

REGION II (RHINELANDS)

Introduction

Rhinelands refers to the region in Western Europe that is drained by the great Rhine river comprising five basic countries.

- Netherlands
- Germany
- Luxemburg
- Switzerland
- Belgium

Rhinelands has a land coverage of 350,000 sq.km and a population of about 120 million people. It is currently getting populated by migrants from all over the world seeking for jobs, citizenship, medication and education opportunities.

Latitudinally, it extends from 42°- 54° N and 03°- 13° E.

It is bordered by the North Sea in the North, Poland, Czechoslovakia and Austria in the East, Italy in the South and France in the West.

SKETCH MAP OF RHINE LANDS REGION

Drainage

Rhine lands is drained by a diverse drainage system with the Rhine river as dominant plus its tributaries and other rivers which stream from different parts of the region and empty their water into large water bodies like North sea, Baltic sea, Black sea and Mediterranean sea. These include the following; Rhine, Rhone, Danube, Elbe, Inn, Ticino/Po, Weser, Scheldt etc.

Rhine river- streams from the Swiss Alps through Switzerland, Germany and Netherlands into the North Sea.

- ✓ Rhone river- streams from the Swiss Alps through France to the Mediterranean Sea.
- ✓ Weser river- streams from Germany flowing into the North Sea.
- ✓ Elbe river- streams from Czechoslovakia through Poland and Germany into the North Sea.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- ✓ Danube river- streams from South Germany through Austria into the Black sea.
- ✓ Inn river- streams from the Swiss Alps through Austria and links with Danube in South Germany flowing into the Black sea.
- ✓ Ticino/Po river- streams from the Swiss Alps through Italy to the Adriatic Sea.
- ✓ Scheldt river- streams from Belgium through Netherlands into the North Sea.
- ✓ Oder river- streams from the Poland region into the Baltic sea via the Germany border

Sketch map showing Rhine lands drainage

Climate

Rhine lands receives varied climate patterns. These include;

Maritime- this is the most wide spread climate experienced in Netherlands, Germany and Belgium. It has warm summers and cool winters.

Cool Continental- This is particularly experienced in Southern Germany with short warm summers and cool winters.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

Alpine- this is dominant in Switzerland caused by the Alpine mountains/ Alps that induce snow throughout the year.

COMPARATIVE STUDY BETWEEN RHINELANDS AND EAST AFRICA

- ✓ East Africa is made up of three countries- Uganda, Kenya and Tanzania including the Islands of Pemba, Zanzibar and Mafia. As per 2007, Rwanda and Burundi became part of East Africa following the revival of the East African Community. While Rhine lands is made up of five countries- Netherlands, Germany, Belgium, Luxemburg and Switzerland.
- ✓ East Africa has a population of about 110 million people with a population density of 25 persons per sq.km. While Rhine lands has a population of about 120 million people with a population density of 350 persons per sq.km.
- ✓ East Africa's total area is nearly 5 times than that of Rhine lands while Rhine lands is estimated to be nearly $\frac{3}{4}$ of Tanzania.
- ✓ East Africa has two out-spoken arms of the Rift valley (eastern and western) bordered by plateaux and volcanic features while Rhine lands has one major Rift valley – Rhine, which is short and narrow from Basel in Switzerland to Mainz in Germany.
- ✓ East Africa's landscape is largely influenced by vulcanicity while in Rhine lands; vulcanicity is limited to areas around the Black forest- at Harz and Eifel.
- ✓ East Africa comprises of old basement rocks punctuated with vulcanicity while Rhine lands is made up of young basement rocks.
- ✓ In East Africa, glaciation is limited to Rwenzori, Kilimanjaro, Meru and Kenya mountains while in Rhine lands glaciation has largely influenced landscape.
- ✓ East Africa has many tribes with few ethnic groups while Rhine lands are basically made up of ethnic groups.
- ✓ East Africa's dialect is dominated by Kiswahili and English as official languages while in Rhine lands German is the official language used besides others like Dutch, Latin, Swiss, Spanish.
- ✓ East Africa is situated in the Tropics while Rhine lands are situated in the Temperate region.
- ✓ East Africa's highland areas are very fertile suitable for agriculture and settlement while the Rhine lands highland areas are infertile.
- ✓ In East Africa some rivers are not navigable while in Rhine lands all rivers are navigable e.g. Rhine, Danube, Scheldt, Iyssel, etc.
- ✓ East Africa experiences two climatic seasons – dry and wet, while Rhineland has four climatic seasons- winter, spring, summer and autumn.

SWITZERLAND

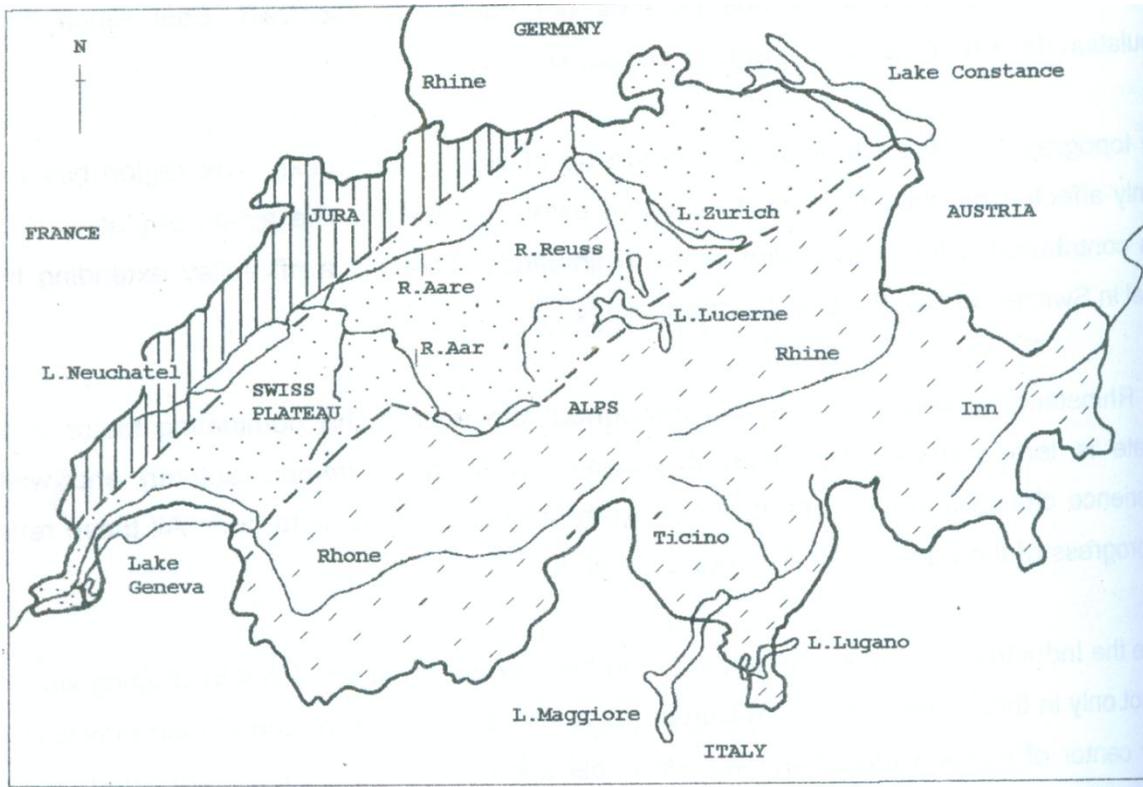
Location; This is a small land locked country located in central Europe. It is bordered by Germany in the North, Italy in the South, Austria in the East and France in the West. It covers a total land area of 42,000 km².

