Section A: Answer the compulsory question

QUESTION 1 (Compulsory):

You have been retained as an advisor on matters pertaining to soil conservation to the Eastern Cape Division of the Department of Agriculture. The department is planning to start a new rehabilitation programme and is considering relatively cheap options. An official has noticed the two sites shown in Figures 1 and 2 and has requested your advice concerning the relative advantages and problems associated with the techniques shown. Present your response in writing, stating i) what conservation measure is being used, ii) its relative advantages, and iii) what alternative measures could be used that are comparable in price and efficiency. You are required to justify your answers.

Figure 1

Figure 2
Section B: Answer ONE question

QUESTION 2:
Clearly outline the formation of gullies, and hence discuss the approaches available for the rehabilitation of these in a non-dispersive soil, in an area used for commercial farming. (100)

QUESTION 3:
Review the worth of field observation and laboratory experiments in furthering the understanding of soil erosion phenomena and their rehabilitation. (100)

Section C: Answer ONE question

QUESTION 4:
Discuss the use of biological / bio-engineering methods and hydro-seeding in rehabilitating eroded areas. Compare these with interventions such as the range of Turf Reinforcing Mats (TRMs) available. (100)

QUESTION 5:
Briefly review the principles of Sustainable Land Management (SLM), and relate this to issues of erosion and degradation. (100)

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