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ANNEXURE B

Declaration of originality

I, Amritha Kannayalal (student number: 53517695)

hereby declare that this GGH1501 assignment, which I hereby submit to the University of South Africa, has been done by myself.

I further declare that this assignment does not contain any work presented by other persons and/or contained in other sources, whether written, pictures, graphs or data or any other information, without properly acknowledging such persons and/or sources.

Student signature: Kannayalal. Date: 11/09/2018

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Assignment 2**Question: 1****Complete the table**

9.5	Predominant terrestrial biome(s)	Agricultural density (farmers per km ² of arable land)	Human development index	Dietary energy consumption(kcal/person /day)
Argentina	Tropical savanna, mixed ~~grassland~~ and woodland	Below 25	High developing (0,68 – 0,79)	2,000 – 2,999
Sudan	Desert shrub	2,5 – 49	Low developing (Below 0,49)	2,000 – 2,999
Poland	Broadleaf or mixed broadleaf and coniferous forest	25 – 49	Very high developed (Above 0,79)	3,000 and above
Pakistan	Desert shrub	Above 100	Medium developing (0,49 – 0,67)	2,000 – 2,999

Question 3

Analyse the spatial distribution pattern of the desert and desert shrub biome over the world, with reference to the reasons for, as well as the characteristics of this pattern.

Spatial distribution is defined as the arrangement of a phenomenon across the Earth's surface and a graphical display of such an arrangement is an important tool in geography and environment statistics. There are three different types of spatial distribution patterns namely: Uniform, random or clumped.

Dry climates are normally located in bands immediately to the North and South of the low latitude humid climate. Most dry regions go together with the subtropical high pressure zone for example the Sahara desert in Africa.

The Sahara area has one of the worst climates. People can barely live in those areas. The Sahara experiences very bad conditions such as limited to sometimes no rainfall, very strong winds and extreme temperatures.

The amount of rainfall is very less. The annual rainfall in this area is much less than other locations. In some of the areas there will be no rainfall at all and then suddenly a heavy downfall may occur. Then no rainfall may fall for years.

The wind which blows from North East towards the equator most of the time during the year causes the desert's aridness. As the wind blows in a South West direction, the air warms up dissolving the moisture which may bring about rainfall. Hot winds lift dust particles from deserts floor which then spins them upward through the cooler air pushing the South Westward as dangerous dust storms.

Deserts are dry with less vegetation. Most landforms have angular features because of the lack of the rain which brings about less chemical watering and flash floods create steep wall scraps. In the dessert there are less plants therefore there are no plants to protect the soil so most of the soil is blown on the rocky surface. Most of the landforms are carved by heavy rainfalls.

Most deserts occur far away from coast where the moisture from the ocean hardly reaches the place. However some deserts are located on the West coast continents like Namibia in Africa, bring in coastal fog deserts whose aridity is caused by cold ocean current.

The location of the desert is also influenced on the amount of water on the earth's surface. When the air passes or comes from the equators it is compressed and warm which causes the air on the land to be dry with no rain.

At the equator hot air rises when the land gets most of the sun's radiation. Most of the deserts are 30 degrees North latitude and 30 degrees South latitude, this is where the heated air starts to come down. This heated air is very dense and it starts to warm again, evaporating large amounts of water from the surface making the climate very dry.

Other deserts are located in mountainous areas. As the moist air passes over the mountain range, it expands and cools, taking out most of the moisture as it rises. As it goes down the other side of the mountain range it warms and compresses causing high evaporation and little rain.

Deserts can also be located on tropical coast next to ocean currents for example Somalia. The currents cool the air which rises and warms as it moves over land, taking in all the moisture which is precipiced as the air moves inland.

Question 4

Using Poland and Sudan as examples, compare and explain the spatial association between the world distribution patterns of the human development index and dietary energy consumption.

Spatial association is the degree to which things are similarly arranged in space. A country can be said to be developing or developed bases on the basis of economics, per capita income, industrialization, literacy rate and living standard. A developed country has a well-structured economy and has well equipped technological infrastructure. There is a strong spatial association between the word distribution of human development index and dietary energy consumption in Poland and Sudan.

Most of the time regions with a high human development index are developed countries such as North America and Europe. The countries with a low human development index are developing

countries such as Latin America, East Asia, Southwest Asia, North Africa, Southeast Africa, Central Asia, South Asia and Sub- Sahara Africa.

Dietary energy consumption is the amount of food that an individual consumes. In regions which are developed such as Europe and North America there is a high dietary energy consumption. These people consume an average nearly twice the recommended minimum of 3470kcal per day. In developing countries the daily consumption is 2630kcal still above the recommended minimum. However in the Sub- Sahara of Africa these people only consume 2290kcal, this shows that a large population is not getting enough food therefore there is a low dietary energy consumption. Diets are more likely to operate in countries which are developed because they have to spend a high percentage of their income to obtain food.

Since 1980 the developing countries have increased their human development index scores. They are Sub- Sahara Africa, Democratic Republic of the Congo, Zambia and Zimbabwe. As a whole these regions have improved from 0.29 to 0.39. East Africa Human development index has improved rapidly from 0.93-0.65 and South Asia's has improved from 0.32-0.52.

The reason as to why there is high dietary energy consumption in the East of Africa is because there is a variety of grain agriculture which makes up 40 percent of all dietary energy consumed.

