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**Question 21** (12 marks)

- (a) Recommend ONE primary and ONE secondary geographical method that could be used to assist in the management of an ecosystem at risk that you have studied. 4

The use of photographs is a primary geographical method that assists in demonstrating the changing nature of sand dune ecosystems. Management strategies can then be applied in the areas in which the most change has occurred. Showing in the photographs the change can be compared to photographs recorded before. Analysing data in the areas of climate, eg rainfall patterns over the past decade allow management strategies to be implemented to counter the effects of severe rainfall (storms) that have a negative impact on the sand dunes.

- (b) Describe the effect of ONE natural and ONE human-induced change on an ecosystem at risk that you have studied.
- changes in climate, for example storms or cyclones may have an impact on coastal sand dunes. Storms will result in the loss of sand as it is taken into the ocean and deposited in other locations. This is evident in Cronulla with the loss of important top soil and nutrients being deposited around the Peninsula as a result of storms. Human recreational activities such as four-wheel driving loosen top soil and displace vegetation within sand dune ecosystems.

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## Question 21 (continued)

- (c) How could Cúc Phương National Park be managed to respond to human-induced changes which place the ecosystem at risk? In your answer, refer to the Sources on pages 2 and 3 of the Stimulus Booklet. 4

(Source E) Humans have polluted the National Park by dumping rubbish, and have caused erosion by using trees as firewood when cutting down the trees. This can be managed by restricting access to the park for humans, not allowing them to be able to dump their rubbish. Erosion may be managed by restricting access again to the National Park, and thus there is no need to remove trees for firewood if it is unable to be accessed. Furthermore, the planting of native trees is another management practice that will counter the human induced changes and promote the growth of the National Park.

End of Question 21