

# **THE ROLE OF E-RICKSHAW AS A SOURCE OF SELF-EMPLOYMENT IN NAZIRA TOWN, SIVASAGAR DISTRICT**

*A Dissertation Submitted to the Department of Social work for the fulfilment of the requirement for the award of the degree of Master of Social Work (MSW)*



**Submitted to:**

Department of Social Work  
MSSV, Guwahati Unit

**Submitted by:**

Pratikhya Kashyap

MSW, 4th Semester

Roll no. MSW-12/23

Registration No. MSSV-0023-008-001071

Session: 2023-25

**MAHAPURUSHA SRIMANTA SANKARADEVA VISWAVIDYALAYA  
GUWAHATI UNIT, 781032**



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মহাপুরুষ শ্রীমন্ত শংকৰদেৱ বিশ্ববিদ্যালয়  
MAHAPURUSHA SRIMANTA SANKARADEVA VISWAVIDYALAYA  
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CERTIFICATE

I have the pleasure to certify that Miss Pratikhya Kashyap, MSW 4th semester student bearing Roll No. MSW-12/23 with Registration No. MSSV-0023-008-001071 of 2023 has completed the dissertation entitled “**The Role of E-Rickshaw as a Source of Self-Employment in Nazira Town, Sivasagar District.**” She has successfully completion of this research by her effort.

I wish her a bright future.

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# মহাপুরুষ শ্রীমন্ত শংকৰদেৱ বিশ্ববিদ্যালয়

MAHAPURUSHA SRIMANTA SANKARADEVA VISWAVIDYALAYA

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I wish her a bright future.

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## DECLARATION OF ORIGINALITY

I, Pratikhya Kashyap, student of 4th semester, Department of Social Work Roll No. **MSW 12/23** and Registration No. **MSSV-0023-008-001071** Guwahati Unit, Mahapurusha Srimanta Sankaradeva Viswavidyalaya (MSSV), Nagaon, do hereby declare that this dissertation, entitled "**The Role of E-Rickshaw as a Source of Self-Employment in Nazira Town, Sivasagar District**" is an original work of mine and is the result of my own intellectual efforts, under the guidance of **Dr. Arpita Das**, Department of Social Work, MSSV, Guwahati Unit.

I acknowledge and cite all the original sources (i.e., key documents and authors' names) that have contributed to the completion of this research project. I affirm that I have not violated any author's copyright.

I also declare that the contents of this dissertation have never been submitted to this or any other university (either in part or in full) for the award of any degree.

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This dissertation, titled "The Role of E-Rickshaws as a Source of Self-Employment: A Study in Nazira Town, Sivasagar District" would not have been possible without the support of the e-rickshaw drivers and other participants who shared their valuable time and experiences.

Data collection was a major part of my dissertation. I would also like to express my sincere gratitude to all the respondents and stakeholders in Nazira who participated in the study.

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With heartfelt gratitude,

Pratikhya Kashyap

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## **Abstract**

This research aims to explore the role of e-rickshaws as a source of self-employment in Nazira Town, Sivasagar District, Assam. With rising unemployment and limited formal job opportunities, e-rickshaws have emerged as a cost-effective and environmentally friendly livelihood option, especially for individuals with limited education and financial resources. The study aimed to assess e-rickshaws as self-employment tools, analyze their socio-economic impact, identify challenges faced by drivers, and examine government policies influencing the sector. The researcher used explanatory sequential design of mixed method where, quantitative data is collected first, followed by qualitative data. This design is used to further explain a set of quantitative data with additional qualitative information. The data were collected from 30 e-rickshaw drivers and 10 association members using structured interviews and analysis was done through thematically. Findings reveal that 77% of drivers rely on e-rickshaws as their primary income source, with many having transitioned from previous informal occupations. However, they face issues like lack of charging stations, insufficient policy support, health concerns, and limited awareness of schemes. This research is vital as it highlights grassroots realities and provides insights for policymakers, urban planners, and financial institutions. The significance lies in promoting sustainable livelihoods and inclusive urban mobility. In conclusion, e-rickshaws contribute significantly to employment generation, but strategic interventions are needed to enhance driver welfare and system sustainability.

**Key Words:** E-rickshaw, Driver, self-employment, socio-economic impact



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A rickshaw is a two- or three-wheeled vehicle originally pulled by a person but nowadays includes cycle, auto, and electric versions. The word "rickshaw" comes from the Japanese word “jinrikisha”, which translates to "human-powered vehicle," with jin meaning human, riki meaning power or force, and sha meaning vehicle. (Rehman 2019)

With the advent of technology, auto rickshaws are coming up as a widely accepted form of public transport due to their affordability. Bangladesh is the topmost country in the world in relation to the number of rickshaws, having roughly 40,000 active rickshaws in the capital, Dhaka alone. UNESCO, in the year 2023, recognized rickshaws and their artistic inscription as an important part of Bangladeshi culture and heritage. (UNESCO,2023).

It was not easy for an electric motor to develop a viable means of transportation. The research in this field decreased in between 1920-1960 until the pollution issues came into figure. As the technology related to lighter and reliable batteries increased, the cost of e-rickshaws also more. Robert Davidson of Scotland appears to have been the person to make the e-rickshaw in 1837. We also see stages in the development of e-rickshaw. The rickshaw has gone through many evolutions from the time it was invented. It is believed to have been originally invented in Japan around the 1869. Its journey started from its first stage, hand pulled rickshaw; to cycle rickshaw to auto rickshaw and now it has reached to e-rickshaw. Hand pulled rickshaw: A pulled rickshaw (or rickshaw) is a mode of human-powered transport by which a runner draws a two-wheeled cart which has seating capacity of one or two people. Early rickshaws were made with wooden wheels covered in iron, and passengers had to sit on hard, flat seats. Around the late 19th and early 20th centuries, improvements were made—rubber tires, soft cushions, backrests, and lights were added to make the ride more comfortable. Over time, pulled rickshaws were replaced by cycle rickshaws, which were faster and helped drivers earn better. A typical cycle rickshaw has one wheel in the front and two at the back, and it is powered by pedalling. With steering action, the drive force is transmitted to the rear axle by the pedal-crank movement through chain and sprocket system. The pedal-powered bicycle rickshaw is powered by the action of human muscles. The cycle rickshaws speed

is around 8-12 mph. Auto rickshaw: Now with moving with technology and motorization of vehicles rickshaw took its new form named auto rickshaw adding to increase in efficiency, earning and reducing human labour. There are various auto-rickshaw types, designs and variation. A frame and a small on three wheels with a canvas roof with drop-down side curtains cabin in front with handles for control and with a cargo space at the back. Bajaj Auto came with this type of rickshaw in 1959. The maximum speed of this auto can be 50 mph, and its mileage might be 25km/l. Nimbkar Agriculture Research Institute designed the first electric rickshaw as pollution caused by auto-rickshaws was increasing. A cycle rickshaw was converted into an e-rickshaw. They are popularly known as e-rickshaws and are used all over India. In 2011, they gained popularity. E-rickshaws have DC motors for movement and are powered by lead-acid batteries. (Kokate et al, 2019)

The Assam Minorities Development Board (AMDB) is sponsoring the distribution of e-rickshaws in Assam. As part of its Socio-Economic Development Programme, the AMDB also distributes other items. This scheme is also meant to aid in providing some economic assistance to widows, divorcees, and BPL families. (Assam Minorities Development Board, n.d.).

The Ministry of Road, Transport and Highways has announced the Deen-Dayal e-rickshaw scheme for the year 2014-15. As per this, the driver of e-rickshaws must own their vehicle and must have an identity from the corporation. Loans at the rate of 3% are given for this vehicle. To increase e-rickshaws and reduce manual work is the purpose of this scheme. As per the Motor Vehicles (Amendment) Bill, 2015, e-rickshaws are legalised. (Kokate et al, 2019)

In general, the majority of e-rickshaw drivers belong to lower- and middle-class sections of society. For most rural folks, there is a huge urban migration for employment. E-rickshaw driving is a profession for many of them. They can make some money daily and support their families through this income. A large number of them work for long hours, starting from early in the morning until late in the evening. Rainy weather, traffic,



and waiting long enough for passengers can be some other situations drivers face. They are working hard every day.

E-rickshaw drivers provide an important service. It allows people to get to many areas, especially where no buses or trains go. For many individuals, e-rickshaws serve as the primary means of transportation to schools, markets, offices, and hospitals in the city.

In some areas, there are narrow streets that cannot be passed by large vehicles. Those areas are helpful modes of e-rickshaw transportation. E-rickshaws are more affordable than taxis or autos, making them suitable for students, daily wage earners, or senior citizens.

E-rickshaw drivers not only help passengers but also help local businessmen to transport goods from one place to another. These small business vendors can expand trade and business.

Technology is slowly changing the lifestyle of e-rickshaw drivers. The mobile app is currently available for e-rickshaw reservation. This allows drivers to quickly discover passengers and reduces preparation time.

Electric vehicle groups are also working on building higher capacity batteries that charge faster and last longer. This means shorter charging times and more trips for drivers.

In recent years, a few women started driving e-rickshaws as source of income. This is a huge empowerment for them. It offers ladies a chance to grow independently. They are supported with loans, licenses, and safety education. In a few cities, there are even “Pink E-Rickshaws” driven by women for female passengers. (TNN,2024)

Electric rickshaws have become a popular mode of transportation in most parts of the world since 2008. E – rickshaws started gaining popularity in the year 2011 in India. On 8 October, 2014, the Ministry of Road Transport and Highways has designed rules to regulate the e- rickshaws by making important amendments under the Motor Vehicles Rules of 1989. In March 2015, the Parliament passed the amendments and finally

legalised the use of electric rickshaws as a mode of transportation. (Directorate of Char Areas Development, n.d.).

E-rickshaws are the best alternative to petrol or diesel-run vehicles as they are operated on a battery and are cheap in terms of cost operations. Poor people without any skills can at least earn a living by driving an e-rickshaw.

In the recent years, the Govt. of Assam has decided to distribute e-rickshaws under Directorate of Char Areas Development, Assam, among the unemployed youth in Char Areas for self-employment. (Directorate of Char Areas Development, n.d.).

E-rickshaw as a source of self-employment in Nazira Town, Sivasagar District, is a means a source of generating a sustainable income for many people in the rural areas, including those with a low level of education and limited financial means. These battery-operated vehicles are a cheap way of employment, as the startup costs are much lower than traditional auto rickshaws. The growth of e-rickshaws has also created other employment opportunities in maintenance, battery charging and other services link to e-rickshaws. However, they contribute to the eco-friendly transportation system and thus are a good way of promoting employment and environmental friendliness in the region.

## **OPERATIONAL DEFINITIONS:**

**E-Rickshaw** –E-rickshaw is a convenient mode of public transport which is cheap and causes no environmental pollution, operated by battery power, which can carry up to 6 passengers at a time.

**Self-Employment** – A form of employment where individuals own and operate their E-rickshaws, earning income independently rather than working for an employer.

## **1.1 STATEMENT OF THE PROBLEM**

E-rickshaws have become a popular mode of transportation. E-rickshaws are designed to be of higher quality than traditional auto rickshaws and offer more conveniences. Currently, e-rickshaws can provide an affordable and environmentally friendly travel facility. E-rickshaws have created new job opportunities, especially for people with limited education and financial resources, as well as the unemployed. Many young people and workers are now earning a living by driving e-rickshaws, helping to support their families. However, access to e-rickshaws is difficult as many people are not aware of government schemes, lack of proper regulations, lack of charging points, no designated parking spaces whether they have been able to meet the requirements, whether they have experienced health problems as a result of driving e-rickshaws for a long time, what kind of documents are required to drive rickshaws, what kind of support they expect from the government. To explore the difficulties faced by them while using e-rickshaws. The findings will help policymakers, banks, and city planners create better support for e-rickshaw drivers, making urban transportation more sustainable and improving job opportunities.



## **1.2 SIGNIFICANCE OF THE STUDY**

The study was conducted in Nazira Town of Sivasagar District to understand the role of e-rickshaws as a source of self-employment. This study was significant because it highlighted the role of e-rickshaws as a self-employment occupation and provided alternative job opportunities to other forms of employment, especially for people with limited education, financial challenges, and unemployment. Besides understanding the real-life experiences of e-rickshaw drivers, the study drew attention to challenges such as a lack of awareness about government schemes, a lack of charging points, improper parking facilities, driver safety, and health problems faced on the roads. The administration also needed to examine how old the boys were, whether they followed the rules, whether they had proper certificates, and where they came from, etc. The findings of this study were valuable for policymakers, urban planners, and financial institutions. It helped them ensure easier access to credit, proper training, health support, better infrastructure, and clear government policies, which improved working conditions for e-rickshaw drivers, made urban transport more environmentally friendly, reduced unemployment, and promoted sustainable livelihoods for many in urban areas.

### **1.3 OBJECTIVES OF THE STUDY**

1. To assess the role of E-rickshaws as a source of self-employment in Sivasagar district.
2. To analyse the socio-economic impact of E-rickshaw drivers
3. To identify the challenges faced by E-rickshaw drivers.
4. To determine the governmental policies and initiatives related to the growth of E-Rickshaw driving as a sustainable livelihood option.

### **1.4 RESEARCH QUESTIONS**

1. What is the role of e-rickshaws as a source of self-employment, and what factors contribute to their adoption as a livelihood option?
2. What are the socioeconomic impacts of E-rickshaw driving on individuals in the region?
3. What financial, social, and occupational challenges do E-rickshaw drivers face daily?
4. How do government policies and initiatives influence the sustainability and growth of E-rickshaw driving as a livelihood?

In this study, the researcher worked through some chapters. The first chapter of this research focus with the Introduction. The second chapter will focus on the Literature Review where the researcher has added some literature with the thematic method of qualitative research. The third chapter will focus on the Research Methodology where the researcher has explained about methods that are used in the research. The fourth chapter is about Quantitative data analysis and interpretation, where the focus in on interpreting and analysing the collected quantitative data. The fifth chapter will focus on the Qualitative data analysis and Interpretation, where the focus in on interpreting

and analysing the collected qualitative data the sixth chapter will focus on Findings and Discussion, where the researcher has analysed the data and got some findings in the context of research objectives. The seventh chapter focus on the Suggestions and Recommendations where the researcher has given some suggestions and recommendations for their workplace security and better socio- economic upgradation.



## INTRODUCTION

The researcher is conducting a study on the role of e-rickshaws as a source of self-employment, and to build a strong theoretical foundation, he is reviewing existing literature, including e-rickshaws, self-employment, informal sector articles, books, and journals. They have sourced relevant materials from academic databases such as Google Scholar using keywords such as e-rickshaw, self-employment, livelihood, challenges of e-rickshaw drivers, and socio-economic impact of e-rickshaws. Using a thematic literature review approach, he aims to categorise key insights into structural themes, such as the economic viability of e-rickshaws, regulatory challenges, and their contribution to sustainable urban livelihoods.

### 2.1. Acceptance Factors

Winganker et al (2024). “A Study on Factors Affecting E-Rickshaw Adoption among Traditional Rickshaw Pull/Fuel Powered Rickshaw Operators in Punjab”. This study examines the transition from fuel-powered rickshaws to e-rickshaws, focusing on economic, environmental and social factors influencing adoption. Using primary data from rickshaw drivers and secondary data from government reports, the research highlights financial incentives, reduced operational costs, and environmental benefits as key motivators. However, high initial investment, lack of charging infrastructure, and limited awareness hinder the adoption and growth of this mode of transport.

Mondal, S. (2019), in the study “Assessment of E-Rickshaw: A Case Study in Uluberia Municipality,” aimed to evaluate the role of e-rickshaws in Uluberia’s transport system and understand the challenges and prospects of this growing sector. The study found that most e-rickshaw drivers were young, semi-literate individuals who had previously worked as cycle rickshaw pullers, daily wage laborers, or shop helpers. They shifted to e-rickshaw driving due to better income and less physically demanding work, with daily earnings between ₹500–₹800. The majority owned their vehicles through informal loans. Passengers, especially women and the elderly, preferred e-rickshaws for their safety, comfort, and low cost. However, the study revealed gaps such as lack of proper

registration, absence of training for drivers, poor road infrastructure, and no access to government schemes or financial aid. These issues highlight the need for proper policies, driver training, and better urban planning to support the sustainable growth of e-rickshaws.

Saxena, A., & Shrivastava, B. (2023). "Examining Factors Affecting the Willingness of Rickshaw Operators to Adopt Battery Operated Rickshaws". This study investigates what influences traditional rickshaw operators to switch to electric rickshaws in Bhopal, India. The objective was to analyse behavioural and economic factors such as age, financial access, awareness, and perceived ease of use. The study found that younger drivers were more likely to shift to e-rickshaws due to their lower maintenance and fuel cost, whereas older drivers resisted change due to familiarity with conventional models and fear of technology. Barriers included limited charging stations, high upfront costs, and a lack of driver training programs. The researchers call for tailored policy measures, such as subsidies and driver education campaigns, to promote faster adoption. The gap lies in the lack of age-specific and region-specific government incentives.

Mishra et al (2022) in their study titled "Analysing the sustainability of E-Rickshaws in Indian cities. International Research Journal of Modernization in Engineering, Technology and Science," aimed to compare the sustainability of e-rickshaws with traditional autorickshaws in Bhubaneswar by looking at social, economic, and environmental factors. Their objective was to understand how e-rickshaws are perceived and accepted by both passengers and rickshaw drivers. The study used interviews with 20 drivers and 50 passengers. The results showed that passengers prefer e-rickshaws because they are cheaper, cleaner, and more comfortable, while many drivers still prefer auto rickshaws for their easier operation and better infrastructure. Environmentally, e-rickshaws produce less pollution than auto rickshaws, but still cause indirect pollution while charging their batteries. Economically, e-rickshaws have low operating and maintenance costs but drivers worry about the high cost of battery replacement and lack of charging stations. The study also found gaps such as limited awareness among drivers about government schemes, lack of policy support, no detailed technical analysis, and

the fact that the study was conducted in one city only, meaning these findings may not be applicable elsewhere.

## **2.2. Socio-economic Issues and Challenges**

Lalnunmawia, & Malsamtluanga. (2023). “A Case Study of Autorickshaw Drivers in Hnahthial Town, Mizoram”. This study explores the socio-economic status, challenges and job satisfaction levels of auto-rickshaw drivers in Hnahthial town. Using primary data from 52 respondents and secondary sources, the research highlights issues such as low fare rates, lack of dedicated stands, and competition from private vehicles. The findings indicate that most drivers are from lower-middle socioeconomic backgrounds and experience job dissatisfaction due to low income and poor job security. The study recommends policy interventions such as fare adjustments, improved infrastructure, and driver welfare programs to improve their livelihoods.

Dr. Soumi Dey (2023) conducted a study titled "Understanding Context of the Issues Faced by E-Rickshaw and Auto-Rickshaw Drivers of Haldia, West Bengal", aiming to explore the socio-economic backgrounds of drivers and the challenges they encounter in their daily operations within the informal paratransit sector. Employing qualitative methodologies such as participant observation, in-depth interviews, and group discussions, the research utilised purposive and snowball sampling techniques to gather data from e-rickshaw and auto-rickshaw drivers in Haldia, a suburban area in Purba Medinipur district, West Bengal. The findings revealed that factors like low educational attainment and economic hardship significantly influenced individuals to adopt driving e-rickshaws or auto-rickshaws as their livelihood. Despite providing essential transportation services, these drivers face numerous challenges, including traffic congestion, lack of formal recognition, and inadequate regulatory frameworks. The study concluded that to promote sustainable development and improve the livelihoods of these drivers, governmental interventions should focus on income enhancement strategies and the formalization of the paratransit sector.



Kokate et al. (2019) wrote a paper titled “E-Rickshaw: Present, Past and Future with reference to current transportation in India”, aimed at studying Indian e-rickshaw evolution, current role, and prospects. The main objective of their study was to evaluate the socio-economic and environmental impact of e-rickshaws, their technical infrastructure, government initiatives, and their potential as sustainable transport options. Their findings suggest that e-rickshaws offer a low-cost, environmentally friendly and employment-generating mode of transport, particularly significant in rural and low-income urban areas. The study notes that 89% of drivers have experienced an increase in their income, and government schemes such as the Deen-Dayal scheme helped formalize and finance the industry. However, the study also acknowledges several challenges, such as poor speed, battery discharge issues, safety concerns due to design flaws, lack of charging infrastructure, and absence of standard regulations. The key research gap identified was less than limited market penetration (1%) of electric vehicles despite their clear advantages, pointing to the need for more policy support, infrastructure development, and battery and structural design innovations to make e-rickshaws more efficient and widely accepted.

Ghosh (2020), in the study titled “Assessment of E-Rickshaw Operations in Siliguri,” it aims to focus on how e-rickshaws operate in the city, their management, the socio-economic background of drivers and challenges faced. The findings show that most of the drivers come from poor backgrounds with limited education and have adopted e-rickshaw driving as a means of self-employment. E-rickshaws are seen as a low-cost, environmentally friendly mode of transport that reduces air and noise pollution. However, drivers face several problems including high battery costs, a lack of charging stations, the absence of a dedicated fare system, and operating without a proper license or registration. While this study highlights the importance of e-rickshaws in terms of urban mobility and employment, it focuses only on Siliguri and does not explore other cities such as Guwahati. It also does not fully explain how e-rickshaw driving affects drivers’ long-term financial stability or how effective government support systems are. Therefore, more research is needed to understand the broader role of e-rickshaws in self-employment in different regions.

Rani, P. (2013). “Socio-Economic Profile of Cycle Rickshaw Pullers: A Case Study.” The objective of the study was to understand the background, living conditions and problems faced by cycle rickshaw pullers in the study area. The results showed that most rickshaw pullers were poor, had low levels of education, and migrated from rural areas in search of work. They earned daily wages and had no job security, health benefits or savings. Despite their hard work, their income was low, and they lived in poor housing conditions. The study also found that many of them did not own the rickshaw but rented it, further reducing their income. However, this research was mainly focused on pulling bicycle rickshaws rather than e-rickshaw drivers. It did not study how modern battery-powered rickshaws (e-rickshaws) affect drivers’ income and lifestyle. Also, it did not explore the role of government policies or how e-rickshaw driving supports long-term self-employment. This creates a gap that can be filled by studying e-rickshaw drivers in different cities like Guwahati.

Tripathi, S. (2021) – “Livelihood Opportunities through E-Rickshaws: A Case Study in Varanasi”. Tripathi’s study investigates the potential of e-rickshaws as an alternative livelihood source in tier-2 cities like Varanasi. The research objective was to measure the financial impact of owning or driving e-rickshaws and its influence on the family’s well-being. Findings revealed that drivers, despite lacking formal education, were able to earn Rs. 500–800 per day, contributing significantly to household income. However, most drivers did not own the e-rickshaws but operated rented vehicles, which limited their long-term profit. The study suggests microfinance institutions should be encouraged to support driver-ownership models. A major research gap identified was the absence of gender-inclusive strategies—no women were found to be operating e-rickshaws in the surveyed area.

