



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**  
**UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN**  
**AGRIBUSINESS MANAGEMENT**  
**THIRD YEAR FIRST SEMESTER 2019/2020 ACADEMIC YEAR**  
**REGULAR**

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**COURSE CODE: AEB 1303**

**COURSE TITLE: ANALYSIS AND PLANNING OF AGRICULTURAL PROJECTS**

**EXAM VENUE: STREAM: (BSc. Agribusiness Management)**

**DATE: EXAM SESSION:**

**TIME: 2HOURS**

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**Instructions**

- 1. Answer ALL questions in Section A (compulsory) and ANY TWO questions in Section B**
  - 2. Candidates are advised not to write on the question paper**
  - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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**SECTION A [30 MARKS]**

**Answer ALL questions in this Section.**

1. The Kenyan government is planning to construct a dam in Nandi County to collect surface run off for irrigation purposes and further mitigate the flooding menace in lower Kano irrigation scheme. The project is funded by an international community which has advocated for use of capital-intensive technology.
  - a) Classify this kind of agricultural development project. **[2marks]**
  - b) How can this project contribute to the achievement of vision 2030? **[2marks]**
  - c) Explain any four aspects that would be considered in environmental analysis of this agricultural project. **[4marks]**
  - d) What technical issues would be considered before the implementation of this project? **[4marks]**
  - e) Advise the project manager on how to treat labour abundance in the face of capital intensive technology advocacy. **[3marks]**
  
2. As an agricultural project manager, you have been tasked to advise the government on the following scenarios:
  - a) How to appraise a project whose benefits is detrimental to non-participating group considering the equity status of the project. **[2marks]**
  - b) How to determine the wage or production cost of a worker who has very poor technical skills and lives in a region where unemployment exists. **[2marks]**
  - c) How to price tradable goods that have been rendered non-tradable due to policies or governmental interventions. **[2marks]**
  
3. A project is a proposal for investment aimed to change a present situation to an improved situation over time. What are the common basic features of a change process? **[5marks]**
  
4. Why should Environmental Impact Assessment (EIA) be carried out before a project is implemented? **[4marks]**

**SECTION B [40 MARKS]**

**Answer any TWO QUESTIONS in this Section.**

5. EABL is East Africa's leading branded alcohol beverage producer renowned for its Tusker brand and a selection of products that range from beer and spirits to adult non-alcoholic drinks. Changing and unpredictable weather patterns has contributed to increased costs for local and imported barley, a main raw ingredient in beer making.

Anticipating possible cost increases for barley, East African Breweries Limited (EABL) saw an opportunity to develop a new product. They developed a low-cost beverage brewed with sorghum, a drought resistant local crop that is less expensive than barley. EABL's transition to sorghum as a main ingredient in its low-cost beverage was facilitated by dryland crop research undertaken by the Kenya Agricultural Research Institute (KARI). The move to a sorghum-based beverage (Senator) has created new market opportunities for EABL while providing a cash crop for farmers in the semi-arid lands, helping them improve livelihoods, increase climate resilience and address food security. Senator was targeted at low-income consumers as a cheap and safe alternative to illicit liquors. Sorghum production for beer brewing was encouraged by a public-private partnership formed in by the Ministry of Agriculture (farmer mobilization and extension services), KARI (seed multiplication and technical services), the provincial administration (helping with farmer mobilization), Jubilee Insurance (crop insurance), Equity Bank (affordable loan), and EABL (market for the sorghum). The company has guaranteed farmers cheap loan and sustainable market however, farmers have to form producer groups of 20-30 members to facilitate aggregation. Farmers who are able to produce large volumes can sell directly to the company otherwise they can sell to aggregators who later sells to the company. The disadvantage of this sorghum variety is its open pollination nature a part from being liked by birds. This has made so many farmers to shy away from cultivating it due to tedious work of keeping birds away.

- a) Assess the suitability of the project in terms of technical, economic, social, commercial, financial, environmental and institutional impacts and advise the stakeholders accordingly. **[14marks]**
- b) What are the possible risks to this sorghum project? **[2marks]**
- c) Crashing an activity in a project is the process of reducing the time duration
- d) of the project. Outline three indications of crash limit. **[3marks]**
- e) Why are taxes and interest included in financial analysis but excluded in economic analysis of agricultural projects? **[1mark]**

6. A prospective investor is contemplating investing in two agricultural projects presented in the table below. Use the information below to advise him accordingly.

<b>Year</b>	<b>Investments</b>	<b>Returns from Project A</b>	<b>Returns from Project B</b>
1	25,000	-	18,000
2	10,000	8,000	9,000
3	5,500	12,000	10,500
4	2,000	20,000	16,000

5	1,000	10,500		25,000	
6	-	8,000		20,000	
7	-	9,500		17,500	

Required:

- Calculate the payback period of each project. **[4marks]**
- Advise the investor on the best project to invest in. Justify your answer. **[2marks]**
- An environmental impact assessment is an activity designed to identify and predict the impact of an action on the bio-geophysical environment, on man's health and well-being and to interpret and communicate information about the impacts. Explain any four types of environmental impacts of agricultural projects. **[8marks]**
- Externalities are defined as effects of a project felt outside the project and not included in the valuation of a project. Explain any three types of externalities in agricultural projects. **[6marks]**

7. Use the table below to answer the questions below.

Activity	Predecessor	Duration (Days)
A	-	20
B	A	10
C	B	8
D	A	11
E	C, D	7
F	E	6
G	D	12
H	E	13
I	G, H	5

Required;

- Draw a network diagram. **[8 marks]**
- Determine;
  - Critical activities **[2marks]**
  - Critical path **[2marks]**

iii. Project duration **[2marks]**

c) Differentiate the following terms as used in agricultural projects:

i. Forward pass and Backward pass **[2marks]**

ii. Critical Path Method and Program Evaluation and Review Technique **[2marks]**

iii. Ex-ante analysis and Ex-post analysis **[2marks]**