P250/3

THE GEOGRAPHY OF UGANDA AND FIELDWORK

COURSE OUTLINE

- Field work
- Physical geography
- Vegetation
- Forestry
- Fishing
- Mining
- Manufacturing industry
- Power and energy
- Transport and communication
- Urbanization tourism and nature conservation
- Wetlands
- Agriculture
- Environmental degradation

REFERENCE

- Internet
- Uganda secondary atlas (Moran Macmillan)
- Nema reports 1998-2011
- Revision questions in regional geography of Uganda and field work by kichodo Henne
- The changing geography of Uganda for A-level by sekkalegga Abbas Ssentamu 2o14
- Unlocking the geography of Uganda and field work by Nsubuga Martin.
- Geography of Uganda and fieldwork by Byamugisha.
- UNEB question Bank A-level.
TIPS OF PASSING P250/3

Read purposely by taking note of key notes illustrators and examples.

When choosing questions, always begin with the easiest one.

The paper is marked by impression therefore your expression must convince the examiner.

Always introduce your essays with facts and relevant examples and these should be followed by a relevant mark.

NOTE.

A map should never be used as a conclusion.

Avoid drawing basket maps and while drawing, put in mind the quality of a good map.

Be informed on the current affairs because geography of Uganda is dynamic.

Always your point must appear in the sentence of your paragraph followed by illustration, explanation and then examples.

An average paragraph should take 6-8 lines.

Position of Uganda

Uganda lies along the equator between longitude 29¹/2'E and 35¹/2°E of the Greenwich meridiem and latitude 4°N and 1¹/2°S of the equator.

Uganda is landlocked country bordering south and Rwanda in the South West.

Uganda covers a total area of 244,400km² with 15.3% as opening water.

Uganda has a population approximately 37million people as per 2014 population census making her to have the highest population among the three East African Countries.

FISHING IN UGANDA

Fishing refers to the extraction of aquatic life from different water bodies like lakes, rivers, streams, swamps and ponds. The fishing industry involves the extraction, transportation, processing and marketing of fish and related fish products.
Over 80% of fish harvest is from Lake Victoria and Lake Kyoga. The common types of fish caught in Uganda are the Nile perch, Tilapia and Silva fish. 60% of fish caught in Uganda is sold fresh and 40% is processed into other products like fish fillet, oil, skins, animal feed etc. Uganda earned an estimate 124m US dollars in export revenue in 2008.

**MAJOR FISHING GROUNDS IN UGANDA**

These include places with their prominent landing sites;

- Lake Victoria with landing sites like Katosi in Mukono, Kiyindi, Senyi, Ss in Bwikwe, Lambo in Masaka, Kasensero and Mizinda in Rakai, Masese in Jinja, Katebo in Mpigi, Majanj in Busia, Kasenyi in Wakiso.

- Lake Kyoga with landing sites like Namasale in Kamuli, Galilaya in Kayunga, Lwampanga in Nakasongola, Bukungu in Buyende, Lacle Apac.

- Lake Albert with landing site like Ntoroko in Ntoroko, Buhuka, Kiiso, and Tonya in Hoima, Wansee in Buliisa, Butyaba in Hoima.

- Lake Edward with landing site like Rwenshama and Katwe in Kasese, Hamkungu and Kasenyi in Kasese, Kahendero in Rubirizi, Katungulu in the Kazinga channel.


- Swamps like river line swamps, Nabugabo in Masaka, Lweera swamp in Kalungu, Galilaya swamp in Kayunga, Sango bay swamp in Rakai.

- Ponds like Nkoma in Mbale, Palisa pond in Palisa, Kajjansi ponds in Kampala, Rukingiri ponds etc.

**METHODS OF FISHING USED IN UGANDA**

There are various methods of fishing used in Uganda, are both traditional and modern methods. The traditional methods of fishing are normally used to catch fish for normal consumption and they include; baskets, hooks, pressure lamps (light), spears, bows and arrows, beach seining etc.

The modern methods of fishing are used to catch fish for commercial purposes or for sale and they include; gill netting, long lining etc.
There are different preservation methods used in Uganda and they are also both tradition and modern methods.
The traditional methods of fish preservation include; smoking, sun drying, salting etc.
The modern methods of fish preservation used in Uganda include, deep freezing, ice and salt method, canning, deep frying/factory drying.

**FACTORS FAVOURING FISHING IN UGANDA**

Presence of several fishing grounds especially the lakes like Lake Victoria in Wakiso, Kampala, Mpigi, Masaka, Jinja, Bujiri, Mayunge, Mukono etc. Lake Kyoga in Kayunga, Nakasongola, Buyende, and Kamuli. Lake Albert in Hoima, and Bulisa, L. Edward and George in Kasese etc. Swamps like Lumbuye and Walugogo in Iganga, Lwera in Kalungu, Doho in Tororo and Palisa, Sango bay in Rakai, Katonga, in Mpigi, etc. Rivers like Katonga in Mpigi and Gomba, Kagera in Rakai, Albert Nile in Nebbi. Ponds like kitangala in Nakasongola, Nkoma in Mbale, Palisa in palisa, Kajjansi in Wakiso etc.

The existence of a variety of fish or commercial value like Nile perch, Tilapia, Silva fish etc, extracted from water bodies like L. Victoria in Wakiso, Kampala, L. kyoga in Kayunga And Nakasongola, Albert in Hoima and Bulisa.

The intended show lines of most of the lakes like L. Victoria in Wakiso, Kampala, Jinja, L. Kyoga in Kayunga, Nakasongola, L. Albert in Hoima etc. these have provided proper breeding places for fish and excellent landing sites like Kasenyi in Wakiso, Kiyindi in Lwampanga in Nakasongola, Galilaya in Kayunga, on L. kyoga, Rweshama in Katwe on L. Edward etc.

Abundant fish food (planktons) in the water bodies. This is due to large number of water inlets and fairy shallow water bodies. Plunk tons consist of small animals and plant life found floating on water bodies. This has supported the large population of fish leading to high levels of fish production in different areas.

Presence of large forests which provide timber for both construction and fire wood for smoking fish e.g. Bugala forest of ssese and Buvuma forest of lake Victoria and Bugoma forest in Hoima.