### **2.3. Opportunities and challenges**

Iqbal, H. M. (2019). “Challenges and opportunities to pull e-rickshaws in Dhubri district with special emphasis on Gauripur town”. This study aims to analyse the role of e-rickshaws in the transportation system of Gauripur, Assam and to identify challenges and opportunities for e-rickshaw pullers. Using both primary and secondary data, the

research collected data through interviews with e-rickshaw drivers, passengers, union members, and traffic police, as well as data from relevant articles and government reports. The findings highlight that e-rickshaws have become a popular and cost-effective mode of transport, contributing to employment and reducing pollution. However, challenges such as traffic congestion, lack of proper regulations, high maintenance costs, and operational difficulties in some areas were noted. The study suggests that improved infrastructure, government support through loans, dedicated parking, and improved traffic management can improve the efficiency and sustainability of e-rickshaw services in Gauripur.

Chouhan (2023). "The Role of Electric Rickshaws in Lanka Town and Its Hinder Lane in Hojai District of Assam." This study aims to examine the impact of e-rickshaws on local transportation and employment in Langkatown, Assam. It explores how these battery-powered vehicles create job opportunities for unskilled workers while providing a cost-effective and eco-friendly alternative to conventional transportation. Using primary data from interviews with 100 e-rickshaw drivers and secondary data from various sources, the study analyses their economic status, working hours, and earnings. The results indicate that e-rickshaws improve connectivity in rural areas, provide affordable transport options, and serve as a source of livelihood. However, challenges such as traffic congestion, lack of designated parking, and safety issues continue. The study suggests measures such as the provision of easy bank loans, marking of separate lanes, and regulation of parking areas to enhance e-rickshaw operations in the region.

Singh, R., & Sharma, S. (2017). "Socio-Economic Profile of E-Rickshaw Drivers in Delhi." They conducted a field-based study in Delhi to understand the socio-economic background of e-rickshaw drivers. The research aimed to investigate the income levels, working hours, migration status, and the challenges faced by drivers. The results revealed that most drivers are migrants from rural areas with low literacy levels, who entered this profession due to a lack of alternative employment. Their average daily income was modest but stable, helping support families in their hometowns. However, the findings also indicate that drivers face harassment from authorities, a lack of parking spaces, and difficulties accessing loans or insurance. The study concludes that although

e-rickshaws have created employment, there is a significant gap in social security and regulatory protection for drivers.

Panda (2018). “An Economic Study on E-Rickshaw Drivers: With Reference to English Bazaar Municipal Area, Maldar”. This study aims to analyse the socio-economic status of Maldar e-rickshaw drivers, focusing on their income, education, and financial security. Using primary data of 300 e-rickshaw drivers collected from various halts in Malda, as well as statistical analysis through IBM SPSS, the study revealed that most drivers are middle-aged (36-45 years), have low levels of education, and earn between ₹500-700 per day. 91.3% of respondents are satisfied with their profession, but concerns include a lack of financial security, the absence of insurance, and no future savings plans. The study highlights issues such as the absence of road demarcation, fare control, and mandatory savings for battery replacement. It recommends government support, including subsidies and structured financial planning, to improve the sustainability of e-rickshaw driving as a profession.

Rana (2012). “Battery-operated auto-rickshaws and their role in urban income and employment generation”. This study examines the economic contribution of battery-powered auto-rickshaws (e-rickshaws), especially in urban areas of Bangladesh. The findings highlight that e-rickshaws have significantly improved the financial position of operators, with many drivers doubling their previous earnings. Notably, 21% of e-rickshaw drivers were previously unemployed, and the sector has provided them with a stable livelihood. The study also revealed that if not for the availability of e-rickshaw driving, 38% of drivers would have migrated for work opportunities. Despite these economic benefits, challenges remain, including regulatory uncertainty, financial instability, and infrastructure limitations. The study suggests that proper financial planning, government support, and policy interventions are needed to maximise the sustainability and long-term impact of e-rickshaws in urban transportation and employment generation.

Newslick (2023), in the report “Livelihood of 3 Lakh E-Rickshaw Drivers in Lucknow at Stake After Ban,” examines the impact of government-imposed route restrictions on

e-rickshaw drivers in Lucknow. The main objective of the report is to assess how these sudden policy changes affect the livelihood of around 3 lakh drivers, many of whom had invested in e-rickshaws by taking loans with the expectation of stable earnings. The findings reveal that due to limited access to key routes, drivers are facing reduced income opportunities, which has led to growing financial insecurity and difficulty in repaying debts. The situation has also triggered protests among the driver community. A significant gap identified in the report is the absence of stakeholder consultation before the implementation of the ban, which has resulted in severe socio-economic consequences for the affected population.

Prakash et al (2020) conducted a study titled "COVID-19 lockdown: Impacts on the auto-rickshaw community", aiming to assess the effects of the COVID-19 lockdown on auto-rickshaw drivers in India. The study highlighted that auto-rickshaws are a crucial component of urban mobility, primarily providing first and last-mile connectivity. However, during the lockdown, the complete ban on auto-rickshaws severely impacted the livelihoods of drivers, many of whom do not own their vehicles and operate on a daily rent basis. The sudden loss of income led to financial distress, inability to repay loans, and challenges in meeting daily needs. Even after the easing of restrictions, drivers faced reduced demand due to commuters' fear of infection and the requirement to implement safety measures like sanitisation and social distancing, which increased operational costs. The study concluded that the auto-rickshaw community requires targeted support, including financial aid, health insurance, and regulatory reforms, to recover from the pandemic's adverse effects

Majumder and Jas (2015). "Merits and challenges of e-rickshaws as an alternative form of public road transport system: A case study of the state of West Bengal, India". This study explores the role of e-rickshaws as an alternative public transport system in West Bengal, India, highlighting their energy efficiency and economic viability. This data indicates that e-rickshaws consume about 53.76 kJ per passenger-km, making it more energy-efficient than traditional three-wheeled motorised vehicles. Its affordability and low operating costs have made it a popular mode of transport, contributing to

employment generation and urban mobility. However, challenges such as unregulated manufacturing, lack of proper certification, and safety concerns continue. The study emphasizes the need for government intervention in streamlining the registration process, enforcing vehicle standards, and integrating e-rickshaws into formal urban transport policies. Addressing these challenges through structural policies and improved infrastructure will ensure the long-term sustainability and efficiency of e-rickshaws in public transport.

Hoque (2021), “The Role of Electric Rickshaws in Employment and Income Generation in Rural Areas of Barpeta District, Assam”, examines the role of electric rickshaws (e-rickshaws) in employment and income generation in Barpeta District, Assam. This research aimed to analyse the contribution of e-rickshaws to employment generation, assess the income level of drivers, and identify operational challenges. Primary data were collected through structured interviews with 100 e-rickshaw drivers using a mixed methods approach, and secondary data were collected from government reports and academic literature. E-rickshaws have become a popular means of transportation and a new source of livelihood in the rural areas of Barpeta district. Drivers work about 12 hours daily to earn enough income to meet their basic needs. Challenges identified include parking issues and competition from alternative modes of transport. The research gap suggests the need for comparative studies between rural and urban areas, longitudinal assessment of employment trends, and evaluation of government policies supporting e-rickshaw operators. Further research is essential to explore the social impact of e-rickshaw deployment and its role in improving livelihoods in different regions.

Nayak, N. (2021), in his paper titled “E-Rickshaws: Sustainable Livelihood Path for Marginalised People”, focused on how e-rickshaws are helping the poor people of India to earn a living in an environmentally friendly manner. The objective of this study was to understand the role of e-rickshaws as a livelihood option and to examine their economic and environmental impacts. This study found that e-rickshaws are employing many unskilled people, especially in urban and semi-urban areas. These vehicles require



less money to operate, are easier to operate, and do not harm the environment. The study also highlighted that e-rickshaws help drivers improve their daily income and support their families. However, the results also showed some challenges, such as a lack of proper regulations, battery charging issues, and the need for better road infrastructure. The identified research gap was that more in-depth studies are needed on driver safety, long-term earnings, and the role of government schemes in supporting e-rickshaw drivers.

Tiwari, R. (2019). “E-rickshaw—an innovative tool in urban transport system: A study of e-rickshaw drivers in Raipur city”. The main objective of this study was to understand the situation of e-rickshaw drivers in Raipur and how these vehicles help their daily lives. It also aimed to study the drivers’ income, the problems they face, and how e-rickshaws are useful in urban transportation systems. The results showed that most drivers come from poor backgrounds and do not have higher education. E-rickshaws have become a good source of self-employment for them as they are cheaper to buy and operate. Drivers earn a regular income but face problems such as traffic problems, poor road conditions, a lack of charging stations, and no proper regulations from the government. The study found that while e-rickshaws are helpful, there is a lack of proper policies and support for drivers. Research gaps show that more studies are needed on the role of government, safety measures, training for drivers, and long-term solutions to battery and vehicle problems.

Rai, A. (2019). “Occupational satisfaction of e-rickshaw drivers with reference to Itahari-Nepal.” The main objective of this study was to find out whether e-rickshaw drivers in Itahari, Nepal are satisfied with their occupation, their income level, intention to change, and problems they face. The study used questionnaires and data from 95 drivers. The results showed that most drivers (74.5%) were satisfied with their current occupation, and the majority did not want to move to another job. Common problems faced by drivers were poor road conditions and traffic. Many of the drivers were former migrant workers returning from overseas. Most of them earn about Rs. 500–1000 per day, and their monthly profits were found in the range of Rs. 24,000 to Rs. 50,027

thousand rupees. The research gap was that more studies are needed on the long-term experience of e-rickshaw drivers, especially related to battery quality, policy support, and their social security. The study also found that there are very few studies focusing on e-rickshaw drivers' satisfaction, especially in Nepal.

Agrawal, M., & Gogoi, B. (2019). "A Study on the Socio-Economic Status of E-Rickshaw Pullers in Guwahati City, Assam". This study examines the financial and social status of e-rickshaw drivers and the sustainability of their occupation. Using primary data from 45 e-rickshaw drivers and five dealers as well as secondary sources, the study analyses income, investment, job security, and financial challenges. According to the data, e-rickshaws provide employment opportunities and improve social status, but suffer from problems such as high maintenance costs and a lack of financial support. The study recommends government subsidies, instalment vehicle purchases, and insurance facilities to improve the sustainability of e-rickshaw services.

#### **2.4. As a source of self-employment**

Sadiq and Khan (2025). "Kashmiri youth flock to e-rickshaw amid unemployment crisis. Kashmir Times". This study highlights the growing reliance on e-rickshaws as an alternative source of employment for the youth of Kashmir, especially in the face of a high unemployment rate. This research explores how e-rickshaws provide an affordable and cost-effective means of self-employment, allowing individuals to generate a stable income. Due to limited formal job opportunities, many educated youths have turned to e-rickshaw driving for a living. However, despite the economic benefits, the sector faces challenges such as social stigma, lack of financial support, and regulatory issues. The study suggests that government interventions, including financial assistance programs and policy reforms, can further enhance the sustainability of e-rickshaws as a viable deployment solution. This research contributes to the broader discourse on informal

employment and urban mobility, emphasising the role of e-rickshaws in alleviating economic instability and job shortages.

Singh (2014) in his study titled “A study of battery-operated e-rickshaws in the state of Delhi” aimed to understand the increasing use of e-rickshaws in Delhi. The objective of this study was to analyse the social and economic background of e-rickshaw drivers, understand the problems they face and explore how these vehicles are impacting the environment and urban transport. The study found that most drivers come from poor or migrant backgrounds and have adopted e-rickshaw driving as a means of self-employment. E-rickshaws have become popular due to their affordability and eco-friendliness. But the study also points out many challenges, such as a lack of proper registration, road safety issues, poor quality batteries, and a shortage of charging stations. Although e-rickshaws help reduce pollution, battery discharge remains a concern. Research gaps identified in this study include the need for more information on the long-term sustainability of e-rickshaws, the impact of government policies, the social security of drivers, battery efficiency, and appropriate urban infrastructure to support e-rickshaws.

Dey, P. P. (2021). “Role of E-Rickshaws in Providing Sustainable Employment: A Study of Guwahati City”. The purpose of this study was to find out how e-rickshaws help people to get jobs and improve their lives in Guwahati. The study aimed to understand the background of e-rickshaw drivers, their income, challenges, and the role of this transport in creating self-employment. The results showed that most drivers are from poor backgrounds and have moved into the job due to a lack of education and other work options. E-rickshaws are inexpensive and easy to operate, making them a good source of income. However, the study also found problems such as a lack of proper parking, traffic problems, low battery backups, and low awareness of government schemes. The research gap was that further studies are needed on how government policies affect these drivers, what training or support they receive, and how to improve their safety, income and working conditions.

## **2.4. Policy and sustainability challenges**

Trupathi and Raghu (2019) “Sustainability and Policy Issues of E-Rickshaws on Indian Urban Roads”. It examines the rapid growth of e-rickshaws in Indian urban transport, focusing on policy gaps, sustainability issues, and operational challenges. Using a mixed methods approach, this study combines primary data from surveys and interviews with e-rickshaw drivers, policy experts, and urban planners, as well as secondary data from government reports and academic publications. The findings indicate that while e-rickshaws provide affordable and sustainable transportation solutions, their rapid growth from a few hundred in 2010 to nearly 100,000 by 2014 has created regulatory uncertainty, traffic congestion, and safety concerns. The study highlights the lack of standardised design, improper registration process, and infrastructure challenges affecting e-rickshaw operations. It concludes that structured policy interventions, regulatory frameworks, and infrastructure development are urgently needed to ensure the long-term sustainability of e-rickshaws as a public transport solution.

## **2.5. Global economic market of the e-rickshaw industry**

Business Research Company. (2024). “E-rickshaw Global Market Report 2024”. This report highlights the rapid growth of the global e-rickshaw market driven by rising fuel prices, government support, and demand for affordable urban transportation. The market expanded from \$1.06 billion in 2023 to \$1.19 billion in 2024 and is projected to reach \$1.89 billion by 2028, at a compound annual growth rate (CAGR) of 12.1%. The Indian market plays a key role in this expansion, with government subsidies and increasing urbanisation contributing to its growth. Despite its potential, challenges such as regulatory uncertainty, infrastructure limitations, and security concerns persist. The report reveals that policy interventions and improved urban transport planning are essential to sustain the growth of e-rickshaws and their integration into the global mobility system.

## **2.6. Health problems among e-rickshaw drivers**

Kulkarni et al., 2024, in their article titled "Evaluation of Socio-demographic Profile, Working Condition and Health of E-rickshaw Drivers in Udaipur City". assessed socio-demographic characteristics, working conditions, and health status of e-rickshaw drivers in Udaipur, Rajasthan. The study used a community-based cross-sectional design and included 130 full-time e-rickshaw drivers. Data were collected through interviews and physical health examinations. The results showed that most drivers are adult males aged 38–57 years, with significant proportions working over 10 hours daily and with 5–10 years of driving experience. Health problems were common, with 60% suffering from gastrointestinal and musculoskeletal problems and about a third having hypertension or obesity. A particularly high rate of alcohol consumption (61.5%) was also observed. The study found that although the drivers had minimal visual impairment, they were exposed to multiple health risks due to their occupational exposure and lifestyle habits. However, the study had limitations, such as short duration, no mental health assessment, and lack of follow-up, indicating the need for long-term studies that include mental health and a broader sample base.

Sharma and Chaturvedi (2023) conducted a study titled "Prevalence of work-related musculoskeletal disorders among professional rickshaw drivers in Aligarh, Uttar Pradesh, India." The main objective was to understand how physically demanding rickshaw driving affects the body. The study found that 58.9% of drivers experienced musculoskeletal disorders (MSDs), especially in the lower back, neck, legs, and knees. Long driving hours, rough roads, and poor posture due to uncomfortable seating arrangements were identified as major contributing factors. While the findings clearly showed the physical toll of this occupation, the research was limited to traditional cycle-rickshaw drivers and did not cover e-rickshaw drivers who may face similar or even additional ergonomic challenges due to battery weight, vibrations, and poor road infrastructure. Therefore, the study leaves a research gap in terms of the health effects on e-rickshaw drivers, who now make up a large portion of the informal transport sector

Naik and Patil (2021), in their study "Hypertension among auto-rickshaw drivers in Belagavi, South India," aimed to assess the prevalence of high blood pressure and its related risk factors. The results revealed that 38% of the auto-rickshaw drivers had undiagnosed hypertension. Most of the drivers worked for more than 10 hours a day, skipped meals, and had no time for exercise, which made them more vulnerable to stress-related health issues. Obesity, poor dietary habits, and sleep disturbances also contributed. However, the study focused only on medical diagnosis and risk factors, and did not explore how hypertension affects their ability to work, their medical expenses, or income loss caused by reduced work capacity. This creates a gap in understanding the economic impact of health problems in this occupational group

Rao and Fernandes (2019) carried out a similar health-focused study titled "cardiovascular disease risk factors among auto-rickshaw drivers of Mangaluru." Their objective was to identify risk factors such as hypertension, diabetes, smoking, and lack of physical activity. The study found that nearly 30% of drivers were hypertensive and over 14% were diabetic. Tobacco and alcohol use were common coping mechanisms for stress. Although the study highlighted serious health threats, it did not provide any insight into whether these conditions led to income loss, absenteeism, or withdrawal from work. There was also no discussion on how drivers' access or afford healthcare services, which leaves a gap in linking health outcomes to livelihood sustainability.

Ahmed and Rani (2019), in their study "Substance abuse and depression among auto rickshaw drivers," focused on the mental health challenges faced by drivers. The objective was to evaluate the prevalence of substance use and depressive symptoms. The study found that 90% of drivers showed signs of depression, ranging from mild to moderate levels. Many admitted to using alcohol, tobacco, or other substances to manage stress, anxiety, and work pressure. While the findings suggest a strong need for mental health support, the study did not explore how untreated mental health issues affect productivity, accident rates, or income. Additionally, it did not consider the availability or affordability of mental health care for low-income drivers



## **2.6 Work-life balance**

Thakur and Mehta (2021) in their study "A study on work-life balance of auto-rickshaw drivers in Mumbai" aimed to explore how factors such as income, long working hours, and stress affect the work-life balance of auto-rickshaw drivers. The study found that most drivers work more than 10 hours a day, limiting personal time, increasing stress and health problems. But some achieved a better balance through fixed schedules and family support. While the study provided useful insights, it mainly focused on conventional auto-rickshaw drivers in Mumbai, excluding e-rickshaw drivers and women drivers, and relied mostly on quantitative data. This highlights a research gap related to the experience of e-rickshaw drivers, especially in other regions like Guwahati, which could be further explored to understand their socio-economic and psychological challenges in balancing work and personal life.

## **2.7. Conditions of these vehicles and the drivers -**

Chattopadhyay, S. (2020), in the study titled "Studies on Energy Consumption Pattern in Mechanised Van Rickshaws in West Bengal and the Problems Associated with these Vehicles". The main objective was to study the energy consumption of these vehicles, compare them with traditional rickshaws, and identify the difficulties faced by West Bengal drivers. The results show that most e-rickshaws use lead-acid batteries, which do not last long and take many hours to charge. Drivers often overload vehicles to make more money, affecting battery life and increasing breakdowns. The study also found that many drivers had no formal training, and most areas were missing proper charging stations. Research gaps were that more detailed studies are needed on battery quality and life, proper regulations for safety and traffic, and the role of the government in providing financial or technical support to drivers. It also needs to study how to make e-rickshaws safer and more energy-efficient in the long term.

Mandal et al. (2020) in their article "Passing Behaviour in Two-Lane Suburban Arteries: An Observation Under Mixed Traffic with a Significant Proportion of Battery-Operated E-Rickshaws" examined the subject. This study aimed to analyse the impact of e-rickshaws on vehicle speed, overtaking behaviour, and congestion in a mixed traffic

situation. Based on field data collected through mobile observer methods and video recordings, the researchers found that when e-rickshaws constituted 10–25% of the traffic flow, the average speed decreased by 10 km/h, and vehicle platooning increased significantly. In addition, the slow speed and limited braking ability of e-rickshaws caused risky overtaking behaviour by drivers of faster vehicles. The study concluded that although e-rickshaws provide an environmentally friendly and affordable mode of transportation, they disrupt smooth traffic flow and raise safety concerns. A key research gap identified was a narrow geographic focus in suburban Kolkata, paying particular attention to pedestrian safety or user perspectives, highlighting the need for broader, policy-driven research in diverse traffic environments.

Phutane et al (2019) conducted a study titled "An Improvement in Performance in E-Rickshaw". To analyse how e-rickshaws can be made more energy-efficient and environmentally friendly. Its main objective was to compare e-rickshaws with other three-wheelers like diesel and LPG autorickshaws by studying energy consumption, motor efficiency, and carbon emissions. Survey and simulation data show that e-rickshaws have lower CO<sub>2</sub> emissions (19.129 g/passenger-km) than diesel (21.51) and LPG (23.556) autos and consume less energy per km after design improvements such as better motor usage and weight reduction. However, since they are mostly charged using electricity from coal-fired power plants, they still contribute to pollution indirectly. Studies have also shown that e-rickshaws have helped boost employment and income in cities like Delhi and West Bengal. The main research gaps identified were a lack of clear government policies, poor road and safety regulations, and limited public charging stations. The authors recommended stronger policies to support e-rickshaw drivers, improve safety, and reduce environmental impacts.

Although several studies have explored the adoption and benefits of e-rickshaws, most of them are mainly focused on environmental advantages, urban mobility, and technical efficiency, especially limited to the large metropolitan cities. And it also to be noted that, there is limited research conducted upon the socio-economic impact of e-rickshaws on drivers in smaller towns like Nazira in the Sivasagar district of Assam. Existing

literature lacks to figure out the impact on the real-life challenges faced by e-rickshaw drivers, such as income instability, poor infrastructure, safety issues, and limited access to government support or welfare schemes. Furthermore, few studies have examined drivers' satisfaction levels, future livelihood goals, or the effectiveness of e-rickshaws as a reliable and sustainable means of self-employment in rural and semi-urban settings. These gaps show the need for further more research, which this study aims to fulfill by focusing on the role of e-rickshaws as a source of self-employment in Nazira town.

## **Introduction**

Research methodology is the process used by researchers to plan, collect and analyze data in order to achieve research objectives. It includes research design, data collection methods, and data analysis techniques.

