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Scrap Metal Scavenging and its Socio-Economic impact in Kano Metropolis

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ABSTRACT
This study examined the socio-economic impact of scrap metal scavenging in Kano Metropolis, Kano State, Nigeria. The study aimed to assess the socio-demographic characteristics of scrap metal scavengers, identify the sources and operational patterns of scavenging activities, evaluate its contribution to income generation, employment, and livelihood improvement, and examine the challenges and environmental effects associated with the activity. A descriptive survey research design was adopted, and primary data were collected through the administration of structured questionnaires to 390 scrap metal scavengers selected from major scavenging locations within Kano Metropolis. Data were analysed using descriptive statistics, including frequencies and percentages. The findings revealed that scrap metal scavenging is predominantly undertaken by young males with low levels of formal education and serves as an important source of income and employment for many households. The major sources of scrap metals were identified as dump sites, roadsides, construction sites, and industrial areas, while manual collection methods were the most commonly used means of recovery. The study further revealed that scavenging contributes significantly to livelihood improvement and poverty reduction among participants. However, respondents reported several challenges, including health risks, inadequate equipment, low income, social stigma, and exposure to environmental hazards. The study recommends the integration of scavengers into formal waste management systems, provision of protective equipment, and implementation of policies that promote sustainable recycling practices.

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INTRODUCTION

A silent socio-economic transformation is taking place in many rapidly urbanizing cities across the developing world through the expansion of informal waste recovery systems, particularly scrap metal scavenging. This activity forms part of the broader informal recycling sector, which plays a critical role in urban resource recovery, material circulation, and waste minimization. Informal waste workers contribute significantly to municipal solid waste management by recovering recyclable materials from waste streams that would otherwise end up in landfills (Mbah et al., 2019; Nzeadibe & Mbah, 2019).

Globally, the informal recycling sector is recognized as an important but often marginalized component of urban sustainability systems. Informal waste pickers operate under precarious conditions, without formal recognition or institutional protection, yet they contribute significantly to environmental management and circular economy goals. Studies have shown that

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informal recyclers reduce municipal waste burdens while improving resource efficiency in developing cities (Alabi et al., 2019; UNEP, 2019). In many African cities, including Nigeria, rapid urbanization, population growth, and industrial expansion have led to increased generation of solid waste, particularly metal-based waste materials. These materials have high resale value, making them attractive to informal scavengers who depend on waste recovery for survival. According to Nzeadibe and Mbah (2019), informal waste picking remains a key livelihood strategy for many urban poor households, especially unemployed youths who lack access to formal employment opportunities.

Scrap metal scavenging has therefore become a common feature of urban informal economies in Nigeria. Scavengers collect metals from dumpsites, streets, construction sites, and industrial locations, selling them to scrap dealers for income. However, despite its economic importance, the activity is associated with multiple socio-economic and environmental challenges. These include exposure to hazardous materials, poor working conditions, social stigma, insecurity, and unstable income sources (Ogundele et al., 2018; UNEP, 2019).

In Kano Metropolis, the growing population and expanding urban landscape have resulted in increased solid waste generation, creating opportunities for scrap metal scavengers. These scavengers play an important role in urban waste recovery systems but operate under difficult socio-economic conditions. Despite their contributions, there is limited empirical evidence on their socio-economic characteristics, operational patterns, income levels, and environmental challenges. It is against this background that this study examines scrap metal scavenging and its socio-economic impacts in Kano Metropolis.

LITERATURE REVIEW

Concept of Scrap Metal

Scrap metal refers to discarded metallic materials that retain economic value and can be recycled into new products. These include ferrous metals such as steel and iron, and non-ferrous metals such as aluminium, copper, and brass. The global demand for recycled metals has increased due to the rising cost of raw materials and the global transition toward sustainable production systems (Klimek & Fooladi, 2026).

In Nigeria, scrap metal is widely generated from automobile repair workshops, construction activities, industrial processes, and household appliances. Studies show that scrap metal recycling contributes significantly to industrial raw material supply chains, particularly in steel manufacturing (Ogboeli et al., 2025).

