to competition and improved services.
- Establishment of wildlife clubs and wildlife education center's as a way of improving on tourist culture among local people.
- Mass education intended at reducing ignorance among the people about tourism and wildlife.
- Creating a peaceful political environment by taking the deliberate efforts to end wars and therefore create security for tourists.
- The re settlement of people to avoid encroachment on conservation areas and tourists sites.
- Dis arming hostile tribes such as the kalamajong to improve on security in those areas.
- The government should come up with strict laws against poaching and punishments should be recognized.
- The training facilities should be put in place in order for people to gain the required skills in the running of tourism activities.
- Immunization programmers and healthy precautions should be put in place to control the spread of diseases.
- Advertising using the mass media (international media) so as to widen the market.
- International tourism (local tourism) should be given priority through mass education in order to reduce dependence on international tourists.
- Better accommodation facilities should be put in place in order to improve accommodation of tourists.
- New tourist attraction should be put in place to increase in the number of tourist attraction.

WILDLIFE CONSERVATION.

Wildlife refers to plants and animals that are wild or not domestic and conservation refers to all efforts by man to preserve the wild animals and plants for the future generation.

Governments with their efforts to conserve wildlife normally gazette areas in form of national parks, game reserves, sanctuaries/ zoos and forests reserves. In this area, activities of man such as hunting are not allowed in order to allow for the multiplication of animal and plant species.

Game sanctuaries are areas for conservation of birds or animals which are rare or endangered e.g. Nakuru game sanctuary in flamingos and Bwindi impenetrable for maintain gorillas.

WILDLIFE CONSERVATION IN UGANDA.

In Uganda, the major national parks include Murchison falls between Lake Kyoga and Albert, Queen Elizabeth N.P, mountain Ruwenzori N.P, Mgahinga gorilla N.P, Budongo forests N.P, The major animals in this park are lions, elephants and Buffalos.

The game reserves include, semiliki, Matheniko, katonga, Kibale, Kalama, Ajai, bokora corridor. The sanctuaries include Entebbe, Kazinga channel and Uwenga animal sanctuary.

KENYA.

Kenya has the largest population of animals in E.A and its famous for its marine N.Ps and coastal beaches between Malindi and Mombasa.

The largest national park is Tsavo and largest game reserve is Marsabit. Others include Amboseli, Samburu, Mt Kenya, Mt. elgon, and Abadere national park, Turk well- George, Masai- Mara, Lake Nakuru, Nairobi and Sibiloi.

Marine parks are mostly located at the coast at Lamu, Malindi, Mombasa and Kilifi.

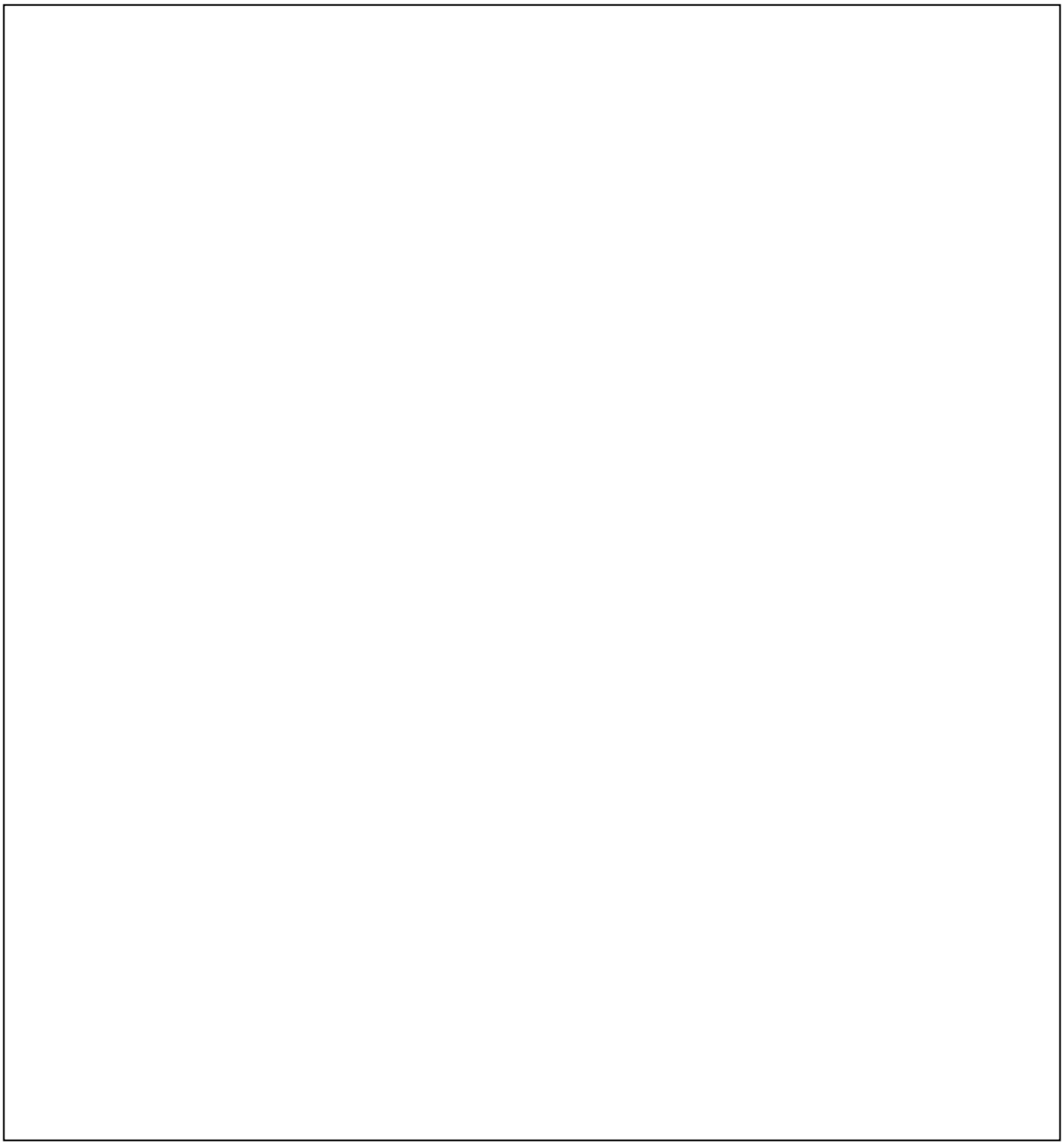
TANZANIA.