PHYSICAL REGIONS/DIVISIONS IN SWITZERLAND

The country is made up of three main physical regions/divisions and these include:

- Swiss Alps.
- Swiss plateau/central plateau.
- Swiss Jura.

A SKETCH MAP OF SWITZERLAND SHOWING PHYSICAL REGIONS



THE SWISS ALPS;

This region covers 60% of the total land area of Switzerland. It stretches from Lake Geneva in the south west to Italy in the south and into Austria in the east. It's dominated by fold mountains and the highest in terms of altitude with a mean height of 1700 meters above sea level. The Alps region is divided by many rivers such as R. Rhine, R.Rhone, R.Ticino, R.Inn, and R. Lugano.

Characteristics of the Alps

- Mainly made up of fold mountain ranges.
- Most rocks are made of granite and are shaped by Glaciation.
- Region has the lowest population in Switzerland.
- Region has got several river systems e.g. Rhine, Rhone, Inn, Ticino e.t.c.
- Has got several glacial features e.g. Pyramidal peaks, hanging valleys, cirques, Arêtes.

Economic importance of the Alps

- Alps' magnificent scenery with beautiful snow-capped mtns attracts tourists.
- Alps are glaciated and act as a source of water for many rivers e.g. Rhine, Rhone. The rivers are also used for transport, generation of hydro-electric power.
- Some mountain slopes have coniferous forests which have given rise to lumbering activities.
- Centers for smelting and refining of metal such as aluminium have grown up due to the availability of large quantities of cheap electricity.
- Arable farming is carried out on the lower slopes and crops such as vines are grown.
- Animal rearing particularly cattle grazing is practiced. Transhumance is the main system used for animal rearing. Transhumance is the seasonal movement of man and his livestock to highlands when there is absence of pasture in the lowlands and back to the lowlands when there is absence of pasture in the highlands. This has also given rise to dairy industries in the region.

GLACIERS AND GLACIATED SCENERY IN SWITZERLAND

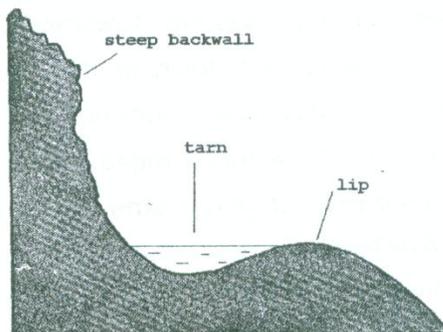
Glaciation is the process through which the landscape is modified or changed through the action of glacial erosion and deposition. Much of the precipitation which falls on the mountains is conserved in form of snow and ice. The ice tends to move down from the high mountains into the valleys. This moving ice is called a *Glacier*. The glaciers have the ability to erode, transport and deposit material.

As the glacier moves, it breaks up rocks through the processes of plucking. The broken rocks are then transported and deposited to the lower slopes of the mountain, to form *moraine*.

A number of landforms have resulted from Glaciation in the Alps Mountains and these include;

Glacial Erosional Features:

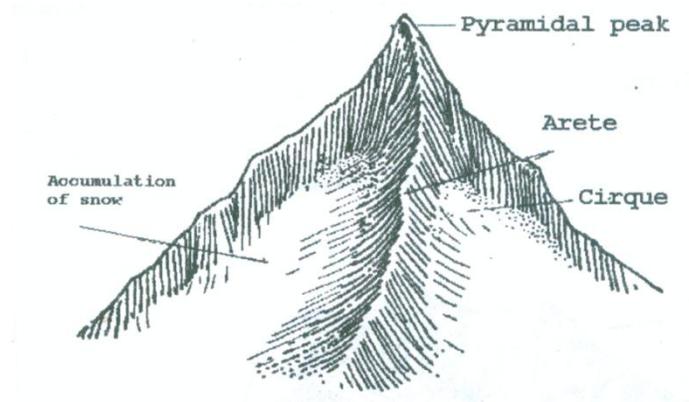
- ❖ **CIRQUES/CORRIE;** A cirque is a semi-circular hollow depression on the side of a mountain. Its formed when a glacier or a block of ice moves from the side of the mountain leaving a depression that is like an arm-chair. When a cirque is filled with water, it forms a lake known as a *Tarn*.