The relatively cool temperature on lakes Victoria and Albert have also influenced fishing since fish can be preserved under natural conditions for at least 6 hours.

Presence of numerous islands like Bugala, (ssese), Buvuma, Koome etc which provide potential size for establishment of fish landing sites.

Availability of large market for fish especially Tilapia, Nile perch, Silva fish and others within and outside Uganda. Fish is highly demanded in areas like Kampala, Masaka, Wakiso, Mukono and it is being exported to foreign countries like Democratic Republic of Congo, South Sudan, China, Middle East etc by companies like Kwan Sung, Ngege, Gobi fishers, Greenfield etc.
Availability of large sums of capital invested in the fishing industry. This capital is provided by private companies Oakwood investments in Kasensero, Hwan sung at Nakawa, Green field in Entebbe, fish ways at Bukakata and Masese fish packers at Masese etc. the capital is normally used to buy boats, nets, floaters, engines, paying the workers etc.

Availability of improved transport network to transport fishing equipments and labour to the fishing ground and fish to the market centers like Kampala, Entebbe, Jinja etc. E.g. Masese road links to Masese landing site on Lake Victoria to Jinja, Nabagereka road connects Kasenye landing site on L. Victoria to Entebbe, Kampala, Pinto road connects Kasenye landing site on L. Victoria to Kyotera, Mutukula and Masaka market, Mukono Katosi connects Katosi landing site to Mukono and beyond. Entebbe airport is being used to export to Britain and chaina.

Availability of cheap labour both skilled and unskilled to work in the fishing industry. The skilled labour has been provided by Entebbe Fish institutes, Makerere University, and over institutions in the country.

Availability of modern technology used in the fishing industry like the use of gill netting and the use of long lining methods. Modern processing plant like Masese fish packers at Masese in Jinja fish ways at Bukakata in Masaka etc have also been put in place to process fish.

They have also been also an introduction of the use of modern preservation methods like salt and ice with ice provided by Kilimanjaro ice plant at Bugolobi, Kampala. Modern refrigerated tracks are now available for safe transportation of fish from L. Victoria in Jinja, Kyoga in Nakasongora.

Abundant power supply like hydro electric power generated from Nalubaale and kiira power stations, wood fuel from Bugala forest in ssese islands and Koome forest, solar energy. This power has been important for processing and fish preservations.

Relative political stability encouraging large scale fishing operations. The UPDF marine and police are trying to provide security in areas around L. Kyoga in Kayunga Nakasongola, L. Victoria in Kampala, Masaka, L. Albert in Hoima and Bullisa etc.

Favourable government policy supporting fishing in the country e.g. It has established bodies and parties responsible for the countries fisheries resources for example the Beach Management Units (BMS) on different landing sites like kasenye in Wakiso, Lambo in Masaka, Masese in Jinja etc on Lake Victoria.
The department of fisheries also regulates and guides the fisheries sub-sector of the country. The government has also encouraged many foreign investors to come and improve fishing like Hwan sung company at Nakawa, Masese fish packers in Jinja etc.

The government has also tried to control the water weeds on Lake Victoria and L. Kyoga

GUIDING QUESTIONS

➢ To what extent have the physical factors influenced fishing in Uganda
➢ Examine the factors which have influenced fishing in Uganda.

IMPORTANCE OF FISHING IN UGANDA (POSTIVE)

Fish is a source of food to people around the fish grounds and beyond. It provides proteins and therefore improves people’s diet for example people of Entebbe, Mokono, Jinja, Kampala,and etc depend on fish from lake Victoria, while those in Masindi and Hoima depend on fish from lake Albert etc.

Fishing is a source of employment opportunities to many people in Uganda. These are employed directly as fishermen, boat makers at Kasenyi in Wakiso, Ggabba in Kampala, Majanjir in Busia, etc. on Lake Victoria, Bitiaba in Hoima, Bulisa in etc on Lake Albert and others. Other people have been indirectly employed by the fish processing plants like Masese fish packers in Jinja; Greenfield at Entebbe etc. This improves their standards of living because they can afford to buy goods and services.

Fishing provides a lot of foreign exchange of Uganda through exporting fish and fish products like the swim bladder ‘Ennuni’ to outside countries like Britain Holland, D.R.Congo, Saudi Arabia etc. This has helped the government to provide its people with social services like health, education, transport, and others.

Fishing has facilitated the development of infrastructure especially roads like Mukono-Katosi road, Nabagereka road connecting Kasenyi to Entebbe and beyond etc. these roads have not only been used by the fishing sectors but also other sectors like Agriculture, tourism etc use them.

Fishing is a source of government revenue through taxation. The government taxes people dealing in fishing activities on lakes; Victoria, Kyoga in Kayunga, Nakasongola, Albert in Hoima, Companies like Hwan Sung in Nakawa, Greenfield at Entebbe, Masese fish packers in Jinja, etc. the government also uses this revenue to construct roads, schools, hospitals etc.

Fishing has promoted economic diversification supplementing on the economy of Uganda. The Uganda’s economy does no longer depend on agriculture, tourism, forestry and others. Fishing along water bodies like Kyoga in Nakasongola, Lake Victoria in Mukono Wakiso and others has helped the people living around that area to increase their incomes since it supplements on what they get from other sectors.
Fishing has promoted tourism because many people come from USA, Canada, Holland, Britain, etc to do fishing as a spot for example spot fishing at Kasenyi landing site on lake Victoria in Wakiso Jinja sailing club on lake Victoria in Jinnja etc. This has earned the economy a lot of foreign exchange used to provide services like health, education etc.

Fishing has promoted international relationship between Uganda and countries importing fish and fish products to foreign countries like D.R. Congo, South Sudan, USA etc. International relations have also been promoted through sharing of fishing grounds between Uganda and her neighbours like Kenya and Tanzania whom she shares L. Victoria with D.R Cong that shares L. Albert with her. This has helped Uganda to get foreign and in case of a problem.

Fishing has promoted urbanization and development of landing sites. Many landing sites have been turned into markets because of fishing industries for example Ggaba in Kampala, Majanjki in Busia, and Lwampanga in Nakasongola on Lake Kyoga. This has helped the government to provide people with security, education, health and others.