The best sand commonly visited parks are heated around Arusha such as Serengeti N.P Ngoro Ngoro, Manyara and Kilimanjaro parks. Other parks include Ruaha, Mkomazi, Rungwa, Ugalla-river and Mikumi.

The major game reserves are selous and katavi plain.

Gombe stream is a game sanctuary for white rhinos.

A MAP SHOWING GAME PARKS AND GAME RESERVES.



Factors which favour the development of tourism in east Africa;

1. Presence of tourist attractions like wildlife, landscape, scenery like glaciated mountains, rift valleys etc. These features attract most of the tourists into East Africa.
2. Drainage features like Lake Victoria the source of the Nile, R. Tana, and Murchison falls. Most tourists in Uganda also attracted by the source of the Nile and the other falls on it.
3. Increased advertisement of the tourism industry using the international Medias which makes the tourist aware of the places and services four in East Africa.
4. Development of transport facilities e.g. roads and air towards tourist sites which makes the tourists see a variety of thing while touring.
5. Political stability also has been improved which has given the tourist confidence of where they are going to tour e.g. instability in the Bwindi National parks was settled.
6. Developed accommodation facilities like hotels and lodges e.g. para safari lodge and Mweya. This provides good services to people which visit them hence encourage more to come.
7. Encouragement of the local population to have a tourist culture and use the available resources.
8. Training of manpower for handling the tourists coming to east Africa. This warm welcome also encourages the tourists to come again as they appreciate it.

MINING IN EAST AFRICA

The mineral potential of E.A is not fully known because little mineral exploration has been done. Some of the important minerals like coal, iron ore, oil etc have been discovered but not in large quantities. However according to the minerals exploration so far done, there are very few minerals found in large quantities and most of them are scattered.

The present state of east Africa's mining industry can be summarized as below.

1. Annual output of minerals is still low but steadily increasing.
2. Many deposits are known to exist but are yet to be worked or exploited due to remote location/ poor transport.
3. A lot of mineral wealth is yet to be discovered therefore minerals account to only less than 10% of the total exports of East Africa.

The following factors have favored successful mining activities in east Africa;

i. Availability of large deposits of minerals i.e. economically exploitable deposits e.g. copper at Kilembe, Limestone at Mombasa, Wazo hills in Dar-es-salaam, Tororo and Hima in Uganda, diamonds at Mwadui, etc. which makes mining viable and profitable.
ii. Availability of adequate capital for investment in machinery, infrastructure and labor especially from the east African governments and foreign investors.
iii. Availability of adequate skilled labor for running machines specially the miners contributing to high output.
iv. Availability of advanced technology which has made mining efficient and profitable.
v. Availability of a big market for minerals most especially the external market for export purposes.
vi. Well-developed means of transport especially railway transport mainly for the movement of the one to the processing industries and connecting to the ports for export purposes.
vii. Availability of adequate power supply especially hydro-electric power for processing and extraction of the minerals.
viii. Supportive government policies geared towards economic diversification especially by encouraging foreign investors into the mining industry.