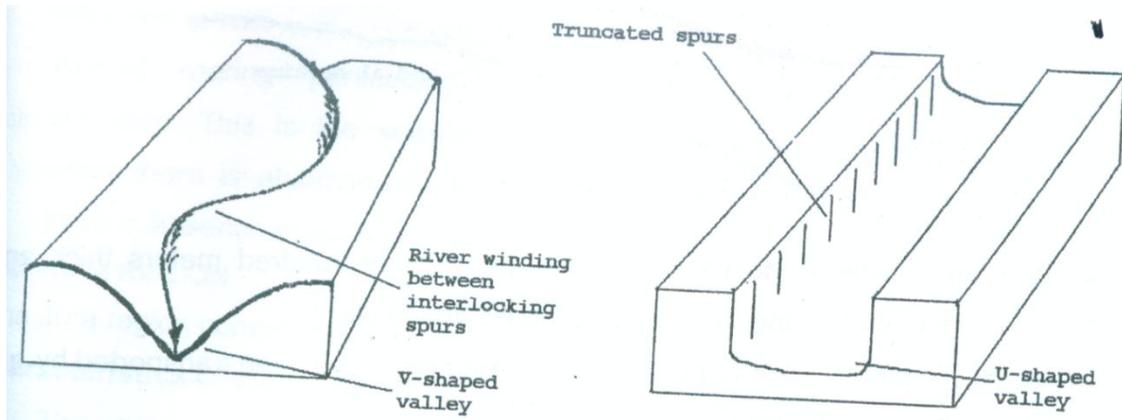
**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

ARETES; These are Knife-edged ridges found between two corries. They are formed when two corries form adjacent to each other and only a sharp ridge is separating them.

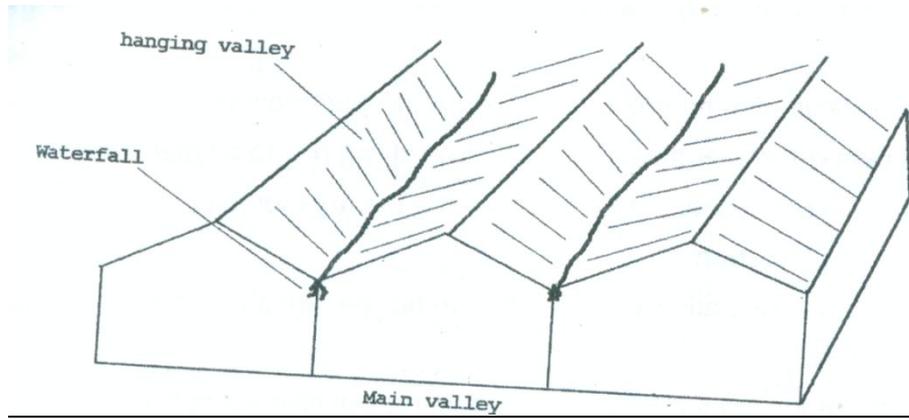
- ❖ **PYRAMIDAL PEAK OR HORN;** It is a mountain peak in a glaciated landscape which is pointed like a pyramid. Its formed when a resistant rock (hard rock) remains on top of the mountain after the weak rocks on the sides have been eroded by glaciers.



- ❖ **U-SHAPED VALLEYS;** This is a broad, flat bottomed, steep sided valley with a u-shaped cross profile. It's formed when glaciers erode the sides and bottom of small river depressions along the slope profile.

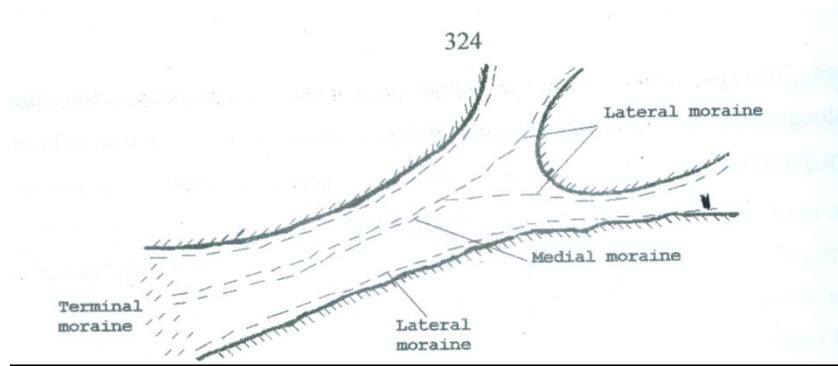


- ❖ **HANGING VALLEYS:** These are tributary valleys left high above the main valley. They are formed when the main valley is over deepened by glacial erosion such that tributary valleys are left standing high above the main valley.



GLACIAL DEPOSITIONAL LANDFORMS

- ❖ **MORaine**; This refers to all the material transported and deposited by a glacier. There are four types of moraine i.e.
 - i) **Lateral**: deposited along the sides of a glacier.
 - ii) **Medial**: deposited in the middle when two glaciers meet.
 - iii) **Terminal**: deposited along the front of a glacier.
 - iv) **Ground**: deposited at the bottom of the glacier.



- ❖ **OUT-WASH PLAINS**; Terminal moraine transported by a glacier is deposited as a layer over a wide and large area called an out-wash plain.
- ❖ **DRUMLINS**; Glacial deposits are sometimes several hundred meters thick and their surface is marked by long rounded hills called drumlins.
- ❖ **Erratics**; These are rock fragments of one kind that have been transported by glaciers and deposited on materials of another kind.

IMPORTANCE OF GLACIAL FEATURES

Positive importance

- ✓ Glaciers have resulted into the formation of beautiful scenery with pyramidal peaks, Arêtes, u- shaped valleys all of which boost the Swiss tourist industry that brings in a lot of foreign exchange.
- ✓ Glaciers have also promoted sporting games such as ice skating.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- ✓ Glaciers have also provided good sites for H.E.P generation especially where a hanging valley meets the u-shaped valley.
- ✓ Glaciers are major sources of rivers e.g. R. Rhine, R. Inn as result of melting ice from the Alps mtns.
- ✓ U-shaped valleys act as natural route ways in highland regions.

Negative importance

- ✓ Glaciation leads to the formation of rugged landscape which hinders the development of transport routes.
- ✓ Glaciation leads to deposition of infertile soils giving rise to wastelands that are not agriculturally productive.
- ✓ Glaciation leads to avalanches (downward movement of massive snow) which destroy human life and settlements.
- ✓ Glaciated regions are too cold in winter hence not favorable for human settlement.

SWISS PLATEAU

This region occupies 30% of Switzerland's total land area. The region is a low lying area and forms a corridor between the Swiss Jura and the Alps mountains.