Fishing has promoted industrialisation i.e. many industries have been setup to process fish for home consumption and export. These industries include Masese fish packers in Jinja, Hwan Sung at Nakawa in Kampala. These industries also provide employment opportunities, revenue to the government, and others.

In relation to the above point, fishing has promoted the live stock industry to provide raw materials e.g. snail shells and silver fish to process animal feeds for example Ugachick at Magigye, Biyinzika farmers at Mukono. These have promoted agricultural development in the country.

Fishing also provides a source of medicine to treat diseases like measles especially silver fish and ‘nkejje’ for people around Lake Victoria in Mukono, Kampala etc.

The fishing industry has promoted research to fishing organizations and students at Kasenyi on Lake Victoria in Wakiso, Rweshanga in Kasese. This has improved research and education to many students from Makerere University and other institutions.

NEGATIVE

Fishing has resulted into the pollution of the environment especially air and water. Waste products from the fish processing industry like Masese fish factory at Masese fishing ground are dumped in Lake Victoria in Jinja causing water pollution. This killed a lot of fish affecting the fishing industry.

Fishing is responsible for deforestation in the surrounding areas. As fisher men try to get firewood for smoking fish, timber for making boats etc they destroy the forest for example Bendegere forest at Kasenyi, Bugala forest in Kalangala etc have been destroyed because of fishing. This has led to reduction of the amount of rainfall received in these areas.
Fishing is associated with urbanization and its related problems like poor sanitation, prostitution, murder etc. this is so common on landing sites like Kasenyi in Wakiso, Masese in Jinja on l. Victoria and Butiaba on Lake Albert in Hoima.

Fishing is associated with accidents leading to loss of life and property. This reduces on labour that would have been used on other sectors of the economy like agriculture leading to food shortage. This is so common on Butiaba landing site on Lake Albert in Hoima.

Commercial fishing has promoted profit re-partition in the country since most of fishing companies are owned by foreign companies for example Hwan Sung is owned by Koreans, Masese fish packers is owned by Indians and others . All these get fish from Lake Victoria, sell it and get the income which they take in their home countries.

The fishing industry has led to the decline of agricultural sector especially around Lake Kyoga such as Lwampanga in Nakasongola and others. In such areas fishing is the dominant economic activity leading to food shortage.

GUIDING QUESTIONS

Asses the contribution of fishing industry to development of Uganda

PROBLEMS FACING THE FISHING INDUSTRY IN UGANDA (PHYSICAL)

Harsh climate conditions in some areas e.g. hot temperatures in areas of Gulu, lira, Masindi, around Lake Kyoga and River Nile have led to death of fish. In addition, heavy rainfall received in some areas like around lake Victoria has hindered the transportation and preservation of fish in some seasons for example at Katosi landing site in Mukono, Kiyindi landing site in Masaka on L. Victoria this leads to losses.

Rigid relief where by some fishing grounds are not accessible because of the steep escarpments for example the Butiaba escarpment on Lake Albert in Hoima, also Lake Kyoga in some parts of Nakasongola and Kayunga are inaccessible. This has limited large scale fishing on these lakes.

Presence of water weed on some fishing grounds and other floating plants (vegetation). This has led to competition for oxygen in these water bodies with both fish and vegetation leading to death of fish. This is so common on lakes Kyoga and Victoria. The weeds have also hindered the fishing vessels hence affecting the fishing sector.

Presence of wild animals which scare away fishermen e.g. crocodiles, water snakes, hippos at kazinga channel as well as River Nile and Lake Kyoga.

Existence of fish predators which feed on other types of fish hence reducing on the population of fish e.g. Nile perch which feeds on Tilapia on lakes Victoria and Kyoga.

The salty nature of some fishing grounds e.g. lakes Edward, George, Katwe. This does not favour the breeding of fish on such lakes.
Limited fishing grounds with indents

Shallowness of some water bodies.

**HUMAN FACTORS**

Unlimited transport and communication network e.g. around Lake Kyoga which is surrounded by swamps, lake Albert with steep sides which has made transportation of fish from such lakes very difficult.

Pollution of water bodies. This is mainly through discharging industrial wastes, chemicals in fishing grounds and this has led to suffocation and death of fish e.g. around lake Victoria in areas of Ggaba and Masese landing site.

Political instabilities in some areas eg around lake Albert ,George, and Edward because of the ADF rebels on R. Nile and L.Kyoga shores has also not been exploited.

Limited or shortage of market due to poverty culture and competition especially fish from lakes Albert, George and Edward is limited to market due to cultural beliefs of people in such areas e.g. Basongoro.

Shortage of man power since majority of Uganda is agriculturalists. Also there are few trained personnel to work as fisheries officers on lakes Kyoga and Edward.

There is a problem of over fishing which has led to fish exhaustion. This is because of poor fishing methods, increasing pollution, over fishing by the fishermen which is a problem on lakes kyoga and Victoria.

Swamp redemption or encroachment of fishing grounds for agriculture, settlement and brick making. This has destroyed fishing activities especially on River Katonga swamp.

Competition from outside fishing countries like Norway, Japan, that have high quality species like sadness, Salmon that out complete Tilapia and Nile Perch from lake Victoria and kyoga on the international market.

Undeveloped fishing methods such as baskets which are very slow and used to catch a few fish. These are largely used along R. Nile, Lake Kyoga and remote areas of Lake Victoria.

Inadequate capital required to carry out commercialized fishing through buying strong nets, engine motoralised boats e.g. on Lake Victoria, Kyoga and Albert, fisher men have inadequate capital to carry out fishing on large scale.

Location of some fishing grounds in remote areas eg on lake Bisina, Wamala, Opeta and Kyoga. This has limited large scale investments in the fishing activities on such lakes.

Poor preservation methods like sun drying and smoking which are commonly used on lake Albert and Kyoga. This has affected the quality and quantity of fish which makes difficult for their making.
GUIDIN QUESTIONS

1. To what extent have physical factors limited fishing activities in Uganda?
2. Examine the problems and factors hindering the development of fishing sector in Uganda.

MEASURES BEING TAKEN TO SOLVE THE PROBLEMS OF THE FISHING SECTOR.

The problem of water weed or Hyphen has been solved by using mechanical harvesters at owen falls dam in Jinja and Port bell, manual weed removal and burning in Mpigi, Luzira prisoners remove it and use it to make crafts introducing water weed pests to feed on the weed on lake Victoria and kyoga.