Economic importance

- The mining sector provides employment opportunities to many people thereby improving their standards of living through
- Exportation of minerals brings in the much needed foreign exchange for economic development.
- Mining has stimulated industrial development by providing raw materials to industries especially mineral processing industries and Also provides a market for manufactured goods especially tools, equipment and spare parts thereby creating more employment, more revenue
- Mining has also led to development of towns (urbanization) eg Mwadui, Magadi, Kilembe, Tororo, Hima, etc thereby bringing services closer to the people.

- Mining has also led to infrastructural development especially roads and railway lines thus facilitating movement of people and goods (trade).
- It has also led to improvement of international relationships through exportation of minerals leading to international trade and cooperation.
- It provides revenue to the government in terms of taxes leading to provision of social services.
- Mining has also helped in diversifying the economies of east Africa leading to more revenue, employment, etc.

Problems facing the mining industry in east Africa

- The exploitation of minerals has been hampered by the following
- Shortage of capital which has greatly delayed a lot of mining projects.
- Poor transport network ie most roads are in a sorry state, the railway lines are very old and in some places have been vandalized (stolen); making it either very expensive or impossible to transport minerals.
- Inaccessibility of some areas especially the rugged mountainous regions making mining impossible e.g. kigezi, southern highlands of Tanzania.
- Political instabilities and terrorist attacks greatly negatively affect the mining process and son times bring it to a half.
- Inadequate skilled labor forcing the industry to almost entirely depend on imported labor (expatriates) which makes it costly and lowers the productivity.
- Most minerals exist in small scattered quantities therefore uneconomical to mine.
- There is inadequate power supply which hinders processing of the minerals for value addition.
- Over exploitation of mineral in some cases leading to exhaustion and a threat of closure of some mines e.g. Kilembe.
- The working depth in some mines is a threat resulting into abnormally high temperature, explosion of underground gases, collapse of mines and too much underground water; all of which are a threat to workers (death)

DISTRIBUTION OF MINERALS

In Kenya, the most important minerals are soda ash and salt from Lake Magadi. This is the largest deposit of soda ash in the world and the soda ash is processed to produce sodium carbonate which is used in the making of glass and paper.

This large deposit has been worked since 1919. The mineral is formed as a result of evaporation of water in the lake due to the dry condition in this part of the rift valley.

It is being deposited by water from underground so there is little danger of the supply running out.

The biggest importers of soda ash from Magadi are countries of the European Union especially UK, Germany and France.

USA, Japan and Republic of South Africa also import soda ash from Kenya and some of it is used locally.

The mineral is extracted by using open cast method and the ore is transported to the factory either by use of conveyers to the factory which is adjacent to the lake or by tractors. The mineral is processed by washing, recycling and then thoroughly heated and lastly graded and bagged.

Other minerals include salt which is 90% produced at magadi and the rest from the coastal areas of Malindi. Together, the two minerals i.e. soda ash and salt make nearly ¾ of Kenya's total mineral revenue.

Gold is the 3rd important minerals in Kenya but again it occurs in small scattered areas in Nyanza province.

Lead, zinc and limestone are also found near the coast of Mombasa. Limestone is the most important in this area mainly produced at bamburi where the rock is extracted by open cast method to produce cement.

In Uganda, copper is the most important minerals and was discovered in 1947 at the foot hills of mountain Ruwenzori. Mining started in 1956 after the completion of Owen falls dam and the railway line to Kasese.

Mining is done by open cast and underground methods (ADIT method) the ore is very heavy, so it is crashed and reduced to powder. It is then separated from the ores by mixing it in large tanks of water leaving 25% of copper at the bottom of the tanks.

This is then dried and transported to jinja for smelting to produce copper blisters or bars or ingots which are lighter and fetch more money. This is the copper which is exported to Japan, Canada, UK, USA and some of it is used locally.

The main uses of copper include manufactures of electric, telegraphic and telephone equipment, brewing machines, rust resistant machines and ball bearings of mining equipment. The fear of mineral exhaustion, breakdown of railway, lower grades of copper, rising costs of mining and falling market prices are the major challenges.

A part from copper, there are other minerals in Uganda though still in scattered form. One of them is limestone which is used in manufacture of cement; the other is phosphorous for fertilizers. Limestone exists in Tororo volcanic plugs and at Hima in Western Uganda near kasese. Mining is done using open cast method (quarrying) and we have the Tororo and Hima cement factories located near the deposits. We also have iron ore in Kigezi but the mountainous nature of the landscape has prevented its mining.