Characteristics;

- ✓ The Swiss plateau is made of sediments which are piled up from the Alps, Jura and black forest mtns. This has resulted in low lying landscape with low hills and alternating valleys.
- ✓ Mean height of altitude is 580meters above sea level.
- ✓ Much of the plateau is undulating and is covered by fertile morainic material.
- ✓ Region has the highest population total in the country.

Economic importance of the Swiss plateau

- ✓ Used for settlement because of the conducive mild climatic conditions.
- ✓ Major industrial centers are found in this region e.g. Bern, Geneva, Zurich, Lausanne e.t.c.
- ✓ The lower altitude and flatter land surface enables agriculture to take place. Crops grown include Cherries, Maize, Wheat, Apples, Pears e.t.c.
- ✓ Animal rearing is carried out due to the rich pastures and fodder crops grown in the area.

SWISS JURA

It is found almost in the north western part of Switzerland. It covers 10% of Switzerland's total land area.

Characteristics;

- ✓ It is made up of Fold Mountains with parallel synclines and anticlines.
- ✓ Region has an average height of 750meters above sea level.
- ✓ The region does not have fertile soils therefore it cannot support agriculture.
- ✓ Rocks are mainly made of limestones which are permeable allowing water to seep through them.
- ✓ Region has many limestone (Karst) features e.g. sink holes, grykes, Clints, caves, gorges e.t.c.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

Economic importance of the Jura

- ✓ Mining of salt and limestone in the valleys.
- ✓ Manufacturing industries are set up in the region e.g. textiles and watch making.
- ✓ Lower hills are covered with forests especially pines leading to lumbering.
- ✓ Tourism due to the limestone features e.g. caves, Clints.
- ✓ Animal rearing e.g. cattle, sheep and goats for beef products.

DRAINAGE OF SWITZERLAND

Two thirds of Switzerland is drained by R. Rhine and its tributaries e.g. R. Reuss, R. Aare. Southern Switzerland has two river systems which drain the region. R. Rhone flows westwards into Lake Geneva and R. Ticino flows southwards into Lake Maggiore at the border with Italy. Eastern corner of Switzerland is drained by R. Inn flowing North-eastwards. The central plateau has got some lakes e.g. lake Zurich, lake Constance, lake Lucerne, lake Neuchatel.

POPULATION IN SWITZERLAND

Switzerland's population is unevenly distributed. Over 70% of the population is found in the Swiss Plateau which covers only 30% of the total land area of Switzerland.

Reasons why the Swiss plateau is densely populated

- ✓ The flatter land surface makes settlement easy.
- ✓ The mild winter climate and warm summers also favor settlements.
- ✓ Fertile soils derived from glacial and river deposits have encouraged both settlement and agriculture.
- ✓ Development of industries in the region which have attracted settlements.
- ✓ Well developed transport and communication network of roads, railways and air transport.
- ✓ The rest of the country i.e. Alps and Jura are rugged and mountainous making settlements difficult.

Reasons why the Alps have a low population density

- ✓ Harsh climatic especially in winter with temperatures falling below -6°C scares off settlements.
- ✓ Rugged mountain nature of the relief makes settlement difficult.
- ✓ Presence of thin, stony infertile soils, which discourage settlement and farming.
- ✓ The rugged landscape hinders the development of transport routes and settlements.

MINERAL RESOURCES IN SWITZERLAND

Switzerland is almost totally lacking minerals worth of mention. The only reliable mineral is salt derived from the Rhine valley above Basel. Other minerals of importance but in small quantities are Anthracite, Peat from lake bottoms and Iron ore near Gonzen.

POWER RESOURCES IN SWITZERLAND

Switzerland has got a number of power or energy resources which include

- ✓ Hydro-electric power
- ✓ Nuclear power

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- ✓ Natural gas.

However, of the above, H.E.P is most important. Switzerland has got over 432 power stations due to her immense water sources. So many rivers that flow from the Alps and Jura into the central plateau provide Switzerland with supply of water for production of electricity.

Main users of electricity in Switzerland

USER	PERCENTAGE
Private homes, business, traders, agriculture	50.5
Railways	6.5
Industry in general	22.0
Electro-chemical and metallurgical industry	14.7
Various	6.3

The figures above show the wide spread use of electrical appliances like washing machines, dryers, refrigerators, televisions and cookers. This indicates a high standard of living. 95% of the Swiss railway system is electrified including the numerous cable cars and ski-lifts.

Reasons why most H.E.P stations are in the South than in the North

- ✓ Most of the major Swiss rivers have their sources of water from the melt glaciers in the Alps e.g. R. Rhine, R. Rhone.
- ✓ The Alps ensure constant flow of water because the glaciers act as reservoirs during dry months.
- ✓ The Northern part consists of the Swiss plateau which is more less a flatland without waterfalls.
- ✓ Presence of various waterfalls in the Alps due to constant glacial deepening has created good sites for dam construction.
- ✓ The Jura region has mainly limestone rocks which are permeable and therefore there is little surface drainage to be used to generate H.E.P.

TOURISM IN SWITZERLAND

Tourism is one of the most important industries in Switzerland. Switzerland is one of the major tourist destinations not only in Europe but in the whole world. Both local and foreign tourists support it. Most of the foreign tourists are from Germany, USA, France, Britain, Italy, Japan, and Netherlands. Several tourist attractions have attracted many people to Switzerland and these include;

- Alps for mountain climbers who engage in skiing and ice-skating.
- The beautiful scenery of the snow capped mountains, glacial lakes and waterfalls.
- Temperate animals e.g. rein deer, Polar bears, Penguins.
- Climate which attracts tourists during summer and winter.

N.B During summer, tourists are able to view the snow capped peaks, cascading clear blue lakes, sun bathing and swimming and also engage in sports such as game fishing and boat rowing. The main resort centers during summer are found in the Swiss Jura and Plateau and these include; Geneva, Basel, St.Gallen, Lucerne, Bern e.t.c.