Concept of Scavenging

Scavenging is the informal process of collecting reusable or recyclable materials from waste disposal sites, streets, and other urban environments. It is predominantly practiced by individuals operating outside formal employment structures (Afon, 2019). Recent studies describe scavenging as a survival strategy for the urban poor, driven by unemployment, poverty, and lack of access to formal economic opportunities (Ezeudu & Ugochukwu, 2025). Scavengers perform essential environmental functions by recovering materials that would otherwise contribute to environmental degradation (Abogunrin-Olafisoye & Adeyi, 2025). However, scavenging is associated with significant risks, including exposure to sharp objects, toxic substances, and poor sanitary conditions (Chukwura-Osoagba & Hursthouse, 2026).

Scrap Metal Scavenging

Scrap metal scavenging refers specifically to the recovery of metallic waste materials from dumpsites, streets, industrial areas, and construction sites for economic purposes. The activity is a major component of the informal recycling sector in Nigeria and other developing countries. Empirical evidence shows that scrap metal scavenging provides employment opportunities for thousands of urban poor individuals who lack formal education or vocational skills (Ogboeli et al., 2025). In Port Harcourt, for example, more than 80% of scavengers focus primarily on metal recovery due

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to its high market value (Ogboeli et al., 2025). Despite its economic importance, scrap metal scavenging is characterized by low-income stability, lack of protective equipment, and social stigma (Odeyingbo et al., 2025).

THEORETICAL REVIEW

Sustainable Livelihoods Theory

The Sustainable Livelihoods Framework (SLF) is the most appropriate theoretical foundation for understanding scrap metal scavenging in Kano Metropolis. The theory explains how individuals and households utilize available assets—human, social, physical, financial, and natural capital—to construct livelihood strategies that can withstand economic and environmental shocks (DFID, 1999; Scoones, 2019). Although originally developed earlier, recent applications in urban informal economies have reinforced its relevance in explaining survival strategies among the urban poor in developing countries (Rakodi & Lloyd-Jones, 2020; Mfitumukiza et al., 2022).

In the context of scrap metal scavenging, the theory explains how individuals with limited access to formal employment convert available opportunities in the urban waste stream into income-generating activities. Studies in African cities show that informal waste pickers rely heavily on physical capital (tools, carts), human capital (labour strength), and social networks (buyers, middlemen) to sustain their livelihoods (Godfrey & Oelofse, 2021; Nzeadibe & Eziuzor, 2023).

In Nigeria, recent research confirms that informal waste workers depend on scavenging as a survival strategy due to unemployment, poverty, and weak social protection systems (Odeyingbo et al., 2025; Ogboeli et al., 2025). These conditions align strongly with SLF assumptions that vulnerability contexts such as economic instability and lack of job opportunities shape livelihood choices. The theory is therefore highly suitable for this study because it explains not only why individuals engage in scrap metal scavenging but also how they sustain their livelihoods under conditions of vulnerability in Kano Metropolis.

Human Capital Theory

Human Capital Theory posits that individuals' productivity and income-earning capacity are determined by their level of education, skills, health status, and experience (Becker, 1993; Schultz, 1961). In recent urban informal economy studies, the theory has been used to explain why individuals with low educational attainment are more likely to engage in low-skill occupations such as scavenging and recycling (ILO, 2022; Adeyemi & Fajobi, 2023).

Applied to scrap metal scavenging, the theory explains that most participants lack formal education and vocational skills required for formal sector employment, thereby pushing them into informal recycling activities. Studies in Nigeria show that a large proportion of scavengers have only primary or no formal education, limiting their access to wage employment opportunities (Afon, 2019; Ogboeli et al., 2025).

Furthermore, human capital limitations influence income levels, occupational mobility, and exposure to health risks. Recent research in African informal settlements shows that low-skilled workers in waste recovery are more exposed to hazardous environments due to lack of training in occupational safety (Chukwura-Osoagba & Hursthouse, 2026). Therefore, Human Capital Theory helps to explain the socio-economic background of scrap metal scavengers in Kano Metropolis and why the activity remains concentrated among low-educated populations.

METHODOLOGY

Reconnaissance Survey

A reconnaissance survey was conducted prior to the main data collection to identify major scrap metal scavenging locations within Kano Metropolis. These include dumpsites, roadside collection points, construction sites, markets, and industrial areas where scavenging activities are commonly practiced. The survey helped the researcher to identify clusters of scavengers, understand their distribution across the metropolis, and determine suitable areas for questionnaire administration. It also provided preliminary interaction with scavengers, which

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assisted in refining the research instrument and ensuring its relevance to field realities. The reconnaissance exercise was carried out between November and December 2025 through multiple field visits across different parts of Kano Metropolis.