The problem of net sizes is being solved by recommending standard gill net sizes by the law e.g. Sinch net for Tilapia on Lake Victoria and 4.5 inches on Lake Kyoga. There is also burning of beach-seine nets and impounding of big mature fish.

The problem of over fishing is being solved by restocking on Lake Victoria, kyoga and Edward with high breed fish species from Kajjansi Research Centre and this is being done by the ministry of agriculture, animal industry and fisheries. So as to increase on the quantity of fish species like Nile perch and Tilapia.

Pollution of water bodies is being solved through treatment of national water and sewage cooperation in Kampala before it is deposited off into lake Victoria to reduce pollution may be harmful to people.

Remoteness is being solved by development of modern transport roads eg tarmacing, grading and constructing more roads to landing sites so as to quicken the transportation of fish to markets centres eg Nabagereka road has been rehabilitated to connect and transport fish from kasenyi fishing site to Kampala and Entebbe town and Katosi-Mukono road. The kampala Ggaba road was tarmaced to create access to Lake Victoria and kampala-Nakasongola Lwampanga road has been rehabilitated to facilitate fishing activities on lake Kyoga.

Introduction of modern fishing preservation methods at many landing sites eg Kasenyi, there is use of ice in boats to ensure that preservation at the fishing at many landing sites at kasenyi, there is use of ice in boats to ensure that the fish lands when it is still fresh. Companies eg tropical fish industry, Uganda fish packers in Kampala, Masese in Jinja have refrigerated trucks, which transport fish.

There is training of fish qualified personnel eg tropical fisheries at old Kampala Entebbe institutes of fisheries on Lake Victoria so as to increase the knowledge of fishing technology such as preservation technology.

Research is being carried out in fishing technologies to improve on the alternative production of fish eg introduction of ponds in Kajjansi, Kabalole, Kiboga, palisa and Nkoma etc. foreign fish species have also been introduced eg Nile Perch. Institutions involved in research include lake Victoria fisheries research organization, fisheries Research industry (FRI), Kajjansi Agriculture Development Centre and NEMA etc.
There is construction of fishing processing industries or plant near fishing grounds to improve on the hygiene. E.g. Masese fish packers in Jinja, Hwan Sung fish factory in Nakawa Byanisi Fisheries Company in Rakai, Marine products at Kanyanya along Gayaza road. These mainly pack fish for export.

The problem of poverty and inadequate capital by provision of loans by micro-finance institutions eg FINCA, CERUDEB, Pride micro-finance, DFCU to progressive fishermen in Lanmbu, Bukakata, Kasenyi on lake Victoria to improve on their fishing activities. This has been through formulation of co-operatives e.g. Lake Kyoga Fisheries Company. The money is used to purchase modern fishing gear, construction of ponds and by modern preservation facilities.

Some landing sites have been upgraded through construction of modern infrastructures such as piers, weighing shades, cooling stores eg at kasenyi in Wakiso district.

Political instability is being solved by creating a conducive political atmosphere eg sending UPDF to Western Uganda and Northern Uganda to fight the M23, LRA rebels to enable smooth running of fishing activities on lake kyoga, Edward and George.

Sensitization of the public about proper fishing methods, dangers of swamps reclamation and destruction of forests along fishing grounds eg through NEMA, Functional Adult Literacy (LAF) to discourage pollution, overfishing etc.

The government privatizing the fishing industry by attracting foreign investors eg Hwan Sung fish factory in Nakawa belongs to Koreans Gomba limited to Indians.

The is increase importation of fishing facilities eg motor boats, motor engines nets freezers which are used at Kasenyi, kasensero, in Jinja and Kampala, fish net manufacturing industries have been established and sell the nets at low costs.

The government is discouraging the importation of fish products in the country leaving high taxes on the products, banning fish and other donations by the world food programmes so as to reduce competition and provide market to local fishing industries.

In order to capture a wide market, advertising is being carried by attending trade shows e.g. at Uganda Manufactures Association (UMA), international trade fairs Europe using international website.

The problem of swam reclamation has been solved by discouraging people from settling swammy areas and destructing the vegetation which leads to silting e.g. through NEMA.

The government is embarking on quality fish control methods through establishing a fish laboratory adoption of quality fishing methods eg operation of clean water on lake Victoria so as to meet the international fish quality standards by European. Quality control is done by major institutions such as Uganda fish exporters’ Association, UNBS.

Industries like poultry and live stock are being developed to provide market for fish industries eg Ugachick, Bulemezi farm enterprises and Kagodo chicken feeds which use fish to process chicken feeds.
Regular patrols are undertaken on Lake Victoria and Kyoga by the Beach Management Unit to control pirates and ensure not to use the prohibited fish catching methods e.g. poisoning, seining methods.

**MINING IN UGANDA**

Mining refers to the extraction of minerals from the earth’s crust. These minerals may be metallic or non-metallic.

**STATUS OF THE MINING SECTOR**

There is widespread exploitation of sand and clay in the country. A variety of minerals with commercial value have been discovered in recent years and some are already being exploited e.g. oil in Bulisa, Uranium in Otuke, Apac vermiculite in Mbale and Manafwa.

Large commercial mining is limited due to inadequate capital. Vermiculite and gold are currently leading mineral exports by value. Most of the commercial mining activities are done by foreign companies like Tullow oil and gas company extracting oil in the Albert flats cumin resources, extracting vermiculite from Mbale, gulf resources from Iraq extracting vermiculite from Manafwa.

Most of the minerals are exported in their raw form like gold from Mubende, Busia, and Kaabong.

Some mines that had been closed being re-opened like Kirembe copper mines managed by a chains’ company called Himma libet.

Mining is done using simple tools like hoes, spades for gold mining in Busia and Mubende.

