H2 Geography Weighted Assessment 1

Marking scheme

(a) Describe the global patterns in share of population with food insecurity as shown in Resource 1. **[4]**

Award 1 mark for each description of the global patterns in share of population with food insecurity, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each description, where applicable.

Possible responses include:

- Generally, the distribution in share of population with food security is uneven in the world [1]
- Highest share of population with food insecurity is in many countries in the African continent with most of African countries above 30% [1]
- Some Central African countries (e.g. Sudan, Congo), have the highest share with more than 80% [1]
- Lowest share is seen in some Western European countries/Japan/Kazakhstan with less than 5% or North American countries like US/Canada with less than 10% [1]
- Asia as a continent has the largest variations with some countries having less than 10% (Japan/Indonesia) whilst others have more than 30% (Thailand/ Afghanistan etc) [1]
- Countries in the Northern Hemisphere generally tend to have a lower share of population with food insecurity compared to countries in the Southern Hemisphere, though there are exceptions [1]

(b) Explain why the data shown in Resource 1 may be limited in measuring sustainable development. **[5]**

Award 1 mark for each explanation of why Resource 1 may be limited in measuring sustainable development, to a maximum of 5 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- Data is lacking in some countries as shown in the resource (e.g. India, China) [1] which makes it difficult to measure sustainable development as it is difficult to compare and track across countries globally [1]
- Measurement of sustainable development using this data may not be accurate as definition of food insecurity can be subjective to different people as seen in Resource 1, it refers to inability to regularly eat healthy, nutritious diets.[1] Definition of 'regularly' and 'healthy' for instance can vary amongst people from different incomes, cultures. [1]
- This data does not reflect spatial/ethnic variations within countries as it only shows the average data for the whole country. [1]
- Data collected may not be accurate as not all people in rural, remote areas may be accounted for [1]

(c) Explain how technology, based on Ester Boserup's views, can help address food insecurity as shown in Resource 1 **[6]**

Award 1 mark for each explanation how technology, based on Ester Boserup's views, can help address food insecurity, to a maximum of 6 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- Boserup mentioned that technology can increase the resource base and thus increase food supply [1]
- Many of the countries experiencing food insecurity are in impoverished regions in Africa or South America which lacks technology. [1] Technology like Green Revolution and high yielding variety seeds can help to increase food production here with the aid of international organisations [1]

- Better irrigation techniques using technology can also be introduced to these regions [1] with the aid of funding from developed nations so that crops can be grown in arid regions [1]
- Drought resistant crops which are genetically modified can also be introduced to regions in Africa prone to droughts [1]
- However, in some of these regions [Middle East. Africa], food insecurity could be due to political instability and lack of distribution which makes it difficult to resolve with technology alone [1]

(d) With reference to Resource 2, compare the trends in plastic beach litter count between Cambodia and Italy. [3]

Award 1 mark for comparison between Cambodia and Italy, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- Generally, Italy recorded an overall decrease but Cambodia recorded an increase in beach litter count [1]
- Italy's beach litter count decreased from 7 million to less than 1 million items per sq km but Cambodia's increased from 3 million to 5.2 million items per sq km [1]
- Italy started at a higher amount of beach litter count in 2016 compared to Cambodia (7 million vs 3 million) but became lower than Cambodia within a year in 2017[1]
- Italy had a constant decrease but Cambodia experienced an increase in beach litter count from 2016 to 2017 then a decrease from 2017 to 2018 [1]

(e) Suggest why Philippines' and Italy's trends in beach litter as shown in Resource 2 differ. [5]

Award 1 mark for each suggestion on why beach litter varies between Philippines and Italy, to a maximum of 5 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- Philippines recorded an overall increase in beach litter count whilst Italy recorded a significant increase over the 2 years [1]
- This could be due to difference in government policies over the 2 years between the countries.[1] Italy could have come up with new regulations/penalties to regulate beach litter in coastal areas which could have led to the significant decline [1]
- Philippines could have seen a significant increase due to improper waste disposal/ tourism in coastal regions [1] which leads to more littering in these regions if there is no monitoring of pollution [1]

(f) With reference to Resources 2 and 3, explain how human activities can compromise ability of oceans to provide ecosystem services (e.g. provisioning, regulating, supporting, cultural services). [7]

Award 1 mark for each suggestion on how human activities can compromise ability of oceans to provide ecosystem services, to a maximum of 7 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.
Award maximum of 3 marks for explanation of only 1 type of ecosystem service.

Possible responses include:

- Resource 2 shows increasing beach litter whilst Resource 3 shows pollution from human sources along a coastline which include plastic bags and bottles [1]
- Provisioning services provided by oceans such as fish can be affected due to water pollution [1] which can affect the survival of fish species and lead to a decline in fish supplies [1]
- Cultural services provided by oceans can be affected as it loses its aesthetic nature as well as an avenue for recreational activities like coastal walks or swimming [1] This is

because when the ocean and shoreline is polluted, it is no longer appealing to visitors and is not suitable for recreational activities as well as it could be dangerous to users of the ocean [1]

- Regulating services can be affected within the oceans by oceans such as water purification/ carbon storage [1]. Decaying litter can emit more carbon and affect the capacity of oceans to store carbon for instance.[1] Pollutants can also affect ability of water to be purified for use by marine organisms [1]
- Support services provided by oceans can also be affected when habitat provision/water cycling is affected [1] Pollutants like oil/ decomposing waste affect marine habitats as well as the water cycle when pollutants enter water sources through runoff or affect processes like evaporation [1]