

The Socio-Economic Development of E-Rickshaw Pullers in Dhubri Town, Assam

Safiul Islam

Asstt. Prof., Dept. of Economics, A.R. College, Alamganj

Abstract:

Road transport in India plays a defining role in the country's economic progress. Almost 80% of the load of passenger transportation is shared by the road transport sector. In the transport mechanism, battery-operated electric three-wheelers or E-rickshaws have recently emerged in public road transportation in the state of Assam in India, like many other parts of our country. Because they offer consumers a comfortable and affordable means of transportation, these vehicles have become increasingly popular. In Dhubri town, electric rickshaws—also referred to as electric tuk-tuks and called Tom-Tom, Toto, or E-rickshaw—have recently gained popularity. Compared to traditional rickshaws, e-rickshaws are more advantageous since they can accommodate more passengers and are a fuel-free, pollution-free form of transportation. But it requires a larger investment and more maintenance. Hence, the present paper aims to study the socioeconomic position of these e-rickshaw pullers, the financial resources at their disposal, how this new source of income affects their lives in Dhubri town, etc. The author of the paper has based on primary and secondary data to analyse the issue. A systematic questionnaire was used to gather the primary data. Books, websites, journals, and other sources have provided the secondary data. The sample size has been taken as 50 e-rickshaw pullers and 6 e-rickshaw dealers in Dhubri town.

Keywords: E-rickshaws, public transport, socio-economic, economic progress, investment, primary data, secondary data.

Introduction

Transportation plays an important role in the growth of a nation's economic development. A reliable and well-thought-out transportation system is crucial to a country's economic growth. Transport in India consists of road, rail, water, and air. Approximately 60% of freight traffic and 87% of passenger traffic in the nation are transported by road.

Among the various forms of road transport services, Electric Rickshaws (also known as electric tuk-tuks) are a common form of transport in India for private use. This type of vehicle has become popular in recent years and is an alternative to pulled rickshaws, auto-rickshaws, etc., due to their inexpensive fuel and minimal labor. Because they are less expensive to operate, they are also frequently chosen as a shorter-distance substitute for petrol and diesel auto-rickshaws. Like in many other parts of Assam, three-wheeler battery-operated electric

*Corresponding Author Email: safiulislam71@gmail.com

Published: 23 September 2026

DOI: <https://doi.org/10.70558/IJMRS.2026.v2.i3.301205>

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rickshaws have also emerged in public transportation in Dhubri town. Such vehicles are operated by a brushless DC motor that runs on conventional lead-acid batteries. E-rickshaws are eco-friendly and have the potential to lower carbon emissions from passenger transportation. It is now one of the most popular ways to travel small distances and is essential to meeting the mobility needs of the town. Three-wheelers' flexibility and ease of use make them ideal for negotiating congested marketplaces and tight roadways, supporting the local transportation ecosystem. In addition to being used for passenger transportation, Dhubri town's e-rickshaws also function as adaptable freight transporters that solve regional logistical issues.

Since 2008, e-rickshaws have been increasingly popular throughout the world. However, they began to gain popularity in India in 2011. Keeping in view e-rickshaws major problems, like the manufacturing and designing of the vehicles, maintaining safety standards, and the safety of the passengers remaining at stake, the Ministry of Road Transport and Highways amended the Motor Vehicles Rules of 1989 in 2014 to regulate e-rickshaws. The Parliament then approved the amendment that made using e-rickshaws fully permissible in March 2015. These regulations directed the local authorities to register the vehicles, issue permits, and provide the drivers with a separate driving license. Technically speaking, the modification standardized the vehicles' maximum speed of 25km/h and their maximum motor size of 2kW.

Literature Review:

1. Context & Background

- **Dhubri Town & District Overview:** Dhubri, a densely populated Lower Assam district with a ~1.4 million population (2011), relies heavily on agriculture and lacks industrial infrastructure. Traffic congestion and inadequate planning have posed persistent challenges to urban mobility.
- **Rise of E-Rickshaws in Dhubri:** In 2016, Dhubri had around 300 e-rickshaws. By the early 2020s, that number surged to nearly 3,000—with only around 114 officially registered—indicating significant informal or illegal operations.

