The Management University of Africa

Sponsored by the Kenya Institute of Management

POST GRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF MASTER OF ARTS IN DEVELOPMENT STUDIES

MDS 508: PROJECT MANAGEMENT PRINCIPLES

DATE: 2ND APRIL 2026

DURATION: 3 HOURS

MAXIMUM MARKS: 60

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **FOUR (4)** questions.
4. Question **ONE is compulsory.**
5. Answer any other **TWO** questions.
6. Question **ONE** carries **30 MARKS** and the rest carry **15 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided**

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

MAJI SAFI RURAL WATER SUPPLY PROJECT

The Maji Safi Rural Water Supply Project was initiated in 2022 by the Ministry of Water and Sanitation in collaboration with local governments and development partners. The project targeted five rural communities in Kisumu County, Kenya, where over 70% of households lacked access to safe and reliable drinking water. A baseline needs assessment identified the key issues such as high prevalence of waterborne diseases due to unclean water sources; women and children walking 4–6 km daily to fetch water; poor agricultural productivity linked to unreliable irrigation.; limited local capacity in water system maintenance.

The project goal was to provide sustainable access to clean and safe water for 25,000 rural residents in Kisumu County. The specific objectives which the project aimed as achieving include: drill and equip 10 solar-powered boreholes, construct 15 communal water points and 20 household connections, build capacity for local water user associations, and promote hygiene and sanitation practices. The features for the project design included Use of solar-powered submersible pumps, gravity-fed piping, and 50,000-liter storage tanks. Environmental Impact Assessment (EIA) was completed, with minimal disruption to natural habitats. The local community leaders were involved in site selection and design decisions to promote ownership.

The project planning process involved: Stakeholder consultations with community members, local leaders, NGOs, and government agencies; feasibility studies to assess groundwater availability, terrain, and sustainability; and risk assessments, especially regarding drought, technical failure, and maintenance gaps. The total project budget was **KES 120 million** (approx. USD 1 million), which was sourced as follows: 50% from

the national government (Ministry of Water and Sanitation); 30% from a World Bank grant under the WASH initiative; 10% in-kind contributions from the community (land and labor); and 10% from a local NGO (Water for Life Kenya). A financing plan was developed to ensure phased disbursements aligned with implementation milestones. The project was scheduled to span **18 months** from January 2023 to June 2024 and the key activities included: needs assessment, EIA, technical designs; tendering, contractor selection; drilling, construction, community training; site inspections, user satisfaction surveys; and final reporting, handover to communities

The project followed a phased and participatory implementation model which involved Infrastructure Development such as Boreholes drilled and equipped with solar-powered pumps, storage tanks installed at strategic locations, and piping laid to connect boreholes with communal water points and households. There was also capacity building where 25 community members were trained on basic system maintenance and water governance and formation of Water User Associations to manage daily operations and maintenance. The implementation stage also involved Hygiene Promotion strategis such as **b**ehavior change campaigns on handwashing and latrine use; and distribution of hygiene kits to 2,000 vulnerable households. Additionally, there was Monitoring System such as Routine Site Visits, Progress Reporting, digital Monitoring, and community Feedback Mechanism like Suggestion boxes and quarterly town hall meetings.

The project evaluation criteria involved: Mid-Term Evaluation focusing on efficiency and community engagement and which found that 80% of planned water points completed and functional; as well as End-Term Evaluation meant to assessed impact, sustainability, and effectiveness. The Key outcomes included 23,500 residents gained reliable access to clean water., waterborne illnesses reduced by 60%, average water collection time reduced from 2 hours to 30 minutes, and 92% community satisfaction rate with service quality.

The project was successfully closed in June 2024, following key actions such as Handover of water infrastructure and documentation to Water User Associations and the County Government; Final audit and financial reconciliation conducted with all funding partners; exit strategy implemented to ensure continuity; maintenance fund established through household contributions; and follow-up plan agreed for quarterly technical support for 12 months post-project. The Maji Safi Rural Water Supply Project demonstrates the effectiveness of integrated planning and management in rural water development. From thorough project analysis and participatory design to structured implementation, financing, and monitoring, the project achieved its intended outcomes and left a lasting impact on beneficiary communities. Its approach serves as a replicable model for similar WASH (Water, Sanitation, and Hygiene) interventions across sub-Saharan Africa.

Required:

a) Discuss six strategies which Maji Safi Rural Water Supplies project used to ensure effective project implementation.

(6 Marks)

b) Evaluate five monitoring and evaluation tools which were used in Maji Safi Rural Water Supplies project

(5 Marks)

c) Describe the six outcomes of the Maji Safi Rural Water Supplies project by the time of evaluation

(6 Marks)

d) Describe five lessons learned from the Maji Safi project that could inform future water projects

(5 Marks)

e) Explain four ways how monitoring and evaluation was structured to support project accountability and learning

(8 Marks)

QUESTION TWO

a) Describe the project termination and clean-up procedures which can be applied to a completed public infrastructure project and explain how these actions ensure organizational readiness for future projects.

(10 Marks)

b) Explain the application of project design and planning principles to a public sanitation improvement project describing how they can be used to ensure project feasibility and stakeholder alignment.

(5 Marks)

QUESTION THREE

a) Project monitoring and evaluation (M&E) principles can be used in a community health initiative. Explain how M&E principles support adaptive project management and accountability.

(5 Marks)

b) Apply five project scheduling techniques to a school infrastructure development project explaining how effective scheduling contributes to timely and efficient project delivery.

(10 Marks)

QUESTION FOUR

a) Analyse five ways how proper project implementation would lead to a successful project outcome. Use a case national digital literacy project to explain your answer

(5 Marks)

b) Describe five financial project appraisal techniques and how they can be used to assess the viability of a proposed agro-processing facility **(5 Marks)**

c) Analyze the application of the following project appraisal analysis methods in evaluating a proposed renewable energy project

i. Financial Analysis: **(1 Mark)**

ii. Economic Analysis: **(1 Mark)**

iii. Social Cost-Benefit Analysis (SCBA): **(1 Mark)**

iv. Environmental Impact Assessment (EIA): **(1 Mark)**

v. Legal Analysis **(1 Mark)**