**MINING AREAS AND THE MINERALS MINED**

**KASESE**

- Cobalt
- Limestone
- Salt
- Copper

**BUSIA**

- Gold
- Sand
KAABONG
- gold
- Limestone
- Copper
- Mica

KABALE
- Ironer
- Tin
- Wolfram
- Gold

MANAFWA
- Sand
- Vermiculite

KAPCHORWA
- Lime stone
- Gypsum

TORORO
- Lime stone
- Phosphates

HOIMA
- Oil
- Sand
- salt

BUNDIBUGYO
- Gypsum
- Limestone

KAMWENGE
- Gold

BUSHENYI
- Gold
FACTORS HINDERING THE DEVELOPMENT OF THE MINING SECTOR IN UGANDA

PHYSICAL FACTORS

Most minerals occur in small quantities and they bare widely scattered. This makes their exploitation very hard and costly for example gold in Busia, Kaabong and Mubende has been left to private individuals who operate on a very small scale.

Some minerals in Uganda are of low great quality hence donot complete favourably in the world market eg gold in kaabong and iron ore from kabala are of low great discouraging investors.

Some minerals in Uganda exist under hard beasement rocks which are hard to brust and access eg copper and colbaot at kilembe, oil under the albetine rock in bulisa. This limits there exploitation.

Most of minerals are found In remote areas due to under developed transport and communication network eg Gold in kaabong and tire in Busia Tin and wolfram in kisolo have not en exploited due to remoteness

Some minerals are found in areas of rigid relief characterized by steep escampments and slopes eg oil in the lift valley flow near lake albertin Hoima, copper along mountan rwenzori slopes in kasese, limestone in kapchorwa etc. extraction of such minerals are extreme very hard and expensive.

Unfavorable climate conditions like prolonged droughts have limited the mining of gold in kaabong and kotido, heavy rainfall has limited the mining of sand at kajansi.

Some minerals are found under dense vegetation making their extraction very hard and expensive eg gold in kitaka forest kamwenge.

Pests and diseases have also hindered the development of the mining sector in Uganda. Eg the outbreak of Ebola in the late 1990s and 2007 affected the mining of limestone in kasese.

HUMAN FACTORS

Shortage of capital to invest the mining sector. The economy of Uganda has very little funds to buy modern technological machines for exploitation eg oil drilling machines and excavators cranes in Albert flats are very expensive.

Limited skilled labour to work in the mining sector. The mining sector greatly depends on foreign expatriates who are some times very expensive. Eg Tullow oil and gas company mining oil from Albert.

Political instabilities in some mining areas have scared away investors eg “Omumbere” in kasese and ADF rebels have constantly interfeared with cobalt mining and salt extraction at katwe in kasese . konyi rebels have limited mining of mica in Nebbi.
Hostilities of some tribes such as the kirimajong has limited gold mining in kotido and kaabong, Twa(Batwa) and the Basongola, Bundibugyo and kasese have limited limestone mining.

Exhaustion of some minerals like tin at kikagati in isingiro.

Competition for labour for other sectors especially agriculture, farming, fishing, tourism etc eg gold mining in kabong versus Normadic Pastrolism itea growing at kyanuhunga versus gold mining etc.

Limited research about the quality and quantity of minerals. Eg little is known about gold in kabanng and kotido and this explains why its mining is on a small scle.

Smuggling of some minerals like gold from Bussia is being smuggled ot Kenya,わlfrom from kabala and kisoro is being smuggled to Rwanda and Burundi. This has led to reduction in the revenue received in the industrial sector.

Corruption and embezzlement of funds government officials eg oil extraction from lake Albert flats delayed because some government officials mismanaged funds from contractors.

Shortage of power to power to process the minerals. Most of the mining centres are found in rural areas which donot have hydro electric power to process the minerals eg gold mining in kaabong.

**STEPS BEING TAKEN TO IMPROVE ON THE MINING SECTOR IN UGANDA .**

The government has tried to encourage foreign investors to invest in mineral exploitation and exploration eg Tulluw oil and gas company to exploit oil from the Albert flats, canmin resources extracting vermiculite from Mbale.

There has been extension of power to rural areas to boast mineral production foreexample Bugaye power plant on River Mubuku in kasese has established to boost mining at Kirembe, Dieuel generators have been installed in Yumbe to extract limestone etc.

Importation of modern technology like the oil drilling machines called Derricks, USA to boost exploitation of minerals like oil in the Albert flats.

The discovery of new mineral fields like oil in Albert flats, Gold in kitaka kamwenge district vermiculite in mbale, Gold at Tira in Busia has been done.

Construction of new roads and rehabilitation of new ones has also been done to boost mining activities eg kampala-kiboga road has been improved to oil mining in the Albert flats.

There has been training of skilled labour in high institutions of learning.

Some students have been sent to USA, Libya, South Africa to acquire knowledge and related to mining.
Anti-smuggling units have been established at different boarders like Malaba, Busia on the Ugandan-kenyan boarder, Katuna near Uganda-Rwanda boarder to control the smuggling of minerals especially gold.

Government is ensuring political instability especially where minerals exist eg UPDF soldiers have been stationed at Kasese, the karamajong have been dis-armed in Kotido, kaabong in order to boost gold mining.

Government has put up commissions of inquiry to control corruption and embezzlement of funds in the mining sector eg office of IGG, Public Accounts Committee (PAC) have used to control the embezzlement of funds meant to extract oil in the Albert float.

Government through media is trying to advertise the mining sector in order to attract investors to extract minerals especially oil in the Albert flats. This is done using Website, CNN etc.

IMPORTANCES OF THE MINING SECTOR OF UGANDA.

Mining has led to industrial development in Uganda because it provides minerals which act as raw materials for industries eg limestone from Tororo and Hima has led to the development of Tororo-Hima cement respectively, phosphates from Tororo has led to the establishment of Tororo fertilizer plant.

Mining has provided employment opportunities to many people in the country. Both local and foreign people in the country have been employed as as survayors, miners, engineers by the Tororo lime stone factory, Albert flats-oil minig, calbalt mining at Kirembe etc. The employed workers have been able to get salaries and wages improving their standards of living.

It provides foreign exchange to the government through exporting minerals and mineral products to foreign countries eg cement manufactured from limestone at Tororo and Hima are being exported to south Sudan cobalt from kasese is being exported to Japan and Australia. The foreign exchange received has been used to develop infrastructure like schools, hospitals, roads.

Mining provides revenue to the government through taxing the mining companies and industries processing minerals like Tororo cement in Tororo, Uganda Clays at Kajjansi, Hima cement in Kasese. The revenue is used to develop the infrastructure like schools, roads etc.