2. Livelihood Profile & Economic Status

- **Income & Investment:** Operators invest ₹1.5–2 lakh for purchase (often through loans encouraged by green transport schemes), and rely on fare-based earnings. Like in Dibrugarh, many were educated unemployed youth who saw e-rickshaws as a viable livelihood after failing to find other jobs.
- **Economic Vulnerability:** Pullers often lack a driving license, insurance, or formal registration. The low regulation leads to uncertain income, debt burdens—and even protests whenever authorities impose route restrictions or crackdowns.

3. Regulatory Challenges & Traffic Management

- **Unregistered Vehicles:** Thousands of unregistered e-rickshaws ply Dhubri's roads—many without number plates or proper documentation—causing pedestrian discomfort and traffic snarls. Enforcement has been weak, though crackdowns have occasionally arrested dozens.

- **Union & Administrative Tensions:** The E-Rickshaw Union has demanded fair policies: streamlined registration, designated routes, and equitable regulation. Authorities have attempted route curbs to manage congestion—from blocking village e-rickshaws entering town to implementing one-way rules and penalties.

4. Social & Health Dimensions

- **Addiction & Awareness Campaigns:** Recognizing social vulnerabilities, the Dhubri District Social Welfare Office organized a campaign under the national Nasha Mukta Bharat Abhiyaan (Drug-Free India) in November 2024, targeting e-rickshaw drivers for awareness around substance abuse, mental health, and socio-economic stressors.
- **Living Conditions & Social Safety Nets:** Although specific data on housing or healthcare is limited locally, studies from analogous low-income rickshaw sectors (e.g., Bangladesh, Tangail) reveal widespread poverty, poor sanitation, medical issues like back pain, and low literacy—suggesting similar challenges may apply to Dhubri without targeted research.

5. Development Potential & Policy Implications

- **Opportunities:** E-rickshaw services support informal employment, youth engagement, and low-carbon urban mobility. With improved regulation, registration, and formal routes, they can benefit both drivers and commuters.
- **Recommendations:** Drawing from analogous contexts, policymakers might consider:
 - Formalized loans and subsidized financing
 - Constructing designated e-rickshaw stands
 - Offering insurance, medical coverage, vocational training
 - Enhancing literacy and awareness drivesStructuring clear regulatory frameworks balancing livelihood and traffic safety.

6. Gaps & Research Directions

- **Empirical socio-economic data lacking** for Dhubri's e-rickshaw pullers: income levels, education, family composition, health status, debt ratios, children's schooling, usage of welfare schemes.
- **Longitudinal studies absent** impact of route restrictions, enforcement crackdowns, or welfare interventions.
- **Comparative research missing** relative to auto-rickshaw or cycle-rickshaw pullers and micro-urban-rural differentials.

Summary Table

Dimension	Current Understanding	Gaps / Needs
Number & Registration	~3,000 e-rickshaws; only ~114 legal	Detailed registration status, licensure data

Economic Profile	Investment ₹1.5–2 lakh; vulnerable incomes, debt-prone	Income distribution, profitability, loan terms
Regulation & Enforcement	Sporadic crackdowns; union demands route clarity	Policy evaluation; enforcement consistency
Health & Social Welfare	Awareness drives against addiction; high risk of social stress	Medical data; social protection access
Formalization & Policy	Potential for formalizing services into urban mobility ecosystem	Feasible schemes tailored to Dhubri

Final Thoughts

While Dhubri lacks direct academic studies focused on its e-rickshaw pullers, existing news and comparative literature emphasize a high-growth yet precarious sector. Pullers face economic uncertainty, regulatory exclusion, and health vulnerabilities—now compounded by traffic restrictions. A concerted effort combining empirical research and policy planning could support their socio-economic development, integrating them into the formal urban transport ecosystem while safeguarding livelihoods and safety.

Area of study:

This study is based on Dhubri Town. Dhubri Town is the district headquarters of Dhubri district, which was established in 1883. Dhubri Municipal Board consists of 16 wards, and every five years, a ward commissioner for each ward is elected by the people of Dhubri Town area. The total area of the town is 32 km² (12sq km). According to the 2011 census, 63,338 people are living in Dhubri Town of sex ratio of 953:1000. In addition to this, the literacy rate of Dhubri Town is 89.34%, which is also higher than the state average of 72.19. The Dhubri district is situated on the earth between latitudes 89.22 and 25.28 degrees north, with an average elevation of 30 meters above sea level.

