

## **SAMPLE ANSWER 1**

A significant impact of climate change relates to food security: reliable access to the types and amount of food needed for a healthy life. As explained in Input Text 1, moderate food insecurity means lack of access to appropriately nutritious food, while severe food insecurity implies hunger and even starvation. This essay will describe how the effects of climate change are exposing more people to food insecurity of both types. It will first explain the impact on moderate food insecurity and then show how climate change is likely to cause severe food insecurity in some regions.

Climate change factors can generate the moderate form of food insecurity. As reported in Input Texts 1 and 2, the combination of warmer average temperatures and changed patterns of precipitation affects crop growth in quite different ways. For example, wheat yields may rise by nearly 20% due to the effects of global warming (Input Text 1). While this may seem a positive development, Input Text 2 explains that higher CO<sub>2</sub> levels will reduce the nutrient-value even in higher-yielding crops such as this. Furthermore, if farmers recognize wheat as more profitable than other crops, more of them will switch to monoculture farming, raising just one crop and thereby reducing the availability of other crops with a wider range of essential minerals. This change could result in greater numbers of people suffering from this form of food insecurity.

However, in some regions, climate change could have an even more serious impact on food availability. As explained by Input Text 1, areas that are already dry are likely to become even drier. In extreme cases, agricultural land may become permanently unusable due to this process of desertification (Input Text 1). Residents will then become dependent on food supplied from elsewhere. Prices may become unaffordable for poorer people because the global supply of food can be disrupted by climate-change factors (Input Text 1; Input Text 2). For example, Input Text 2 describes how pests and disease can dramatically reduce crop yields, while Input Text 1 details climate-related disruptions to farmers' planting and harvesting schedules.

This essay has explained how climate change can worsen both moderate and severe forms of food security. It is important that governments collaborate to slow the effects of climate change by reducing deforestation and the burning of fossil fuels. They should also provide financial subsidies to encourage farmers to grow a variety of crops.

(Word count: 400)

## **SAMPLE ANSWER 2**

Climate change factors can have a substantial impact on food security, the availability of sufficient food to sustain a healthy life, although the effects might be differently realized in different regions. This essay will explain how changes in precipitation patterns impact food security by first considering the one extreme of increased storms and wet weather before exploring the opposite extreme that is increased aridity and drought.

The rising temperatures associated with global warming are making water cycles more extreme (Input Text 1) and this will affect food security. First, areas that are already wet will become wetter. More severe or more frequent storms can lead to flooding, which destroys healthy crops. This leaves fewer crops available for the same number of people in the area, with the result that prices rise and fewer people can afford to buy the food (Input Text 1). Furthermore, warmer and wetter weather is beneficial for pest populations, while biodiversity loss due to climate change is reducing the numbers of the predators that feed on those pests (Input Text 2). These two factors support the spread of pests, which can destroy entire crop yields. This is an even more serious problem because of the increasing popularity of monoculture farming (Input Text 2). Again, the consequence will be price rises and food insecurity for economically disadvantaged groups.

However, changes in precipitation patterns do not only result in wetter weather but may also leave some regions much drier, a situation that can also seriously affect food security. Specifically, if dry weather continues for too long, soil that is dried out may never recover its nutrients, such that the land is no longer usable for agriculture: a process called desertification (Input Text 1). This would clearly have an extremely negative impact on any local people who rely on the land for their daily nutritional needs. They would become reliant on buying crops from other areas, and these may be unaffordable for them (Input Text 1; Input Text 2). As Input Text 1 states, this dependency on supply chains may even lead to extreme hunger.

The essay has shown how both a rise in wet weather and a rise in dry weather can negatively impact food security. It is important that stakeholders including governments and international organisations understand how climate change can impact food security so that appropriate measures can be taken to mitigate the problems that will result.

(Word count: 400)