Mining has promoted economic diversification supplementing on the revenue received from other sectors like agriculture, fishing etc it has brought about continuous development in Uganda.

Mining has led to the development of towns in Uganda eg kasese due to limestone mining, Tororo due to limestone mining etc. this has made it easy for the government to provide its people with social services like accommodation, security and education.

Mining has led to the development of transport routes especially roads and railway lines eg Kampala-Kiboga road, Hoima-Butiaba road have been improved to accelerate oil exportation. The extension of
the railways like to the west was to transport copper to Jinja. These transport routes have facilitated the
development of other sectors of tourism and agriculture.

Mining has promoted international relationship between Uganda and other countries especially those
whose investors have come to carry out mining like Britain, Canada, Chaina etc eg Tullow oil and gas
companies importing minerals and mineral products like South Sudan have a great bond with Uganda.
This has helped Uganda to get foreign aid promoting continuous development.

Training labour has also led to the development of skills among many Ugandans eg oil mining at the
Albert flats in the area of Kaiso, Bulisa etc has made them to gain skills encouraging mineral exploitation
and exploration they can also operate machines.

The mining industry has developed the construction industry by proving building materials like sand,
bricks, cement, tiles etc for example clay mining at Kajjansi provides bricks and tiles used for house
construction in Kampala, Wakiso, and the surrounding areas. Cement from Tororo limestone has been
used to construct houses and roads in Tororo Jinja and the surrounding areas.

NEGATIVE IMPORTANCES

Mining destabilizes rocks accelerating soil erosion and land slides. This occurs mostly when the audit
methods of mining is used. for example mining of limestone in Tororo and Hima has accelerated soil
erosion in those areas.

Most of the mining activities carried out by foreigners like Turlo oil and gas company from Britain
extracting oil from the Albert Flats, Canmin resources from Canada extracting vermiculite from Mbale.
This has led to profit repatriation leading to economic under development.

Mining has created pits or harrows which acting as breeding places for disease vectors like
mosquitoes and snails that cause malaria and Bilhazia respectively. Eg Clay in Kajjansi-Wakiso district,
seta clay mining –Mukono district, limestone mining to Tororo.

Mining has increased air, water pollution eg mining of limestone in Tororo and Hima has led to air
pollution in Tororo and Hima towns creating health hazards like lung cancer and bronchantics to people,
Cobalt mining and processing in Kasese has led to discharge of cobalt waste into R. Nyamwamba killing
the aquatic life.

Mining has led to destruction of wetlands like clay and sand mining at kajjansi and Nakawuka in wakiso,
seta in Mukono and other swamps around Lake Victoria. This has led to loss of aquatic life, reduction in
rainfall totals in such areas like wakiso and mukono etc.

Mining has led to forest destruction eg gold mining in kamwenge has led to destruction of kitaka forest,
gold mining in in Bushenyi has led to destruction of kyamuhunga forest etc. in muale, mountain Elgon
forests have been cleared to provide firewood for brick and tile firing this leads to loss of soil fertilitiesw,
reduction of rainfall totals in such areas like kamwenge, mukono.
The sector has led the development of urban centers like limestone mining has led the development of Tororo and kasese towns. This has led to urban related problems like drug abuse, robbery, prostitution etc. All these lead to under development.

Mining has led to occurrence of accidents leading to the loss of life and property. Eg limestone mining in Tororo and Hima in kasese weakens the crust leading to collapsing and hence death of workers and other people.

GUIDING QUESTIONS

1) Account for the low development of the mining sector in Uganda.
   b) Suggest steps that should be taken to improve the mining sector in Uganda.
2) Account for the expansion of the mining sector in Uganda since 1990.
3) Assess the importance of the mining sector to the economic development of Uganda.
4) Describe the status of the mining sector.
   b) How can the mining sector of Uganda be improved up on.

FORESTRY

Planted forests
Kateera in kiboga
Katuugo in Nakasongola
Muko and Mafuga in kabala
Lendu in Zombo
Aber and Wiceri in Gulu
Magamaga in Jinja

Savanna woodlands/forests
Mt kei forest in kaboko
Otze in Moyo
Timu and Murongo le in kaabong

Tropical low lands / forests
Mabira in Buikwe
Budongo in Masindi and Kiryandongo
Bugoma in Hoima
Malabigambo in Rakai
Maramagambo in Bushenyi
Katoshya- kitoma forest in Bushenyi etc.

**Tropical highland forests**
Mt Rwenzori forest in Bundibugyo and Kasese
Mt Elgon forest in Mbale and Kapchorwa
Mt Mugahiga forest in Rukungiri and kisoro
Bwindi impenetrable forest in kanungu.

**FISHING**
Lakes with their landing sites

**Lake Victoria**
Katosi – Mukono
Kiyindi and senyi – Buikwe
Lambu – Masaka
Majanji – Busia
Masese – Jinja
Kasensero and Mizinda – Rakai
Kateba – Mpigi
Kasenyi – Wakiso
Ggaba – Kampala etc

**Lake kyoga**
Namasaale – kamuli
Galilaya – Kayunga
Lwampanga – Nakasongola
bukungu – Buyend
laale – Aperch

**Lake Albert**
Ntoroko – Ntoroko
Buhuka and wasenko – Buliisa
Tonya - kagadi

**Lake Edward**
Lwenshama and katwe – kasese

**L. George**
Hamukungu and kasenyi – kasese
Kahendo – Rubiriza
Kotungules - kazinga channel

R. Nile – kayunga and Jinja
R. Aswa – Kitgum
R. Albert Nile – Nebbi
R. Kafu – Masindi
R. katonga – Mpigi etc

**SWAMPS**
Nabugabo – Masaka
Galilaya – kayunga
Lwera – kalungu
Kibimba – Bugiri
Doho – palisa
- Butalejja
Luzira – Kampala

PONDS

Kajjansi – Wakiso

Nkoma – Mbale

Kitangala – Nakasongola

Palisa ponds – Palisa

Rukungiri ponds – Rukungiri

MINING

a) Mining companies and minerals mined

Angola Uganda Company (Britain)

- Gold in mubende

Canmin Resources (Canada)

- Vermiculite in Mbale

Gulf Resources (Iraka)

- Vermiculite in Manafwa

Taulo oil and Gas limited

- Oil in Albert flats

Ataco limited

- Mining gypsum in Bundibugyo.

