



Suggested answers to 2016 COMBINED HUMANITIES (Geography) Paper 2 2204

3a)

Carbon dioxide is a greenhouse gas that helps to trap heat in the atmosphere. Incoming shortwave radiation from the Sun passes through the carbon dioxide in the atmosphere. Some of the shortwave radiation is reflected from the Earth and the atmosphere. Most of the shortwave radiation is absorbed by the Earth's surface which then heats up as a result. The warmed surface of the Earth emits longwave radiation into the atmosphere. Greenhouse gases such as carbon dioxide, absorb the longwave radiation, thus warming up the atmosphere.

3b)

I agree that all tourists want destinations with beautiful sceneries to a small extent. However, tourists also seek places with good facilities and good culture.

Destinations with beautiful sceneries are usually places that have natural sceneries. These places can include mountainous regions such as the Himalayas in South Asia, costal resorts such as those in the Maldives or even national parks such as the Grand Canyon, USA. Each of these destinations have distinct features that attracts tourists with their awe-inspiring scenery. Honeypot tourism occurs when a destination is particularly attractive and unique hence attracting large number of tourists to visit the site to relax and enjoy the beauty of nature. An example would be the small limestone islands at Halong Bay in Vietnam. Hence, it is no surprise that tourists want destinations with beautiful sceneries as they are different from the built environments of towns and cities. These places are popular as they offer tourists unique experiences.

However, apart from places with beautiful sceneries, tourists also demand for places with good facilities. In the recent years, there is a growing number of tourists who are travelling for medical or health related purposes. These tourists choose to travel to destinations in attempts to undergo medical procedures to enhance or restore their health. One such example would be when tourists travel to South Korea, which is world-renowned for its expertise in cosmetic surgery. Some others on the other hand, travel to destinations with spa towns, mud baths, and massages to gain therapeutic value from exotic minerals to restore their health. An example of this would be travelling to the Dead Sea that has high salt and mineral content which are believed to benefit those with rheumatism. Places with good facilities such as theme parks also satisfy tourists who seek thrill and excitement. For example the Ocean Park in Hong Kong is a large amusement park that offers adventure seeking tourists both excitement and educational value. Thus, tourists also want places with good facilities as some destinations offer medical treatments that they require whilst others provide places for them to relax their minds from their hectic lives.

Tourists also want to visit places with good culture. Heritage tourism is when people travel to locations to experience different cultures to understand the history of the places better. Such locations of heritage sites include, but are not limited to, museums, national monuments or historical monuments. An example of this would be the Forbidden City, in Beijing, China. It is a structure standing for about 600 years and its rich history allows tourists to understand the traditions and lives of people living in China during the era of



imperialism. In addition, some tourists travel to certain destinations to take part in religious activities. This form of tourism is known as pilgrimage tourism whereby people travel to sacred places such as temples or churches for their spiritual journey. Key pilgrimage destinations include Mecca in Saudi Arabia, a destination for Muslims, and Jerusalem in Israel, a destination for Jews. Hence, tourists also demand for places with good culture as they would like to experience and understand the different cultures all around the world.

Hence, in conclusion, not all tourists only want places with beautiful sceneries as tourists could also want places with good culture and facilities. What tourists want will vary accordingly to the purpose of their visit. Hence, since the wants of tourists can differ according to the agenda and purpose of travel, I only agree to a small extent that all tourists travel because they want a place with beautiful scenery.



4a)

Convictional rain occurs when the Earth's surface is heated intensively. As the Sun's energy heats up the Earth's surface, the warm surface heats up the air around it. The air becomes unstable causing it to expand and rise. As the air rises, its temperature begins to drop. When the rising air cools to dew point temperature, condensation occurs and clouds are formed. When the water droplets in the clouds become large and heavy, they fall onto the ground as rain.

4b)

I agree to a large extent that the factors which contribute to the formation, speed and direction of monsoon winds and land and sea breezes are the same. These factors include temperature, pressure and the Coriolis Effect.

