

THE EFFECTS OF OIL SPILLAGE ON THE ENVIRONMENT: A CASE OF
THANGE VILLAGE IN MAKUENI COUNTY, KENYA

by

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APPROVAL

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DECLARATION

THE EFFECTS OF OIL SPILLAGE ON THE ENVIRONMENT: A CASE OF THANGE
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I declare that this thesis is my original work and has not been submitted to another college or university for academic credit.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACGSF	Agricultural Credit Guarantee Scheme Fund
AUVs	Autonomous Underwater Vehicles
BP	British Petroleum
BTEX	Benzene, Toluene, Ethyl Benzene and Xylenes
CEC	County Executive Committee Member
CSR	Corporate Social Responsibility
DU-ERB	Daystar University Ethics Review Board
FGDs	Focus Group Discussions
GPS	Global Positioning System
HNS	Hazardous and Noxious Substances
IOGP	International Association of Oil & Gas Producers
IPIECA	International Petroleum Industry Environmental Conservation Association
KI	Key Informants
KII	Key Informant Interviews
KSHS	Kenya Shillings
KNBS	Kenya National Bureau of Statistics
KPC	Kenya Pipeline Company
MESMA	Multi Endmember Spectral Mixture Analysis
MPP	Marginal Physical Product
NACOSTI	National Commissions for Science, Technology and Innovation
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations

OPRC	Oil Pollution Preparedness Convention
PAHs	Polycyclic Aromatic Hydrocarbons
PH	Potential Hydrogen
SBOIL	South Baltic Oil Spill Response
SPSS	Statistical Package for the Social Sciences
TPH	Total Petroleum Hydrocarbon
WHO	World Health Organization

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ABSTRACT

This study assessed effects of oil spillage on the environment in Thange village, Makueni County. The objectives were to investigate the effects of oil spillage on land, water, flora and fauna, and explore the mitigation challenges in addressing environmental effects of oil spillage. Contingency planning and crisis preparedness theory informed the study. Descriptive design was used; an interview schedule was administered to 95 household heads, an in-depth interview guide administered to four key informants and three focus group discussions moderated with 8 participants each. Ethical procedures and research protocols were adhered to, maintaining standards of research practice. Descriptive statistical procedures analyzed the quantitative data using SPSS Version 26 statistical package and qualitative data analyzed using content and thematic analysis. Quantitative data was presented in tables, while qualitative data was presented in prose and verbatim. Acidity in soil was the most cited effect of the oil spill on land; lack of access to clean water the most cited effect on water; agricultural produce loss the most cited effect on flora and fauna; lack of communication and coordination among agencies managing the oil spill, the major challenge in mitigation efforts. The research recommends the formation of a task force comprised of government and private sector agencies to manage the oil spills effects. Scientific and latest best practices towards the cleanup of soil at Thange village; provision of alternative long-term community water sources; creation of short-term alternative livelihood sources to enable the communities to cope with the spill's effects on their sustenance.