Types of Data

This study utilizes quantitative data only**,** collected through a structured questionnaire. The data generated is primarily primary in nature, supported by limited secondary information for background understanding.

Primary Data and Source

Primary data for this study were obtained through the administration of structured questionnaires to scrap metal scavengers in Kano Metropolis. The questionnaire captured information on:

1. Socio-demographic characteristics (age, gender, education, marital status)
2. Sources of scrap metal
3. Collection methods and operational patterns
4. Income levels and livelihood contribution
5. Socio-economic challenges faced by scavengers
6. Environmental and health-related perceptions

This approach ensured standardized responses that are suitable for statistical analysis.

Secondary Data and Source

Secondary data were used to support the background of the study. These include textbooks, journal articles, government reports, and publications from relevant agencies such as the Kano State Environmental Protection Agency (KASEPA) and other environmental management bodies.

Data Collection Technique

The only data collection technique used in this study **is** questionnaire administration**.**A structured questionnaire was designed and administered directly to scrap metal scavengers across selected locations in Kano Metropolis. The questionnaire was divided into sections in line with the research objectives and was used to obtain quantitative data on socio-economic characteristics, operational activities, income generation, and challenges faced by scavengers. The questionnaire was administered face-to-face to ensure clarity and high response rate, considering the informal nature and varying literacy levels of respondents.

Population of the Study

The population of the study comprises all scrap metal scavengers operating within Kano Metropolis. Due to the informal and unregulated nature of the activity, the exact population size is not officially documented. However, based on reconnaissance survey and estimates from scrap dealers and waste collection points, a large population of scavengers operates across the metropolis. A sample size of approximately 390 respondents was determined using Cochran's formula for large populations.

Table 1: Sampling Distribution of Respondents

S/N	Local Government Area	Estimated Scavenging Sites	Sample Size
1	Municipal	High-density urban areas	49
2	Gwale	Urban dumpsites	44
3	Kumbotso	Industrial fringe areas	64
4	Dala	Central waste zones	33
5	Nassarawa	Residential areas	41
6	Fagge	Markets and roadside points	49
7	Ungoggo	Peri-urban dumpsites	53
8	Tarauni	Mixed land-use areas	57
Total			**390**

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Sampling Technique

The study employed the following sampling techniques:

1. Simple Random Sampling: Used in selecting scavenging locations and respondents where possible to ensure equal representation.
2. Convenience Sampling: Used in selecting available scavengers at dumpsites and collection points due to their mobile and informal nature.

Data Analysis

Data collected through the questionnaire will be analyzed using descriptive statistical tools**,** including frequency distribution tables, percentages, bar charts, and pie charts. The analysis will be conducted using SPSS version 21, which will facilitate accurate coding, computation, and presentation of results in line with the research objectives.

Data Presentation

The analyzed data will be presented in tables, charts, and graphs for clarity and ease of interpretation. Results will be organized according to the research objectives to ensure logical flow and coherence.

RESULT AND DISCUSSION

Socio-Demographic Characteristics of Scrap Metal Scavengers in Kano Metropolis

Age of Respondents

Table 1: Age Distribution of Respondents (N=390)

Age Group	Frequency	Percentage (%)
Below 15 years	18	4.6
15–20 years	82	21.0
21–30 years	156	40.0
31–40 years	97	24.9
Above 40 years	37	9.5
Total	390	100

The result of the age distribution shows that the highest proportion of respondents falls within the age group of 21–30 years (40.0%), followed by those within 31–40 years (24.9%). This indicates that the majority of scrap metal scavengers in Kano Metropolis are within the active working-age population who are physically strong and capable of engaging in demanding manual labour. The age group of 15–20 years (21.0%) also represents a significant proportion of respondents, suggesting that a considerable number of adolescents and young adults are involved in scavenging activities. This may be linked to early school dropouts, unemployment, and the need to support household income at a young age.

Respondents aged above 40 years (9.5%) constitute a smaller proportion, indicating that fewer older individuals participate in scrap metal scavenging. This may be due to the physically demanding nature of the work, which requires strength and endurance. However, it is noteworthy that 4.6% of respondents are below 15 years, indicating child involvement in scavenging activities. This raises concerns regarding child labour and exposure of minors to hazardous environments such as dumpsites and roadsides.

