



UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME; BSC IN AGRICULTURAL AND BIOSYSTEMS ENGINEERING
YEAR 4

COURSE CODE: ABE 401

TITLE OF PAPER: LAND EVALUATION AND PLANNING

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

INSTRUCTIONS: ANSWER QUESTION ONE AND TWO OTHER QUESTIONS.

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QUESTION 1: COMPULSORY QUESTION

- a) Using the goals achievement matrix, rank the four land use options in the table below, and select the best option. You should assume your own weightings for the three criteria (return per ha return per capita and environmental impact). (20 marks)

Land use type	Net income per ha (£)	Net income per capita (£)	Environmental impact
Low intensity livestock grazing	15	50	Low
Growing of soybeans under rainfed conditions	500	400	Moderate
Production of green maize under irrigation	5000	200	High
Establishing of pasture to graze dairy cows (high intensity grazing)	3000	600	High

- b) Describe three attributes of land utilisation types, highlighting their importance in agriculture. (10 marks)
- c) Describe three factors that affect capability of a piece of land. (10 marks)

QUESTION 2

- a) Discuss the difference between reconnaissance survey and detailed survey. (15 marks)
- b) Describe the role played by traditional structure in rural land use planning and development, and how they interact with the central government. (15 marks)

QUESTION 3

- a) Discuss three possible negative impacts and three possible positive impacts of an irrigation project. (15 marks)
- b) Discuss the role played by monitoring of implementation of a land use plan, highlighting the type of questions that the monitoring process seeks to answer. (15 marks)

QUESTION 4

- a) Discuss in detail the information that is contained in the results of a land suitability evaluation. (15 marks)
- b) Describe three measures that can be used for economic analysis of a rural development project. (15 marks)