Gold is also found in small quantities in Singo, namayingo and Karamoja and mining is done locally.

Oil reserves have been discovered in the western rift valley near Lake Albert and plans to exploit it are in advanced stages.

In Tanzania, diamonds are the most important mineral and the third largest export by value. It is mined at the Williamson diamond mines at Mwadui in Shinyanga district 89 miles south of Mwanza.
The mine is self-contained i.e. it provides all the social services to the employees and the district e.g. school, hospitals, shops, post office, brewery, bakery, recreation facilities, and an abattoir. Because of this, Mwadui has grown into a big town.
Diamond was formed by an intrusion of lava which solidifies to form a volcanic plug. Erosion of the plug led to the scattering of diamond and its concentration around the plug. The plug itself covers the surface area of 146 hectares, the largest so far in the world.
Mining is carried out from the surface using open cast methods where excavators and catapillar with shovels are used to excavate the ore. The ore is then loaded on to massive dumper trucks which transport the ore to the processing factory.
The mine faces the problem of increasing work depth and soil erosion.
Apart from diamonds, coal is found in southern Tanzania highlands (Kipengere) but mining has been tampered by poor transport.
Gold has also been produced for many years and limestone is found in Wazo, north of Dar-es-salaam where it is used to produce cement.

DIAMOND MINING IN TANZANIA

Open cast methods are used to extract the diamonds after the diamonds have been extracted, they are transported to the processing plants where the diamond is refined through several process.

After the processing, gem diamonds (high quality) diamond is obtained which is used in the making of jewelry. Industrial diamond is also obtained (poor quality) which is used in metal cutting and drilling through rocks.

The diamond is mainly exported to Japan, Germany and R. of South Africa.

BENEFITS OF DIAMOND MINING TOMWANDUI/ TANZANIA

- Foreign exchange is obtained from the exports of diamonds which is used in the development process.
- Mwadui has developed into an urban centre in the Shinyanga district. This has brought many services closer to the people.
- It has led to development of communication and (transport) lines e.g. the road and railway line from Tabora to Mwanza through Mwadui.
- More chances of employment in the mines and the processing plants have created employment to miners and factory workers have led to better standards of living.
- Social services have been set up in the area e.g. schools, hospitals, areas for recreation etc. Generally mwadui has turned out to be self-contained village as a result of the mines.

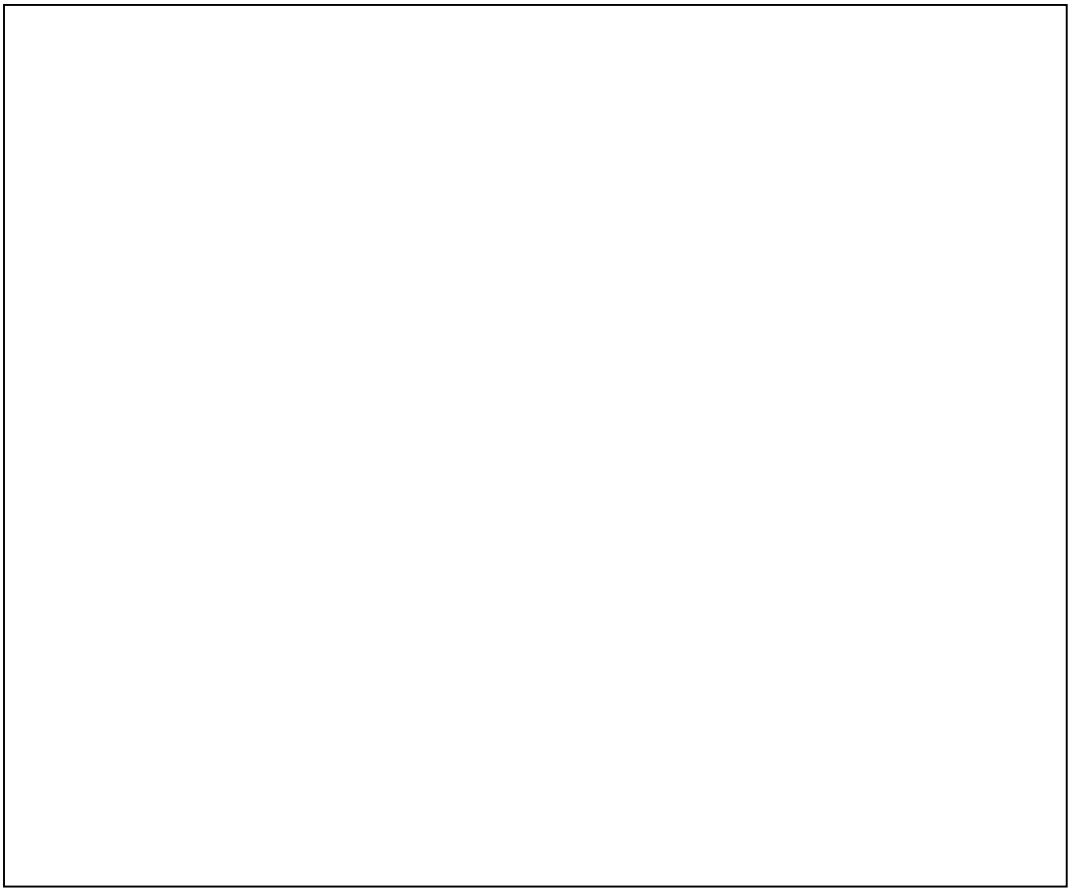
- People around the mines enjoy better standards of living since they have been provided with electricity.
- Government of Tanzania earns international revenue from works and the mining company (De bears). This revenue benefits other parts of the country.
- Diamond mining has led to growth of industries which refine the minerals.