Objective of the study:

1. To identify the issues faced by the e-rickshaw drivers in Dhubri Town
2. To examine the socio-economic status of e-rickshaw drivers in the study area.
3. To examine the level of satisfaction of e-rickshaw pullers with their jobs.
4. To suggest suitable measures to address the problems with e-rickshaw drivers.
5. To study the financial amenities offered to the e-rickshaw drivers.
6. To investigate the role of three-wheeler e-rickshaw shows in employment generation in Dhubri Town.

Research Questions:

1. Does driving e-rickshaws provide enough income to support the family?
2. Are e-rickshaw drivers satisfied with their job?
3. What is the impact of battery operators e-rickshaw on employment generation in Dhubri Town.
4. What are the major problems of e-rickshaws in the study area?

Methodology:-

The study is mainly based on primary and secondary data. For the collection of primary data, a well-designed questionnaire was formed, and the data were collected through personal interviews in the study area. Convenience sampling was used in the study area to choose the respondents after secondary data was gathered from books, websites, and journals. The study's population consists of all people who work as e-rickshaw pullers in Dhubri Town, and 50 people have been chosen as the sample size from the unidentified population of Dhubri Town, and 6 dealers of e-rickshaws from the study area.

Data Analysis:

The data collected were analyzed by using suitable and simple statistic tool like percentages, tables, averages, and graphs, etc. The data analysis was conducted based on the study's objectives. A methodical strategy was used in the data analysis for the study in order to extract significant insights from the gathered questionnaire responses. Bar diagrams and pie charts were typically used to display demographic data, such as age, gender, and educational background.

Limitations of the study:

In addressing the dynamics of 3-wheeler e-rickshaw vehicles based on the socio-economic status of e-rickshaw pullers in Dhubri Town, it's critical to acknowledge some limits. Bias could be introduced by the sampled population, which could restrict the findings' applicability to the entire town. Besides, Economic and community factors may alter during the study's time span, which the research may not fully represent. Additionally, outside variables like unanticipated occurrences or changes in the economy could affect the dynamics of e-rickshaws based on socio-economic status in Dhubri Town areas during the research period.

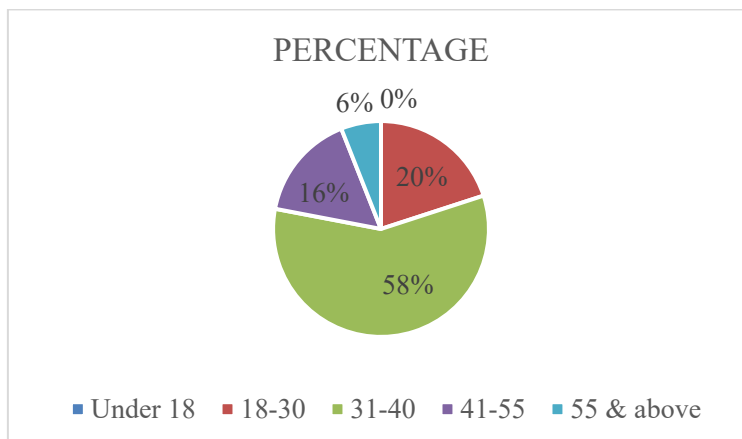
Socio-economic status of the respondents:

It is the position of an individual or a group of individuals which is determined by the combination of social and economic factors like education level, family size, type of occupation, income, place of residence, religious background, etc. A person's social standing and quality of life are significantly influenced by their socioeconomic situation. In this study, certain variables are taken into account, such as family size, time period of e-rickshaw business, holding of a bank account, educational qualification, holding of a bank account, amount of daily income, better living conditions, and change of social status, etc., to research the socioeconomic standing of e-rickshaw pullers of Dhubri Town.

