

ASSESSMENT OF HYDROCARBON-DEGRADING BACTERIA IN PETROLEUM-POLLUTED SOIL

BY

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DEGREE IN MICROBIOLOGY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Assessment of Hydrocarbon-Degrading Bacteria in Petroleum-Polluted Soil" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined assessment of hydrocarbon-degrading bacteria in petroleum-polluted soil, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of assessment; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with assessment and hydrocarbon. The study adopted a descriptive survey research design, anchored on the Germ Theory of Disease and the Microbial Ecology Theory. A sample size of 410 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 395 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.09). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.488$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.44, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.11$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on assessment.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of assessment of hydrocarbon-degrading bacteria in petroleum-polluted soil is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Contemporary scholarship increasingly frames assessment as inseparable from the broader question of hydrocarbon. Globalisation and technological change have intensified both the opportunities and the challenges associated with assessment. The aggregate picture emerging from Okonkwo and Adeniyi (2023) points to a modest but consistent association between assessment and the outcomes of interest. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A notable study by Nwosu and Bamgbose (2017) argued that the impact of assessment is substantially mediated by the quality of institutions. Accordingly, there is a growing consensus that deliberate policy action is required. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

assessment continues to command considerable attention among researchers, policymakers, and practitioners in microbiology. National policies and programmes have sought, with varying degrees of success, to respond to the realities of assessment and hydrocarbon. Research by Ibrahim and Ekwueme (2021) using mixed methods provided particularly rich insight into the mechanisms connecting assessment and hydrocarbon. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Oyelaran and Salami (2020), in a survey of relevant stakeholders, concluded that the benefits of assessment are unevenly distributed across groups. Such findings reinforce the argument that assessment deserves a place of priority on the development agenda. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

Few subjects attract as much policy interest in contemporary Nigeria as the question of assessment. Nigeria's federal structure and its diverse cultural geography ensure that the experience of assessment varies considerably from one region to another. Comparative work by Oyelaran and Salami (2022) across several states uncovered a consistent pattern linking assessment with hydrocarbon. These observations collectively invite a reconsideration of standard assumptions regarding hydrocarbon. The work of Ekwueme and Ogbeide (2023) extended earlier analyses by demonstrating that hydrocarbon reinforces the effects of assessment. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

Few subjects attract as much policy interest in contemporary Nigeria as the question of assessment. Evidence from national agencies indicates that assessment has grown considerably in recent times, underscoring the need for systematic inquiry. Studies conducted within the West African subregion by Ogunlana and Dauda