PROBLEMS CREATED BY MINING OF DIAMONDS

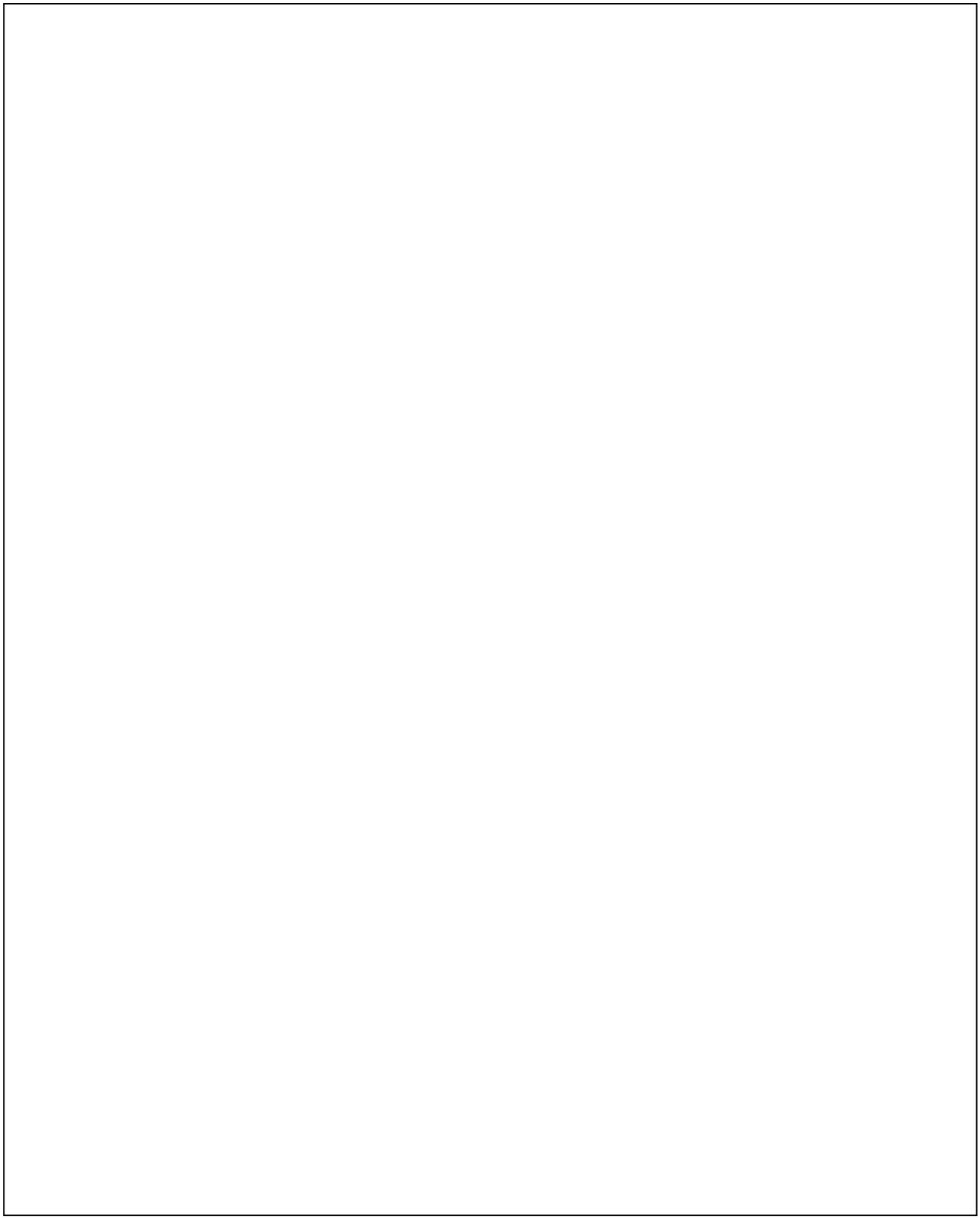
The major problem resulting from mining is environmental degradation. It occurs through.