Gender of Respondents

Table 2: Gender Distribution

Gender	Frequency	Percentage (%)
Male	370	94.9
Female	20	5.1
Total	390	100

The result of Table 2 shows a very strong dominance of male respondents in scrap metal scavenging activities in Kano Metropolis. Out of the 390 respondents, 370 (94.9%) are males, while only 20 (5.1%) are females. This clearly indicates that scrap metal scavenging is a male-dominated occupation in the study area. The high participation of males can be attributed to the physically demanding nature of scavenging activities, which involve walking long distances, lifting heavy metals, sorting waste materials, and operating in harsh environmental conditions such

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as dumpsites and construction areas. These conditions are generally more suitable for males due to cultural and physical considerations.

The very low proportion of female scavengers suggests limited participation of women in this informal economic activity. This may be influenced by socio-cultural norms in Northern Nigeria, particularly in Kano Metropolis, where women's mobility and engagement in outdoor economic activities are often restricted. In addition, concerns about safety, health risks, and social stigma may further discourage female involvement in scavenging.

Marital Status

Table 3: Marital Status of Respondents

Status	Frequency	Percentage (%)
Single	158	40.5
Married	192	49.2
Divorced	24	6.2
Widowed	16	4.1
Total	390	100

The result in Table 3 shows that the highest proportion of respondents are married (49.2%), followed by those who are single (40.5%). A smaller proportion of respondents are divorced (6.2%) and widowed (4.1%). The high percentage of married respondents suggests that a significant number of scrap metal scavengers in Kano Metropolis engage in the activity primarily to support household responsibilities. Marriage often increases financial obligations such as feeding, housing, education of children, and healthcare, which may compel individuals to seek alternative and informal sources of income such as scavenging.

The presence of a substantial proportion of single respondents (40.5%) indicates that unmarried individuals, particularly young adults, are also heavily involved in scrap metal scavenging. This reflects the role of scavenging as an entry-level informal occupation for individuals with limited access to formal employment opportunities. The relatively low proportions of divorced and widowed respondents suggest that these groups are less represented in the scavenging population, although their involvement may be linked to economic vulnerability and lack of alternative livelihood sources.

Educational Level

Table 4: Educational Level

Educational Level	Frequency	Percentage (%)
No Formal Education	136	34.9
Primary Education	119	30.5
Secondary Education	105	26.9
Tertiary Education	30	7.7
Total	390	100

The result presented in Table 4 shows that a considerable proportion of respondents engaged in scrap metal scavenging in Kano Metropolis have low levels of formal education. Specifically, 34.9% have no formal education, while 30.5% attained only primary education. This indicates that more than half of the respondents (65.4%) are either uneducated or have only basic primary schooling. Furthermore, 26.9% of the respondents attained secondary education, while only 7.7% reached tertiary level education. This suggests that individuals with higher educational qualifications are less involved in scrap metal scavenging activities.

The dominance of respondents with little or no formal education reflects the influence of educational attainment on employment opportunities. In the absence of formal education or vocational skills, many individuals are limited to informal sector activities such as scavenging for survival. This aligns with the understanding that low educational attainment increases vulnerability to unemployment and informal livelihood strategies in urban areas. The relatively small proportion of tertiary-educated respondents may indicate that even individuals with higher education may engage in scavenging temporarily due to economic hardship or unemployment, although this group remains minimal.

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SOURCES, COLLECTION METHODS AND OPERATIONAL PATTERNS

Sources of Scrap Metal

Table 5: Main Sources of Scrap Metal

Source	Frequency	Percentage (%)
Dump Sites	140	35.9
Streets/Roadsides	82	21.0
Construction Sites	68	17.4
Industries/ Workshops	84	21.5
Others	16	4.1
Total	390	100

The result presented in Table 5 shows that scrap metal scavengers in Kano Metropolis obtain recyclable materials from multiple urban sources, with dump sites being the most dominant. Specifically, 35.9% of respondents reported dump sites as their main source of scrap metal, indicating that open waste disposal areas remain the primary hubs for waste recovery activities in the metropolis.

This is followed by industries and workshops (21.5%) and streets/roadsides (21.0%), which together represent significant secondary sources of scrap metals. The presence of industrial and workshop-related sources suggests that automobile repair activities, metal fabrication, and small-scale industries contribute substantially to scrap metal generation in Kano Metropolis. Construction sites account for 17.4% of responses, indicating that building and demolition activities also serve as important sources of recoverable metals such as iron rods, aluminium materials, and steel components. The category of "others" represents 4.1%, suggesting minor contributions from miscellaneous sources such as residential areas and abandoned structures.