(i) Age-wise classification of e-rickshaw pullers -

AGE	NO. OF RESPONDENTS	PERCENTAGE
Under 18	0	0%
18-30	10	20%
31-40	29	58%
41-55	8	16%
55 & above	3	6%

Total	50	100%
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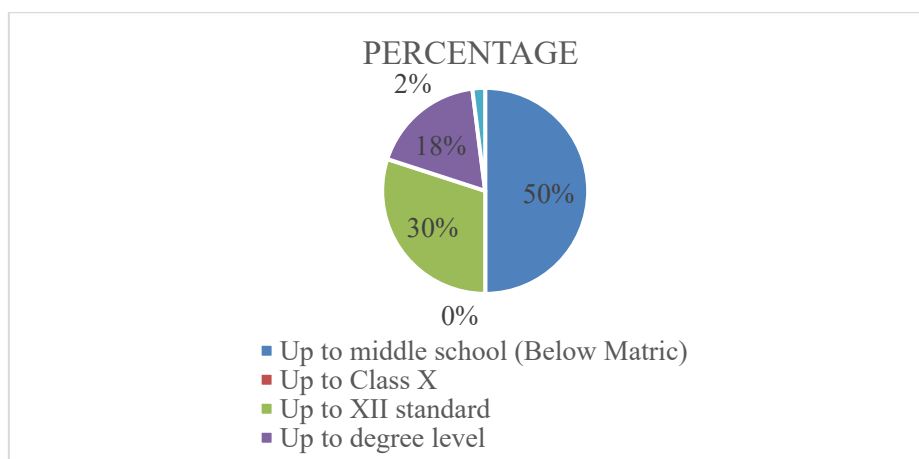


Source: Primary data

Most of those who responded (58%) are between the ages of 31 and 40. Those in the 18–30 age range came next, according to the data. Merely 6% of the participants are younger than 55 yrs.

(ii) Educational qualification of the respondents –

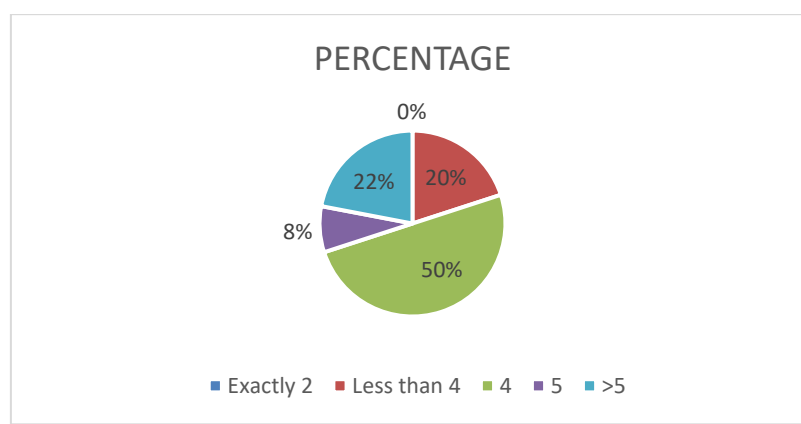
EDUCATION QUALIFICATION	NOS. OF RESPONDENTS	PERCENTAGE
Up to middle school (Below Matric)	25	50%
Up to Class X	0	0%
Up to XII standard	15	30%
Up to degree level	9	18%
P.G level	1	2%
Total	50	100%



Data Collected by Field Survey

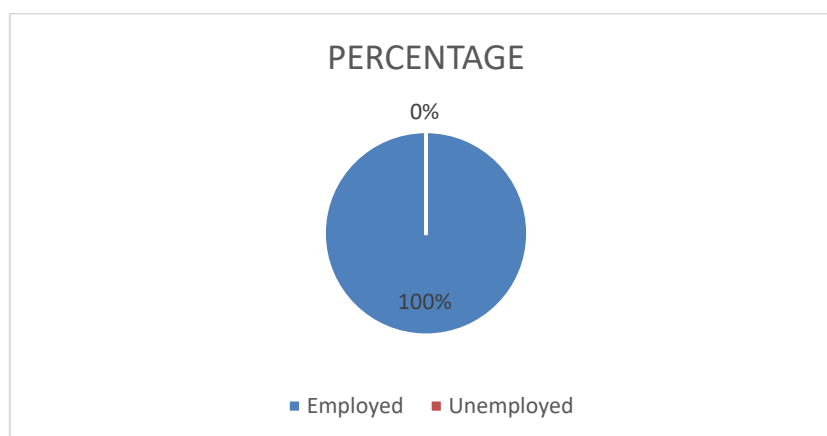
(iii) Family structures of e-rickshaw drivers –