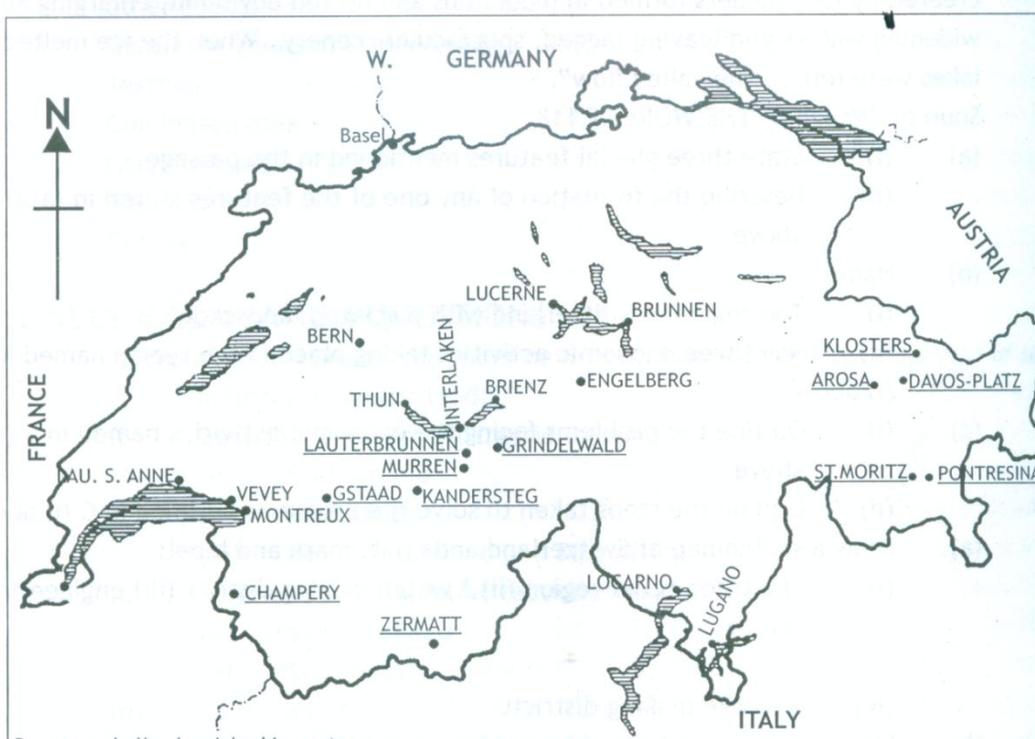
**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

In winter, the main tourist resort centers are found in the Alps and these include; Davos, Klosters, St.Moritz, Arosa, Zermatt, Champéry, Lugano, Grindewalde.t.c. During winter, tourists engage in skiing, Ice-skating and mountain climbing.

N.B Other tourist attractions include; various vegetation types like deciduous and coniferous forests on mountain slopes, historical sites, public libraries and museums of ancient art and history.

A tourist resort is a place which attracts large numbers of holiday makers and which has facilities to look after them.

A SKETCH MAP OF SWITZERLAND SHOWING MAJOR TOURIST RESORT CENTERS



Factors which have favored the development of the tourism industry in Switzerland

- ✓ Switzerland is located in the heart of Europe surrounded by rich countries like France, Germany and Italy which have rich and leisure loving citizens thus providing a large market.
- ✓ Availability of reliable and cheap power that has enabled electrification of the rail system and cable cars are also used to transport millions of visitors to many parts of the Alps.
- ✓ Well developed and comfortable hotels and lodges also provide good accommodation for the tourists in the various tourist resorts.
- ✓ The presence of many international languages such as English, French, German, provide good and easy communication between the tourists and the Swiss people.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- ✓ The development of travel agencies which organize tour packages on large scale. These agencies provide good traveling and arrange accommodation for the tourists.
- ✓ Well trained personnel in the management of the tourism industry. The presence of trained workers has made tourism to grow.
- ✓ Good hospitality provided by the Swiss people. The Swiss people are very friendly and always willing to welcome tourists warmly.
- ✓ Switzerland has many international organization headquarters like Red Cross, World Health Organization, World Food Programme and this makes Switzerland a guesthouse to many people hence promoting tourism.
- ✓ Switzerland is politically stable and neutral which factors have accounted for the development of the tourist industry by encouraging many tourists to visit the country each year.
- ✓ Availability of adequate capital from the developed banking system which assists in the development of the tourist industry.
- ✓ The presence of attractive climatic seasons of winter and summer has encouraged Switzerland to develop and encourage tourism all year round.
- ✓ Advanced advertising through various ways such as internet, magazine, and newsprints, etc. has helped the Swiss tourist industry to develop.

IMPORTANCE OF THE TOURIST INDUSTRY IN SWITZERLAND

- ❖ The tourist industry brings in a lot of foreign exchange to Switzerland.
- ❖ The industry has created employment opportunities to the swiss people.
- ❖ It has acted as a source of income thus improving peoples' standards of living in Switzerland.
- ❖ The tourist resort centers have developed into major towns such as Zurich, Geneva, Bern, Lausanne, St. Moritz, etc.
- ❖ The tourist industry has also led to the development of good infrastructure such as hotels, roads, lodges.
- ❖ Tourism has led to economic use of some areas which may not be productive in terms of settlement and agriculture e.g. the glaciated mountainous region of the Alps.
- ❖ It has led to the development of manufacturing industries such as watch making industry because tourists provide market for watches and clocks.
- ❖ Tourism has led to the development of well-trained labour force to work in hotels and other tourist departments which has created demand for their services in neighbouring countries.
- ❖ Tourism has led to diversification of the economy hence promoting sustainable and balanced regional development.
- ❖ Tourism industry has made Switzerland known all over the world and this has also improved her international relationships.
- ❖ The Swiss government also earns revenue by taxing people employed in the tourism sector.

TOURIST ATTRACTIONS IN EAST AFRICA

Its important to note that whereas Switzerland and East Africa attract tourists, the attractions are in many cases different. The main tourist attractions in East Africa include:

- Wildlife which include animals e.g. lions, Elephants and wild plants.
- Climate i.e. the hot tropical climate of East Africa attracts tourists from the colder regions especially in winter.
- Relief which includes mountains, rift valleys, volcanic features.
- Drainage features which include waterfalls e.g. Murchison falls, Owen falls, hot springs, beaches, lakes and rivers.
- Historical sites which include fort Jesus in Mombasa and Kasubi tombs in Kampala, BigoBya-mugenyi in Sembabule etc.
- Culture which includes traditional dances, dressing, Traditional foods etc.
- Crafts such as Masai wood carvings, mats, baskets, pots.
- Natural vegetation which includes swamps and forests.