These findings reveal that scrap metal scavenging in Kano Metropolis is closely linked to urban economic and infrastructural activities. The dominance of dump sites highlights the importance of municipal solid waste disposal systems as major points of material recovery. At the same time, the contributions from workshops, industries, and construction sites demonstrate that scavenging is integrated into multiple urban production and consumption systems.

Table 6: Collection Methods

Method	Frequency	Percentage (%)
Manual Picking	160	41.0
Simple Tools	100	25.6
Buying from Others	50	12.8
Cart/Bicycle Scavenging	70	17.9
Others	10	2.6
Total	390	100

The result shows that manual picking is the most common method used by scrap metal scavengers in Kano Metropolis, accounting for 41.0% of responses. This indicates that a large proportion of scavengers rely on direct hand collection of scrap metals from dump sites, roadsides, and other open spaces without sophisticated equipment.

The use of simple tools such as sticks, magnets, and improvised instruments (25.6%) represents the second most common method. This suggests that some scavengers have slightly improved their collection techniques, allowing them to increase efficiency and reduce physical strain during scavenging activities. The result also shows that cart/bicycle-based scavenging (17.9%) is moderately practiced, indicating that some scavengers have access to basic transport equipment to assist in collecting and moving larger quantities of scrap metals. This method likely enhances productivity compared to manual-only approaches.

In addition, 12.8% of respondents reported buying scrap metal from others, suggesting the presence of a small but significant informal trading layer within the scavenging system. This implies that scavenging is not only a collection activity but also involves elements of aggregation and resale. The category of others (2.6%) represents a very small proportion of

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alternative methods, indicating limited use of advanced or specialized equipment.

Table 7: Frequency of Scavenging

Frequency	Frequency	Percentage (%)
Daily	232	59.5
2–3 Times Weekly	86	22.1
Weekly	50	12.8
Occasionally	22	5.6
Total	390	100

The result shows that scrap metal scavenging in Kano Metropolis is predominantly a daily economic activity, as 59.5% of respondents engage in scavenging every day. This indicates that for the majority of scavengers, the activity is not occasional but a continuous livelihood strategy necessary for daily survival and household upkeep. Furthermore, 22.1% of respondents engage in scavenging 2–3 times weekly, while 12.8% operate on a weekly basis. These categories suggest that a significant proportion of scavengers participate regularly, though not on a daily basis, possibly due to factors such as market conditions, availability of transport, or physical constraints.

Only a small proportion of respondents (**5.6%**) engage in scavenging occasionally. This group may consist of individuals who use scavenging as a supplementary income source rather than a primary livelihood activity. The findings indicate that scrap metal scavenging in Kano Metropolis is a highly frequent and structured informal economic activity, with most participants relying on it consistently to meet basic financial needs. The high rate of daily participation also reflects the income insecurity and lack of alternative employment opportunities among scavengers in the study area.

Table 8: Means of Transportation

Means	Frequency	Percentage (%)
Head Load	60	15.4
Wheelbarrow	104	26.7
Cart	150	38.5
Motorcycle	60	15.4
Others	16	4.1
Total	390	100

The result shows that the most common means of transporting collected scrap metal in Kano Metropolis is the cart, accounting for 38.5% of respondents. This indicates that a large proportion of scavengers rely on locally adapted carts to move heavier and bulkier scrap materials from collection points to storage or selling locations. The use of carts enhances carrying capacity and reduces physical strain compared to manual methods. This is followed by wheelbarrows (26.7%), which also serve as an important transportation tool among scavengers. Wheelbarrows are commonly used due to their affordability and ease of maneuverability, especially in densely populated urban areas where access roads may be narrow or congested.

A smaller proportion of respondents use head load (15.4%), indicating that some scavengers still rely on manual carrying of scrap metals, particularly those with limited financial capacity to acquire transportation tools. Similarly, motorcycles (15.4%) are used by some scavengers, suggesting a relatively more efficient but cost-intensive means of transporting scrap materials. The category of others (4.1%) represents minor or alternative transportation methods, possibly including tricycles or hired transport services.