NOS. OF FAMILY MEMBERS	NOS. OF RESPONDENTS	PERCENTAGE
Exactly 2	0	0%
Less than 4	10	20%
4	25	50%
5	4	8%
>5	11	22%
Total	50	100%



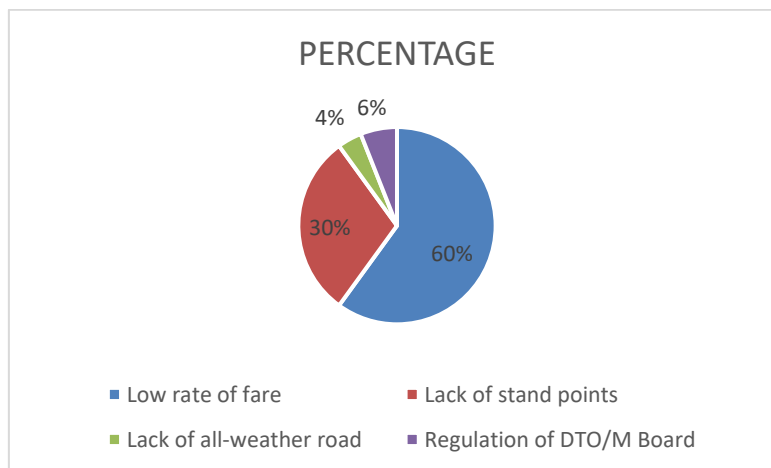
(iv) Employment status –

EMPLOYMENT STATUS	NOS. OF RESPONDENTS	PERCENTAGE
Employed	50	100%
Unemployed	0	0%
Total	50	100%



(v) Major problems of e-rickshaw drivers –

MAIN PROBLEMS	NOS. OF RESPONDENTS	PERCENTAGE
Low rate of fare	30	60%
Lack of stand points	15	30%
Lack of all-weather road	2	4%
Regulation of DTO/M Board	3	6%



Findings:

1. Livelihood creation and income effects: E-rickshaws have provided accessible entry points to self-employment. For many in Dhubri, the low operating cost (electricity vs. petrol), simple driving skill requirement, and demand for short intra-town trips make e-rickshaw driving attractive. Comparative studies (Guwahati, Cooch Behar, other towns) indicate that drivers often report higher daily incomes and more flexible working hours relative to casual labour or cycle rickshaw pulling — though net income depends heavily on debt servicing when vehicles are bought on credit. This pattern likely applies in Dhubri given similar socio-economic structures.

2. Access to assets and finance: A persistent barrier is the initial capital required to acquire an e-rickshaw or replace batteries. State programmes — including targeted distributions via directorates working in char areas and minority development boards — have sought to lower this barrier by providing free or subsidised e-rickshaws to eligible recipients. Such schemes can materially change access, but coverage is partial and bureaucratic hurdles may limit reach. Many operators still rely on informal loans or vehicle-finance schemes with high costs, increasing vulnerability to asset loss if earnings dip.

3. Formalization, registration and enforcement: Dhubri has a long history of a large unregistered e-rickshaw fleet. Local reporting has highlighted episodes where district authorities detained dozens (or hundreds historically) of unregistered vehicles, disrupting commuter supply and operators' incomes. These enforcement actions underline the gap

between informal practice and regulatory requirements: formal registration can protect drivers (e.g., through legal recognition, insurance, and access to benefits) but the registration process, costs, and vehicle standards present hurdles that many drivers cannot easily surmount.

4. Infrastructure and operational constraints: E-rickshaw sustainability depends on battery charging and maintenance ecosystems. Until recently, charging infrastructure in many district towns, including Dhubri, was patchy. Assam's broader commitment to expand EV charging and incentives to set up charging points promise improvement, but on-ground infrastructure for dozens or hundreds of e-rickshaws per town requires coordinated investment and market development. Meanwhile, accidents and poor traffic regulation have emerged as safety concerns in Dhubri's congested streets. News footage and reports of crashes indicate an urgent need for traffic management and driver training.