REASONS WHY TOURIST INDUSTRY IN EAST AFRICA IS LESS DEVELOPED THAN THAT OF SWITZERLAND

- East Africa is far away from the rich European countries thus it cannot get rich tourists like those of Switzerland which is near the rich countries.
- East Africa has poorly developed transport routes such as roads, air links and railways linking to the tourist zones compared to Switzerland with better transport facilities.
- Low level of advertisement in East Africa makes tourists not to be aware of what is on offer and this is different with Switzerland which uses modern advanced advertising media like internet.
- The presence of hostile tribes and unfriendly communities e.g. Karamojong in Uganda, Masai in Kenya who scare away the tourists unlike Switzerland which is peaceful.
- East Africa has poorly developed accommodation facilities e.g. hotels, lodges to meet international standards unlike Switzerland with many modern tourist resort centers.
- Political instability which scares away tourist especially in Uganda e.g. the recent bomb blasts in Kampala while Switzerland has enjoyed a very long period of political stability.
- Presence of many pests and deadly diseases such as AIDS, Malaria, Ebola also scares away tourists from East Africa unlike Switzerland which enjoys good medical facilities.
- Inadequate capital to invest in the tourist industry in East Africa has hindered its development unlike Switzerland which has many financial institutions that provide financial assistance.
- There is limited trained labour in East Africa to work in the tourist industry leading to slow development unlike Switzerland which has got a lot of skilled labour force.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- Presence of poachers and encroachers who destroy wildlife which is the main tourist attraction in East Africa.
- Low levels of technology to develop the tourist industry e.g. air conditioned lodges and inns unlike Switzerland which has advanced technology to modernize the tourism sector.

INDUSTRIALISATION IN SWITZERLAND

Industrialisation in Switzerland begun with the manufacture of textiles as a cottage (home) industry and for a long time it employed the largest number of workers. Today, the manufacturing industry in Switzerland has taken the lead.

Industrial towns in Switzerland.

	INDUSTRY	TOWN/S	PRODUCTS
1	Engineering Industry	Zurich, Bern, Geneva, Basel, St.Gallen.	Locomotives, wagons, vehicles, turbines, electrical appliances.
2	Watch making industry	Le locle, La chaux-de-fonds, Neuchatel.	Wrist watches, Clocks.
3	Precision Industry	Lausanne, Zurich.	Binoculars, microscopes, cameras, computers, periscopes.
4	Textile and footwear	Zurich, St.Gallen	Clothes, shoes and Ski-boots.
5	Chemical and pharmaceutical	Geneva, Bern, Zurich, Basel	Dyes, drugs, explosives, insecticides, plastics, cosmetics.
6	Food processing industry	All towns mentioned above	Milk, butter, yoghurt, bread and other confectionaries.

N.B. Printing and publishing industries also exist in Switzerland and these are found in all towns. They make stationery products like papers.

A SKETCH MAP OF SWITZERLAND SHOWING INDUSTRIAL CENTRES

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**



FACTORS WHICH HAVE FAVOURED INDUSTRIAL DEVELOPMENT IN SWITZERLAND

- Well-developed banking system has provided capital in form of loans for industrial development.
- Availability of various power sources especially electricity in the Alps region as well as natural gas and nuclear power.
- Neutrality of the country has meant political stability that ensures that industries develop without any outbreak of war.
- Switzerland is located in the heart of Europe with rich neighbours like Germany, France, and Italy which provide ready market for the Swiss products.
- Hospitality of the Swiss people has made Switzerland a guest house which has helped them to gain market for their products.
- Presence of efficient transport network like rail, water and air which enable the easy importation of raw materials and exportation of manufactured goods.
- Availability of a variety of raw materials such as vegetables, meat, milk, sugar beet which support the agricultural industries. Salt is also mined near Basel.
- The high level of technological advancement and innovativeness of the Swiss people also leads to industrial growth.
- Availability of cheap skilled labour provided by experts from neighboring rich countries as well as Swiss nationals.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- The creativity of the Swiss people which has made them to always produce the latest fashion of goods which attract more market hence industrial development.
- Switzerland has specialized in the production of high quality goods which have high market value such as gold necklaces, binoculars, microscopes e.t.c which are very expensive.
- Relatively flat landscape in the Swiss plateau which favoured construction of industries.
- Supportive government policy which has supported industrial development through market research, road construction and maintenance.
- Formation of the European Union (E.U) has also helped the Swiss to market their products easily across the whole of Europe.

PROBLEMS FACING THE INDUSTRIAL SECTOR IN SWITZERLAND

- The country lacks most of the required raw materials for her industries e.g. coal, petroleum and iron ore thus it is depending on imported raw material which is expensive.
- Competition from other manufacturing countries such as Japan, Germany, China and U.S.A leading to reduced market.
- Inadequate labour force to work in the industries due to her small population and the use of experts is expensive.
- Switzerland is land locked with no direct access to the sea making exportation very expensive.
- The production of high quality products like cameras, microscopes is very expensive which leads to high prices that may reduce the market.
- The industries face a problem of congestion at ports especially along the water way such as R. Rhine and this causes delays in delivery of goods.
- Limited home market since the population of Switzerland is small.
- The mountainous nature of the landscape in the Jura and Alps hinders development of transport routes.
- Steep relief in the Alps and Jura has also reduced the land available for industrial development.

SOLUTIONS TO THE ABOVE PROBLEMS

- ❖ Importation of raw materials from abroad e.g. cotton for textile industries is got from Egypt.
- ❖ Production of commodities which require less raw materials. This was intended to overcome the problem of shortage of raw materials.
- ❖ Production for export to solve the problem of limited home market has been encouraged.
- ❖ The use of aircrafts to transport light products and this helps to overcome the problem of transport especially in the mountainous regions.
- ❖ Automation of industries was done to reduce the problems of labour shortage by introducing machines. Also, some labour has been imported from neighbouring countries.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- ❖ Organization of annual international trade fairs which would attract buyers and widen the market through advertisement.
- ❖ Being friendly is emphasized to minimize trade restriction and expand the export sector in order to widen the market base.
- ❖ Specialisation is also encouraged so that high quality products are made to do away with any competition from other manufacturing countries.
- ❖ The Rhine waterway is used as a cheap waterway to port Rotterdam to solve the problem of land lockedness.
- ❖ Wastes from industries have been recycled so that raw materials are readily available.