### **3.1 Theoretical Framework**

A theoretical framework is the base of a research which mentions the interpretation of the basic theories and concepts associated with the subject. It shows how the theory is used framework in the research topic, serves as a guide in research and helps in understanding and analysing data.

#### **McGregor Theory X and Theory Y:**

In the 1950s, Douglas McGregor shared two ideas called Theory X and Theory Y while working at the MIT Sloan School of Management. These are management theories that explain how managers think about their workers and how they try to motivate them. Theory X believes that people dislike work and need strict rules and control. Theory Y believes that people enjoy work and can be responsible if they are given the right support. Theory X hypothesizes that people do not enjoy working, they have no expectations, and continuous monitoring is essential. However, Theory Y hypothesizes that people express work willingness, want to bear the responsibility for the work themselves and do not need much as they are interested in doing it in a new way voluntarily. In larger organizations that are saturated with different types of work, Theory X will fit perfectly. Theory Y management can be a good fit for smaller organizations with a specialized workforce. (McGregor, 1960)

McGregor's Y theory applies to e-rickshaw drivers as it addresses the nature of their work. They have achieved complete freedom in this work; they have worked on their own time, no one has to obey anyone's orders, earn their own money and have been able to meet their needs. Unlike Theory X, which assumes people need strict supervision, e-rickshaw drivers are self-motivated and driven by flexibility and earnings. This supports their role in reducing unemployment.

### Maslow's Hierarchy of Needs:

Maslow's Hierarchy of Needs is a well-known psychological concept that describes how human motivation is influenced by five stages of needs, arranged like a pyramid from basic survival to personal growth. The theory suggests that people are driven to satisfy basic needs first, such as food and shelter, before moving on to higher-level needs like social connections and self-fulfillment. Each level of need must be reasonably met before an individual can focus on the next. This model is widely used to understand behavior, work motivation, and personal development (Maslow, 1943).

For e-rickshaw drivers, Maslow's theory helps explain their motivation and behavior in daily life. At the foundation, their earnings must cover basic needs like food and shelter. Once these are secured, safety becomes a priority, having a reliable vehicle and a secure working environment. Social needs come into play as they build friendships with fellow drivers and interact with passengers. Gaining respect and appreciation from their community satisfies their esteem needs, encouraging better performance. Finally, some drivers may seek self-actualization by aspiring for improved skills or business growth, showing how they strive for more than just survival.

### **3.2 Universe of the study**

The researcher has chosen to conduct a study on e-rickshaws as a source of self-employment in Nazira town, Sibsagar district, Assam. In Nazira Town, a busy urban area, e-rickshaws are increasingly being adopted as an environmentally friendly and cost-effective mode of transport. Over the past few years, e-rickshaws have emerged as a significant source of livelihood for many individuals as well as those seeking self-employment opportunities in the region.

With its mix of commercial and residential areas, the city of Nazira provides an ideal environment to explore the role of e-rickshaws in completing the local transportation needs as well as economically empowering individuals. This study will focus on e-rickshaw drivers, their socio-economic background, and the challenges and opportunities which are connected with this profession.





Quantitative research is based on gathering number-based data and using calculations to find patterns, predict outcomes, and test ideas.

Qualitative research focuses on collecting non-numerical information to understand people's experiences, behaviors, and perspectives. It involves analyzing patterns in language, content, and communication style. Common tools used in qualitative research include interviews and observations.

In this study, the researcher followed a qualitative approach by conducting interviews with 10 individuals from the e-rickshaw association. These included key figures such as the president, vice president, secretary, and several other members. This is because student researchers gain a deeper understanding from them. Some members of the association are educated in engineering, BSc 1st class, and BA, etc. The members of the association appreciated the student researcher who took up this topic for research.

In a quantitative approach, the researcher conducted interviews with e-rickshaw drivers. This interview was scheduled for closed questions, as not all e-rickshaw drivers are educated. This interview aimed to learn about their way of living. Like, what is your daily income? Are you satisfied or not? Are you facing any challenges? Etc.

### **3.4 Sampling Technique**

The researcher adopted a mixed-methods approach for this study, combining both qualitative and quantitative methods to explore the role of e-rickshaw driving as a source of self-employment in Nazira Town. Purposive sampling was used in both methods of data collection to ensure that the data collected was rich, relevant and directly related to the research objectives.

E-rickshaws were used to select participants who had direct experience with driving and to choose participants who relied on it as their main source of income. Criteria for selection included years of experience, ownership status, daily income range, and area of operation. This approach ensured that the selected participants were suitable to provide both practical insights and measurable data for the study.

By applying purposive sampling in both qualitative interviews and quantitative surveys, the student researcher was able to focus on drivers, whose experiences best reflected the socio-economic realities and challenges of self-employment through e-rickshaw driving. This sampling strategy helped maintain consistency and relevance in both phases of data collection.

### **3.5 Sample Size**

40 respondents are used for data collection for this study. For the quantitative research, data was collected from 30 e-rickshaw drivers to gather measurable and generalizable information about their livelihoods and experiences. For qualitative research, 10 participants were selected from members of e-rickshaw drivers' associations to gain deeper insights into shared challenges and perspectives within the community. This approach combines detailed personal experience with broad numerical data to ensure a comprehensive understanding.

### **3.6 Methods of data collection**

#### **Primary Data:**

**Interviews:** Semi-structured interviews were conducted with e-rickshaw drivers to gain an in-depth understanding of their personal experiences, daily challenges, and perceptions related to their work. This flexible method allowed participants to express their views openly.

**Observations:** Direct observations of e-rickshaw drivers at work were made to study their working conditions, the environment in which they work, and their interactions with passengers and the community. This helped to capture real-life situations and behaviours that might not be fully expressed in interviews.

## **Secondary Data:**

**Published Research Papers and Journals:** Existing academic studies on e-rickshaws, self-employment, and urban transport provided background information and helped to frame the study.

**Theses and Dissertations:** Previous academic research related to similar topics was reviewed to identify gaps and build upon earlier findings.

**News Articles and Media Reports:** Media coverage of e-rickshaws offered current insights into public opinion, government policies, and social issues affecting drivers.

**Government Reports and Publications:** Official documents and statistics were used to understand regulatory frameworks, policy initiatives, and support schemes related to e-rickshaw operations.

### **3.7 Tools for Data Analysis and Interpretation**

To analyse the collected data, used explanatory sequential design of mixed methods was used; where quantitative data was collected first, followed by qualitative data. This design is used to further explain a set of quantitative data with additional qualitative information. The qualitative data, obtained from interviews and open-ended responses, were examined through thematic analysis. This helped in identifying common patterns, challenges, and views shared by the e-rickshaw drivers. The analysis was supported by QDA Miner software, which helped in organising, coding, and interpreting the qualitative data in a systematic way.

The quantitative data, collected through structured surveys, was analysed using Microsoft Excel. This allowed for the calculation of basic statistics, the preparation of charts and graphs, and a summary of numerical information related to income levels, working hours, expenses, and government support.

By combining both qualitative and quantitative methods, the study provided a deeper and more complete understanding of e-rickshaw driving as a source of self-employment.

This approach helped to evaluate not only the economic benefits but also the social and practical challenges faced by the drivers.

### **3.8 Ethical Consideration**

#### **3.8.1. Informed Consent:**

All participants, be it the e-rickshaw drivers or the e-rickshaw association members, were fully informed about the purpose of the study. Their participation was voluntary, and they were given the right to refuse or withdraw at any time of the interview. Their consent was taken before conducting interviews or surveys.

#### **3.8.2. Privacy:**

The identities and personal details of both e-rickshaw drivers and union members were kept strictly confidential. No names or identifiable details were shared in any of the reports or publications. The data collected was stored securely and used for educational and research purposes only.

#### **3.8.3. Vulnerable Participant Protection:**

Many e-rickshaw drivers and some association members may belong to socially or economically weaker groups. Special care was taken to ensure their dignity and comfort during data collection. The language used was simple and respectful, and all participants were treated fairly.

#### **3.8.4. Damage Prevention:**

There was no physical, emotional or psychological harm to the participants. They had the freedom to skip questions or end the interview if they felt uncomfortable. The research process was designed to be respectful and non-intrusive.

### **3.8.5. Transparency:**

The purpose of the study, how the data would be used, and the voluntary nature of participation were communicated to all participants. No misleading or false information was given during the interview.

### **3.8.6. Accountability:**

The researcher ensured adherence to ethical standards throughout the study. The rights and well-being of e-rickshaw drivers and union members were respected at all times by maintaining honesty and integrity in data collection and reporting.

## **3.9 Limitations of the study**

- This study includes only e-rickshaw drivers and union members currently engaged in this occupation.
- The research is limited to Nazira town only, so this finding may not apply to other towns or rural areas.
- Some participants may have been reluctant to share sensitive information such as income or challenges, which affected the completeness of the data.
- Consumers, government officials, business owners and other stakeholders were not included, limiting the range of perspectives.

## **3.11. Exclusion and Inclusion**

### **Inclusion**

- E-rickshaw drivers who are working in Nazira Town.
- Association Members of e-rickshaws in Nazira.
- People who are ready to participate in the study.

## Exclusion

- People who do not drive e-rickshaws themselves.
- Association members from outside Nazira.
- People who do not want to take part in the study.

In conclusion, this research provides a clear and systematic approach to gathering important data on e-rickshaw drivers and association members in Nazira town. The applied research methods and participant selection criteria made it reliable and focused on the core issues of self-employment and livelihood.



## 4.1 Introduction

In a quantitative approach, the student researcher conducted interviews with e-rickshaw drivers. This interview was scheduled for closed-ended questions, as not all e-rickshaw drivers are educated. This interview was conducted to find out about their lifestyle. Like, what is your daily income? Are you satisfied or not? Are you facing any challenges? Etc.

The data analysis has been done based on the objectives set for the study. The first objective covers the source of livelihood, any previous occupation, daily earnings, net daily profit, and the amount of savings have been studied to find the role of E-rickshaws as a source of self-employment from the respondents.

### **Objective 4.1: To assess the role of E-rickshaws as a source of self-employment**

This objective is significant as it was seen to analyse how e-rickshaws can empower unemployed or low-income people. This shows how driving an e-rickshaw allows individuals to earn income, take care of their families, and become self-reliant without depending on other people for employment.

#### **A. Source of livelihood**

Table 4.1.1 Source of livelihood

Source of livelihood	No. of respondent	Percentage
Yes	23	77
No	7	23
Total	30	100

Source: Field Study

**Analysis:** The Source of livelihood is the most important to know the lifestyle of the e-rickshaw driver. Table 4.1.1 shows that out of a total of 30 (100%) respondents, 23 (77%) respondents say that e-rickshaw is a living source, but 7 (23%) respondents say e-rickshaw is not a living source.

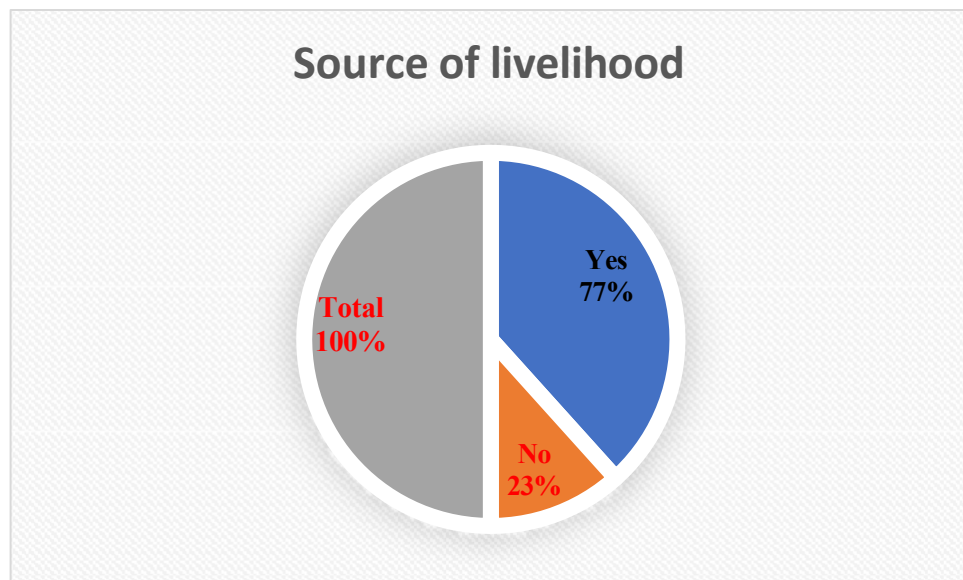


Chart 4.1.1 Source of livelihood

**Interpretation:** Figure 4.1.1 clearly shows that the majority of the respondents means 77%, say e-rickshaw is a source of livelihood that is 23 respondents. 23% say that respondents say e-rickshaw is not a living source, that is 7 respondents.

## B. Any other Profession

Table 4.1.2 Other Professions

Other Professions	No of respondents	Percentage
Yes	21	70
No	9	30
Total	30	100

Source: From the field

**Analysis:** From the field, it has been observed that most of the respondents were engaged with another profession before starting e-rickshaw driving, which is revealed in Table 4.1.2 shows that out of the total 30 respondents, 21 respondents were engaged with another profession before starting this work, and 9 respondents were not engaged.

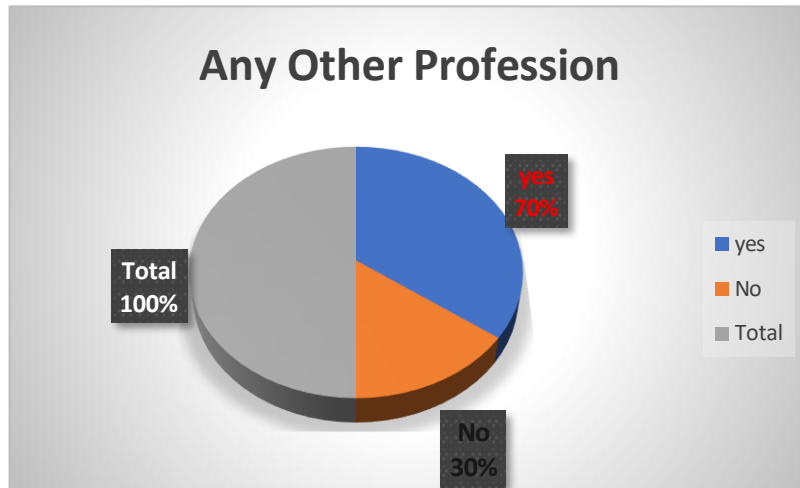


Chart 4.1.2 Other professions

**Interpretation:** Figure 4.1.2 shows that the majority of the respondents, 70%, that is 21 respondents out of the 30, were engaged with other professions, but 30%, that is 9 respondents, were not engaged with other professions before starting as e-rickshaw drivers.

### C. Previous Occupations

Table 4.1.3: Previous Occupation

Previous Occupations	Number of Respondents	Percentages
Freshers	4	13%
service holder	7	23%
Business	10	33%
Others	9	30%
Total	30	100

Source: From Field

**Analysis:** From the field, it has been observed that most of the respondents were engaged in other businesses before starting as e-rickshaw drivers, which is shown in Table 4.1.3. Out of the total 30 respondents, 4 were freshers, 7 were engaged service holders, 10 were engaged with business, and 9 were engaged with other occupations.

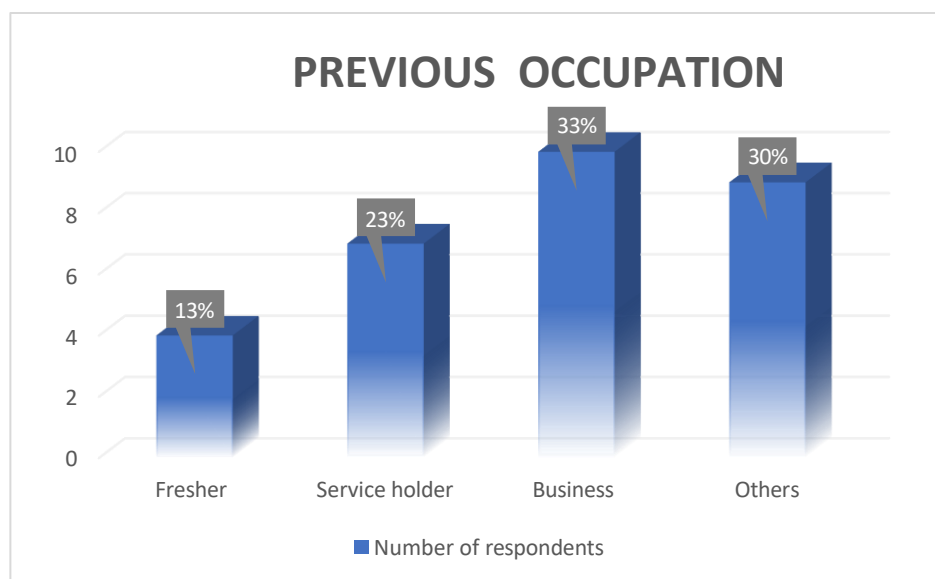


Fig 4.1.3: Previous occupation

**Interpretation:** From 4.1.3 shows that a majority of the respondents were engaged in business, with 33%, that is 10 respondents; 30% were engaged in other occupations, that is 9 respondents; 23% were service holders, that is 7 respondents; and only 13% were freshers, that is 4 respondents out of 30 respondents.

#### D. Ownership of the e-rickshaw

Table 4.1.4: Ownership of the e-rickshaw

Ownership of the e-rickshaw	No of respondents	Percentage
Own	27	90
Rental	3	10
Total	30	100

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents had their own e-rickshaws, which is revealed in Table 4.1.4. Out of 30 respondents, 27 had their e-rickshaws, and 3 had rental e-rickshaws.

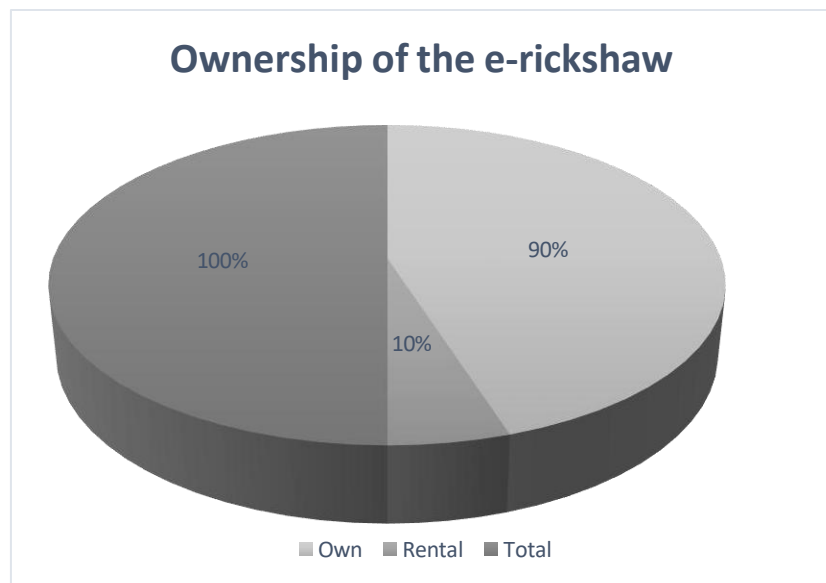


Chart 4.1.4: Ownership of the e-rickshaw

**Interpretations:** Figure 4.1.4 shows that a majority of respondents means 90% taken their own e-rickshaws, that is 27 respondents; 10% had rental e-rickshaws, that is 3 respondents out of 30 respondents.

#### E. Amount charged on rental e-rickshaw

Table 4.1.5: Amount charged on rental e-rickshaw

Amount of rental e-rickshaw	No of respondents	Percentage
0-200	1	33%
200-400	2	67%
400-more	0	0
Total	3	100%

Source: Field Study

**Analysis:** From the Table, 4.1.5 shows that a majority of respondents means 67%, that is 2 respondents give amount charged on rental e-rickshaw from 200-400; 33%, that is 1 respondent give amount on rental e-rickshaw from 0-200, out of 3 respondents.

## F. Plan of occupation

Table 4.1.6: Plan of occupation

Plan of occupation	No of respondents	Percentage
Continuation of e-rickshaw business	18	60%
Change the business	4	13%
Quit the business	2	7%
Can't say	6	20%
Total	30	100%

Source: From Field

**Analysis:** From the field, it has been observed that most of the respondents have a plan to, they will be stay in this business, which is revealed in Table 4.1.6. Out of 30 respondents, 18 respondents continued in the e-rickshaw business, 6 respondents could not say their future plan, 4 respondents had changed the business, and 2 respondents had quit the business.

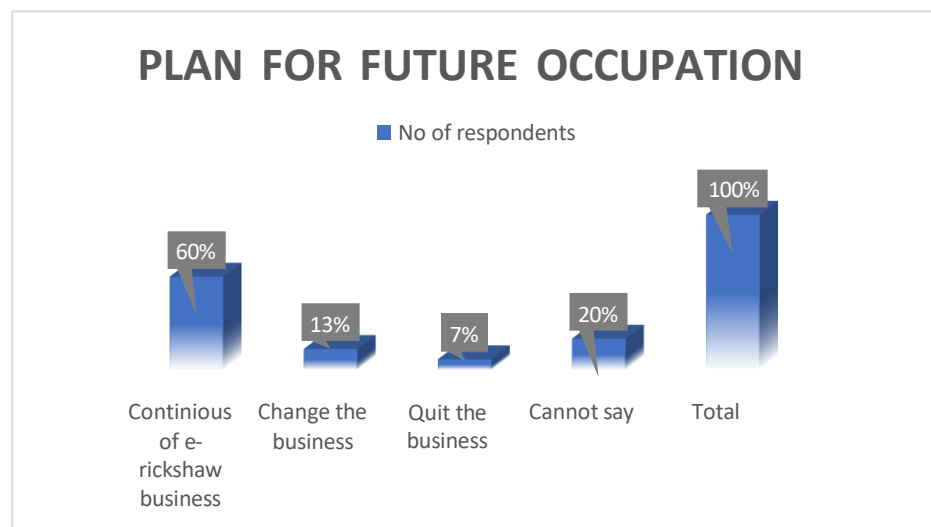


Fig 4.1.6: Plan for future Occupation

**Interpretations:** Figure 4.1.6 shows that a majority of the respondents, that is, 60%, were continuous in the e-rickshaw business, which is 18 respondents; 20% could not say anything, which is 6 respondents; 13% changed the business, which is 4 respondents; and only 7% were quite the business, which is 2 respondents out of 30 respondents.

## G. Marital status

Table 4.1.7: Marital Status

Marital status	No of respondents	Percentage
Married	21	70%
Unmarried	9	30%
Total	30	100%

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents were married, which is revealed in Table 4.1.7. Out of 30 respondents, 21 were married, and 9 were unmarried.