5. Social status, gender and inclusion: E-rickshaw driving has largely been a male-dominated occupation in district towns, but targeted distribution schemes sometimes prioritise women beneficiaries, and in some towns there is a rising albeit small cohort of female operators. For marginalised populations in char areas, e-rickshaw programmes (when accessible) can strengthen economic inclusion. Yet social exclusion and identity-based marginalisation documented in Dhubri district can limit who benefits from formal programmes and who remains excluded.

Discussion:

1. Interpreting income gains amid informality: Reported improvements in driver incomes must be interpreted cautiously. Gross fares may look attractive, but when drivers purchase vehicles on credit, incur battery replacement costs, pay for informal parking or bribe-type extortion in some contexts, and face seizure risk for lack of documentation, net income can be precarious. Formal financing channels, microcredit with fair rates, and asset insurance can convert short-term gains into more stable livelihoods; absent these, operators remain vulnerable to shocks.

2. Policy trade-offs: formalisation versus livelihoods: Enforcement drives aimed at removing unregistered e-rickshaws address safety and regulatory compliance but can immediately deprive many of their livelihoods if there are no transitional measures. Dhubri's enforcement history reflects this tension. A balanced approach would link registration drives to temporary waivers, simplified procedures, and support — e.g., subsidised retrofits, low-cost registration drives at community levels, and single-window documentation camps — so that drivers are not abruptly disenfranchised.

3. Infrastructure and technology transitions: Battery reliability and charging access are crucial. State incentives and a larger push for town-level charging stations (announced in Assam's recent mobility initiatives) directly benefit e-rickshaw operations by lowering downtime and operational costs. Additionally, retrofitting existing three-wheelers and standardising battery swapping or shared charging hubs (as recommended in national/regional EV transition guides) could be cost-effective for towns like Dhubri.

4. Safety, training and traffic management: E-rickshaw operators require basic road safety training, awareness of vehicle maintenance, and knowledge of traffic laws. Local policing and

DTO interventions in Dhubri have focused on enforcement, but pairing enforcement with driver training, helmet and seat standards, and designated stops/lanes would reduce accidents and improve commuter safety. Community-based training programmes, ideally delivered in local languages and with practical demonstrations, can be an immediate and affordable intervention.

Policy recommendations (tailored to Dhubri)

1. **Simplify and subsidise registration:** Launch time-limited registration drives in Dhubri with reduced fees, simplified documentation (ID + minimal paperwork), on-the-spot vehicle inspections, and a grace period before strict penalties. Couple this with mobile registration camps in peri-urban and char areas.
2. **Financial inclusion and fair credit:** Enable linkages between microfinance providers and e-rickshaw operators with low-interest loans, potentially under state guarantee, and introduce battery-leasing or battery-swap financing to reduce upfront costs.
3. **Targeted asset distribution & retrofitting:** Scale targeted distribution programmes (e.g., via char development directorates and minority boards) with clear selection criteria and follow-up training. Encourage retrofitting programmes that extend vehicle lifespan and reduce costs, following best practice recommendations.
4. **Charging infrastructure & battery management:** Prioritise at least one shared charging hub or battery swap station in Dhubri town; incentivise small entrepreneurs or cooperatives to operate charging services with concessional electricity tariffs. Coordinate with the state EV plan to access financing and technical support.
5. **Driver training & road safety:** Implement short, practical training modules on safe driving, basic maintenance, and legal rights. Combine training with distribution of reflective jackets, basic first-aid kits, and awareness campaigns targeting passengers.
6. **Data & monitoring:** Create a local e-rickshaw registry with anonymised operator data (age, gender, vehicle type, financing status) to inform policy and targeted social protection.
7. **Community engagement & unions/cooperatives:** Encourage formation of driver cooperatives to improve bargaining power, facilitate group purchase of batteries, and negotiate with authorities for fair regulation.

Conclusion:

E-rickshaws have transformed the intra-town mobility landscape in Dhubri and created tangible livelihood opportunities for many. However, the socio-economic promise of these vehicles will only be fully realised if policy and practice address the twin challenges of formalisation and infrastructure. Careful, inclusive formalisation processes, coupled with financial inclusion, charging infrastructure, training, and safety measures, can stabilise incomes, protect operators' livelihoods, and make Dhubri's e-rickshaw ecosystem more sustainable. The town's experience — including episodes of enforcement and news-reported accidents — underscores the urgency of a calibrated approach that protects both public safety and vulnerable livelihoods.

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