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Research Article

Transforming Lives: National Highway as an Economic Catalyst for Shopkeepers in Nongpoh, Ri Bhoi District, Meghalaya

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Abstract: This study is aimed at evaluating the impact of National Highway 40, especially the Nongpoh section, on the livelihood prospects of local shopkeepers. The study highlights the way in which the highway has aided income generation for small vendors and traders in many ways yet acknowledges that there are various challenges that still impede their progress. Through both the positive contributions and the limitations, the study aims to provide practical measures to assist shopkeepers in enhancing their economic status and more effectively taking advantage of the opportunities generated by the highway. A descriptive research design is employed to record the realities of the life experiences of the shopkeepers in a structured way. Primary as well as secondary data sources are employed, enabling the in-depth interpretation of the issues concerned. The sample consists of 27 shopkeepers running businesses between Pahamrioh and Dulongnar, selling fruits, pickles, betel nut, and related items. Through emphasizing these problems and proposing solutions, the study hopes to empower shopkeepers to enhance their economic foundation, improve their income-generating activities, and realize their full potential. The results point to systemic concerns such as supply chain weakness (62% experience product unavailability), price-quality expectation mismatches (42% customers expect low prices with high quality), and indirect livelihood effects (81% experience lower wages). The research contributes to the realization of highway-induced economic change in Northeast India's informal economy and suggests targeted interventions toward sustainable livelihood improvement. Finally, the research places itself not only as an intellectual exercise but as a pragmatic contribution towards enhancing the standard of living and resilience of local communities relying on roadside businesses along the National Highway.

Keywords: National Highway, Shopkeeper, Economic Condition, Income Generation, North East India.

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Introduction

A national highway is a significant road system controlled and serviced by the central government of a nation. These highways are planned to link principal cities, ports, state capitals, and other principal places so that good and human transportation is easier and faster between regions (Indian Brand Equity Foundation, 2023). There are numerous shops also on this National Highway, shopkeepers are benefiting from the National Highway, but they are also having different types of problems in earning a living. National highways play an important role in the economic growth of an area by ensuring the transport of goods, human beings, and services. Well-connected roads can raise local economies by providing easier access to markets and boosting consumer traffic in satellite towns. In Nongpoh, the trend can be witnessed as shop owners utilize the connectivity of the highway to increase business, serve a heterogeneous clientele, and earn consistent revenues throughout the year (MoRTH, 2022). Areas along national highways experience more economic activity and higher employment levels than interior rural regions. In Nongpoh, this is where the highway has helped provide local manufacturers with better access to wider markets and improved supply chains for everyday commodities. Additionally, NH40 has triggered the growth of infrastructure, such as enhanced connectivity, transportation facilities, and access to basic services, all of which form a favorable setting for small businesses to flourish (ICRIER, 2021). NH 40, which runs through Nongpoh, has contributed significantly to connecting Meghalaya's capital, Shillong, with Assam's major city, Guwahati. This highway has promoted the flow of people and commodities, which has led to the economic and social integration of the area (Nongsiej and Syiemlieh, 2020).