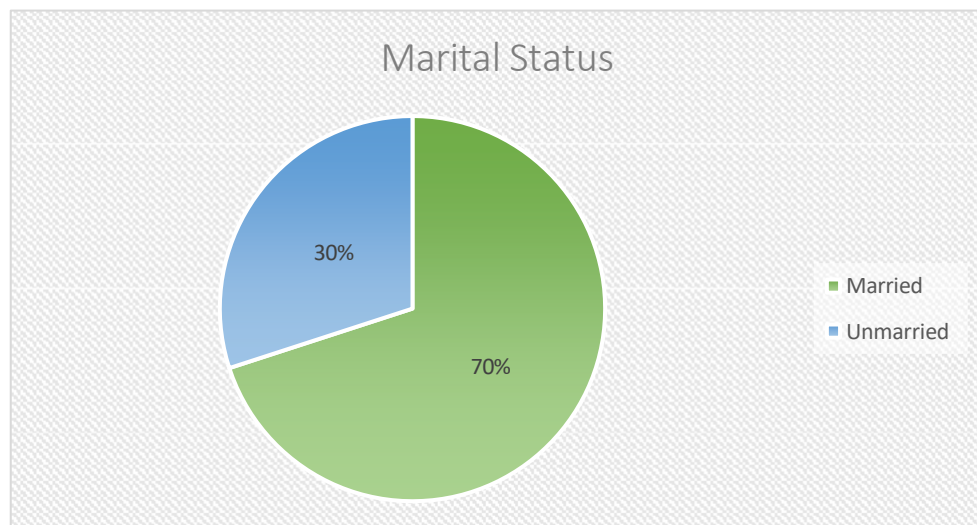


Chart 4.1.7: Marital Status

**Interpretations:** Figure 4.1.7 shows that a majority of the respondents, means 70%, were married, that is, 21 respondents; 30% were unmarried, that is, 9 respondents out of 30 respondents.

#### **Objective 4.2: To analyse the socio-economic impact of E-rickshaw drivers**

This objective is the most important because socio-economic impacts include job satisfaction, working hours, educational qualifications, age of the respondents, amount of savings, etc. This helps to identify the socio-economic impact of the e-rickshaw drivers.

##### **A. Education Qualification**

Table 4.2.1: Educational Qualification

Educational Qualification	No of respondents	Percentage
Illiterate	0	0%
Primary	3	10%
HSLC	7	23%
HS	14	47%
Graduate	6	20%
Total	30	100

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents were educated, which is revealed in Table 4.2.1. Out of 30 respondents, 3 were primary passed, 7 were HSLC passed, 14 were HS passed, and 6 were graduated.



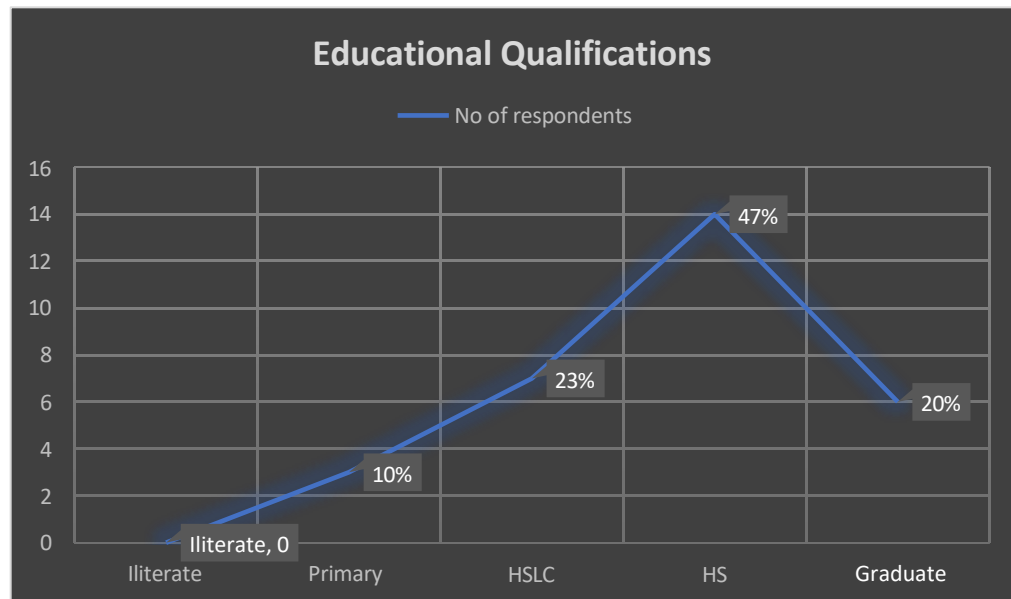


Fig 4.2.1: Educational qualification

**Interpretations:** Figure 4.2.1 shows that the majority of the respondents had educational qualifications passed H.S., 47% had passed H.S., that is, 14 respondents; 23% had passed HSLC, that is, 7 respondents; 20% had graduated, that is, 6 respondents. 10% had passed only primary, that is, 3 respondents, and 0% were illiterate out of 30 respondents.

#### B. Age of the respondents

Table 4.2.2: Age of the respondents

Age of the respondents	No of the respondents	Percentage
under 20	4	13%
20-30	6	20%
30-40	8	27%
40-50	7	23%
51-above	5	17%
Total	30	100

Source: From the field

**Analysis:** From the field, it has been observed that different respondents were under various age categories, which is revealed in Table 4.2.2. Out of 30 respondents, 4 were

under 20 years, 6 were under 20 to 30 years, 8 were under 30 to 40 years, 7 were under 40 to 50 years, and 5 were above 51 years.

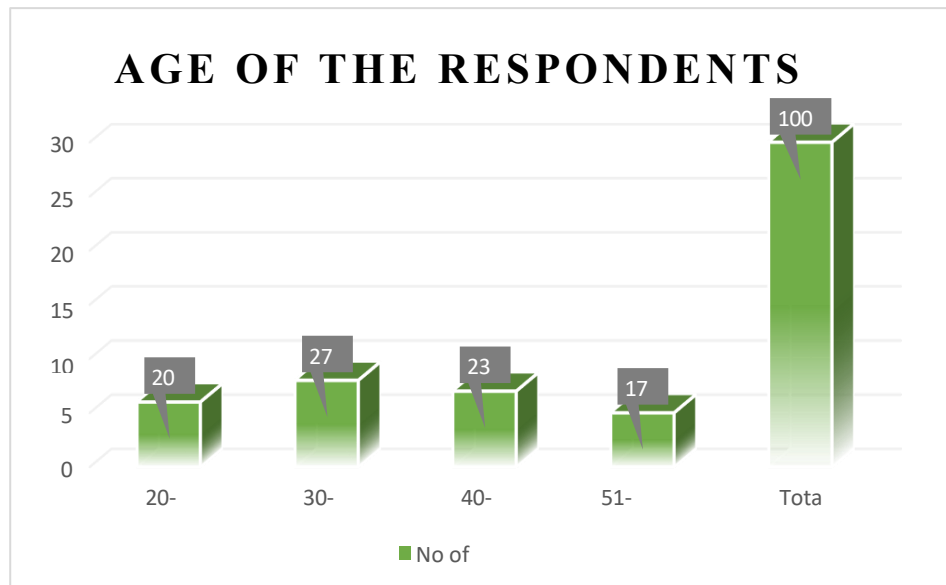


Fig 4.2.2: Age of the respondents

**Interpretations:** Figure 4.2.2 shows that the majority of the respondents, 27%, were between the ages of 30 to 40 years, that is, 8 respondents; 23% were between the ages of 40 to 50 years, that is, 7 respondents; 20% were between the ages of 20-30 years, that is 6 respondents; 17% were between the ages of above 51 that is 5 respondents out of 30 respondents.

### C. Family Type

Table 4.2.3: Types of family

Family Type	No of respondents	Percentage
Nuclear	19	63%
Joint	11	37%
Total	30	100%

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents had a nuclear family type, which is revealed in Table 4.2.3. Out of 30 respondents, 19 had a nuclear family, and 11 had a joint family.

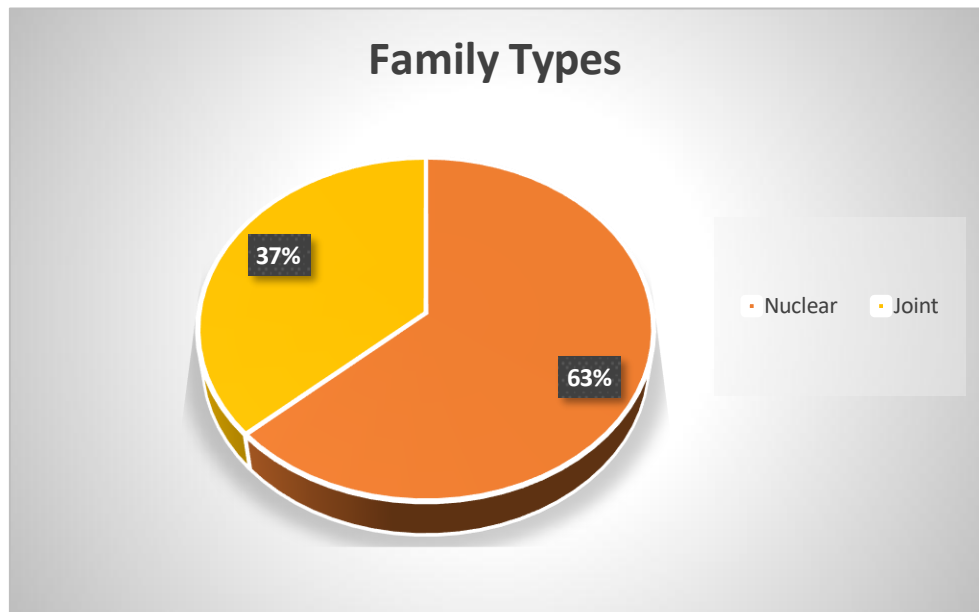


Chart 4.2.3: Family Type

**Interpretations:** Figure 4.2.3 shows that a majority of the respondents mean 63%, had a nuclear family, that is, 19 respondents; 37% had a joint family, that is, 11 respondents out of 30 respondents.

#### **D. Members of the family**

Table 4.2.4: Members of the family

Members of the family	No of respondents	Percentage
3 members	7	23%
4members	12	40%
5members	4	13%
More than 5 members	7	23%
Total	30	100

Source From the Field

**Analysis:** From the field, it has been observed that different respondents had different family members, which is revealed in Table 4.2.4. Out of 30 respondents, 7 respondents had 3 members, 12 had 4 members, 4 had 5 members, and 7 had more than 5 members.

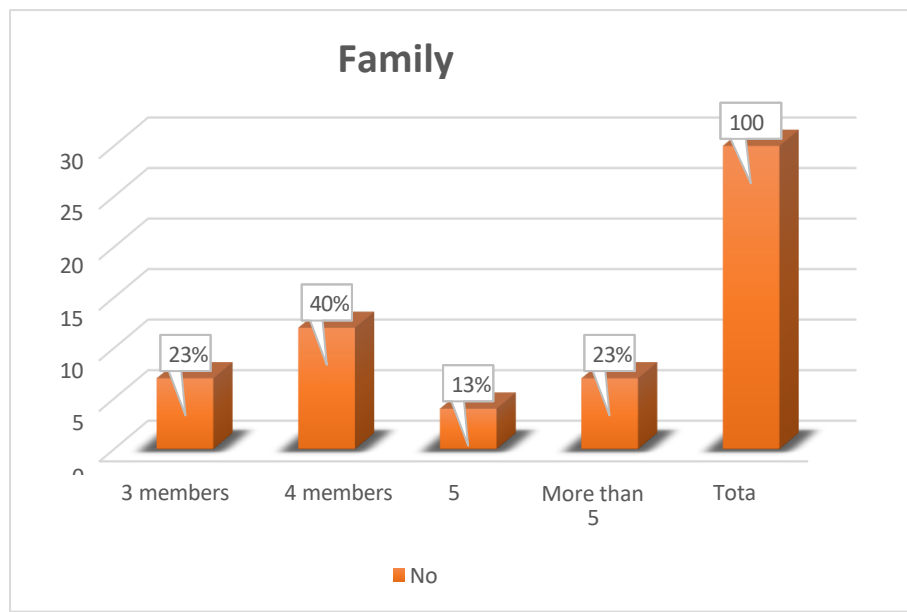


Fig 4.2.4: Family Members

**Interpretations:** Figure 4.2.4 shows that a majority of the respondents, 40%, had 4 family members, that is, 12 respondents; 23% had family members, both 3 members and more than 5 members, that is  $7+7=14$  respondents; 13% had 5 family members, that is 4 members out of 30 respondents.

#### E. Duration of the Business started

Table 4.2.5 Duration of the started business

Time	Number of respondents	Percentage
0-6months	5	17%
7-15 months	8	27%
15-2years	10	33%
2years- more	7	23%
Total	30	100

Source: Field Study

**Analysis:** From the field, it has been observed that duration and experience are the most important in a business, because the researcher understands when respondents started the business. Table 4.2.5 shows that out of 30 respondents, 5 started this business 0-6 months ago, 8 started 7-15 months ago, 10 started 15 months or 2 years ago, and 7 started 2 years or more ago.

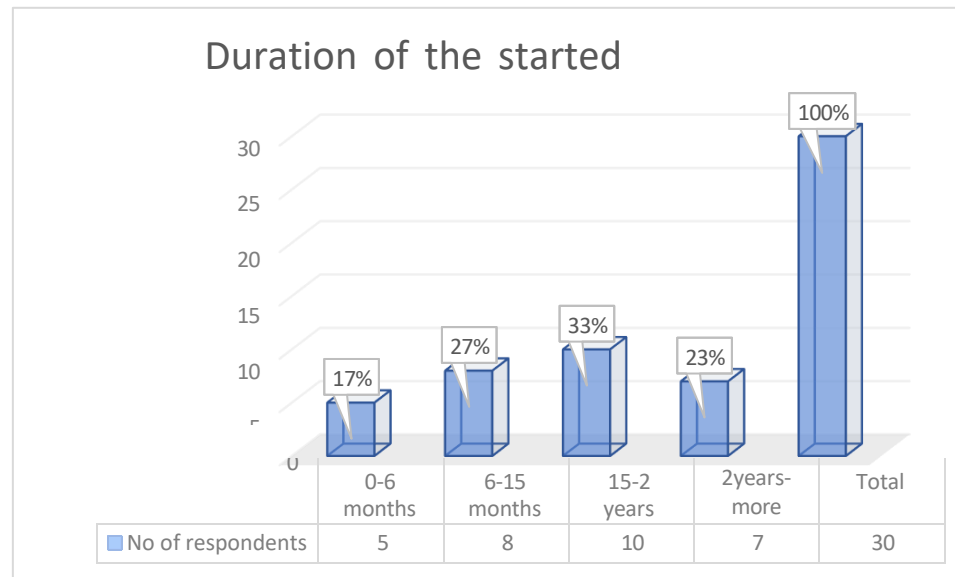


Fig 4.2.5 Tenure of the started business

**Interpretation:** Figure 4.2.5 shows that a majority of the respondents started the business from 15 months to -2years ago with 33% that is 10 respondents, next 27% of the respondents started the business from 6<sup>th</sup> months to 15<sup>th</sup> months that is 8 respondents, whereas 23% of the respondents started the business from 2years to more years that is 7 respondents, 17% of the respondents started the business 0-6<sup>th</sup> months that is 5 respondents out of the 30 respondents.

## F. Satisfied with this profession

Table 4.2.6: Satisfaction in profession

Satisfied with the profession	No of Respondents	Percentage
Highly Satisfied	5	17
Satisfied	13	43
Average Satisfaction	9	30
Dissatisfied	3	10
Highly Dissatisfied	0	0
Total	30	100

Source: From the Field

**Analysis:** From the field, it has been observed that most respondents were satisfied with this profession, which is revealed in Table 4.2.6. From 30 respondents, 5 highly satisfied, 13 satisfied, 9 average satisfaction, 3 dissatisfied, and 0 highly dissatisfied.

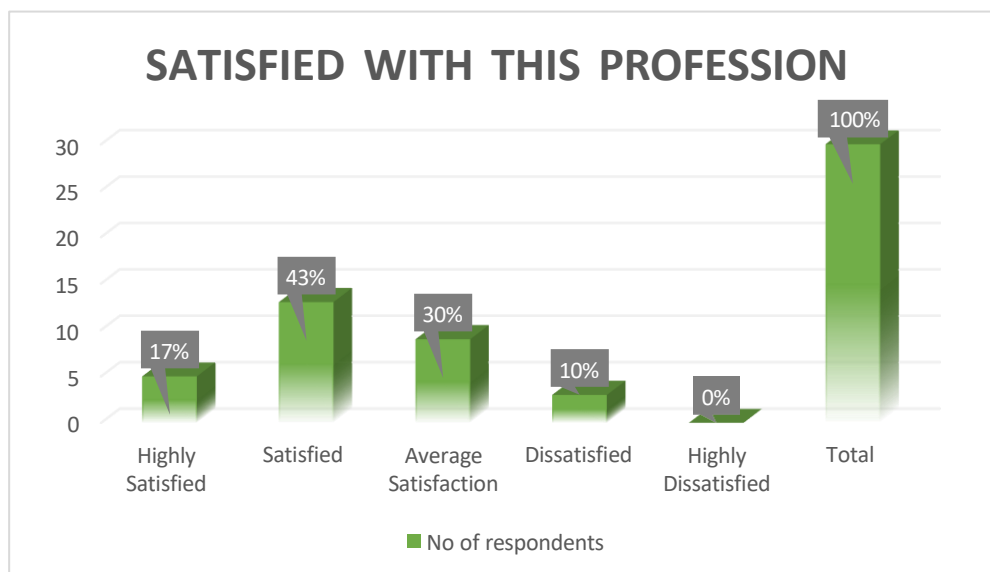


Fig 4.2.6: Satisfied with this profession

**Interpretation:** Figure 4.2.6 shows that a majority of the respondents were satisfied with 43%, that is 13 respondents; 30% were average satisfied, that is 9 respondents; 17% were highly satisfied, that is 5 respondents; 0% were highly dissatisfied, that is 0 respondents, out of 30 respondents.

### G. This profession meets the basic needs of the family

Table 4.2.7: Meets the basic needs of the family

Meets the basic needs of the family	No of Respondents	Percentage
Yes	9	30%
No	7	23%
Cannot say	14	47%
Total	30	100%

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents met the basic needs of the family, which is revealed in Table 4.2.7. Out of the 30 respondents, 9 met the basic needs of the family, 7 did not meet the basic needs of the family, and 14 could not say whether they met or did not meet the basic needs of the family.

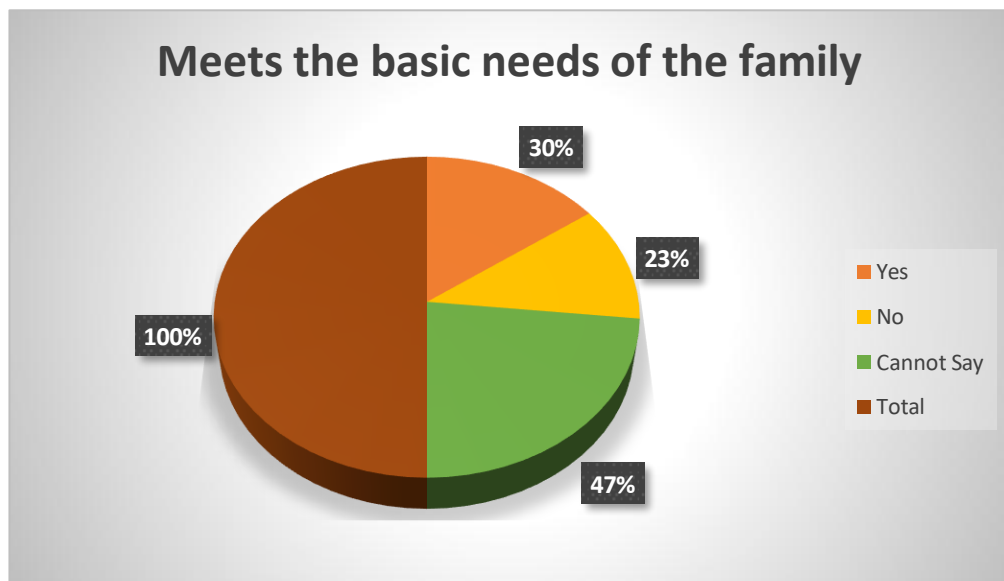


Chart. 4.2.7: Meets the basic needs of the family

**Interpretation:** Figure 4.2.7 shows that a majority of the respondents, means 47%, did not give the answer that meets the basic needs of the family because it depends on earnings, that is, 14 respondents; 30% met the basic needs, that is, 9 respondents; 23% not met the basic needs of the family that is 7 respondents out of 30 respondents.

## H. Daily Earnings

Table 4.2.8: Daily Earnings

Daily Earnings	No of Respondents	Percentage
0-300	6	20%
300-500	10	33%
500-700	5	17%
Cannot say	9	30%
Total	30	100

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents earned a daily income, but there are different responses from the respondents, which are shown in Table 4.2.8. Out of 30 respondents, 6 earned 0 to 300 per day, 10 earned 300 to 500 per day, 5 earned 500 to 700, and 9 respondents could not say the amount.

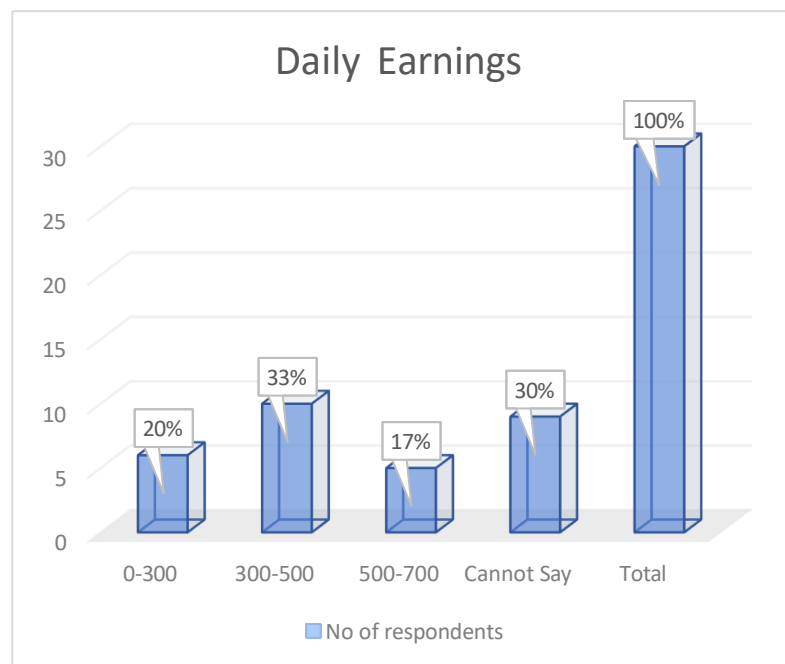


Fig 4.2.8: Daily Earnings

**Interpretation:** Figure 4.2.8 shows that a majority of the respondents get daily earned from 300 to 500, with 33% that is, 10 respondents; 30 % cannot say the daily earned because it was up and down, not a fixed rate that is, 9 respondents; 20% daily earned



from 0 to 300 that is 6 respondents and 17% daily earned from 500 to 700 that is 5 respondents out of 30 respondents.