BENEFITS OF DEVELOPING THE INDUSTRIAL SECTOR IN SWITZERLAND

- ✓ Industries help in earning of foreign exchange especially from the sale of watches all over the world.
- ✓ Industrial centers generate employment opportunities to many people.
- ✓ Industries have led to improved standard of living among the Swiss people through employment.
- ✓ Industrial development has increased the development of transport network such as road, rail, water and air transport.
- ✓ Industrialization has led to the growth of urban centers such as Basel, Zurich, Geneva, and Lausanne.
- ✓ It has increased revenue to the government through taxes imposed on industries and workers.
- ✓ It has led to capital accumulation which has contributed to further investment and development.
- ✓ Industrialization has promoted international relationship between Switzerland and other countries especially those who import her products.
- ✓ Industries have provided market for agricultural product such as fruits and dairy products.
- ✓ Industrialization has led to diversification of the economy hence helping in equal and sustainable development.
- ✓ Industries have also enabled people to acquire skills through on-job training.

AGRICULTURE IN SWITZERLAND

Agriculture is mostly developed in the Swiss plateau. Since much of the country is rugged, majority of the country's arable land is devoted to animal rearing.

Characteristics of agriculture in Switzerland

- It is carried out on small scale (intensive in nature.) especially near Lausanne.
- Scientific methods are used e.g. application of fertilizers.
- Market gardening is mainly carried out.
- Seasonal crops are grown e.g. vegetables and fruits.

Why agriculture is most developed in the Swiss plateau.

- It's the most fertile area because of river and glacial deposits.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- The relief is gently sloping hence favouring mechanization.
- The mild climate with sufficient rainfall and sunshine favours agriculture.
- The Swiss plateau has a high population which provides labour and market.
- The well-developed transport and communication network favours market gardening.
- Improved research has led to advanced farming techniques in the Swiss plateau.
- Availability of rich pasture and fodder crops which support large dairy and beef herds.

Why agriculture is least developed in the Swiss Alps.

- The Alps are glaciated and therefore very difficult to be cultivated.
- The glaciers result in very low temperatures which cannot support agriculture.
- The relief is rugged and mountainous and therefore unfit for farming.
- The soils are generally thin, stony and infertile.
- There is difficulty in transportation due to the rugged relief of the region.
- The low population leads to shortage of labour and market.
- Soil erosion due to the steep slopes in the area.
- The rugged relief creates very little land for farming.

Problems faced by Swiss arable farmers.

- ❖ Shortage of labour force due to the small population of Switzerland.
- ❖ Harsh climatic conditions especially winter brings activities to a standstill.
- ❖ Competition from other farmers in other countries e.g. Netherlands, Belgium, Germany.
- ❖ Pest attack and destroy the crops.
- ❖ Diseases are another problem affecting the produce e.g. leaf rust.
- ❖ There is price fluctuation at the world market.
- ❖ Severe soil erosion especially near the mountainous regions.

Solutions to the above problems/Measures taken to develop agriculture sector in Switzerland.

- ✓ Farms have been mechanized to solve the problem of shortage of labour.
- ✓ Research is carried out to develop high yielding crop and animal varieties.
- ✓ Development of industries to which process agricultural produce.
- ✓ Application of fertilizers to improve soil fertility.
- ✓ Terracing of the slopes to control soil erosion.
- ✓ Switzerland has joined the European Union to widen her market potential.
- ✓ Seasonal crops are grown to avoid the losses incurred during harsh weather conditions.
- ✓ Farmers are encouraged to come together and make farms bigger to replace them with the small, family owned farms.
- ✓ Pesticides are used to fight against the pests and diseases.

ANIMAL REARING IN SWITZERLAND

Most Swiss farmers are dairy farmers. Much of the rearing is done along the slopes of the Alps. **Transhumance** is used to rear the animals up and down the hills. Transhumance is the seasonal of farmers with their animals, up and down the mountain. During winter, the farmers graze their animals in the valleys because of the severe coldness at the hill tops. In summer, the farmers graze their animals up into the hills due to the avalanches (downward movement of snow) which bring cold conditions in the valleys.

Also, some animal rearing is carried out in the Swiss plateau around the bigger lakes e.g. Geneva and Neuchatel.

Exotic breeds of animals are kept e.g. freshians, Guernsey and New Jersey. Products from the farms include butter, cheese, powder milk, beef etc.

Factors that have favoured animal rearing in Switzerland

- Abundance of infertile clay and peat soils in the Alps which can't support crop growing hence creating land for animal rearing.
- Sparse population in the Alps has left a lot of land ideal for animal rearing.
- Cool temperate climate which favours rearing of exotic animals.
- Presence of fodder crops e.g. hay, oats and alfalfa used to feed the animals.
- Large domestic and foreign market for the dairy products.
- High level of technology e.g. use of electric milking machines.
- Improved research and use of scientific knowledge e.g. artificial insemination.
- Development of processing industries to handle dairy products e.g. Nestle for Nido powder milk.
- Availability of adequate capital from credit banks to develop animal rearing.
- Well-developed transport and communication facilities linking to market centers.
- Farmers have formed co-operatives for buying and selling of dairy products.

Problems faced by Swiss dairy farmers

- Severe winter conditions which bring about movement of farmers all the time.
- High costs of production e.g. use of electric milking machines and artificial insemination.
- Competition for market from other countries e.g. Denmark, Netherlands and Sweden.
- The small internal market due to the sparse Swiss population.
- Transport problems e.g. congestion along R.Rhine, river flooding and blocked roads in winter.
- Animal diseases like anthrax lead to low quality produce.
- Price fluctuation at the world market which discourages the farmers.
- Shortage of labour due to the sparse population in Switzerland.

Solutions to the above problems

- Spraying with insecticides to control animal pests and diseases.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- Farmers form co-operatives to acquire loans from banks to inject more capital in animal rearing.
- Market diversification through research to solve competition from other countries.
- Use of air transport to reduce on delays along R. Rhine.
- Use of machines to solve the problem of shortage of labour.
- High quality production through specialisation to do away with competition from other countries.