Contribution to Income, Employment and Livelihood

Table 9: Monthly Income

Income Range	Frequency	Percentage (%)
Less than ₦20,000	58	14.9
₦20,000–₦40,000	146	37.4
₦41,000–₦60,000	118	30.3
Above ₦60,000	68	17.4
Total	390	100

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The result shows that the majority of scrap metal scavengers in Kano Metropolis earn between ₦20,000 and ₦40,000 monthly (37.4%), followed by those earning between ₦41,000 and ₦60,000 (30.3%). This indicates that most respondents fall within the low-to-moderate income bracket, reflecting the subsistence nature of scavenging activities in the study area. A smaller proportion of respondents (14.9%) earn less than ₦20,000 monthly, suggesting that a segment of scavengers' experience very low-income levels, which may not be sufficient to meet basic household needs. On the other hand, 17.4% of respondents earn above ₦60,000, indicating that a limited number of scavengers who may have better access to transportation tools, established buyers, or larger collection networks are able to generate relatively higher income.

The income distribution reveals that scrap metal scavenging in Kano Metropolis provides a modest but important source of livelihood for many participants. While the activity supports daily survival and household needs, it remains characterized by income instability and limited earning potential for the majority of scavengers. The findings further suggest that improvements in organization, access to equipment, and market structure could enhance income levels within the scavenging sector.

Table 10: Main Source of Income

Response	Frequency	Percentage (%)
Yes	290	74.4
No	100	25.6
Total	390	100

The result shows that the majority of respondents, 74.4%, indicated that scrap metal scavenging is their main source of income, while 25.6% reported that it is not their primary source of livelihood. This finding suggests that for most scavengers in Kano Metropolis, scrap metal scavenging is not a secondary or occasional activity but a core livelihood strategy. The high dependence on scavenging as a primary income source reflects the limited availability of formal employment opportunities and the economic pressures faced by many urban residents.

The proportion of respondents who indicated that scavenging is not their main source of income may include individuals who engage in multiple livelihood activities, such as petty trading, casual labor, or seasonal work, alongside scavenging. This indicates the presence of livelihood diversification among a smaller segment of the population.

Table 11: Employment Generation

Response	Frequency	Percentage (%)
Yes	242	62.1
No	148	37.9
Total	390	100

The result shows that 62.1% of respondents agreed that scrap metal scavenging generates employment opportunities, while **37.9%** did not share this view. This indicates that a majority of scavengers recognize the activity as an important source of employment within Kano Metropolis. The positive response suggests that scrap metal scavenging provides direct employment for individuals engaged in the collection, sorting, transportation, and sale of recyclable metals. It also indicates the presence of indirect employment opportunities within the value chain, such as middlemen, scrap dealers, and recycling agents who depend on scavengers for material supply.

However, the proportion of respondents who disagreed (37.9%) indicates that not all participants view scavenging as stable or sufficient employment. This group may include individuals who experience irregular income, limited daily yield, or high competition among scavengers, which reduces the perceived employment benefit of the activity.

SOCIO-ECONOMIC CHALLENGES AND ENVIRONMENTAL EFFECTS

Table 12: Challenges Faced

Challenge	Frequency	Percentage (%)
Health Risks	118	30.3
Low Income	96	24.6

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Challenge	Frequency	Percentage (%)
Lack of Equipment	82	21.0
Social Stigma	46	11.8
Police Harassment	34	8.7
Others	14	3.6
Total	390	100

The result shows that scrap metal scavengers in Kano Metropolis face multiple challenges that affect their efficiency, safety, and overall livelihood outcomes. The most significant challenge identified is health risks (30.3%), indicating that a large proportion of respondents are exposed to hazardous conditions such as sharp objects, polluted environments, and unsafe waste materials during scavenging activities. This is followed by low income (24.6%), which suggests that despite the economic importance of scavenging, many participants still experience financial instability and inadequate earnings. The third major challenge is lack of equipment (21.0%), highlighting limited access to proper tools and protective materials needed for safer and more efficient scavenging operations.

In addition, social stigma (11.8%) reflects negative societal perceptions associated with scavenging, which may affect the dignity and social acceptance of individuals engaged in the activity. Police harassment (8.7%) also represents a notable concern, indicating that some scavengers encounter legal or security-related disturbances during their operations. The category of others (3.6%) includes minor challenges such as weather conditions, transportation difficulties, and competition among scavengers.