### I. Net Daily Profit

Table 4.2.9: Net Daily Profit

Net Daily Profit	No of respondents	Percentage
0-200	6	20%
200-400	8	27%
400-600	7	23%
Cannot say	9	30%
Total	30	100

Source: From the field

**Analysis:** From the field, it has been observed that most of the respondents had different net daily profits from this business, which is revealed in Table 4.2.9. Out of the 30 respondents, 6 had net daily profits from 0 to 200, 8 had from 200 to 400, 7 had from 400 to 600, and 9 could not say the net daily profits.

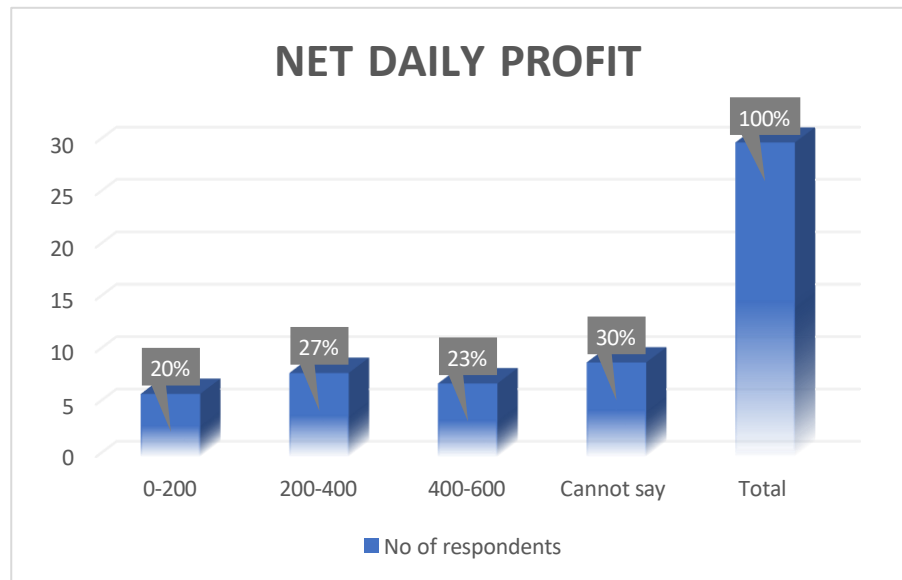


Fig 4.2.9: Net daily profit

**Interpretation:** Figure 4.2.9 shows that majority of respondents means 30% could not said their net daily profits because it was not fixed that is 9 respondents; 27% had net

daily profits from 200 to 400, that is 8 respondents; 23% had from 400-600 that is 7 respondents; 20% had from 0-200 that is 6 respondents out of 30 respondents.

#### J. Amount of savings

Table 4.2.10: Amount of Savings

Amount of savings	No of respondents	Percentage
0-100	10	33%
100-300	7	23%
300-500	6	20%
Cannot say	7	23%
Total	30	100

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents had different amounts of savings from this business, which is revealed in Table 4.2.10. Out of the 30 respondents, 10 had amounts of savings from 0-100, 7 had from 100-300, 6 had 300-500, and 7 could not say their savings.

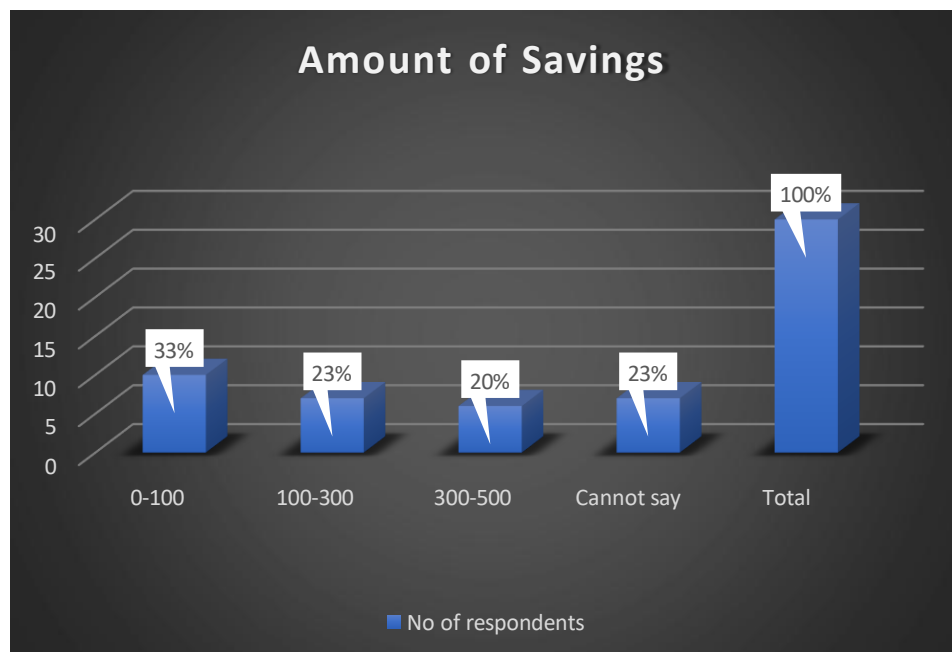


Fig 4.2.10: Amount of Savings

**Interpretations:** Figure 4.2.10 shows that majority of the respondents 33% saved the amount from 0 to 100, that is 10 respondents; 23% both from 100 to 300 and could not say because some respondents did not save the money, that is 7 and 7 respondents; 20% from 300-500 that is 6 respondents out of 30.

#### k. Job security

Table 4.2.11: Job security

Job security	No of respondents	Percentage
Yes	9	30%
No	4	13%
Cannot say	17	57%
Total	30	100%

Source: From the Field

**Analysis:** From the field, it has been observed that most of the respondents could not say their job security, which is revealed in Table 4.2.11. Out of the 30 respondents, 9 had job security, 4 had no job security, and 17 respondents did not say anything about job security.

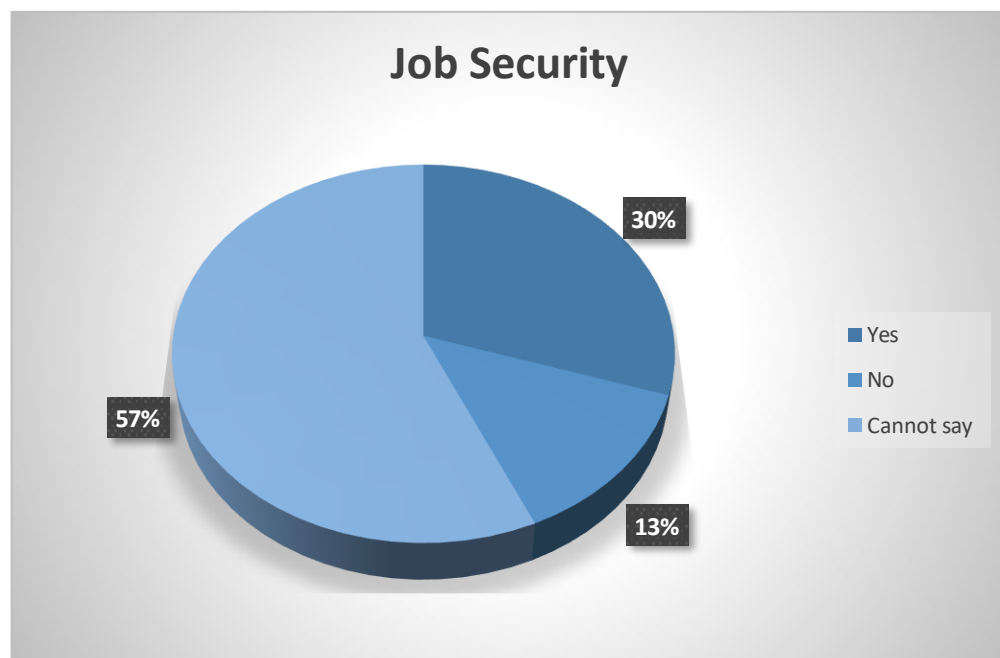


Chart 4.2.11: Job Security

**Interpretation:** Figure 4.2.11 shows that the majority of respondents means 57%, could not say their job security because it was only doing business, but did not say that they had job security, that is 17 respondents; 30% said they had job security, that is 9 respondents; 13% said not job security, that is 4 respondents out of 30 respondents.

**Objective 4.3: To identify the challenges faced by E-rickshaw drivers.**

This objective is the most important because it identifies the challenges, such as facing any challenges, parking issues, health problems, working hours, etc. This helps to identify the challenges faced by e-rickshaw drivers.

**A. Face any challenges**

Table 4.3.1: Face any Challenges

Face any challenges	No of respondents	Percentage
Yes	9	30
No	21	70
Total	30	100

Source: From the Field

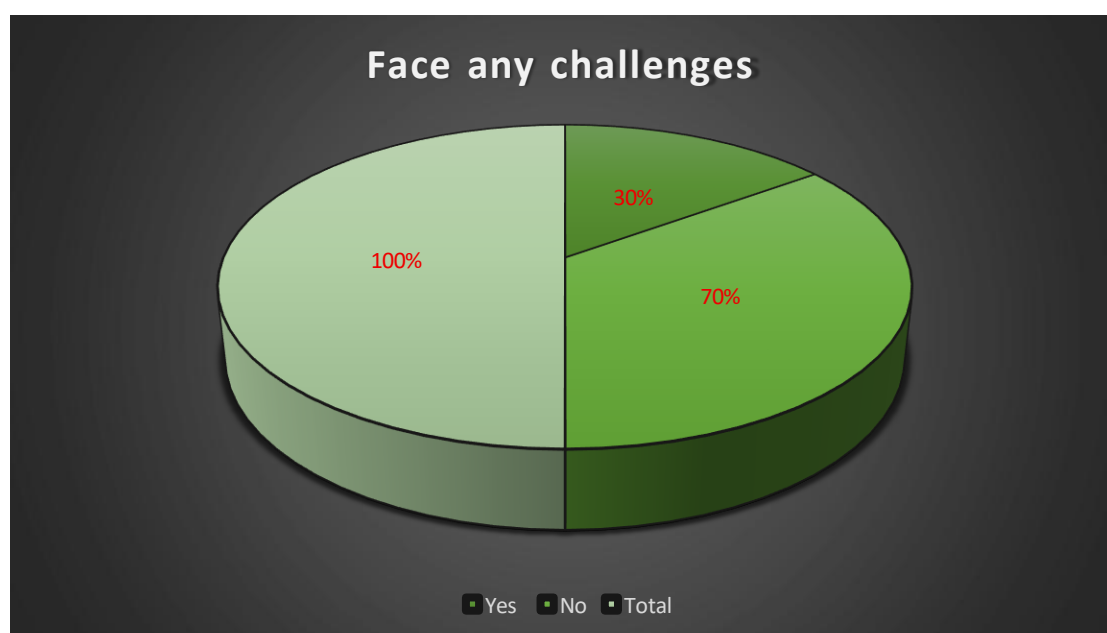


Chart 4.3.1: Face Any Challenges

**Interpretation:** Figure 4.3.1 shows that the majority of respondents did not face many challenges. 70% did not face any challenges, that is 21 respondents; 30% faced challenges, that is 9 respondents out of 30 respondents.

## B. Parking issues

Table 4.3.2: Parking Issues

Parking issues	No of respondents	Percentage
Yes	3	10
No	27	90
Total	30	100

Source: From the Field

**Analysis:** From the field, it is observed that most of the respondents did not face parking issues, which is revealed in Table 4.3.2. Out of the 30 respondents, 27 said that they had not faced parking issues, and 3 said that they had faced parking issues.

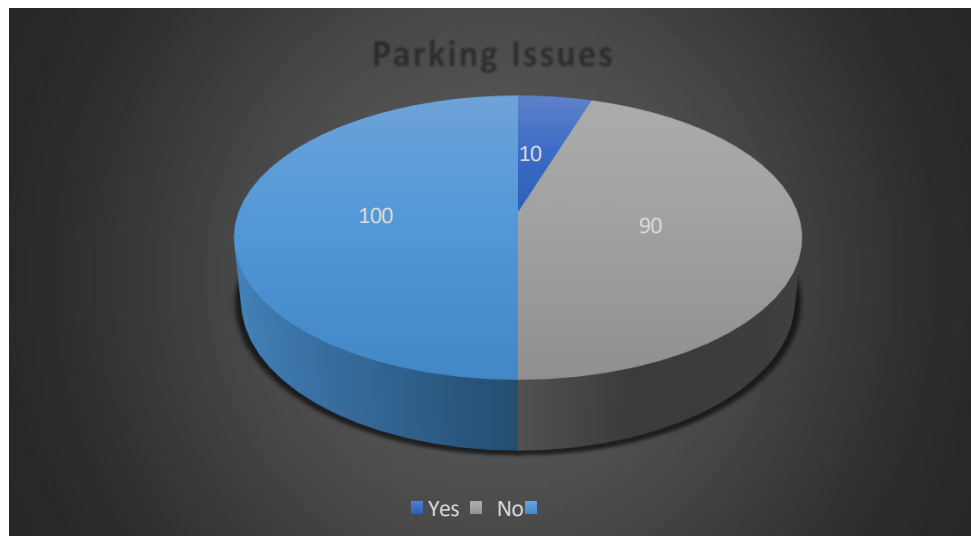


Chart 4.3.2: Parking Issues

**Interpretation:** Figure 4.3.2 shows that most of the respondents did not face parking issues because this area did not have a parking place, and e-rickshaw drivers gave a ride on the road; they have no specific places. 90% did not face parking issues, that is 27 respondents; 10% faced parking issues at some point, that is 3 respondents.

### C. Health issues after being an e-rickshaw driver

Table 4.3.3: Health issues after being an e-rickshaw driver

Health issues	No of Respondents	Percentage
Yes	24	80
No	6	20
Total	30	100

Source: From the Field

**Analysis:** From the field, it is observed that most of the respondents had health issues after being an e-rickshaw driver, which is revealed in Table 4.3.3. Out of 30 respondents, 24 had health issues, and 6 had no issues.

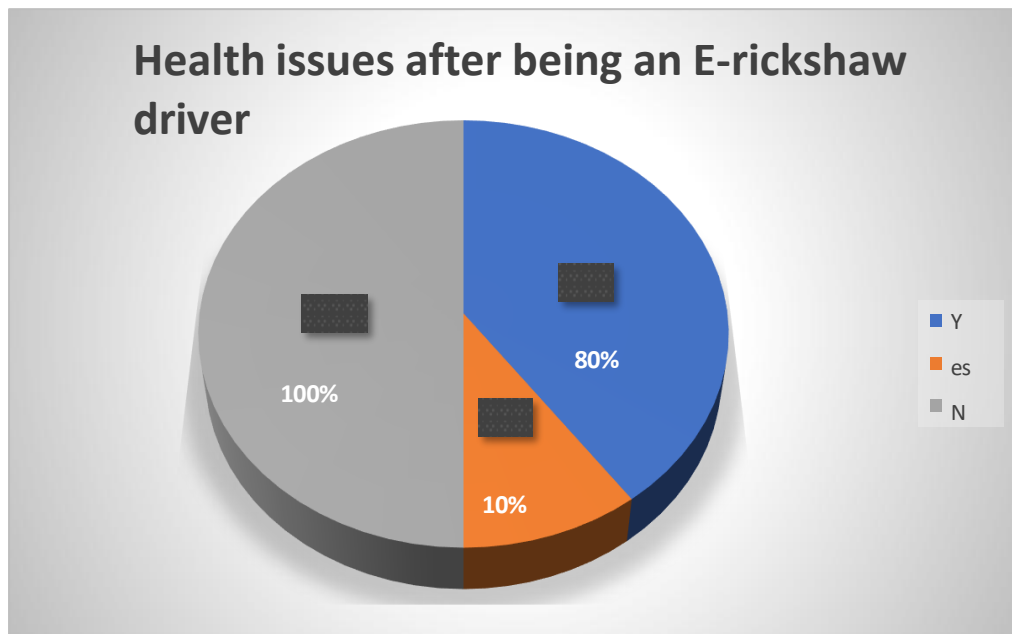


Chart 4.3.3: Health issues after being an e-rickshaw driver

**Interpretation:** Figure 4.3.3 shows that most of the respondents faced health issues after being an e-rickshaw driver because of long hours of operation. 80% faced health issues, that is, 24 respondents; 10% did not face health issues, that is, 6 respondents out of 30 respondents.

#### **D. Charging stations are a challenge in this area**

Table 4.3.4: Charging stations are a challenge in this area

Charging stations are a challenge in this area	No of respondents	Percentage
Yes	0	0
No	0	0
No charging points	30	100%
Total	30	100%

Source: From the Field

**Analysis:** From the field, it is observed that charging stations are a challenge in this area, which is revealed in Table 4.3.4. Out of 30 respondents, 30 said no charging points.

**Interpretations:** Table 4.3.4 shows that all of the respondents said no charging points in this area, and they charged the battery at home. So, charging stations are not a challenge in this area, but charging the battery at home was the most challenging.

#### **E. Take a loan to start an e-rickshaw business**

Table 4.3.5: Take a loan to start an e-rickshaw business

Take a loan to start an e-rickshaw business	No of Respondents	Percentage
Yes	10	33%
No	20	67%
Total	30	100%

Source: From the Field

**Analysis:** From the field, it is observed that most of the respondents did not take a loan to start the e-rickshaw business, which is revealed in Table 4.3.5. Out of 30 respondents, 10 took a loan, and 20 did not take a loan to start an e-rickshaw business.



Chart 4.3.5: Take a loan to start an e-rickshaw business

**Interpretation:** Figure 4.3.5 shows that the majority of the respondents did not take a loan to start the e-rickshaw business, 67% did not take a loan, that is 20 respondents; 33% took take loan, that is 10 respondents out of 30 respondents.

## F. Working Hours

Table 4.3.6: Working Hours

Working Hours	No of respondents	percentage
Working for 12 hours	6	20%
2-3 hours	8	27%
Work on their interest	6	20%
4-5 hours	10	33%
Total	30	100

Source: From the Field

**Analysis:** From the field, that is observed that different respondents had different working hours, which is revealed in Table 4.3.6. Out of 30 respondents, 6



respondents were working for 12 hours, 8 respondents were 2to 3 hours, 6 were work on their interest, 10 were working 4to 5 hours.

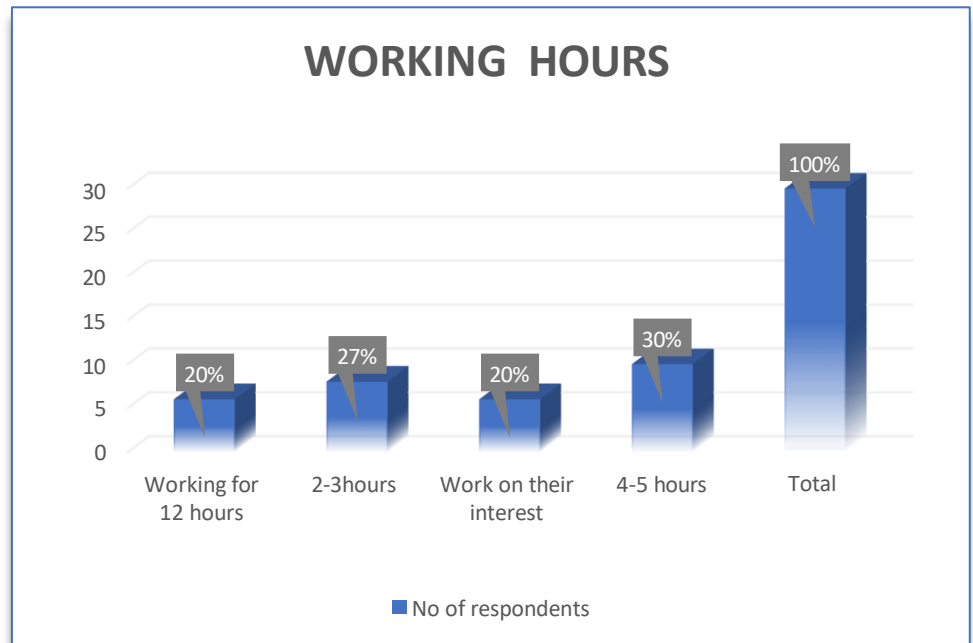


Fig 4.3.6: Working Hours

**Interpretation:** Figure 4.3.6 shows that the majority of the respondents' working hours were 4 to 5 hours. 30% were working 4 to 5 hours, that is 10 respondents; 27% were working 2 to 3 hours, that is 8 respondents; 20% were working both 12 hours and on their interest, that is  $6+6=12$  respondents out of 30 respondents.

**Objective 4.4: To determine the governmental policies and initiatives related to the growth of E-Rickshaw driving as a sustainable livelihood option.**

This objective aims to understand how the e-rickshaw drivers get support from the Assam Minority Board, Grameen Kaushal Yojana, Pradhan Mantri Kaushal Yojana, etc.

**A. Received support from the Assam Minority Development Board**

Table 4.4.1: Received support from the Assam Minority Development Board

Received support from the Assam Minority Development Board	No of respondents	Percentage
Yes	0	0
No	30	100%
Total	30	100%

Source: From the Field

**Interpretation:** From the field, it is observed that all of the respondents received support from the Assam Minority Development Board. This is revealed in Table 4.4.1: 100%, that is 30 respondents. The respondents were not listening to this policy.

**B. Deen Dayal e-rickshaw scheme**

Table 4.4.2: Received Deen Dayal e-rickshaw scheme

Deen Dayal e-rickshaw scheme	Respondents	Percentage
Yes	0	0
No	30	100
Total	30	100

Source: From the field

**Interpretation:** From Table 4.4.2 It is observed that all the respondents were not received the Deen Dayal e-rickshaw scheme.

### C. Grameen Kaushal Yojana

Table 4.4.3: Received Grameen Kaushal Yojana

Get Grameen Kaushal Yojana	No of respondents	Percentage
Yes	0	0
No	30	100
Total	30	100

Source: From the Field

**Interpretation:** From Table 4.4.3. It is observed that all the respondents were not received the Grameen Kaushal Yojana.