The formation of monsoon winds, land breeze and sea breezes are fundamentally affected by the same factor, temperature. Temperature is related to air pressure and plays a key role in determining how monsoon winds, land breeze and sea breeze form. For example, during the South West Monsoon that takes place between June and September, the air over Central Asia heats up due to summer temperatures. This causes an area of low pressure over Central Asia. At the same time, the Southern Hemisphere experiences winter. The low temperature causes the air to be cold and dense, hence the air thus sinks to form an area of high pressure over Australia. Due to the pressure difference, between Central Asia and Australia, air from Australia moves to the Indian Sub-continent and Central Asia forming the Southeast monsoon winds. This is similar to the formation of land breeze that is affected by temperature which affects pressure. A land breeze is a wind that blows from the land to the sea. Similar to a monsoon, it is also formed by the difference in the air pressure due to temperature differences caused by the rates at which land and water bodies cool. The land loses heat faster than the water bodies at night. As a result, air moves from an area of high pressure to an area of low pressure, forming a land breeze that blows from the land to the sea at night. Hence, the formation of monsoons, land breeze and sea breeze are all affected by temperature which affects pressure. This also eventually affects the direction of the wind as it corresponds to where winds are blowing from and towards. Also, the larger the temperature difference between two areas (Northern Hemisphere/ Southern Hemisphere or land and sea), the faster the speed of the wind. However, another factor that can affect the direction of wind would be Coriolis effect. The Coriolis effect is a force produced by the Earth's rotation. As the Earth rotates, the Coriolis effect changes the course of moving objects on the Earth's surface and is accountable for the bending and deflection of winds. The Coriolis effect is the strongest near the North and South poles, weak in the tropics and is not felt at the equator. In the northern hemisphere, the Coriolis effect causes the wind to be deflected to right and in the Southern Hemisphere it is deflected to the left. This would mean that the South East Monsoon can become the South West Monsoon as they cross the equator. As such, the Coriolis effect plays a crucial role in the direction at which winds are blowing.

In conclusion, the factors which contribute to the formation, speed and direction of the monsoon winds, land and sea breezes are mainly the same as the basis of wind movement, formation and direction as based on temperature which affects pressure.



5ai)

Generally, there was an increase in the food consumption in Vietnam from 1989 to 2019 as the diagram shows an increase in the calories consumed per person per day from 2043 in 1989 to 3497 in year 2019. The percentage of calories from fat increased the most with a total increase of 21% from 12% to 33% from year 1989 to 2019. There was however a decrease in the percentage of carbohydrates of 27% from year 1989 to 2019.

5aii)

The general increase in food consumption in Vietnam could have been a result of an increase in disposable income. As people in Vietnam have a higher disposable income over the years, they have more purchasing power to consume a larger amount and a greater variety of food hence leading to an increase in food consumption. An increase in the ability to spend would mean that people in Vietnam will start to demand for more meat hence resulting in them consuming more meat and less cereals. This will therefore lead to a greater increase in percentage of fat and a decrease in the carbohydrates. The increase in food consumption could also be due to an increase in the population of people living in Vietnam. A larger population in Vietnam would mean that there is a higher demand for food. Stability in food supply due to a more stable government could also ensure that food supplies are constant regardless if whether food are produced locally or imported.

5b)

The type of fault shown in Fig 5 is known as a transform fault. As plates slide past one another they result in stress and friction as the crusts of the earth are not smooth. The plate movement causes the slow build-up of stress on the rocks found on either side of the fault. When the rocks can no longer withstand the increasing stress, they can suddenly slip by a significant number of metres, releasing seismic energy that radiates out from the point of the sudden release called the focus, thus causing earthquakes.

5c)

At plate boundaries where there is a magma intrusion, huge amounts of heat is being generated. Precipitation that seeps through the ground as ground water is heated up by the heat of the hot rocks beneath the surface. This causes the water to expand and rise as steam. As the steam escapes through the bore holes, the energy from the steam is used to drive turbines and generate electricity.