The human development index are completely different from Sudan and Poland. Since Sudan is a developing country its human development index is medium developing (0.49-0.67) and Poland is a developed country whereby the human development index is very high developed above 0.79. As seen in the figures there is a huge difference from 0.49-0.67 to 0.79. As the year goes by and things advance the human development index will increase if the country develops into a developed country.

The dietary energy consumption is completed different in Sudan and Poland. The dietary energy consumption in Sudan is 2,000-2,999kcal/person/day and in Poland it is 3000 and above. The reason for these different figures is because of the diet that they consume. Since Poland is a developed region these people have enough income to follow a diet due to the exclusive jobs that they have. In the next 20 years the figures for Sudan will change as things advance and the region would be known as a developed region.

Question 5

Using any of Argentina, Sudan, Poland and/or Pakistan as examples, discuss the enabling and/or constraining role of the type of terrestrial biome as settlement factor, with reference to the way in which geographers generally view human-environment relationships and interactions.

The earth's ecosystem are grouped in a variety of biomes which is characterized by its different animal and plant types. A terrestrial biome has two aspects visible which is the climate and vegetation. Climate and vegetation play a major role in the region.

Poland which is in Europe has a broadleaf or mixed broadleaf and coniferous forest terrestrial biome. In this biome there is a wide variety of trees and grass. In the summer there is enough

sunlight for rapid growth to take place. The plants that grow in this biome have broad leaves which catches as much sunlight as possible.

Poland is favoured with temperate climate especially because of its view which is northerly in latitudes. In this biome there is well distributed rainfall which is the best condition for raising crops. The terrestrial biome is well connected to human settlements. Since Poland is considered as a developed country they have a high human development index which is above 0.79. It can be said that the human development index would influence the amount of human settlements in that area because most people look to live in a good healthy environment. Since Poland is considered as a high human development index region most of the places would be urban areas. Since this biome is moist it serves an advantage for clean drinking water as well as farming which would attract many people to build their settlements in this area. The soil is moist therefore the settlements cannot slide and cause destruction. The plants in this biome attain 60-75 percent of the growth even though growing seasons are only 5-7 months. This may result in a lot of trees where many people would want to build their human settlements because of the shade and to protect themselves from high temperatures. Therefore Poland has a positive influence on human settlements.

Pakistan is known to be one of the hottest regions as it is situated on the West of Asia. Pakistan is situated in the desert biome. In the desert there is no moisture at all which results in bare ground. Most vegetation is adapted to the less moist. Desert plants are drought-tolerant such plants are grasses and cactus. This biome has a negative influence because of its high temperatures in Pakistan. Most settlement in this area are not as developed as Poland. They have a human development index of 0.68-0.79. Since Pakistan has a desert biome they experience a lot of drought which has an effect on agriculture which results in lack of fresh produced food for people. This biome is prone to many skin diseases, due to the extreme temperatures that they experience which affects the human settlements. Since there is extreme temperatures that are experienced people would not be able to keep life stock on their settlements where the animals could graze on the grass. Overall not many people would settle in this region because the climate is not survivable for them to live in.

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As the years go by human learn to adapt to their environment for example in the desert regions people have learnt that different crops thrive in different climates and that is how the people have survived for many years in Pakistan. Sin Pakistan is not well developed as Poland most settlements are in a crowded pattern and most areas are rural, however people have adjusted to that way of living some have even modified the way they live. The cold conditions that the broadleaf or mixed broadleaf and coniferous forest limit plant growth, however people have learnt to adjust the environment and modified it by planting vegetation that would grow during those cold condition. They have also used a protective covering over plants to keep them healthy.

Question: 6

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Briefly review and critically evaluate the strategies that have been identified to increase food supply in developing countries.

Most developing countries have a large population which is difficult to manage. Most developing countries do not have enough funds for the country to run smoothly. However as the years go by developing countries have gained knowledge and modified the environment so that they could live proper lives. This was not enough for developing countries as the population increased due to the low cost of living. It caused a strain on subsistence farmers as they had to feed an increasing number of people. Most of the crop that was formed was traded internationally to developing countries instead of direct consumption taking place. Later on four strategies were formed on how to increase food supply especially for those countries that are over populated. The four strategies are expanded agriculture land, increase agricultural productivity, improve food sources and expand exports.

The first strategy which is expansion of the land would not work in a developing country because most of these countries are small in size and are over populated therefore there would be no place for the land to expand.

The increase of agriculture productivity could work in a developing country if it is done properly. Even though most of the developing countries are not as rich as developed countries the "miracle seed" should be diffused around the world so that agricultural productivity can take place. Countries which are well developed should help with the diffusion of seeds around the world. If there is an increase in agricultural production it would feed the large population.

Since developing countries do not have a lot of finances improving their food sources would be difficult unless they get a sponsor from developed countries. In order to improve food sources more money is needed and this could be a problem for developing countries. Most of the time developing countries have food such as grains that lack certain proteins.

The expansion of the exports in a developing country cannot increase the food supply. Because most developing countries depend on imported food to survive since they receive low income and do not have a variety of agriculture like developed countries.

Therefore in conclusion the only strategy that would change their lives of people in developing countries and increase the food supply is by increasing agricultural productivity through the miracle seeds which must be supplied developed countries.

Bibliography

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RESULTS

1 = 9.5

2 = 10

4 = 7

5 = 10

6 = 9

Total = 45.5 / 50 (91%)

COMMENTS

- | | |
|---|--|
| 1 | Discuss the relationship between the HDI and DEC for both countries in more detail |
| 2 | Expand on these strategies for better mark. |