### D. Pradhan Mantri Kaushal Vikas Yojana

Table 4.4.4: Receive Pradhan Mantri Kaushal Vikas Yojana

Receive Pradhan Mantri Kaushal Vikas Yojana	Respondents	Percentage
Yes	0	0
No	30	100
Total	30	100

Source: From the field

**Interpretation:** From Table 4.4.4. It is observed that all the respondents were not received the Pradhan Mantri Kaushal Vikas Yojana.

## **5.1 Introduction**

In the qualitative approach, the researcher interviewed 10 members of the e-rickshaw association, such as the president, vice president, secretary, and some members. This is because student researchers gain a deeper understanding from them. Some members of the association are educated in engineering, BSc 1st class, and BA, etc. The members of the association appreciated the student researcher who took up this topic for research

### **Respondent 1:**

The first respondent said that he was the president of the organisation in Nazira; he was 52 years old. His qualification is a bachelor's degree. He used to take tuition but had some problems and was unable to meet the basic needs of the family. Then he decided to take an e-rickshaw as a source of livelihood. The e-rickshaw was worth Rs 140,000 when it was purchased. This value was collected from various sources. In the present time, he thinks this job has 100% independence. He said he had a little problem at the beginning of e-rickshaw driving, but nowadays everything is going well. He has a nuclear family, and the family members are 4. He and their family have fulfilled their needs for this job. His children inspired him to drive for long hours because the only way to meet their needs and pay for their education was to earn money driving rickshaws. His family views his work as good, and the community's views might be good because e-rickshaws help people. Such as some areas where other transport is not going, e-rickshaws provide services; rural people may easily go to urban areas for services or anything else. He says his financial situation is much better than before, and there have also been various changes in lifestyle since he started this. He says this work helps 100% to fulfil the educational needs of the children in his family. When he drives long hours, he feels some pain in his body. When the weather is bad, giving rain, and if the road is bad, then some problems occur. Because, when giving rain, the driver did not see it on the roadside. There have been no parking or police problems. The documents required to operate an e-rickshaw are a driving licenses and registration. He did not apply for any of the government schemes. He expects the government should launch

certain schemes to inspire the e-rickshaw drivers, give more opportunities, and provide support. He is not aware of where to get information on new rules or schemes for e-rickshaw drivers. When the government gives instructions that mention the age when driving e-rickshaws and other transportation, it may solve many problems of e-rickshaws on the road. He wants to see growth of the e-rickshaw service in the future, such as more improvements in the e-rickshaw and giving safety to the driver when driving the e-rickshaw.

**Respondent 2:**

He is 43 years old and his qualification was HS passed. He is currently the Assistant General Secretary of the Joint Association of E-Rickshaw Drivers. He had previously worked under the municipal corporation. But gradually, he wanted to be involved in something that would allow him to be independent. At the end of this decision, he chose the job of driving an e-rickshaw. He has found independence in his work. Today, he is involved in this work. Present time, he is the master of this occupation, not subject to anyone. He said, we know that there are consequences to anything we do in any job; a person faces difficulties in proportion to the advantages and benefits that can be obtained. He doesn't give up either. Speaking of benefits, his income has increased at least slightly. Although they are not making much profit, they are spending slightly less time on their previous tasks. When family members have to travel somewhere, they can take their e-rickshaw without hiring someone else's car. Similarly, there are many disadvantages. Security difficulties, Driver and passenger safety are low. When a heavy and large vehicle passes by, the wind seems to push the e-rickshaw hard. That effect is slightly greater if the driver drives alone in the absence of passengers. The vehicle's lighting system is also a bit low. The relatively low brightness of the lights makes it difficult for drivers to drive on in the evening and at night due to high-beam car lights coming from the opposite direction. In some cases, there is no way to avoid accidental attacks when driving alone. Since the e-rickshaw opens from the side. Difficulties arise. In addition, in some places, the roads are in poor condition, and broken roads or potholes

are difficult to cross. But they have been earning their living on their own through advantages and disadvantages. His believe in life is that if we want to do something, we should set a goal for it. As long as you have a goal, you will be motivated to keep doing it, and you can keep doing it. They have been driving e-rickshaws for so long. They have received a good response from the community as well as their families. He has been encouraged to drive e-rickshaws. The income from this work has given him peace of mind. They are earning a rupee or two more than they used to. They are also able to meet the needs of the household to a greater or lesser extent. He outlines several aspects of the challenge. Because getting a job is not easy nowadays. Therefore, many educated and uneducated unemployed people have adopted e-rickshaws as a means of transportation. As a result, the number of e-rickshaws in the areas has increased significantly. However, the number of passengers has decreased. Moreover, with the increase in the number of vehicles, the volume of traffic has also increased in the town. Some young boys have also dropped out of school and college to drive e-rickshaws to earn money. Some don't know any rules and regulations well and just keep doing it, which in some cases has cost the guilty as well as the innocent. The local administration informs everyone about the rules and regulations to be followed and the documents required to operate an e-rickshaw (driving license, registration, etc.). They have been driving e-rickshaws accordingly. But ultimately, as an e-rickshaw driver, he expects support from the government for the safety of e-rickshaw drivers and passengers. He hopes the government will take the challenges they face as e-rickshaw drivers seriously and try to solve them.

**Respondent 3:**

The respondent stated that he was the Vice-President of the organisation. He is 47 years old. His educational qualifications are H.S. passed. Before that, he was involved in house painting. But this was not an everyday thing. After that, he thought about other work that can earn money daily. He saw that various people earn money by taking e-rickshaws. So, he decided to take an e-rickshaw. He feels 100% independent in this job. He said the job has various benefits, such as earning a minimum of Rs 500 per day and

15,000 per month. There is no difficulty in doing this. He has a nuclear family, and his family consists of three members. No difficulties have been encountered. He said that health is wealth, so if health is good, we can provide good services. So, he rests for 2 hours between work. He feels some pain when he drives for a long time. He has succeeded in this because he has saved some money for the future and given his children a good education. His work as an e-rickshaw driver is seen as good by his family and community. He did not identify himself as unemployed but as self-employed. Since starting this job, his lifestyle has changed, such as building a house, taking a few cows, and starting a dairy business and a goat business etc. This job helps him to meet the educational needs of the children in his family. He said that 100 % of the work has been honoured or recognised, which helps to achieve it in the community. This is because e-rickshaw drivers are not neglected by society. During the rainy season, they face some problems, such as no protection for drivers, and drivers can get wet at times. Now roads are more improved than before. In Nazira, there is no parking place for e-rickshaws. Initially, they faced some police problems taking photos, fines if licenses were not obtained, etc., but currently it is not reducing. So, he thanks the government for taking action to reduce police problems for the e-rickshaw drivers. The number of passengers has decreased as many people are taking e-rickshaws. And while the fare used to be as high as Rs 100, the fare has come down to Rs 20 due to the increase in the number of e-rickshaws. Feel safe or not while working; it is not said because who knows what happens in people's lives? "We go to work in the morning, but we don't know if evening is coming or not. It depends on GOD. He bought the e-rickshaw through a cash payment. The documents required to operate an e-rickshaw are a driving license, insurance, fitness, etc. He does not apply for any government schemes. He says they get information on new rules or schemes for e-rickshaw drivers from their mobiles, but they don't get any rules or schemes in Nazira town; other towns get this opportunity. From various places come e-rickshaws to Nazira town. So, sometimes we face traffic because Nazira Town is a small city, and big and small cars drive on the same road. And saw some accident cases. So, the police and government might impose some restrictions on

these problems. In the college's initial area, there are no traffic points, and this area is important for a traffic point because this place has varying traffic.

**Respondent 4:**

According to the respondent, he is 51 years old and an adviser to the organization. His education is matriculation. He was involved in cars since the 1990s and drove contract cars for ONGC for 12 years. He then bought his car and drove it for rent. After the lockdown, his car business declined. He then started trading in various products, including vegetables. He thinks that you should earn something to support your family. He decided to take the e-rickshaw because he had difficulty carrying heavy objects due to his age. The e-rickshaw was purchased in cash. The Bandhan Group has also helped him a lot in this regard, and he was able to buy the e-rickshaw with his small savings. He thought he and his family could earn money from e-rickshaws to make a good living. This work has its peculiarities, and he can refrain from taking an e-rickshaw if he does not want to. From this, he felt that he too could benefit and help the people to some extent. He thinks he has 100% freedom because this work is his own. He said it has many advantages, and sometimes there are difficulties like traffic, and earlier, the number of e-rickshaws was very low, in which case the income was also good. But nowadays, many people have taken many e-rickshaws after retirement and let some guys drive them. Our Nazira town is small and crowded. Although he has not been able to do much for his family through this business, he and his family are happy with what they have earned. He has a family of three, and his daughter is in fourth grade, and he can provide the necessities, and the family is doing well. According to him, he goes out to do something during the day, not just to earn but also to serve people. Not only do you have to earn, but you have to take care of the people. He is motivated to get the customers to their destination well, and the customers don't get any inconvenience from them, as well as getting love from the customers. His success story as a driver is that he is supporting himself and his family as a driver. He does not care about how society perceives him as an e-rickshaw driver. Because he has not received any bad treatment from society. He gets a lot of courage from his family. They have seen a lot of



improvement in their finances and lifestyle, but they cannot say that they have benefited much, as the number of e-rickshaws is much higher than before, and the amount of income is also lower than before. Therefore, they face at least a little problem from time to time. E-rickshaws are a bit tiring after driving for a long time, and there are many problems due to the narrowness of the roads. He thinks he gets good recognition in society. It is a little difficult in the rainy season because there is no protection, and the curtains are not very useful. The driver and passengers were wet as a result of the rain. So, they put a boat in front so that the passengers don't get wet with them. There is no dedicated parking for e-rickshaws in the Nazira area, and the police are doing their duty and have not faced any problems other than that. As for the safety of this business, he commented that if the government made the car with a little better quality and safety, it would be even safer. He has not applied for any government scheme. He expects the government to ensure that they can survive and that the unemployment problem does not increase too much. New rules and policies for driving e-rickshaws are available through the media. He said it would be helpful for them to check whether the e-rickshaw driver is permanent, whether the e-rickshaw driver has to pay a certain age limit, whether the driver has permission from the transport department, and whether the vehicle has proper documents. His views on the future development of e-rickshaws are that the number of e-rickshaws should not increase too much, and one person should take only one e-rickshaw.

**Respondent 5:**

The respondent stated that he was an e-rickshaw union member. He was 48 years old. Educational qualification: B.A. passed. He took an e-rickshaw because he first ventured into businesses, such as shops and vegetables, and had to get things from elsewhere. This time, he faced challenges, that is, transportation. So, he thinks that to increase their income, better operate the business, and fulfil his family's needs, etc., for that purpose, he took an e-rickshaw. It is not possible to support a family by selling vegetables alone, and it also has a bad impact on offline businesses because online businesses are mostly operated. In the current competitive era, only the textile and vegetable businesses face

at least a little financial difficulty. Online business is a lot at the moment, but this business has had a great impact on its respective industry. This resulted in a lot of financial difficulties, and he thought that if he could earn some money from the electric vehicle, then he would take e-rickshaws as well as the family would be met. Since the e-rickshaw is owned by him, he believes that he can run the e-rickshaw at his own discretion and has complete freedom in this regard. He believes that this business has both advantages and disadvantages. In terms of convenience, the e-rickshaw has helped to bring his goods. The government had arranged these vehicles to facilitate the people of rural areas traveling to and from the city in order to carry out traffic in some separate places in rural areas. Therefore, the people of rural areas have benefited greatly. In terms of convenience, our state is much more advanced compared to the past, but we are lagging behind in rural roads. The e-rickshaw vehicle is thin, so it is difficult to drive on the roads. There are no special benefits in the Nazira area, especially as industrial areas. The fares are not available, as they should have been received through this vehicle. But he said his family feels financially prosperous through this vehicle. In addition, there is no need to worry when travelling to any place, and it is easier to go according to their own wishes. He runs e-rickshaws for 5-6 hours daily. The villagers have also felt relieved since he took the e-rickshaw. Since the buses in this area only ran on a road and at a specified time, since the e-rickshaw came, and he was able to go anywhere at any time. Even the people of the rural areas are relieved during the illness. E-rickshaws have made great changes in his finances and lifestyle, and have improved much better than before. Indeed, e-rickshaws have caused many unemployed youths to be employed. Driving the e-rickshaw causes physical problems, at least a little. E-rickshaws have helped to meet their families' necessities. Since then, his three types of businesses together have helped him to become accomplished in the academic and financial aspects of the family. Since the e-rickshaw moves at a limited speed, and the speed is much lower than vehicles. Therefore, the roads in this area are steadfast and have to face many problems daily. Police torture the e-rickshaws more than other public vehicles. They are forced to pay the fine even if they did not park at any public place. He thinks this business is safe. He took the e-rickshaws through loans facility. The vehicle was not

facing much challenge after buying this vehicle. He is not aware of any scheme related to e-rickshaws, especially government licenses, pollution certificates, insurance, registration, or fitness certificates for e-rickshaws. On behalf of the government, he wants them to give them dignity so that they can do it in a different way for e-rickshaws. In addition, people who are below the poverty line in rural areas come and go through e-rickshaws, as e-rickshaw fares are lower than other vehicles. They get the rules and regulations from the office of the District Transport Officer for the service of e-rickshaws. In the future, he is hoping for e-rickshaws as well as for the environment. The amount of organic fuel is decreasing day by day, and in 50 years may lose organic fuel. Not only e-rickshaws but also various types of electronic vehicles have come, and if these vehicles are able to make radical changes, the pollution caused by vehicles will be reduced by these electric vehicles.

**Respondent 6:**

He is a member of the Nazira E-Rickshaw Drivers Association. Age: 45 years old. He graduated in 1999. He was taken up driving an e-rickshaw because an e-rickshaw doesn't cost that much either. An e-rickshaw can also be bought with a low-down payment. A poor, unemployed person can also choose to buy an e-rickshaw with a down payment of Rs. 50-60,000 as a source of income. Not everyone has a job. Therefore, many unemployed people have chosen e-rickshaws as an alternative. He traded for more than 10 years before choosing the e-rickshaw as his career. He supported his family by selling vegetables. But the effects of the coronavirus and the lockdown put an end to his career. His business was closed down due to various difficulties. And finally, he turned to e-rickshaws as his current livelihood. As an e-rickshaw driver, he described his work freedom as follows: He gains complete freedom in this field. Because he is not subject to anyone in this regard. He can schedule the time of driving the e-rickshaw at his discretion. Sometimes you can stop driving e-rickshaws for other reasons. Sometimes it can run for a while. No one can stop it. He is supporting his family very well with the money he earns daily and monthly from driving e-rickshaws. After paying the down payment for the e-rickshaw, the money earned from the e-rickshaw is used to support

the family with the remaining profit. He has three sons and daughters. All are pursuing higher education. They have been spending the money earned from e-rickshaws frugally without spending it for no reason. When asked what motivates him to drive the e-rickshaw according to a daily routine as an e-rickshaw driver, he said that an e-rickshaw can run 110 km on a full charge. An e-rickshaw travels more than 110 km a day. They leave early in the morning and drive e-rickshaws. He went back home at one point in the afternoon and charged the e-rickshaw. They come out again in the evening and run until 9-10 pm. After breakfast in the evening, it is often difficult to get buses, magic, etc., as they have certain scheduled times. However, e-rickshaws do not have such a time limit. Therefore, the e-rickshaw becomes the only reliance of passengers during that time. And at that time, their income increases. These are the things that inspire them, e-rickshaw drivers. He said that being an e-rickshaw driver makes you a very insignificant person in the eyes of many people. But people who are truly educated and polite never consider e-rickshaw drivers as insignificant or insignificant people. This e-rickshaw has helped him more than his previous vegetable business. Financially, it is a little better than before. It is not that he has not faced any problems driving an e-rickshaw. There are advantages and disadvantages to any job. The vehicle suffers from the poor road conditions in our local areas. Again, there are no designated areas in terms of parking. It takes about 4-5 minutes to stop somewhere. They also face problems with security. He said it is his responsibility to take care of himself. They also face health problems. He said that many problems were encountered while driving the e-rickshaw for hours a day. He has been driving e-rickshaws to support their family's day and night, despite the sun and rain. As an e-rickshaw driver, he has not received any government scheme. But his request to the government is to repair the roads and sidewalks in the local areas and not to impose any active obstacles by the law enforcement agencies. Please support the path you have chosen to live your life.

### **Respondent 7:**

The respondent said he was from Nazira Rajapool; he is a member of the association. He was 32 years old. He was 10th in education. He used to work at a grocery shop but

had some problems and was unable to meet their needs. Then he decided to take an e-rickshaw on rent. The e-rickshaw was rented for 300 Rs daily. In the present, he thinks this job has independence. He said he had a little problem in the beginning, but nowadays everything is going well. He has a nuclear family, and the family members are 5. He and their family have fulfilled their basic needs for this job. His wife inspired him to drive for a long time because the only way to meet their needs and pay for their children's education was to earn money by driving a rickshaw and collecting a daily wage. His family views his work as good, and the community views it sometimes as bad and sometimes as good because e-rickshaws help people in terms of transport and goods delivery at a very convenient rate of cost. Such as some areas where other transport is not going, e-rickshaws provide services; rural people can easily go to urban areas for services or anything else. He says his financial situation is much better than before, and there have also come various changes in lifestyle since he started this. He says this work helps 100% to fulfil the educational needs of the children in his family. When he drives long hours, he feels some pain in his body, but chooses to continue in the hope of a better future for his family. When the weather is bad, giving rain, and if the road is bad, then some problems occur, but still he was able to collect the daily rent of the vehicle. There is no parking place for the rickshaws, and sometimes parking on the roadside attracts police problems. He thinks it's safe to be a battery rickshaw driver because people see their safety while not harming others. The documents required to operate an e-rickshaw are a driving licenses and registration only, which makes it easy to choose employment opportunities. He did not apply for any government schemes, as he is not aware of any such facilities by the government. He expects the government to inspire them, give more opportunities, and provide support. He is not aware of where to get information on new rules or schemes for e-rickshaw drivers. He wants to see e-rickshaw service in the future with more improvements in the e-rickshaw and giving safety to the driver when driving the e-rickshaw.

**Respondent 8:**

The respondent said he was from Bohill, Bhubar Nazira; he was 64 years old. He has not done any form of formal education. Earlier, he used to work as a daily wage labourer, but after the coronavirus, he was left devastated and unemployed. Then, in the later part, he was given an offer by a neighbour to be an e-rickshaw driver. The e-rickshaw was rented for 300 Rs daily, and the rest will be his income. In the present time, he used to earn 500 to 700 daily. He said he had a little problem in the beginning with driving and getting the license, but nowadays everything is going well. He has a nuclear family, and there are 4 family members. He and their family have fulfilled their basic needs for this job. He works hard because the only way to meet their needs and pay for their children's education is to earn money by driving a rickshaw and collecting a daily wage. His family is comfortable that he is doing this job, as it helps people in terms of transport and goods delivery at a very convenient rate of cost. Certain times are found in the areas where other transport is not going, but e-rickshaw services are available at ease; rural people may easily go to urban areas for services or anything else. He says his financial situation is much better than before, and there have also been various changes in lifestyle since he started this job. He says this work is the only way to fulfil the educational needs of the children in his family. There is no physical problem for him at this time. When the weather is bad and rainy, and if the road is bad, then problems occur, such as no electricity to charge the battery, and muddy roads often stop the daily operations. There is no parking place for the rickshaws, and parking on the roadside and near bus and railway stations requires management with the traffic police, attracting police. The only important thing is the documents required to operate an e-rickshaw, which are driving licenses, registration, and driving knowledge of battery rickshaws, which makes it easy to choose employment opportunities. He has not applied for any government schemes; as per his understanding, there are no such facilities by the government for the battery drivers. He expects the government to inspire them, give more opportunities, and provide support both financially and socially. His future aim is to operate the rickshaw safely without any problems and to buy a rickshaw of his own.

### **Respondent 9:**

The respondent said that he is the Assistant General Secretary of the E-Rickshaw Association. He is 43 years old. Educational Qualification: H.S. passed. He started driving e-rickshaws as he used to work under others, then thought about doing something independently. Then he thought of getting an e-rickshaw, and now he is making a living from it. Before entering the e-rickshaw business, he worked under the municipality and occasionally did small contract work. He has chosen e-rickshaw as a self-employment occupation rather than other employment, as e-rickshaw work is an independent job and can be done according to one's convenience, like driving for 4 hours and resting for 1.50 hours, and not having to work under others. Driving an e-rickshaw at work feels like 70% independence. After becoming self-employed in this job, my income has increased more than before. I don't need another car when I have to go somewhere for personal purposes. There are many disadvantages, like driver safety being very low. When a big car passes by an e-rickshaw, the wind that blows feels like it will throw the e-rickshaw; here, the driver has to look for his and the passenger's safety. When he goes on a long journey, it is difficult to return alone in the dark, as there is no security. He has a joint family, and all are included in something on their own, and things are going fine. When people set a target that they have to do something, they try to accomplish that target even if they are tired or lazy. This encourages him. There is no such success story as a driver, but he has received a good response from society for working independently. He has been well-received by his family and society for his work as an e-rickshaw driver. His financial lifestyle has changed significantly as his income has increased. It feels a little uneasy when running for a long time; it feels more uneasy when running without sleep. Initially, he had arm and back pain, but it was slowly subsiding. He has received a lot of respect from society. In bad weather, problems arise if the roads are bad, like Simaluguri Road, with a lot of potholes and a lot of dumpers on that road running almost 24 hours a day. There is no parking space for e-rickshaws, and that is not possible as there are too many vehicles. Initially, the police did a little bit of harassment, like saying they stopped the car everywhere and asked for documents even when there were passengers; if he didn't have them, they issued

invoices. But it is slowly decreasing. There is nothing to say about their security. The main challenge on the roads is the increase in the number of vehicles daily; everyone, big and small, is driving e-rickshaws. Because the number of unemployed people is increasing, people have to do something to eat. Now, you can see that everyone from different villages like Chakimukh, Bamun Pokhuri, Geleki, Rajapul, etc., has to come to Nazira to drive e-rickshaws, in which case traffic is created, as Nazira is a small town. There are boys among them who may not be 18/20 years old, and such drivers do not follow any rules and regulations, only focus on picking up passengers and driving rickshaws. The administration should be a little more vigilant in this regard, such as who is running it, where it is running from, how old it is, and so on. And one problem is when they will get passengers in the Nazira area, when the people from the rural areas will leave. But now the thing is that the e-rickshaw that people go in has contact with the mine, and they contact the same mine on their way back, so their fare is reduced. When you take the fare from another place in the rickshaw and drop off the passengers and earn as much as you can, you take whatever you get, 150/200, and go home with the passengers you drop off at their destination. There are many e-rickshaw drivers in Nazira who are travelling from other places to Nazira. License, registration, insurance, fitness, etc., to operate e-rickshaws. He bought the e-rickshaw on loan. It was a little difficult to take it because there were a couple of EMIs left in the middle. But later, he completed it and did not apply for government schemes. There are many e-rickshaw drivers in the country. He expects the government to pay attention to the safety of the drivers, as they were all unemployed and therefore started the business with the e-rickshaw, so the government can also give some concessions in terms of tax. Some stay for 2-3 years to pay taxes; if they are discounted, then you will get at least a little relief. The government should think about what changes it can make to benefit the passengers.