Economic Impact

Proximity to highways has a significant effect on the socio-economic welfare of rural populations, creating additional employment and income opportunities in non-farm activities. It also enhances access to health and education, resulting in higher incomes for households and greater asset ownership. Poor households closer to highways therefore enjoy considerable gains. These advantages normally spread within 4-5 kilometers on either side of the highway, creating what is referred to as the "influence zone." But some evidence indicates that the influence zone can stretch more than that for some impacts, particularly as people's mobility gets better with time (World Development Report, 2006). Roads and highways provide extensive transport and communication facilities, integrating various markets, raw material sources, industrial hubs, and social settlements into a single network. They operate through backward and forward linkages, and their development and maintenance yield substantial output, income, and employment. The National Highway Development Project (NHDP) was initiated in 1998 with the objective of developing a comprehensive and well-integrated highway system across India. This project aimed at expanding, reinforcing, building, and rebuilding the national highways. The first phase was referred to as the Golden Quadrilateral Project. Seven other phases have since been launched, covering the entire major hubs and ports in the national highway network. In Indian context, the National Highway Development Project (NHDP) launched in 1998 envisioned developing an integrated network of highways all over India (Khan & Alam, 2015). The Golden Quadrilateral project under NHDP's first phase reflected remarkable positive effects on industrial productivity and regional convergence (Ghani et al., 2016). But such macro-level effects typically hide micro-level inequalities, especially suffered by participants in the informal sector. Studies of the dynamics of informal trade indicate that access to transport infrastructure both opens opportunities and imposes limitations. While increased connectivity improves market access, it also raises competition and exposes local traders to the pull of external market forces (Srivastava & Sasikumar, 2003). The concept of "influence zone" up to 4-5 kilometers on either side of highways describes the spatial character of highway impacts (World Bank, 2006).

Northeast India: Infrastructure and Development

Geographical remoteness and limited connectivity of Northeast India in the past limited economic growth (Hussain, 2000). The landlocked position, inaccessible terrain, and periphery status in national economic nexuses imposed developmental challenges (Baruah, 2003). Post-liberalization development of infrastructure, especially through the Special Accelerated Road Development Program-Northeast (SARDP-NE) initiated in 2005, sought to overcome these connectivity deficits (Planning Commission, 2007).Act East Policy, launched in 2014, repositioned Northeast India as the gateway of India to Southeast Asia, with a focus on economic integration and infrastructure development (Ministry of External Affairs, 2018). The policy framework has spurred highway development and upgradation projects, such as NH 40, which have opened new economic opportunities but also created displacement and livelihood disruption (Bhattacharya & Deka, 2021).

Entrepreneurship Challenges

India experienced a boom in its entrepreneurial zeal during the decade gone by. At the end of the decade, however, the economic slowdown put an end to the euphoria and gave breaks to this growth story. Several factors like lack of access to finance, inadequate infrastructure, shortages of necessary skills, etc. are acting as hindrances to the growth of entrepreneurship. Despite some business communities, the Indian culture remains risk adverse. Stability and reputation of a large company are still the middle-class dream. Such a cultural mindset prevents the development of entrepreneur's mind among the youth. Indian economy offers a telling contrast between the way people respond to a government-driven setup and the way they behave towards a market-driven setup. Statistics indicate that recent market reforms that promoted individual enterprise have resulted in greater economic growth in that nation (Nayar et.al., 2012). In the post-independence era, the hilly and inaccessible parts of Northeast India did not have a good road network, so the region was viewed as 'landlocked, cut-off, inaccessible, and underdeveloped.' But in the post-liberalization period, cross-border road projects in this part of the country became important for India's foreign economic activities. Consequently, the central government introduced the SARDP-NE highway scheme in 2005 to enhance connectivity and stimulate economic growth in the Northeast. From 2014 onwards, this initiative has gained momentum under India's Act East Policy, which sees the Northeast as a strategic 'gateway' for India. Many road projects, especially highways, have been undertaken and completed to reconnect the Northeast to 'mainland' India. The article offers a critical empirical analysis of the new road infrastructure and its effects on the local economy and the quality of life of its inhabitants. It also examines how the increase in road projects caters to different national political and geo-strategic objectives, which symbolize a new model of regional power dynamics and control (Bhattacharya and Deka 2021).

