



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURE AND FOOD SCIENCES
SECOND SEMESTER FIRST YEAR EXAMINATION FOR THE DEGREE OF
MASTER OF SCIENCE IN AGRICULTURAL EXTENSION 2018/2019 ACADEMIC
YEAR
MAIN

COURSE CODE: AAB 5126

COURSE TITLE: AGRICULTURAL VALUE CHAIN MANAGEMENT

EXAM VENUE: STREAM: (MSc. Agricultural Extension)

DATE: 3/09/19 EXAM SESSION: 9.00 – 12.00NOON

TIME: 3HOURS

Instructions:

- 1. Answer questions ONE and any other TWO questions**
- 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**

1. Value chain analysis is the process of using a set of tools and guidelines to analyze a certain value chain for a certain purpose.
 - a) As an agricultural extensionist, explain the applicability of agricultural value chains in the agricultural sector especially in the developing countries. **[5marks]**
 - b) What are the possible risks posed by long value chains to farmers? **[3marks]**
 - c) Differentiate between the following terms as used in value chain analysis
 - i. Market and End market **[1mark]**
 - ii. Value chain node and value chain segment **[1mark]**
 - iii. Upstream and downstream activities **[1mark]**
 - iv. Value chain Invention and value chain innovation **[1mark]**
 - d) Explain Porter's approaches to value chain analysis. **[6marks]**
 - e) How is Filiere approach to value chain analysis different from Global Commodity Chain? **[2marks]**

2. 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.

- a) Identify with justifications, chain innovation within the excerpt. **[2marks]**
 - b) Identify the possible chain upgrading options from the excerpt and advice the farmers on how they can take advantage of each option. **[8marks]**
 - c) Map out a simplified sorghum value chain. **[6marks]**
 - d) How applicable is the business strategy being used by EABL? **[4marks]**
3. Lake Victoria is a fresh water lake with three main fish species, Tilapia; Nile perch and *Omena*. There has been dwindling supply of these fish species due to illegal operation of active fishing gear, overfishing, proliferation of cages and deterioration of water quality. Degradation of the sector has not been stopped through new government legislation or enforcement of current regulations. Fishermen also lack the means to buy the right gear or (a share in) a boat. They depend on the informal sector for credits, which prevents them from buying new fishing gear or using ice. Moreover, small fishermen in particular are confronted with decreasing income, in part because of competition from Chinese fish which have flooded the market, leading to lower incomes of these fishermen and poverty in the fishing community. Most relationships in the value chain are long term, with family members or intermediaries who are members of the same community, based on trust and commitment. Many fishermen are dependent for credits on these intermediaries and remain with the same ones for years. Chinese fishermen often have formal contracts that specify product quality (size), delivery conditions, payment which are important activities in the fish chain.
- a) What are some of the value chain constraints in this fish sector? **[5marks]**
 - b) As a value chain specialist, advise the farmers on the best value chain governance structure citing possible benefits. **[8marks]**
 - c) Outline any three important value adding processes in the chain. **[3marks]**
 - d) Briefly explain how these fishermen can undertake both product and chain-network upgrading. **[4marks]**
4. In many agricultural value chains, women face more difficult conditions than men though they occupy a bigger percentage of the positions or activities within the value chain.
- a) Why is gender mainstreaming important in value chain analysis? **[5marks]**
 - b) How can value chain innovation lead to overall chain competitiveness? **[3marks]**

- c) How are buyer-driven chains different from producer-driven chains in terms of governance?
[4marks]
- d) Briefly outline how contract farming can lead to value chain co-ordination and competitiveness.
[4marks]
- e) How can the actions of non-chain actors such NGOs facilitate development of economically viable chains?
[4marks]

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