- Destruction of vegetation
- Destruction of the landscape because many holes and pits are dug in the surface.
- A lot of pollution including air and water pollution.
- Mining has resulted into marginalization of agriculture resulting into food shortages in the surrounding areas.
- The open holes and pits when filled with water act as breeding grounds for mosquitoes which increases malaria cases.
- The digging of pits and holes in the surface affects the drainage of the area.

A MAP SHOWING THE LOCATION OF MWANDUI



GEOGRAPHICAL SECTION OF ROCKS AT MWANDUI MINE.

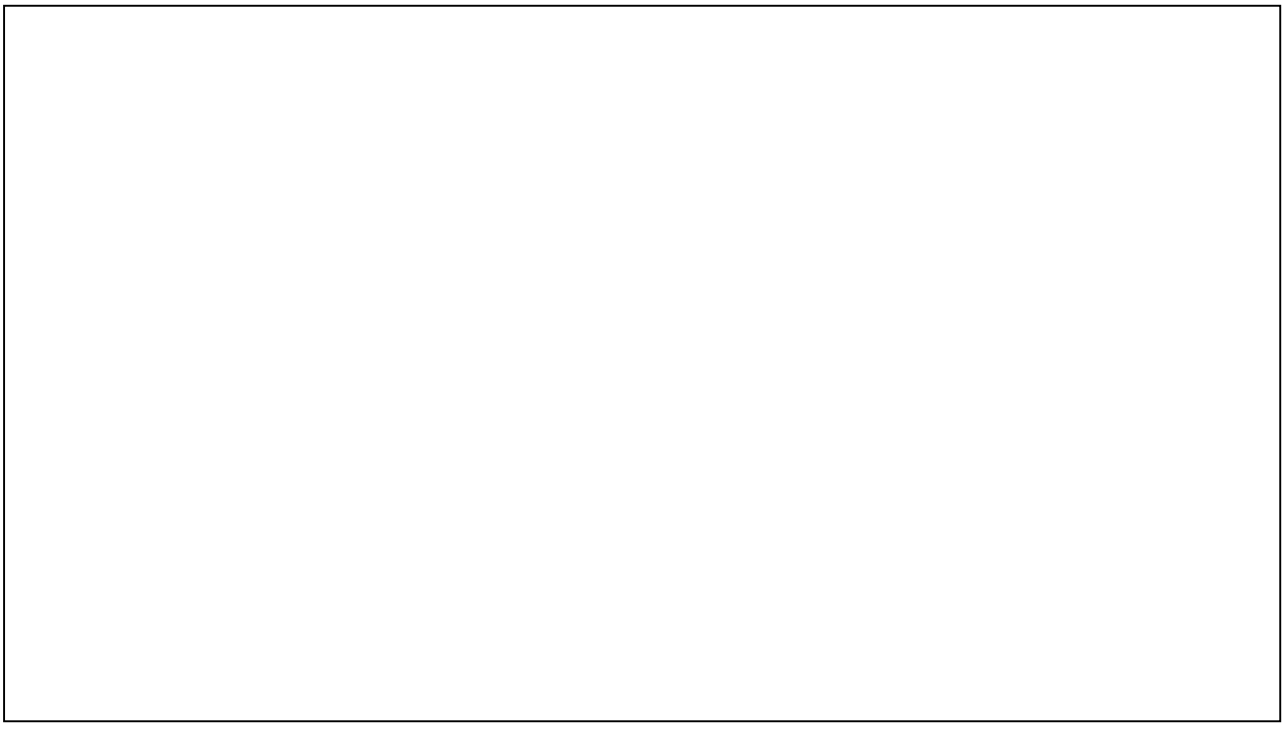


IMPORTANCE OF MINING TO EAST AFRICAN COUNTRIES

Mining is a source of employment which earns income to the people and improves their standards of living.

- Mining is a source of foreign exchange to East African countries which is used to develop other sector like agriculture.
- Mining also diversifies the economy of E. Africa which reduces the risks of relying on one product.
- Mining also enables the infertile areas to be utilized for such activities.
- Mining provides raw materials in the industries which are used to make other products.
- Some minerals are source of foods to the people and hence supply nutrients to their bodies e.g. salt
- The mines attract tourists from whom income is earn and used to develop infrastructure.
- Mining has led to development of areas where the mines are located into big towns which bring the services nearer to people.
- The government earns revenue from taxes levied on companies carrying out mining which is used to develop other sectors and infrastructure.
- Mining encourages development of infrastructure like roads, hospitals etc in areas where it is carried out for easy accessibility.