The Ministry of Roads, Transport, and Highways (MORTH) has brought forth plans for the public and private sectors to offer basic roadside facilities. In view of the large road network, concerted attempts are necessary to offer roadside amenities along the national highways. Through MORTH's memo no. R.W./NH-11052/3/97-DOI dated 31 December 1997, all government public works departments have already been directed to ensure that, henceforth, passenger-oriented trackside amenities should be made available every 50 kilometers of national highway, whether they are developed privately or with multilateral assistance. The scheme envisages the development of facilities like parking spaces, snack bars, restaurants, short-stay restrooms, first aid centers, telephone booths, fuel pumps, small repair centers, kiosks for such sale of miscellaneous items, and greenery. Road Development Project: Vision 2021 recommended that maybe the need for roadside facilities to amenities like parking spaces, potable water, toilet rooms, snacks, food stalls, eateries, rest stops, fuel pumps, maintenance and repair, and entails comprehension should be a part of roads' modernization. Moreover, steps should be taken to simply supply highway officials with fuel, medical assistance, and facilities for truck providers to pull out inadvertently damaged vehicles from the site (MoRTH, 2022)

Objectives of the Study

- To understand the challenges faced by the shopkeepers in Nongpoh.
- To identify the key strategies to reduce the challenges.

Research Methodology

Research Design

This research uses a descriptive research design to systematically study the prevailing conditions, challenges, and opportunities among shopkeepers along NH 40. Descriptive research is suitable for this research since it supports detailed documentation of prevailing phenomena as well as offering insights into patterns and relationships among the data (Creswell & Creswell, 2018). This design helps the researchers in capturing shopkeepers lived experiences and studying different dimensions of their economic activities.

Sampling Design

Simple random sampling was employed in this study to identify 27 shopkeepers out of about 100 shops operating in the range from Pahamrioh to Dulongnar. The sample chosen accounts for 27% of the total population, which is more than the minimum required for studies involving small populations as advised by Yamane (1967). The selection by simple random sampling allows every eligible subject to have equal chances of being chosen, thus reducing biases due to selection and maximizing representativeness of results.

The sample size was calculated using the following formula:

$$n = N / \{1 + N(e)^2\}$$

With N = 100 (population), e = 0.15 (margin of error)

This gives a minimum of 23 respondents; the study engaged 27 respondents, which was sufficient representation.

Inclusion Criteria

All the shopkeepers on the national Highway from Pahamrioh to Dulongnar, which deals with pickles, fruits, vegetables, and other local products.

Exclusion Criteria

The shopkeepers which deals with general stores, dhabas, Café, Hardware, etc.

Area of study

Nongpoh NH40: The stretch from Pahamrioh, where there is a Dhaba and small shops that sell local products like pickle, fruits, etc., up to Dulongnar Lay bye Market.

Sources of Data

- Primary Data: Through an interview guide
- Secondary Data: Through Journals, Articles, and Books

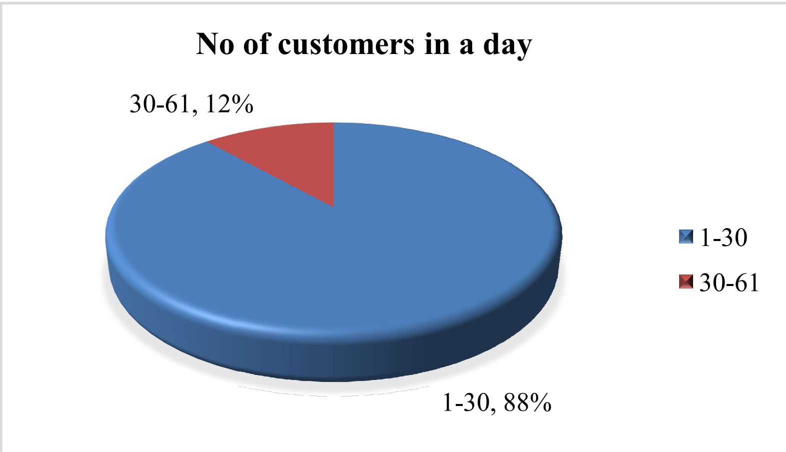
Ethical Consideration

Informed consent has been taken from the respondents, whether they are willing or not to be part of the study. Providing them with the right to withdraw from the study anytime they want.