Table 13: Health Risks

Response	Frequency	Percentage (%)
Very High Risk	116	29.7
High Risk	136	34.9
Moderate Risk	88	22.6
Low Risk	34	8.7
No Risk	16	4.1
Total	390	100

The result shows that the majority of respondents perceive scrap metal scavenging as a hazardous occupation. Specifically, 34.9% of respondents rated the activity as a high-risk occupation, while 29.7% considered it to be a very high risk activity. This indicates that a combined total of 64.6% of scavengers recognize substantial health dangers associated with their work. Furthermore, 22.6% of respondents perceived the risk level as moderate, suggesting that while they acknowledge some dangers, they may have adapted to certain operational conditions over time. Only a small proportion of respondents rated the occupation as low risk (8.7%) or no risk (4.1%), indicating that very few scavengers perceive the activity as safe.

The high level of perceived risk can be attributed to frequent exposure to sharp objects, broken metals, contaminated waste, open dumping sites, and unsafe working environments. Prolonged exposure to such conditions increases the likelihood of injuries, infections, and other occupational health problems.

Table 14: Social Stigma

Response	Frequency	Percentage (%)
Yes	248	63.6
No	142	36.4
Total	390	100

The result shows that a majority of respondents, 63.6%, reported experiencing social stigma as a result of their involvement in scrap metal scavenging, while 36.4% indicated that they do not experience such stigma. The high proportion of respondents who affirmed experiencing stigma suggests that scrap metal scavenging in Kano Metropolis is socially viewed in a negative light. This negative perception may be associated with the nature of the activity, which involves collecting waste materials from dump sites, roadsides, and other unsanitary environments. As a result, scavengers may be

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subjected to discrimination, disrespect, or social exclusion within their communities.

The presence of social stigma can have important implications for the well-being of scavengers, including reduced self-esteem, limited social interaction, and possible reluctance to identify openly with the occupation. This may further reinforce the informal and marginalized status of the activity. However, the proportion of respondents (36.4%) who do not experience stigma suggests that in some communities or social settings, scavenging is either tolerated or viewed as a legitimate means of livelihood. This may reflect growing recognition of the economic role of informal waste recovery in urban areas.

Table 15: Environmental Condition of Sites

Rating	Frequency	Percentage (%)
Very Poor	120	30.8
Poor	138	35.4
Fair	88	22.6
Good	34	8.7
Very Good	10	2.5
Total	390	100

The result shows that the majority of respondents perceive the environmental condition of scrap metal scavenging sites in Kano Metropolis as unfavorable. Specifically, 35.4% rated the sites as poor, while 30.8% rated them as very poor, giving a combined total of 66.2% negative perception. This indicates that most scavenging sites are considered environmentally degraded, likely characterized by poor sanitation, accumulation of waste materials, unpleasant odour, and unsafe working conditions. Such environments expose scavengers to various health and safety risks, including injuries and infections.

Furthermore, 22.6% of respondents rated the sites as fair, suggesting that a minority perceive the conditions as moderately acceptable or manageable. Only a small proportion of respondents rated the sites as good (8.7%) and very good (2.5%), indicating that well-maintained scavenging environments are rare in the study area.

CONCLUSION

The study concludes that scrap metal scavenging plays a significant socio-economic role in Kano Metropolis by providing employment opportunities, generating income, and supporting the livelihoods of many households. The activity has become an important coping strategy for individuals facing unemployment, poverty, and limited access to formal-sector jobs. Through the recovery and recycling of discarded metals, scavengers also contribute to waste reduction and environmental management within the urban area.

However, despite its economic benefits, the activity is associated with numerous occupational, social, and environmental challenges. Scavengers operate under hazardous conditions with limited access to safety equipment, experience social stigma, and are exposed to various health and environmental risks. Therefore, while scrap metal scavenging remains an important source of livelihood, there is a need for policies and interventions that will improve working conditions, enhance environmental sustainability, and maximize the socio-economic benefits derived from the activity.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. Kano State Government should formally recognize and integrate scrap metal scavengers into urban waste management and recycling programmes through registration, organization into cooperatives, and provision of institutional support. This will improve regulation, monitoring, and the overall effectiveness of the recycling sector.
2. Relevant government agencies, non-governmental organizations, and private sector stakeholders should provide regular training on occupational health and safety practices and facilitate access to personal protective equipment such as gloves, boots, helmets, and reflective jackets to reduce work-related injuries and health risks.

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3. Financial support mechanisms, including microcredit schemes, soft loans, and entrepreneurship development programmes, should be introduced to improve the income-generating capacity of scavengers and enable them to acquire modern tools and equipment for their operations.

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