5d)

I only agree to a small extent that fatalistic approach to earthquake and tsunamis is more sensible than any other as there are other approaches such as the acceptance approach and the adaptation approach which are more sensible.

A fatalistic approach to earthquake and tsunamis is adopted by people who accept that earthquakes are unavoidable events. People who adapt the fatalistic approach may resist evacuation even when an earthquake or tsunami strikes. This approach is mainly about



people in the Least Developed Countries (LDC) whereby some rural communities believe that the occurrence of earthquakes and tsunamis are a result of God's will and hence are inevitable. This view is sensible as the occurrence of earthquakes and tsunamis are natural disasters and cannot be prevented from happening.

An acceptance approach is a more sensible approach to earthquakes and tsunamis as people who adopt the acceptance approach are those who accept the risks of living in earthquake and tsunami prone areas because the benefits of living in these areas outweigh the costs of moving away. People who adopt the acceptance approach are mainly individuals in the Developed countries (DC) who are more educated on issues related to the earthquakes, tsunamis and the impacts that they can cause to people. This group of people logically weigh the benefits of living in an earthquake and tsunami prone areas against the disadvantages and continue living there because they stand to gain more from the area. In addition, since such disasters do not occur on a frequent basis, such an approach can be deemed as sensible.

Lastly, an adaptation approach can be said to be the most sensible approach to earthquakes and tsunamis. The adaptation approach is largely adopted by Developed countries (DC) and emphasises that people can successfully live in earthquake prone areas when they are well prepared. Preparation measures including earthquake monitoring devices, tsunami monitoring and warning systems, risk assessments, planning structures and technology are used to make the areas more earthquake and tsunami resistant. An example of this would be the people living in Tokyo, Japan, as well as San Francisco, USA. These people are not afraid to live in these areas as they feel that they are adequately protected from these disasters. Hence, the adaptation method is the most sensible method as it not only allows people to continue living in earthquake and tsunami prone areas and reap its benefits, it also employs methods to reduce the damaging impacts of these disasters.

In conclusion, I agree that fatalistic approach is sensible to a small extent as natural disasters such as tsunamis and earthquakes are indeed unavoidable. As such there is little reasons to resist such a natural phenomenon. However, it is not as sensible as compared to adaptive and acceptance approaches as both approaches acknowledge the need to reduce the damage done by these natureal disasters. People who adopt the acceptance approach also emphasize the need to have measures in place to prevent and mitigate the negative impacts that can be caused by earthquakes and tsunamis. As such, although such disasters are inevitable, the damage of the earthquakes and tsunamis can be significantly reduced and hence making the adaptation approach the most sensible method of all.



6ai)

Food shortages occur in most regions of East Africa, other than the Northern Western side of East Africa whereby none or minimal food shortage is observed. Places with emergency stages of severity of shortages are unevenly distributed although mainly concentrated in the Central and Eastern part of East Africa. Areas near capital cities such as Nairobi and Addis Ababa usually experience minor or no food shortages. However, Mogadishu, although being a capital city, experiences a major shortage. There are more than 16 areas in East Africa that would become worse without the effects of humanitarian assistance.

6aii)

One economic impact of food shortage on countries is lower work productivity. Insufficient food consumption can affect the country's economy as, when workers consume an imbalanced amount of nutrients, they fall sick often resulting in low work productivity and lower income which can affect the country's economic development negatively. With more people in the country falling sick due to a lack of food, public health expenditures will also increase when the demand for health services increase as more people are falling sick. This hence leads to a diversion of resources given to support the healthcare needs of the people rather than in other key areas such as education and transport, that could lead to economic growth. The government could also be caught up in huge amounts of debts as it has to rely on borrowed funds to hand out food and financial aid to help people in their country.

Due to food shortages, civil war and social unrests could also occur as people could protest or behave violently due to the inadequate supply of food. This could hence result in violence and aggression in the country possibly leading to injuries and death.