TRANSPORT IN SWITZERLAND.

Economic development requires an efficient transport system and it's for this reason that Switzerland has made it a point to expand her water, rail, air and road transport sectors despite the fact that she is affected by rugged glacial relief and severe winter climatic conditions.

Major means of transport used in Switzerland.

Water transport; Switzerland is a land locked country without direct access to a sea port. However the Rhine waterway is the most important waterway with most activities at Port Basel. It is important for the flow of supplies in and out of the country. Water transport is used for bulky imports such as liquid fuels, raw metals like iron ore, cereals, sand and gravel. Exports such as turbines, generators, vehicles are also transported on water.

Road transport; It has got one of the greatest road network systems in the world. Most roads are developed in the central plateau because of the gentle relief, high population and presence of many industries. Important route ways have been developed through the Swiss Jura to Paris and Lyon in France to help with transportation of goods and workers.

Air transport;The most important airports are found at Zurich, Bern and Geneva. Air transport is mainly used to boost tourism activities by moving tourists to and from Switzerland so that long distance journeys on road and rail are minimized. Also, air is used to export her high-value manufactured commodities like watches, computers and microscopes to the international markets.

Pipeline transport; It has been developed due to the need to import oil from Netherlands and natural gas from Italy, Ukraine and Russia.

Railway transport; Switzerland has developed an intense railway network and about 99% of the rail system is electrified using Swiss made hydroelectric power.

Switzerland has developed a dense and efficient railway system due to the following reasons:

- ✓ To help in transportation of bulky imports via port Basel into the interior of Switzerland.
- ✓ Switzerland also exports large quantities of goods by rail via port Basel.
- ✓ To develop the tourism industry where millions of tourists visit each year.
- ✓ The central location of Switzerland makes her a natural route way for international rail links from North to South and East to West.

GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY WANYANGE GIRLS SCHOOL

- ✓ To transport thousands of workers who move to work places each day from far distances.
- ✓ The need to develop manufacturing industries which largely depend on transport sector.

Problems facing the Swiss transport sector

- The mountainous terrain of the Alps and Jura makes road and railway construction difficult.
- Congestion on transport routes especially on roads and at port Basel.
- Many rivers are not navigable due to waterfalls and rapids e.g. the upper Rhine river from Basel.
- Flooding of rivers in spring due to the melt waters from the Glaciers in the Alps.
- Delays and consequent loss of revenue due to congestion.
- Switzerland possesses no oil and coal and therefore depends on imported ones whose costs are ever increasing.
- High costs of construction and maintenance of roads and railways because of rugged relief.
- Switzerland is land locked and therefore incurs high costs of exporting goods to other countries.
- Severe winter makes roads to be blocked by snow and air travels are affected by poor visibility.

Solutions to the above problems

- Considerable engineering skills are used to overcome the problems of road and railway construction in the mountainous regions.
- Most of the railway system is electrified using HEP and thus not dependent on imported oil or coal.
- Use of locks to improve navigation along rivers.
- Use of cable cars and ski-lifts to overcome problems of steep gradient.
- Double tracking to ease congestion and reduce delays along road networks.
- Containerisation to ease congestion at port Basel.
- Construction of underground tunnels to reduce congestion and avoid problems of steep relief.

URBANISATION IN SWITZERLAND

The capital city of Switzerland is Bern. Other cities of great importance include Zurich, Geneva, Lausanne and Basel. Zurich is Switzerland's largest city, a financial center and industrial center. Geneva is a cultural, financial, manufacturing center and administrative center e.g. it's a home to the headquarters of several international organizations like Red Cross and World Health Organisation (W.H.O). Lausanne is a transportation center and the permanent home to the International Olympic Committee (I.O.C)

Basel is a major town in Switzerland because it's the major link point for Switzerland to Germany and France at the Rhine junction.

Factors that favoured the growth of Basel town

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- ✓ It's situated at the head of the navigable part of R. Rhine which makes it a gateway into Switzerland.
- ✓ It has got well developed transport system in form of roads, railway and air transport.
- ✓ It's an industrial center with textiles, electrical industries hence attracting big population.
- ✓ It's found on a lower altitude compared to the Alps and Jura making it a good site for settlement.
- ✓ Situated in the Swiss plateau with fertile soils for growing of crops hence providing food.
- ✓ It's a major tourist destination especially in summer for swimming and sunbathing.
- ✓ Availability of skilled labour force because of thousands of people who cross the border to work in Basel every day.
- ✓ It's a leading banking and financial center for foreign exchange business.

Functions of Basel town

- ❖ Tourist, cultural, leisure and entertainment center.
- ❖ Administrative center with many government offices.
- ❖ Residential center offering accommodation facilities to many Swiss nationals.
- ❖ Industrial center especially manufacturing e.g. textiles, electrical and engineering centers.
- ❖ Transport and communication center because it's a major port along R.Rhine.
- ❖ Financial and business center with many insurance companies and banks.
- ❖ Education center with many schools, colleges and tertiary institutions.

Problems faced by Basel town

- It's the busiest port for Switzerland and faces a problem of traffic congestion and delays.
- Pollution of the environment due to gases and wastes from industries.
- Limited land for expansion.
- Population explosion due to industrialisation leading to overcrowding.
- Shortage of accommodation leading to slum development.
- High costs of government expenditure to provide schools, hospitals because of big population.
- High levels of unemployment due to population explosion in the area leading to high crime rate.
- Flooding of the R. Rhine due to melting of snow during summer.

Solutions to the above problems

- Vertical expansion of port facilities to minimize limited space e.g. building sky scrapers.

**GEOGRAPHY TEACHING NOTES PREPARED BY BAMEGE HOD GEOGRAPHY
WANYANGE GIRLS SCHOOL**

- Treatment of industrial wastes to minimize problems of pollution.
- Containerisation to ensure swift handling and dispatch of cargo and reduce congestion.
- Regular dredging, construction of dykes and concrete walls to reduce the effects of floods.
- Strict control of crimes by strengthening the police force.
- Encourage people to settle in other areas to reduce overcrowding in the Basel.