Basungola limestone limited

- Limestone in Kasese

Hima- Tibet also mining

- Limestone in kasese.

Minerals mined in Uganda

- Gold at Tira in Busia at lubali in bukuya, Mubende district, kitaka in kamwenge and kaabog etc.
- Limestone in kasese, tororo moyo and kapchorwa
- Salt in hoima, katwe in kasese.
- Cobalt in kasese
- Gypsum in bundibugyo
- Tin in kabala and kisoro
- Oil in Hoima
- Mica in Nebbi

<table>
<thead>
<tr>
<th>Major industrial towns</th>
<th>Industries</th>
<th>Industrial areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAMPALA</td>
<td>- Iron and steel eg Uganda baati</td>
<td>Nakawa industrial area</td>
</tr>
<tr>
<td></td>
<td>- Uganda breweries limited</td>
<td>Luzira</td>
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<tr>
<td></td>
<td>- Printing and publishing eg monitor and new vision</td>
<td>Industrial area</td>
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<td></td>
<td>- Seamier agricultural and life stock industry</td>
<td>Bugolobi</td>
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<td>- Quality chemical industry</td>
<td>Luzira</td>
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<tr>
<td></td>
<td>- Confectionanes eg family loaf</td>
<td>Natete</td>
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<td></td>
<td>- Roofiings Uganda</td>
<td>Lubowa</td>
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<td>JINJA</td>
<td>- BIDCO oil company</td>
<td>Masese</td>
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<td>- Nile ply limited</td>
<td>Jinja town</td>
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<td></td>
<td>- Kakira sugar works</td>
<td>Kakira</td>
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<td></td>
<td>- Uganda grain milling company</td>
<td>Jinja town</td>
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<tr>
<td>NJERU</td>
<td>- Nile breweries limited</td>
<td>Lugazi</td>
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<td>- Southern range</td>
<td>Lugazi</td>
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<td>- Nyanza textile</td>
<td>Kasaka</td>
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<td></td>
<td>- Vita from Uganda limited</td>
<td>Sezibwa</td>
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<td>LUGAZI</td>
<td>- UGMA</td>
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<td>- Sugar operation pf Uganda limited (scoul)</td>
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<td></td>
<td>- Kasaka tea processes</td>
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<td>- Uganda farmer’s sugar factory</td>
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<td>Wakiso</td>
<td>Uganda clays limited kajjansi</td>
<td>Maga</td>
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<td>JESA farm for milk</td>
<td>Busujju</td>
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<td>KASESE</td>
<td>- Hoima cement factory, Hima cobalt recycling plant kirembe crest foam.</td>
<td>Kasese</td>
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<td>Mbale</td>
<td>- Printing and publication</td>
<td>Mbale</td>
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<td>- Deluxe Uganda limited.</td>
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<td>- African textiles.</td>
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<td>- Kyagalanyi coffee processing.</td>
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<td>Tororo</td>
<td>- Tororo cement factory</td>
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<td>Mukono</td>
<td>- Century bottling company.</td>
<td>Namenvu</td>
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<td>- Roofings Uganda</td>
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<td>- Tian Tana and Abacus</td>
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<td></td>
<td>- Mukono Bread Bakery</td>
<td>Mukono</td>
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**POPULATION**

**Densely populated areas**

Kampala, wakiso, kabala, Mbale, Bududa, Iganga, kisoro

**Moderately populated areas**

Luwero, kiboga, Kamuli, Mubende, Nakasongola, lira

**Sparsely populated areas**

Kaabong, moroto, Amorata, Kotido, Abim.

**URBANISATION**

Kampala city

Municipalities

Mukono

Masaka
INDUSTRIALIZATION IN UGANDA

This is the process of transforming raw materials into finished goods for human consumption.

OR

It is the process of transferring organic and inorganic raw materials into finished products for human consumption.

STATUS OF INDUSTRIAL SECTOR IN UGANDA

Most industries are small scaled employing many people and use little power.

Many companies are located in urban centers like Kampala, Mukono, Jinja, Mbarara etc.

Most of the industries are agro-based for example sugarcane processing at Lugazi in Buikwe, Alpha dairies in Mbarara, Jesa farm at Busujju in Wakiso, BDCO oil company at Masese in Jinja.

Many of the industries are owned by foreigners SCould, UGMA, Kakira sugar works, At Mukono industries.

Industries have been growing at a rate of about 12% per year and contribute about 18% to the Gross Domestic product (GDP).

MAJOR INDUSTRIAL CENTRES AND THEIR INDUSTRIES

Kampala industrial town with the following industries.

- Tube and steel like Uganda baati at Nakawa.
- Brewing industries like Uganda breweries at Luzira.
- Food processing industries like Sameer agricultural and live stock industry at Bugolobi.
- Printing and publishing like Monitor publications and New vision in the industrial area.
- Beverages like crown bottling company at Nakawa.
- Coffee processing plants like Kyagalanyi at Bugolobi.
- Chemical industries like Quality chemicals at Luzira.
- Nice house of plastic at Bugolobi, Ak Mukono at Nakawa.
- Fish processing plants like Hotloaf along Jinja road.
Jinja industrial towns with the following

Chemical industries like BIDCO company at Masese, Uganda grain milling company.
- Kakira sugar wax at kakira
- Nile ply for timber production
- Novita along main street.

Lugazi industrial towns
- Steel rolling mills eg UGMA like Tembo rolling mill at mukono.
- Tea processing at kasaku.
- Sugar processing by SCOUl etc.

Wakiso industrial towns
- Clay and tile industry eg Uganda clays limited and PAN clays at Kajjansi.
- Fish processing plants like the green field at Entebbe.
- Grain milling at Maganjo.

Mukono industrial towns
- Chemical industries eg Abacus at mbarara producing medicine
- Steel rolling mills eg Tian Tang.
- Confectionaries like mukono bread bakery.

Njeru industrial areas
- Nile breweries limited
- VITA foam limited.
- Southern range Nyanza textiles

Kasese industrial centre
- Cobalt recycling plant at kirembe
- Hima cement factory at Hima
- CREST foam making mattress at kasese.