**Respondent 10:**

The respondent said that he is 36 years old and a qualified graduate. He is from the Nazira area. An e-rickshaw driver. "Time and circumstances teach people a lot," he said. And that is above-book education. Some of these educations led to the introduction of



e-rickshaws. It is bad to see a graduate sitting at home without a job. Society sometimes faces prejudice. There are many reasons why you should choose an e-rickshaw. He had not previously worked in any business or job. After passing his degree, he sat for various examinations with the desire to get a job. But it was not his fortune to eat the rice from his job. That thought bothered him again and again. In the end, he realized that his life would become difficult if he did not find a solution himself. So, he chose to drive e-rickshaws as the most popular business that could earn him two pennies by spending his time at a low cost. He has chosen e-rickshaws as a measure of self-employment, as they do not require a lot of investment. There are many ways in which you can earn money by driving an e-rickshaw with a limited amount of money. There are many ways in which you can earn money by driving an e-rickshaw with a limited amount of money. Since he has no previous experience in any work, he feels quite free to drive an e-rickshaw. No one is going to stop you from driving an e-rickshaw. Therefore, they feel complete freedom. There are no other advantages or disadvantages encountered while engaged in this work. I have not faced any difficulties except the money invested. He bought the e-rickshaw with some of his father's savings and some of his mother's loan. E-rickshaws are operated from morning to night during the day. There is a short break in the middle to charge the e-rickshaw at home and rest for a while. A certain amount of money earned during the day is saved at home. No unnecessary expenditure is incurred except for necessary work. Since he is repaying a loan, more or less, monthly. In addition, his father's savings are also employed. Therefore, they spend the money on account and save it at home and put it together at the end of the month and deposit it in the bank. He has been inspired to drive an e-rickshaw to meet the needs of running his household to a greater or lesser extent. Instead of sitting around hoping to get a job, he is earning two pennies to support his family. They are what inspires him. Yes, driving an e-rickshaw has not achieved the same success as that of an employee. But he is content with what he has rather than with nothing. He said his family has the full cooperation in this regard. The anxiety that had plagued the household as I struggled to find a job slowly subsided. It is bad to see a young boy in the house without any work. Now, however, he has earned two rupees to support his family. There are five members

in the household with the 6-year-old child. He has not faced any major problems so far, as he has made good use of the money he earns from driving e-rickshaws. He spoke about the roads in our area as a challenge he faces in his daily work as an e-rickshaw driver. E-rickshaw drivers also face a lot of inconvenience due to the poor quality of roads in our area. This is because e-rickshaws are not as strong as other vehicles. Therefore, in some places, the passengers and drivers have to cross with great difficulty while driving the e-rickshaw. The amount of security decreases significantly. To operate an e-rickshaw, a driver needs all the necessary documents. Running through the laws and regulations is good for him. As an e-rickshaw driver, he has not applied for any government scheme to date. He expects only one support from the government: to repair the roads and streets. Also, advise the manufacturers to make the e-rickshaws stronger with safety objectives for the drivers and passengers. Finally, he requested the government to fulfil their common expectations for the betterment of all e-rickshaw drivers.

## **5.2 THEMATIC ANALYSIS**

Thematic Analysis is a method; it is used in qualitative research to identify the data from open-ended interview transcriptions.

### **5.2.1 : Role of e-rickshaw in self-employment**

The role of e-rickshaw in self-employment. It is a crucial theme for analysing the drivers' livelihoods. Nowadays, e-rickshaw is a popular transportation because easy to operate, low-cost, and can get from one place to another in a short time. This topic includes how e-rickshaws provide a path of income to persons with limited education or skills, how they encourage self-reliance by reducing unemployment, and shifting from other businesses to this business for daily income, etc, explores the subject. It also examines the challenges faced by drivers, particularly the lack of social protection, limited access to finance, and infrastructure issues, making it important to analyse their role in ensuring inclusive and sustainable employment.

#### **5.2.1.1 : Source of livelihood**

Most of the respondents said that their main source of livelihood is the e-rickshaw. The source of livelihood is the most important aspect to consider regarding the role of e-rickshaws in promoting self-employment. A Source of livelihood is the money a person earns through work to provide food, shelter, clothes, etc., basic needs, and it is a means of livelihood. All of the respondents are meeting their basic needs from the e-rickshaw driver's business. In the past, they were involved in other activities, those activities were irregular, low-paying jobs, etc. Now, all the respondents were engaged as e-rickshaw drivers. Most of the respondents have their rickshaws, but 2-3 respondents take on rental from neighbours. Educated and illiterate people are all engaged in this profession. Most of the respondents shifted to their other profession to an e-rickshaw driver.

Various respondent said their different viewpoints on the source of livelihood

One respondent stated that "I thought of other activities where I could earn money daily. I saw that different people were earning money by taking e-rickshaws. So, I decided to get an e-rickshaw."

#### **5.2.1.2 Shift from previous occupation to self-employment**

In today's era, most people choose self-employment because this employment offers independence, not having any employer-employee relations, no rigidity of working hours, it is totally deepened on the own. In this business, people get money day-to-day. Most of the respondents had shifted from their previous occupation to e-rickshaw driving. In the present time, it is not a big deal to get an e-rickshaw. There are so many facilities available nowadays, like EMI systems, loans, etc.

Different respondents give their viewpoints on shifting from their previous occupation to e-rickshaw driving.

One respondent said, "My educational qualification is a bachelor's degree. I had taken tuition but had some problems and could not meet my requirements. After that, I decided to work with an e-rickshaw."

Another respondent said, "I had previously worked under the municipal corporation. But gradually, I wanted to be involved in something that would allow me to be independent. At the end of this decision, I opted for e-rickshaw driving."

#### **5.2.1.3 Flexibility of the Work**

Flexibility is the most important thing at work because people easily adapt to changes and work in their interests. Most of the respondents shifted their work from previous occupations to self-employment because they gained independence in this work and have flexible working hours. It helps to increase employee satisfaction and productivity.

Various respondent said their different viewpoints on the flexibility of work

One respondent stated, "At present, I think that there is 100% freedom in this job."

Another respondent said, "I think there is 100% freedom because this work is my own."

Another respondent said, "I feel 100% independent in this job."

#### **5.2.1.4 Motivation of e-rickshaw drivers**

Motivation is important for every work because when people get motivation and encouragement from others, they people excited to work better than before. Most of the respondents get motivated by various things.

Different respondents give their different viewpoints on the motivation

One respondent said, "My wife inspires me to drive for a long time because the only way to meet our needs and pay for our children's education is to earn money by driving rickshaws and collecting daily wages."

Another respondent stated, "When people set a goal that we have to do something, I try to meet it even if I'm tired or lazy. This encourages me."

Another respondent said, "My children inspire me to drive for a long time, because the only way to meet our family needs and pay for education is to earn money by driving e-rickshaws."

#### **5.2.1.5 Comparisons with previous occupation**

This sub-theme explores how and why they shifted from their previous work to e-rickshaw driving and compares it with previous occupations. All the respondents said that they were engaged in another profession, where they get low-paying and unstable work, like house painting, businesses, such as shops and vegetables and many more. But these jobs had physical stress, working for long hours and not getting freedom.

In comparison with the previous occupation, the researcher observed that when the respondents were engaged with the e-rickshaw, they improved their lives better than before, got a daily income, and had flexible working hours. They felt more satisfied and respected in this business.

Different respondents give different viewpoints on comparisons with their previous occupation

One respondent said, "I used to take e-rickshaws because I originally did business, vegetable shops, for which I had to fetch things from other places. In this case, I faced transportation problems. "So, I thought that to increase income, run the business better, and meet the needs of my family, etc., I took an e-rickshaw. After all, it is not possible to support a family by selling vegetables alone.

#### **5.2.1.6 Advantages of this occupation**

E-rickshaw driving has various benefits for individuals because they earn a daily income, which helps drivers meet and fulfil their basic needs. Another advantage is that they have flexible working hours, so they can manage both their personal and professional life. In this occupation, they felt independent, more confident, and had decision-making power. Many people slightly improved their financial condition, lifestyle and also fulfilled the family needs. So, most of the respondents improved their lives through this occupation.

Many respondents give their various viewpoints on the advantages

One respondent said, "The job has various benefits, such as earning a minimum of Rs 500 per day and 15,000 per month."

#### **5.2.1.7 Disadvantages of this occupation**

E-rickshaw driving has many disadvantages that affect the daily life and well-being of the drivers. One of the main problems is the low and irregular income. Most e-rickshaw drivers do not receive any social security benefits. They are not covered by health insurance, do not get pensions, and do not enjoy paid holidays. If they face any emergency, they have to manage everything on their own. Another major issue is safety. Drivers, especially those working late in the evening or at night, often face risks such as accidents, theft, or harassment. Roads may be unsafe or poorly lit, and being alone during those hours can be dangerous. Lastly, this occupation is not respected by many people in society. Drivers often feel that their work is not valued, even though they provide an important transport service. This affects their confidence and social status.

Different respondent gives different viewpoints:

According to one respondent, "It has many disadvantages. Safety disadvantages, low safety of driver and passengers, wind seems to push the e-rickshaw hard when a heavy and large vehicle passes. The relatively low brightness of the lights makes it difficult to drive alone in the evening and at night due to the high-beam lights coming from the opposite direction."

### **5.2.2 Socio-economic Impact**

The socio-economic impact of e-rickshaw drivers. This source of livelihood has led to both financial and social improvements in the lives of E-rickshaw drivers and their families. Economically, it has enabled a stable source of income, promoted self-employment, and helped drivers meet their daily needs, such as food, education, and basic healthcare. Many drivers are able to save money and improve their standard of living. Socially, e-rickshaw driving brings a sense of independence and dignity to individuals who may have previously been unemployed under low-paying jobs. It also strengthens their role in supporting their families. Overall, the socio-economic impact reflects how this livelihood helps improve both the financial condition and social well-being of the drivers.

#### **5.2.2.1 Financial Improvements**

Financial improvement is most important to understand the socio-economic impact on e-rickshaw drivers. All the e-rickshaw drivers commented on the financial improvement, stating that their financial problems have decreased somewhat after starting this business. Earlier, they did not get money daily, they could not meet their needs, and it was difficult to save. But now, they can earn money daily and meet their basic needs easily. Nowadays, they can save at least some money for the future, and also some drivers are giving their children better educational opportunities. They have also been able to start other small businesses through this job. As a result, many of them have benefited financially. In addition, the EMI system and the loan taken out at the time of purchase of the e-rickshaw have been repaid with the money earned from driving the e-rickshaw.

Different respondents have made various comments on this ---

One respondent said, “My financial improvements have changed significantly as my income has increased”.

#### **5.2.2.2 Lifestyle changes**

Another important change in understanding the socio-economic impact is a lifestyle change. E- rickshaws have not only provided money-making opportunities, but they have also changed the lifestyle of drivers and their families. This business now offers various changes in the lives of most people. They are also able to save money for the future. They have built their houses beautifully and bought their cars. Now society cannot neglect them and call them unemployed because they are engaged in self-employment. Both educated and illiterate people have become involved in this business, and their lifestyle has improved and changed for the better. This change has brought stability to their lives and earned them respect in society.

Different respondents give their viewpoints on lifestyle changes

One respondent said, “Since starting this job, my lifestyle has changed, such as building a house, taking a few cows, and starting a dairy business and a goat business, etc.”

#### **5.2.2.3 Impact on family and household**

Just as any job affects families and households, the e-rickshaw business has a profound impact on families as drivers feel satisfied when they can meet the needs of their families with their earnings and provide for their children's education and other items. According to most respondents, they have been able to help 100% to meet the needs of their families and provide educational opportunities. Many drivers could not meet the requirements of the next job, and so many changed their source of livelihood and chose the source of e-rickshaw drivers and are currently running nicely.

However, according to some, although they earn daily through e-rickshaws, they are only able to meet the minimum needs of their families and are managing to survive, as



the number of e-rickshaws is increasing day by day, and the amount of income is decreasing. Therefore, sometimes they are unable to meet the needs.

Different respondent gives their viewpoints on the impact on the family and household

One respondent said, “This work helps 100% to fulfil the educational needs of the children in my family”.

Another respondent said, “This job helps me to meet the educational needs of the children in my family.”

#### **5.2.2.3 Health Issues**

It is natural for e-rickshaw drivers to have health problems as they sit and drive for a long time. When the researchers asked this question, they expressed their opinion that they have many health problems because they drive for long periods. Therefore, many health problems occur, such as body pain, especially neck, back and arm pain. Because the e-rickshaw has to be driven forward at least slightly while driving, it also causes leg and back pain due to a lack of space for the driver. However, some respondents said that such problems increased in the initial stages, but nowadays, it has become a habit.

Different respondents give their different viewpoints on health issues

One respondent said, “I feel some pain when I drive for a long time.”

Another respondent said, “When I drive long hours, I feel some pain in my body.”

#### **5.2.2.4 Social Status**

By driving e-rickshaws, many drivers have influenced social status within their communities. This work has brought respect and recognition to many people as they are currently involved in self-employment occupations to support their families, as well as to become independent earners. Being self-employed has enabled them to get a sense of pride and dignity from the community. However, in some cases, drivers still face social stigma or are looked down on by others due to the nature of their jobs. The profession

focuses on how drivers are socially respected and recognised; This affects their confidence and community relationships.

Different respondents give their different viewpoints on social status

One respondent said, “100 % of the work has been honoured or recognised, which helps to achieve it in the community. This is because e-rickshaw drivers are not neglected by society.”

Another respondent said, “I don’t care how society perceives me as an e-rickshaw driver, because I have not received any bad treatment from society”.

#### **5.2.2.5 Types of family and members**

To understand the kind of families e-rickshaw drivers live in, it's necessary to focus on their background and responsibilities, as these factors impact socio-economic aspects to varying extents. Most drivers live in nuclear families. Their needs depend on the number of family members and their daily earnings. Drivers from large or joint families typically face greater financial pressure to provide for necessities like food, education, and healthcare.

Different respondents give their viewpoints

One respondent said, “This work helps 100% to fulfil the educational needs of the children in my family.”

Another respondent said, “I have not been able to do much for my family through this business. My family and I are happy with what they have earned. I have a family of three, and my daughter is in class fourth, and I was able to provide the necessities, and the family is doing well. “

#### **5.2.3 Challenges faced by e-rickshaw drivers**

E-rickshaw drivers face various challenges that affect their livelihood and daily operations. One of the major problems they face is the lack of proper charging stations in the area, which makes it difficult to charge their vehicles easily and affordably. Poor

road conditions and heavy traffic also create difficulties, often leading to vehicle damage and delayed trips. Many drivers lack legal documents like licenses or vehicle registration, which makes them vulnerable to fines and police harassment. Apart from that, increasing competition among drivers leads to reduced daily earnings due to the availability of a lot of rickshaws. Long working hours, exposure to dust and pollution, and lack of rest also result in health issues. These challenges make it hard for drivers to maintain a stable and comfortable livelihood.

#### **5.2.3.1 Weather or road conditions**

Weather and roads are an important challenge for e-rickshaw drivers. During the rainy season, they face some problems, such as no safety for drivers, and sometimes getting wet. But in some places, especially in Shimla, road conditions are bad, so they face many problems. This sub-topic focuses on how environmental and road conditions cause more problems in the work of e-rickshaw drivers.

Different respondents give different opinions on weather or road conditions

One respondent said, “When the weather is bad, giving rain, and if the road is bad, then some problems occur. Because when it was raining, the driver did not see it on the roadside.”

Another respondent said, “During the rainy season, I face some problems, such as no protection for drivers, and drivers can get wet at times. Now roads are more improved than before.”

Another respondent said, “When the weather is bad and rainy, and if the road is bad, then problems occur, such as no electricity to charge the battery, and muddy roads often stop the daily operations.”

#### **5.2.3.2 Parking and police issues**

All e-rickshaw drivers face problems, which is parking and dealing with the police. There is no designated parking spot for e-rickshaws in Nazira town, which results in fines. The police also initially monitored e-rickshaws more strictly than other public

transportation. They stopped the e-rickshaws everywhere on the road despite the presence of passengers and demanded documents. This sub-theme shows how a lack of adequate parking facilities and interactions with authorities affect drivers' daily activities.

Different respondents give their opinions on parking issues

One respondent said, “In Nazira, there is no parking place for e-rickshaws. Initially, I faced some police problems taking photos, fines if licenses were not obtained, etc., but currently it is reducing. So, I thank the government for taking action to reduce police problems for the e-rickshaw drivers.”

Another respondent said, “There is no parking place for the rickshaws, and sometimes parking on the roadside attracts police problems.”

#### **5.2.3.3 Safety Concerns**

Safety is another important issue for e-rickshaw drivers. Many people feel unsafe while driving due to heavy traffic, racing by large vehicles, and a lack of proper road rules. In addition, e-rickshaws are much lighter than other vehicles and do not have any proper safety measures, especially for the driver, and it is difficult to come alone on an unfamiliar road at night. This sub-topic, safety Concern, provides an example of how it affects the confidence and performance of e-rickshaw drivers on the road.

Different respondents give their various opinions

One respondent said, “Feel safe or not while working; it is not said because who knows what happens in people's lives? We go to work in the morning, but we don't know if evening is coming or not. It depends on GOD.”

Another respondent said, “As for the safety of this business, I commented that if the government made the car with a little better quality and safety, it would be even safer.”

#### **5.2.3.4 Traffic-related Challenges**

One of the major problems faced by e-rickshaw drivers on the roads is traffic congestion. Busy roads, traffic jams, and a lack of proper traffic management make it difficult for them to drive smoothly. In addition, e-rickshaws come to Nazira town from various places, which causes even more traffic congestion, as Nazira is a small town. All vehicles, large and small, run on the same road. This sometimes leads to accidents. These traffics waste a lot of time, reduces the number of fares and reduces daily income. This sub-theme focuses on how traffic problems affect e-rickshaw drivers' daily activities as well as and earnings.

Different respondents give different opinion on traffic related challenges

One respondent said, "When the government gives instructions that mention the age when driving the e-rickshaws and other transportation, then it may solve many problems of e-rickshaws on the road."

Another respondent said, "From various places come e-rickshaws to Nazira town. So, sometimes we face traffic because Nazira Town is a small city, and big and small cars drive on the same road. And saw some accident cases. So, the police and government might impose some restrictions on these problems. In the college's initial area, there are no traffic points, and this area is important for a traffic point because this place has varying traffic."

#### **5.2.3.5 Occupational Challenges**

E-rickshaw drivers also face difficulties in their working lives. Driving for long hours, lack of sleep, physical fatigue, and many drivers are unable to take breaks or proper rest for the purpose of earning, which makes them face health problems. If they earned Rs. 500 later, now the amount of income has decreased to Rs. 100. Since there is a lack of charging stations in the Nazira area so they have to charge at home, the number of passengers decreases during the rainy season, besides drivers from other places and nowadays many boys have dropped out of education to drive e-rickshaws. As a result,

their daily income is decreasing significantly compared to the previous year. This sub-theme focuses on the problems faced by the e-rickshaw driving profession.

Various respondents give various opinions on occupational changes

A respondent said, “The number of passengers has come down as many people are taking e-rickshaws. And while the fare used to be as high as Rs 100, the fare has come down to Rs 20 due to the increase in the number of e-rickshaws.”

Another respondent said, “It would be helpful for us to get the e-rickshaw driver checked whether a driver is permanent or not, whether the e-rickshaw driver is of the right age, whether the driver has permission from the transport department, and whether the vehicle has proper documents.”

#### **5.2.3.6 Financial Challenges**

Most of the e-rickshaw drivers, despite having a regular source of income, face another challenge, which is financial. Because some people have bought this vehicle on loan and they struggle to repay the loan, while some borrow money from others due to difficulty in buying an e-rickshaw, but no matter how much they earn daily, they have to pay Rs 300 to the owner. Since there is no designated place available for charging, they have to charge at home. Nowadays, everyone, educated and uneducated, is taking rickshaws as it is one of the factors in reducing unemployment, but it has resulted in a significant reduction in income. In addition, many retired people have bought 2-3 e-rickshaws and given them to neighbouring boys, which has brought drivers from other places to the Nazira area, which has also reduced the number of passengers. For these reasons, people who bought e-rickshaws at EMI Systems are facing difficulties in repaying the loans monthly, savings are also decreasing day by day due to daily necessities. Drivers living in joint families also feel more pressure to meet their household needs. This sub-theme highlights money-related issues that prevent drivers from feeling financially secure.

One respondent said, “I bought the e-rickshaw through a cash payment.”

Another respondent said, “I bought the e-rickshaw on loan. It was a little difficult as I had a couple of EMIs left in the middle, but I managed to complete it after some time.”

#### **5.2.4 Government support and requirements**

Government support plays an important role in promoting e-rickshaw driving as a sustainable livelihood option. Some drivers receive benefits like subsidies for purchasing e-rickshaws, schemes for financial assistance, and training programs. However, not all drivers are aware of these schemes or able to access them due to lack of information or complicated procedures. In many cases, there is a need for proper licensing, registration, and permits, which some drivers find difficult to obtain. Regular documentation checks and changing policies can also create confusion. While the government has introduced several initiatives, more awareness, simplified processes, and consistent support are required to ensure that drivers can fully benefit from these opportunities and meet legal requirements.

##### **5.2.4.1 Schemes and awareness**

There are many types of government schemes that E-rickshaw drivers can be supported by financial assistance, vehicle subsidies, permits and licenses. Like Assam Minority Board, Pradhan Mantri Kusal Vikas Yojana, etc. However, most of the drivers are not fully aware of these schemes, and they have not heard about them. They are not even aware of how to access or apply for these schemes. Since these schemes are available for e-rickshaws, it is important to inform them about this. This sub-theme refers to the level of awareness among drivers about government schemes and the ease with which they can access these benefits.

One respondent said, “I do not apply for any government schemes.”

Another respondent said, “I do not apply for any government schemes. I get information on new rules or schemes for e-rickshaw drivers from my mobile, but I don't get any rules or schemes in Nazira town; other towns get this opportunity.”