6b)

Generally, agricultural exports have increased for all ASEAN countries. Vietnam has the largest percentage increase of agricultural exports with a total percentage increase of 396%. Myanmar has the least percentage increase of agricultural exports, of only 15%. Despite having the greatest percentage increase in agricultural exports, Cambodia has a relatively low change in agricultural exports of 277 tens of thousands. Brunei has the least increase in agricultural exports, with an increase of 5 tens of thousands.

6c)

As a result of excessive food consumption, more than half of the population (totalling up to 69%) are obese, 36%, or overweight, 33%. This has therefore led to a large amount of money spent on dieting. As per figure 11, the normal spending on food is at 50US\$ per person per week. However, the spending on dieting was significantly higher at 69US\$ or more. This could lead to social issues as priorities placed on dieting may lead to depression and diet-related physical illnesses. There is also a significant portion of food energy wasted in the US, with at least 15% of food energy wasted in all 10 groups of food. The highest amount of food energy wastage was seen in fats and oils. Food energy wastage can cause



a social problem as they put more strains on landfills and waste precious resources and food supply that are still edible.

6d)

Physical factors are important in determining the intensity of food production and supply. However, there are other factors such as economic and technological factors that can affect the intensity of food production and supply.

Physical factors such as relief are important in determining the intensity of food production and supply. Relief refers to the slope and altitude of a land surface. A steep relief would mean that rain is more likely to remove the topsoil which is rich in nutrients. This is because the topsoil on a steep slope and becomes less stable when saturated with water thus resulting in being washed down the slope. This would hence affect the fertility of the soil, thus reducing the amount of crop production and supply. Steep relief would also prevent the use of machineries and thus reducing crop production and supply. Temperatures affected by the altitude could also cause temperature changes. The higher the place, the lower its temperature hence reducing the amount of crops that can be produced. For example, soya beans or tomatoes require warmer climates to grow. This would hence reduce the amount of supply and production of food as crops would not be able to grow in unfavourable physical environments.

Another reason that could affect the intensification of food production and supply would be social reasons that include land tenure. In LDCs (Less developed countries) whereby most farmers are too poor to afford their own farmland, they usually pay a sum of money or a portion of their harvest to the landowners or government to rent the land. This leads to a lack in security of tenure as the farmers are often uncertain if their land would still belong to them in future. For example, farmers in Uganda lost everything when the Ugandan government evicted thousands of farmers from the Mubende and Kiboga districts to make way for new trees to be planted. Implying that this lack of security would result in farmers lacking the incentive to make improvements to their land. This often leads to land degradation which hinders future production of crops as and lead to an inability to intensify food production and supply in the future.

Lastly, technological advances could also affect the intensification of food production and supply. One form of technological advancement would include High Yielding Varieties (HYV). HYVs are improved strains of crops such as rice, wheat, and other cereals and are developed through the cross breeding of selected varieties which are found to exhibit favourable characteristics. This includes the ability to have an increased resistance to pests and diseases, and the ability to grow more within a shorter growing season thus ensuring that there can be more harvests in a year. For example, "Wonder Rice" has a shorter growing season of 100 days as compared to the growth duration of 120 days for the non HYVs. Another type of HVYs known as IR8 has a maturation period of 105 days instead of 130 days for previous HYVs and 150 days for traditional varieties of rice. This thus enables farmers to produce twice as much grain as traditional varieties, increasing total wheat production by almost 4 times that of 1970 by 2011. Hence the use of technology provides support to allow more crops to be healthy and grown in a given time frame, intensifying food production and supply.



In conclusion, whilst physical factors are important in determining the intensity of food production and supply, it is not the most important factor. This is because, physical factors such as the relief, can be altered through terracing to allow the growth of crops. Technological advances are however the most important factor in determining the intensity of food production and supply as they can affect the amount of food produced and can hasten up the growth duration of crops hence resulting in the intensification of food production and supply.