Mbarara industrial centre
- GBK dairies
- ALPHA dairies
- Century bottling company
FACTORS FAVOURING INDUSTRIAL DEVELOPMENT IN UGANDA

Presence of abundant raw materials has influenced the distribution of industries in Uganda. Eg large quantities of limestone at Tororo and Hima have led to establishment of cement factories in these areas, sugarcane plantations at kakira in Jinja, lugazi in Buikwe and kinyara in Masindi have influenced the establishment of sugar producing industries in these areas etc.

Presence of abundant water supply has also led to the development of industries in the country. Water is used as a raw material by some industries used to clean industrial machines and as cooling agent industries like Nile Breweries at Njeru ugadanda. Breweries at luzira, century bottling company at Namanve and Mbarara use water as a raw material provided by Lake Victoria and lake mburo respectively.

Presence of extensive land for industrial development for example kakira sugar works has been able to expand due to abundant cheap land in Jinja, Ak Mukwano industries at kibuli has also been able to expand due to extensive land, century bottling company and Rwenzori have also been able to expand due to extensive land in Namanve.

Presence of abundant power supply to run the machines, provide light and preserve raw materials and produced goods for example Roofings Uganda limited at lubowa, and AK mukwano industries in kampala have grown because of abundant power supply, GBK and Alpha dairies in Mbarara have also developed because of abundant power supply which they mainly use for processing their milk and products.

Availability of skilled labour to work in industries provided by both Ugandans and foreigners. This labour is used in operating machines, packing of machines, products transporting of raw materials and manufactured goods to market centers etc. this has led to establishment of many industries like AK Mukwano in kampala, kakira sugar wax in Jinja, Tororo cement factory at Tororo Uganda breweries at luzira etc.

Availability of ready market to buy the manufactured goods provided by the ever increasing population of Uganda. Forexample products of AK Mukwano like detergents, soap , plastics are highly demanded in kampala, mukono and other products beer and other products by Uganda breweries are highly demanded in Kampala. Products from roofings Uganda limited at lubowa, Uganda clays limited at kajjansi are also highly demanded worldwide.
Availability of large sums of capital to establish industries obtained from government and private sectors. Industries like Tororo cement factory in kasese use a lot of capital to buy machines and to pay workers to transport products to the market etc.

Availability of well developed transport routes connecting industrial towns like Jiinja, kasese, Mbarara etc. Kampala-Jinja road has led to the development of century bottling company at Namanve, Abacus, steel rolling mill, SCOUL at lugazi, Nile Breweries at Njeru etc. Kampala-Mubende-Fortportal road leading to the development of cobalt recycling plant at kilembe in kasese etc. These transport routes have been used to transport raw materials and other inputs to industrial centers and from industrial centers to the market.

Relative political stability in most parts of the country eg industries like AK Mukwano, Uganda breweries in Kampala, Tororo cement factory in Toro ro, GBK in Mbarara are located in those areas because they are politically stable favoring huge investments.

Supportive government policy towards industrial development like gazetteing of industrial centers like the Namanve industrial park with industries like century bottling company, Nalukolongo industrial area with industries like Bukola chemicals which has also encouraged foreign investors to establish industries in the country ie Indians established Mukwano, METHA etc.

The government also restricts the importation of goods which are locally produced to protect local industries like Hwan sang near GM, Tampeco at Kampala Tip Top bread near Uganda grain milling company in Jinja, century bottling company at Namanve near lugazi sugar factory. This helps such industries to enjoy economies of scale. The presence of specialised suppliers, organised markets and brokers availability of particular labour etc have all contributed to industrial development in Uganda.

**IMPORTANCE OF THE INDUSTRIAL SECTOR TO THE ECONOMIC DEVELOPMENT OF UGANDA.**

**POSITIVE**

Manufacturing industry has increased the foreign exchange earnings of the country especially where goods are produced for export e.g. Nile breweries at Njeru and Uganda breweries at luzira produce Beer, Uganda clays at kajjansi produce tiles, bricks, and other products, Tororo cement factory at Tororo produce cement etc which are exported to countries like south Sudan Rwanda, Burundi etc. The foreign exchange obtained has led to increased provision of services by the government like health, education, security etc.

Provide employment opportunities to the ever increasing population of Uganda e.g. kakira sugar wax in Jinja, AK Mukwano industries in Kampala, provide employment to people involved in the production and packing of products selling, transport. This helps them to earn income which improves their standards of living.

It has increased the country’s through taxing the industries and industrial workers eg Nile breweries at Nnjeru, SCOUL at lugazi, pay a lot of taxes to the government. This has led to construction of modern transport network, schools, hospitals etc.
Provide essential goods to the public e.g. southern range Nyanza textiles at Njeru provide clothes to the people, Tororo cement factory in Tororo provides cement for building and construction, kakira sugar wax AK Mukwano provides soap etc. this has improved people’s standards of living.

Led to development of infrastructure like transport and construction line eg kampala-Jinja-Tororo road developed because of Tororo cement factory and many roads have been rehabilitated because of the same factory, AK Mukwano in Kampala had also led to rehabilitation of road in areas of anasambya, Jinja- Masese road has also developed because of BIDCO oil limited.

Provide market for agriculture sector like the southern Range Nyanza Textiles at Njeru provides market for cotton, BIDCO oil limited provides market for oil palm from Kalangala. Besides the industrialisation workers, buy food from the agricultural sector leading to its development.

Have enabled the development of urban centres in the country e.g. Tororo cement factory led to the development of Tororo town, SCOUL led to development of lugazi town, kajjansi has developed into town partly because of Uganda clays limited. This has helped the government to provide its people with the basic social facilities like water, power, security, health etc.

Have improved on international relationship between Uganda and importing countries like South Africa and Rwanda that imports cement manufactured by Tororo cement factory in Tororo, with countries proving Uganda with investors like India, china etc. this has helped Uganda to get foreign aid from such countries.

Have diversified the economy of Uganda reducing over dependence on a few sectors especially agriculture. Tororo cement factory at Tororo, Uganda clays limited at kajjansi etc provide an extra source of income to the government on top of what it gets from the agricultural sector, tourism, fishing etc. this has promoted continuous development in the country.

used for research and study purposes by students from higher institution of learning like Makerere university, Kyambogo etc. these students normally use Nile Breweries at Njeru, AK Mukwano in kampala for their research and training.