#### **5.2.4.2 Legal required documents**

To drive an e-rickshaw, drivers need important legal documents like a driving licence, registration certificate, insurance papers, and road permits. Only having these documents helps to avoid traffic police problems and ensures smooth operation. Without these documents, they have to pay fines. But they are also unaware of where the guidelines are available. This sub-topic highlights the importance of legal documents and the problems drivers face when operating e-rickshaws without them.

One respondent said, “The documents required to operate an e-rickshaw are a driving license, insurance, fitness, etc.”

Another respondent said, “The documents required to operate an e-rickshaw are a driving license and registration.”

#### **5.2.4.3 Improvements of the policy suggestions**

Many e-rickshaw drivers feel that existing government policies are not enough to properly support their work. Therefore, many drivers want the government to help and encourage them in the future, as well as to improve the e-rickshaw to improve driver safety, improve charging stations, construct designated parking areas, and suggest changes in simple rules for permits and licenses. Apart from e-rickshaws, other vehicles should also be manufactured electronically, which keeps our society friendly from environmental pollution. This sub-theme focuses on drivers’ views and ideas to make e-rickshaws a safer, easier and more sustainable livelihood option and to improve existing policies.

One respondent said, “I hope for e-rickshaws in the future as well as improvements in the environment. The number of biofuels is decreasing day by day, and in 50 years, biofuels may be extinct. Not only e-rickshaws, but also various types of electric vehicles have been created, and if these vehicles can bring about radical change, these electric vehicles will help reduce pollution and become an inclusive, beautiful society.”



## **6.1 Findings**

A study on the role of e-rickshaws as a source of self-employment among individuals in the Nazira area of Sivsagar district has revealed several major findings. E-rickshaws not only provide opportunities for low-income individuals but also offer a significant chance to reduce unemployment. These data show the widespread role of e-rickshaw drivers in working life, including daily income generation, employment opportunities, social status, accessibility, and integration with government schemes. Additionally, information has been collected on the problems encountered in certain areas.

### **Source of Livelihood**

In Quantitative findings, out of 30 respondents, the majority, of the respondents means 77%, say e-rickshaw is a source of livelihood, which is 23 respondents. 23% say that respondents say e-rickshaw is not a living source, that is, 7 respondents, because it is a secondary income source, and do not receive a flexible amount. In qualitative research, many respondents shared their opinion that e-rickshaw driving is the main source of livelihood. According to them, their previous jobs, like house painting, tutoring, and a vegetable shop, etc., were not daily jobs, and they were unable to meet their own needs. So, they thought of daily money-making activities and decided to get an e-rickshaw. They feel 100% independent in this job. This is because the job has various benefits, such as earning a minimum of Rs. 500 per day and up to Rs. 15,000 per month. It reflects that e-rickshaw driving is not only a major income source for the majority of the respondents, but it also helps to gain independence at work. Even though people are not educated, they can engage in this profession.

### **From the previous Occupation to e-rickshaw driver**

In quantitative, a majority of the respondents were engaged in business, with 33%, that is 10 respondents; 30% were engaged in other occupations, that is 9 respondents; 23% were service holders, that is 7 respondents; and only 13% were freshers, that is 4 respondents out of 30 respondents. In qualitative research, most of the respondents had

shifted from their previous occupation to e-rickshaw driving. They were not satisfied with their earlier profession, because they got low-paying and unstable work, like house painting, businesses, such as shops and vegetables and many more. And also, these jobs had physical stress, working for long hours and not getting freedom. It highlights that most of the respondents shifted from their earlier occupation to e-rickshaw driving because this business has flexible working hours, earns a daily income, and especially, they felt independent.

### **Economic Condition of e-rickshaw drivers**

Two aspects are emphasised here. In quantitative research, the majority of the respondents get daily earned from 300 to 500, with 33% that is, 10 respondents; 30 % cannot say the daily earned because it was up and down, not a fixed rate that is, 9 respondents; 20% daily earned from 0 to 300 that is 6 respondents and 17% daily earned from 500 to 700 that is 5 respondents out of 30 respondents. In qualitative research, all the e-rickshaw drivers commented on the economic conditions that their financial problems had decreased somewhat after starting this business. Earlier, they did not get money daily, they could not meet their needs, and it was difficult to save. But now, they can earn money daily and meet their basic needs easily. Nowadays, they can save at least some money for the future, and also some drivers are giving their children better educational opportunities. They have also been able to start other small businesses through this job. But it is impossible to say how much money you can earn daily in this job. Sometimes you get Rs. 200 and sometimes they get Rs. 1,000. If the weather is bad, they have to go home for only Rs 50. It highlights the economic conditions of e-rickshaw drivers.

### **Parking issues faced by e-rickshaw drivers**

In quantitative research, out of 30 respondents, most of the respondents did not face parking issues because this area did not have a parking place, and e-rickshaw drivers gave a ride on the road; they had no specific places of parking. 90% did not face parking issues, that is 27 respondents; 10% faced parking issues at some point, that is 3 respondents. In qualitative research, all e-rickshaw drivers face problems, which as

parking and dealing with the police. There is no designated parking spot for e-rickshaws in Nazira town, which results in fines. The police also initially monitored e-rickshaws more strictly than other public transportation. According to them, there is no e-rickshaw parking space in Nazira town. Initially, they faced police problems, fines for not having a license, etc., but now it has somewhat reduced. So, they thank the government for taking measures to reduce police problems for e-rickshaw drivers.

### **Occupational and financial challenges**

In quantitative research, the majority of respondents did not face many challenges. 70% did not face any challenges, that is 21 respondents; 30% faced challenges, financial and occupational, like lack of charging stations, the number of passengers decreases during the rainy season, that is 9 respondents out of 30 respondents. In qualitative research, E-rickshaw drivers also face difficulties in their working lives. Driving for long hours, lack of sleep, physical fatigue, and many drivers are unable to take breaks or proper rest for the purpose of earning, which makes them face health problems. Most of the e-rickshaw drivers, despite having a regular source of income, face another challenge, which is financial. Because some people have bought this vehicle on loan and they struggle to repay the loan, while some borrow money from others due to difficulty in buying an e-rickshaw, but no matter how much they earn daily, they have to pay Rs 300 to the owner. Since there is no designated place available for charging, they have to charge at home. If the drivers living in joint families also feel more pressure to meet their household needs. According to them, the number of passengers has also decreased due to the increase in the number of e-rickshaws. The fare used to be as high as Rs 100, but with the increase in the number of e-rickshaws, the fare has come down to Rs 20.

### **Health issues**

In quantitative research, most of the respondents faced health issues after being an e-rickshaw driver because of long hours of operation. 80% faced health issues, that is, 24 respondents; 10% did not face health issues, that is, 6 respondents out of 30 respondents. In qualitative research, it is natural for e-rickshaw drivers to have health problems as they sit and drive for a long time. According to them, when they drive for long periods

of time, they feel some pain in their bodies. So, they express the opinion that "Health is the ultimate resource, so only if health is good will we be able to provide services. So, they take a rest from 1.50 to 2 hours between work.

### **Meets the basic needs of the family**

In quantitative research, a majority of the respondents, means 47%, did not give the answer that meets the basic needs of the family because it depends on earnings, that is, 14 respondents; 30% met the basic needs, that is, 9 respondents; 23% not met the basic needs of the family that is 7 respondents out of 30 respondents. In qualitative research, most drivers live in nuclear families. Their needs depend on the number of family members and their daily earnings. Drivers from large or joint families typically face greater financial pressure to provide for necessities like food, education, and healthcare. According to them, they believe that this work has helped them to meet the educational needs of their children 100%, although sometimes they have failed to meet the needs of their families through this business, they are still happy with what they have earned. They are also able to provide proper education to their children and provide them with the necessary materials.

### **Government Support and Awareness**

In quantitative research, out of 30 respondents, all 30 respondents were not received any scheme or support from the government. In qualitative research, there are many types of government schemes that E-rickshaw drivers can be supported by financial assistance, vehicle subsidies, permits and licenses. Like Assam Minority Board, Pradhan Mantri Kusal Vikas Yojana, etc. However, most of the drivers are not fully aware of these schemes, and they have not heard about them. In Nazira Town, they have not applied for any government scheme, and they get information about new rules or schemes for e-rickshaw drivers from mobile, the district transport office, media. However, there is no rule or scheme in Nazira city so far, but other cities have been able to get this opportunity.

## 6.2 Discussions

The findings of this study provide a broad picture of how e-rickshaw drivers work as a means of self-employment and their wider socio-economic impact, as well as the problems faced in the workplace.

The researcher used a mixed method to conduct this study. This study showed that educated or illiterate people are able to make a living through self-employment, and for 77% of the respondents, it is the primary source of income. They have been able to benefit greatly from this business. They also feel freedom in this business, and their lives have changed a lot, such as build house and changed lifestyle. This supports the findings of Das and Rohatgi (2017), as their study has also observed the improvement in the livelihood of the drivers and many unemployed or low-income earners, students, who now earn more by driving e-rickshaws. This aligns with Maslow's Hierarchy of Needs theory, which emphasises human needs into a five-tier pyramid. When people can earn a good living, they will be able to meet their basic needs required for human survival, such as air, water, food, shelter, etc. This is called physiological needs. E- rickshaws have been able to help meet the needs of drivers.

Most of the drivers were later involved in other activities. However, they left those jobs and became self-employed as e-rickshaw drivers, as they did not have the opportunity to earn adequately in those jobs, were not satisfied with their earlier profession, because they got low-paying and unstable work, like house painting, businesses, such as shops and vegetables and many more. And also, these jobs had physical stress, working for long hours and not getting freedom. This supports the findings of Mondal (2019), as they also observed that most e-rickshaw drivers were young and they shifted to e-rickshaw driving due to better income and less physically demanding work. This theory aligns with McGregor's Theory X and Theory Y, because earlier they worked in low-paid, highly controlled jobs, etc. That time, they had little freedom and pressure from a higher authority – it reflected Theory X. After that, when they shifted to e-rickshaw

drivers, this time they gained independence, flexibility of working hours and respect from society, etc – it reflects the Theory Y.

Most of the e-rickshaw drivers can earn money to meet their basic needs, such as food, shelter, water, and their children's educations. It reflects that e-rickshaw plays a crucial role in the improvement of economic conditions and their lifestyles, such as building a house, taking a few cows, and starting a dairy business and a goat business, etc. E-rickshaws have made great changes in their finances and lifestyle, and have improved much better than before. When they shifted their occupation to e-rickshaw. When they engaged in e-rickshaws, they had the opportunity to earn money daily, save money for the future, meet their basic needs as families and help their children's education. These findings differ from those of earlier research by Lalnunmawia & Malsamtluanga (2023), as their study observed that most e-rickshaw drivers from lower-middle and socio-economically disadvantaged backgrounds experienced job dissatisfaction due to low income.

E-rickshaw drivers also face difficulties in their working lives. Driving for long hours, lack of sleep, physical fatigue, and many drivers are unable to take breaks or proper rest for the purpose of earning, which makes them face health problems. If they earned Rs. 500 later, now the amount of income has decreased to Rs. 100. Since there is a lack of charging stations in the Nazira area so they have to charge at home, the number of passengers decreases during the rainy season, besides drivers from other places and nowadays many boys have dropped out of education to drive e-rickshaws. As a result, their daily income is decreasing significantly compared to the previous year. Some drivers were doing their work the whole day, which caused various health issues like body pain, back pain and neck pain, etc. Another important challenge is vehicle maintenance. Some employees gave their opinion that battery repair and replacement costs are very high, so sometimes, they were unable to repair their vehicles. This problem is especially faced by those who rent e-rickshaws. Some e-rickshaw drivers face problems, which as parking and dealing with the police. There is no designated parking spot for e-rickshaws in Nazira town, which results in fines. The police also

initially monitored e-rickshaws more strictly than other public transportation. They stopped the e-rickshaws everywhere on the road despite the presence of passengers and demanded documents. This supports the findings of Sharma and Chaturvedi (2023), as their study has also observed that 58.9% of drivers experienced musculoskeletal disorders (MSDs), especially in the lower back, neck, legs, and knees. Long driving hours, rough roads, and poor posture due to uncomfortable seating arrangements were identified as major contributing factors.

Flexible working hours are the most important for any workplace, because it help to increase employee satisfaction and productivity. Most of the respondents shifted their work from previous occupations to self-employment because they gained independence in e-rickshaw drivers' work and have flexible working hours. It also reduces stress and gives personal time. This supports the findings of Ranjan (n.d), as they also observed that drivers valued the freedom to set their schedules, which allowed them to attend to family responsibilities, rest as needed and manage financial goals more effectively.

Satisfaction is another important factor; it helps to engage with the profession. 43% of people are satisfied with this profession. Job satisfaction among e-rickshaw drivers is dependent on various factors, such as working conditions, flexible working hours, income, social status, etc. This supports the findings of Roy, A. (2019), as they observed that most drivers (74.5%) were satisfied with their current occupation.

Most of the e-rickshaw drivers, despite having a regular source of income, face another challenge, which is financial. Because some people have bought this vehicle on loan and they struggle to repay the loan, while some borrow an e-rickshaw from others due to difficulty in buying an e-rickshaw, but no matter how much they earn daily, they have to pay Rs 300 to the owner. Since there is no designated place available for charging, they have to charge at home. Nowadays, everyone, educated and uneducated, is taking rickshaws as it is one of the factors in reducing unemployment, but it has resulted in a significant reduction in income. In addition, many retired people have bought 2-3 e-rickshaws and given them to neighbouring boys, which has brought drivers from other places to the Nazira area, which has also reduced the number of passengers. For these

reasons, people who bought e-rickshaws at EMI Systems are facing difficulties in repaying the loans monthly, savings are also decreasing day by day due to daily necessities. Drivers living in joint families also feel more pressure to meet their household needs. Lack of savings is another issue when e-rickshaws were increased; then the number of passengers was reduced. This supports the findings of Newsclick (2023), this study focuses on the limited access to key routes, drivers are facing reduced income opportunities, which has led to growing financial insecurity and difficulty in repaying debts.

The majority of respondents means 57%, could not say their job security because it was only doing business, but did not say that they had job security. It is difficult to say how most drivers feel about the security of their profession, because they do not get a fixed salary, employee benefits, lack health insurance and more, it is like informal work. The researcher gets information that in Nazira Town, there are more than 500 e-rickshaws, but in the e-rickshaw association, only 200 or so were registered. And they have no proper licences, and the required documents for e-rickshaw driving, so for this reason, they sometimes face harassment by the traffic police, etc. These findings differ from those of earlier research by Rani, P. (2013). that most rickshaw pullers were poor, had low levels of education, and migrated from rural areas in search of work. They earned daily wages and had no job security, health benefits or savings.

Many e-rickshaw drivers also face various difficulties on the roads. During the rainy season, they face some problems, such as no protection for drivers, and drivers sometimes get wet in the rain. E-rickshaws come to Nazira town from different places for the purpose of earning, Sometimes, they face traffic jams because Nazira town is a small town, and all vehicles, big and small, run on the same road. There are also some accident cases. There are no traffic points in the initial area of the college, and this place is important for traffic points because the traffic varies in this area. Police have to pay fines for not parking in public places. When the weather is bad and rainy, and if the roads are bad, problems arise, such as no electricity to charge batteries, and muddy roads often stop daily activities. In addition, the e-rickshaw is much thinner than other



vehicles, which in some cases causes inconvenience as the wind that blows when a large vehicle passes by feels like it will throw the e-rickshaw away, and the lights of the e-rickshaw are very low. These support the findings of Tiwari, R. (2019), as they also observed that drivers earn a regular income but face problems such as traffic problems, poor road conditions, a lack of charging stations, and no proper regulations from the government.

Most of the e-rickshaw drivers are not aware of any government support. However, the government has introduced various programs and supports for e-rickshaw drivers, such as: Deen Dayal E-rickshaw Scheme, Grameen Kaushal Yojana, Pradhan Mantri Kaushal Vikas Yojana, etc. Yet they have not been able to get any benefits to improve their working conditions. Most of the e-rickshaw drivers in Nazira town are unaware of these facilities and they have not heard of government support till date. Some say they get information about the new rules for e-rickshaw drivers from mobiles and district transport offices, but have not received any rules or schemes in Nazira city, although other cities have been able to get this opportunity. These findings differ from those of earlier research by Kokate et.al (2019), as they also observed that 89% of drivers have an increase in their income, and government schemes such as the Deen-Dayal scheme helped the financing of e-rickshaw drivers. But this scheme is not fully implemented in Nazira town.

## **7.1 Conclusion**

E-rickshaws have become a vital means of livelihood and a convenient mode of transport for many in Nazira town, Sivasagar district. For individuals without formal education or special skills, driving an e-rickshaw offers self-employment opportunities. They're affordable to purchase and operate, using electricity, which is cost-effective. This enables drivers to save money and increase their daily earnings, supporting their families and improving their quality of life.

The flexible working hours allow drivers to balance work and family responsibilities. E-rickshaws also benefit the environment by running on electricity, reducing air pollution, and navigating easily through crowded streets.

However, challenges persist, such as limited parking spaces and lack of formal training for drivers. Local governments can support by providing better charging infrastructure, training programs, and financial assistance.

In conclusion, e-rickshaws are a valuable source of self-employment, contributing to economic and social development while promoting a cleaner environment. With proper support, they can play an even bigger role in Nazira city's growth.

## 7.2 Suggestions

The police and the government should put some restrictions on these problems. There are no traffic points in the initial area of the college, and this place is important for traffic points because the traffic varies in this area.

There should be a certain age limit for e-rickshaw drivers, and the vehicle should have proper documentation. They should also check whether they have all the necessary documents to operate an e-rickshaw.

The number of biofuels is decreasing day by day, and in 50 years, there may be no biofuels. Not only e-rickshaws but also various types of electric vehicles are seen, and if these vehicles can bring about radical change, these electric vehicles will help reduce environmental pollution. It will be.

The government should take the challenges faced by the safety of e-rickshaw drivers and passengers seriously and try to solve them by motivating them, giving them more opportunities, and trying to provide both financial and social support.

The e-rickshaw should be designed to high standards, with emphasis on driver safety, smooth operation even in rainy weather, lighting of the rickshaw, etc.

The city authorities should enforce strict rules on e-rickshaw registration so that only licensed vehicles can operate, thereby reducing overcrowding and improving the quality of service.

Bad roads should be repaired and properly maintained so that they are convenient not only for e-rickshaws but also for other vehicles. The only way to maintain these vehicles safely and ensure a comfortable journey for the passengers is to improve the dilapidated condition of the roads.

The specific parking area for e-rickshaws should be fixed, so that they do not have to wait on the road and stop at a certain place. In addition, charging points should also be provided to facilitate charging at the right time.

Governments or NGOs should provide regular training programs on financial literacy for e-rickshaw drivers, vehicle maintenance, basic customer service, and improve their professionalism and income stability.

Women should also be encouraged to take measures to drive e-rickshaws; they should be adopted as a means of self-employment by providing them with security, training and financial assistance.

Schemes like Deendayal are among the prevalent initiatives of the government to support the sustainable livelihood among the rural population even though the scheme was introduced in 2014 but in ground reality this scheme was not fully functional in all rural areas making it hard for the rural population to grow self-sufficient and sustainable, even today in Nazira town the battery rickshaw driver are battling hard to overcome poverty and to meet their basic day to day need.

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## **APPENDIX**

### **Informed Consent**

I, Pratikhya Kashyap, a student of the Department of Social Work, Mahapurusha Srimanta Sankaradeva Viswavidyalaya, Guwahati Unit, promise that this interview schedule will only be used for my dissertation titled "The Role of E-Rickshaw as a Source of Self-Employment in Nazira Town, Sivasagar District," under the supervision of Dr. Arpita Das, Department of Social Work, MSSV, Guwahati Unit.

I assure you that your responses will be kept strictly confidential and will be used solely for academic and educational purposes. Your honest and voluntary participation is highly appreciated, and I kindly request your valuable input in responding to the following set of questions.

Pratikhya Kashyap

MSW 4th Semester

Roll No: MSW-12/23

Department of Social Work

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## Questionnaires

### 1. Age

- Under18
- 18-25
- 25-35
- 35-45
- 45-above

### 2. Gender:

- Male
- Female
- Other

### 3. Is E-rickshaw your source of livelihood?

- Yes
- No

### 4. Are you educated?

- Illiterate
- Primary
- H.S.L.C
- H.S
- Graduate

### 5. What is the family type of the E-rickshaw Drivers?

- Nuclear
- Joint

### 6. What is the marital status of the E-rickshaw Drivers?

- Married
- Unmarried

### 7. How many family members are there in your house?

- 3
- 4
- 5
- More

### 8. How long are you associated with the E-rickshaw business?

- 0-6months
- 7-15 months
- more than 15<sup>th</sup> months

### 9. Are you satisfied with this profession?

- Highly satisfied
  - Satisfied
  - Average satisfaction
  - Dissatisfied
  - Highly Dissatisfied
  - If you are satisfied, please explain it \_\_\_\_\_
10. Can the basic needs of the family be met by this profession?
- Yes
  - No
11. Were you engaged in any other profession?
- Yes
  - No
12. If yes, then what was your previous occupation?
- Fresh
  - service holder
  - self-employed
  - others
13. What is your e-rickshaw ownership?
- Own
  - Rental
14. How much amount charged on rental E-rickshaw?
- 0-200
  - 200-400
  - 400-more
15. What are your daily Working Hours?
- 0-6hrs
  - 6-12hrs
  - 12-more hrs
16. How much money do you earn daily?
- 0-300
  - 300-500
  - 500-700
  - 700-more.
17. Net daily profit
- 0-400

- 400-600
- 600-more

18. How much amount of savings can you do?

- 0-300
- 300-600
- 600-more

19. Do you have job security?

- Yes
- No

20. Did you face any challenges when operating the E-rickshaw?

- Yes
- No

If yes, Explain the challenges\_\_\_\_\_

21. Are you facing parking issues?

- Yes
- No

22. Did you face any health issues after being a e-rickshaw driver?

- Yes
- No

If yes, then tell me what kind of health issues are faced by you after being a e-rickshaw driver\_\_\_\_\_

23. Did you find charging stations as challenge in this area?

- Yes
- No

29. Have you received support from the Assam Minority Development Board?

- Yes
- No)

• If yes, what kind of support did you receive? \_\_\_\_\_

30. Did you receive Deen Dayal e-rickshaw scheme?

- Yes
- No

31. Did you receive Grameen Kaushal Yojana?

- Yes
- No

32. Did you receive Pradhan Mantri Kaushal Vikas Yojana?

- Yes
- No

If yes, what kind of benefits did you get from those schemes?