A MAP OF EAST AFRICA SHOWING DISTRIBUTION OF MINERALS.



POWER AND ENERGY PRODUCTION IN EAST AFRICA.

This is the most important for the day to day running of industries and factories, domestic use, transport sector and many other sectors of the economy.
Power and energy has greatly contributed to development of East African countries.
Power is energy when it is being used to do work.

SOURCES OF ENERGY;

There are different sources of energy produced by different sources, namely the sun, fossils, wind, water and plants. These sources provide immense power, which given appropriate technology, could provide mankind with infinite sources of energy. Energy sources can be;

1. Renewable or
2. Nonrenewable sources

Renewable sources have the natural ability to reappear after being in use, through quick recycling. Examples of renewable sources of energy are;

- Solar energy generated from the sun.
- Wind energy generated from air in motion.
- Hydro power derived from flowing water in rivers.
- Geothermal energy generated by the flow of heat from the earth's core.
- Biomass is energy generated from animal and plant material waste e.g. manure.
- Charcoal produced when wood is burned with limited oxygen to support combustion (pyrolysis).
- Fuel wood the most commonly used in upcountry in east Africa (burning of wood to produce energy.

Nonrenewable sources of energy lack the natural capacity of recycling themselves after exhaustion. They are likely to be exhausted if not carefully used or extracted. Examples include;

- Petroleum which consists of gaseous and liquid hydrocarbons from animal and vegetation matter laid in sedimentary rocks. Transport and industries rely on petroleum. Natural gas and petroleum are refined to get products like motor oil, diesel, kerosene, gasoline, jet fuel, lubricants, liquid and petroleum gas.
- Coal which is made up of vegetable matter laid down in swampy areas, consists mainly of amorphous deposits.
- Peat which is young coal consisting of partially decomposed organic matter and inorganic minerals in water saturated areas.
- Nuclear energy or atomic energy derived from the alteration of atomic structures. Radioactive minerals like uranium are split in nuclear reactors to produce heat.

- For the case of E.A, it is not well gifted in the all the above mentioned sources except Hydroelectricity and solar.
- There are other small deposits of oil on the shores of Lake Albert (Tonya, Kaiso and Mputa) and also on the showers of Lake Edward and George.
- Coal exists in southern Tanzania but its mining is not yet developed because of the distance from the rail line and also the mountainous nature of the landscape. Also the quality and quantity of coal can't be compared with that of the developed countries.

- For hydroelectricity, the situation is different and therefore E.A has a very potential of generating large quantities of H.E.P.
- Owen falls dam is the major working station in the region located on R. Nile near jinja in Eastern Uganda. It was constructed in 1954 and is one of the major power stations in the world.
  The factors that favoured the establishment of the Owen falls dam included;

- Presence of Lake Victoria which gives a large and constant flow of water to the river. A large volume of water provides plenty of force behind the water from the natural reservoir meaning that the dam can operate all the time whether wet or dry season.

- NB, of recent, there has been a serious decline in the volume of water in the lake and a construction of a canal on the Eastern side for a new dam known as Kiira has greatly reduced the volume of water behind the dam and therefore seriously reduced amount of HEP produced.

- The presence of waterfalls which provided a favourable site for generation of HEP.

- The hard rock basement below the narrow channel provided opportunity to construct the dam easily.
- The steep river banks and valleys on either side between which the dam was constructed.

- The area also gets heavy rainfall which is also an important factor i.e. rainfall feeds the lake that feeds the river.
- There was a large market for HEP with the eastern, central as well as other parts of Uganda and other neighboring countries like Kenya and Tanzania.
- The colonial administration also provided capital and as well as technical assistance for dam construction.
- There was also cheap unskilled labour from parts of jinja and also jinja itself because of the dense population.
- Favorable political climate i.e. areas around jinja by that time were highly stable i.e. they were known because of no political instability in the region.

- Improved transport and communication networks i.e. road transport and railway transport which was used for transportation of raw materials for construction of dam and power station e.g. cement , machinery, equipment above all the railway from Mombasa facilitated transportation of machinery in the site.

- The dam provides power to the densely population in the nearby areas, it is also consumed in Kampala, Masaka up to Kabale in the south west, Tororo, Mbale to the East and parts of Northern Uganda. Large amounts of power are exported to Kenya, Tanzania and Rwanda.

NB, Due to the demands, the dam is undergoing a major rehabilitation programme in order to produce to its capacity.
Another dam was constructed on the eastern side of Owen falls which is known as Kiira power station. It was expected to increase power output however because the dam was constructed on canal, the volume of water is low and the force behind it is also too low. This means that kiira has not had any significant effect as far as increasing power product is concerned.

The third power station currently under preparation is Mubuku on R. mubuku in W. Uganda on the foot hill of Ruwenzori which supplement power production for kilembe mineral and kasese town.
It has a capacity of 5mw
Karuma, Isimba and bujagali hydro stations are also recent developments along the Nile in Uganda. .
Kikagati power station on R. kagera with the capacity of I6 MW. It was constructed in early 1950s and it supplies power to Mbarara and Northern Tanzania.

Maziba power station is small dam on R. Maziba supplying power to kabale and tin mines of kigezi.
Tokwer mini power station in Bundibujjo i.e. this is the smallest power power station with capacity of 0.21MW.
Kasese cobalt power station (mubuku), this produces 10.5MW. it is supplied to the cobalt plant in Kasese and the rest is sold.
There are however small hydro power sites in Uganda i.e. Bugoye in Kasese (11MW), Dirigana (siranka 0.35.0.45), Asia in Adjumani, Ishasha power station in Rukungiri, Kagando in Kasese, etc.
Apart from Uganda being the most favored country in terms of power resources, very few parts of E.A often have the same possibilities. Much of Tanzania has got a long drought season and this means that although there are big rivers; their flow varies very much between the wet seasons. Therefore very large dams have to be built to store water for which is very expensive.

In Tanzania, river Pangani and the great Ruaha River offer good sites for power generation. Pangani power station is the largest single hydro power station in Tanzania and it's located on river pangani, with water catchment in Usambara and Kilimanjaro highlands. The actual generating power station is found at Hale near pangani fort.

Kenya suffers from the same problem as Tanzania i.e. drought seasons. The only promising rivers are river Tana where a series of power station have been established, called the seven folks power scheme. Among these is kindaruma dam which is supposed to be the biggest in E.A and is expected to produce 200mw at full capacity. The whole project was implemented in stages and the first stage involved the construction of seven power dams each with the capacity of 40mw which was completed in 1968.
The second stage is involved construction of Kamburu power station with the capacity of 94mw. The third stage involved the construction of gitaru power station completed in 1980s and the fourth stage aimed at constructing Masinga dam and finally kiambere dam.
The seven folks power project was favoured by a number of factors which include the following;

- Presence of favourable sites on River Tana for generating power e.g. river Tana drops 260m in 40km distance. This fall increases the speed of water and gives it power to run the turbines.
- River Tana has its water catchment from Mt, Kenya highland which receives heavy rainfall there by supply steady supply of water.
- High demands for power especially the industrial town of Nairobi.
- The hard basement rock which is an added along this river which raise the speed of water.
- Presence of large sums of capital most of which was provided by Kenyan government.
- Presence of both skilled and semi- skilled labor which contributed a lot in the construction of these dams.

  Other hydro power projects in Kenya include Turkwel George dam on river turkwel in the rift valley, Gogo falls dam on river kuja in migori district of nyanza province. Generally, it can be said that, there is a considerable future prospect for hydroelectric power development in E.A which is expected to have significant impact on the development of E.A.

GEO THERMAL POWER

This is the use of the earth's internal heat to drive machines. This heat reaches the surface mainly in areas which have experienced volcanicity at points of hot springs and geysers.

Geo thermal power is a recent development in E.A particularly in Kenya where power is generated from geo thermal streams (hot springs and geysers) in Lake Naivasha and Elementaita areas of the rift valley of Kenya.

There are three main geo thermal sites i.e.

- Olkaria geo thermal field south of Naivasha.
- Eburru geo thermal field north of Lake Naivasha.
- Lake Bogaria geo thermal field.
- Menengai crater region.
- Lake Baringo area.
- Lake magadi area and
- The south of Lake Turkana.

PROBLEMS LIMITING ELECTRICITY PRODUCTION IN EASTAFRICA

- The consumption level is low due to generally low demand of electricity especially for domestic purposes because most people are poor.
- The type of power widely used by people of E.A is wood fuel/ charcoal thus reducing demand for electricity. However this natural resource is getting depleted.
- Dryness and unreliable rainfall in most parts of E.A which makes most rivers seasonal and unsuitable for power generation.
- Acute shortage of capital to invest in the energy sector (construction of dams).
- Low levels of technology in east Africa leads to underdevelopment of the sector.
- Limited supply of skilled manpower to develop the energy potential of the region.
- Remote location of energy potential coupled with the transport challenges.
- Conflicting interests in environmental protection and exploitation of energy resources also causes delays.