Limitations of the study

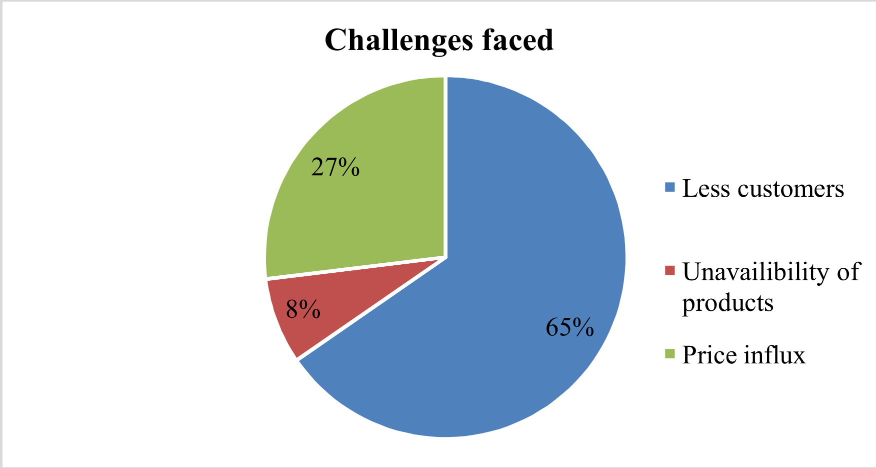
- Due to the presence of many shops, only a short distance from the National Highway, shopkeepers can be included.
- The researchers mainly focused on the small shopkeepers which deal with fruits, vegetables, local products, pickles, etc., and excluding other shops.
- Small Sample size restricts generalizability to another highway context.

Data Analysis and Interpretation

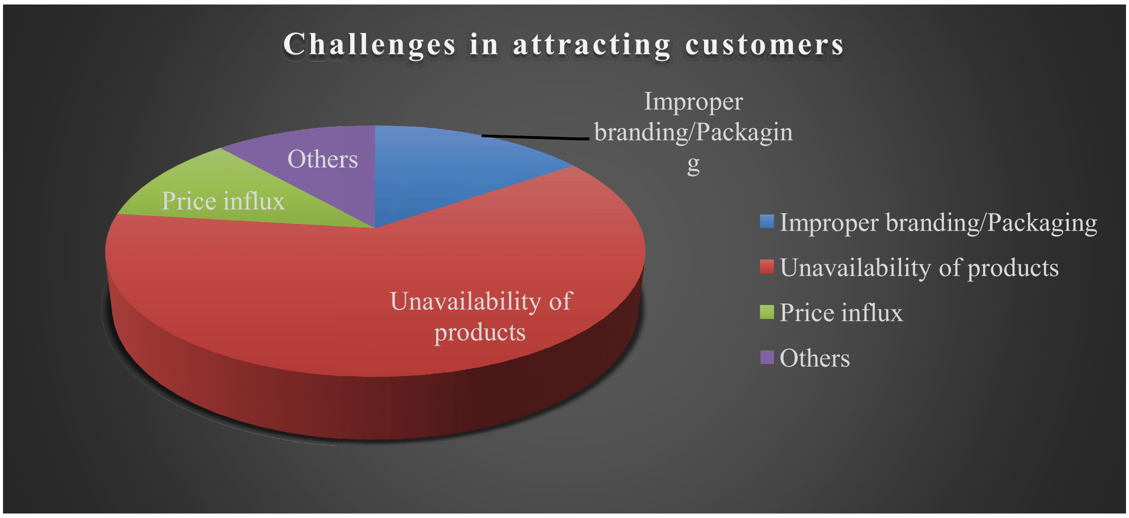


The above figure shows that 88% of respondents gain around 1-30 customers a day in their shop, while only 12% gain around 30 or more customers a day in their shop. The research indicates widespread market penetration challenges, with 88% of the respondents (n=24) catering only to 1-30 customers per day, whereas only 12% (n=3) receive over 30 customers. This trend indicates low market reach and hints that the anticipated gains from highway connectivity have not yet been realized for most shopkeepers.

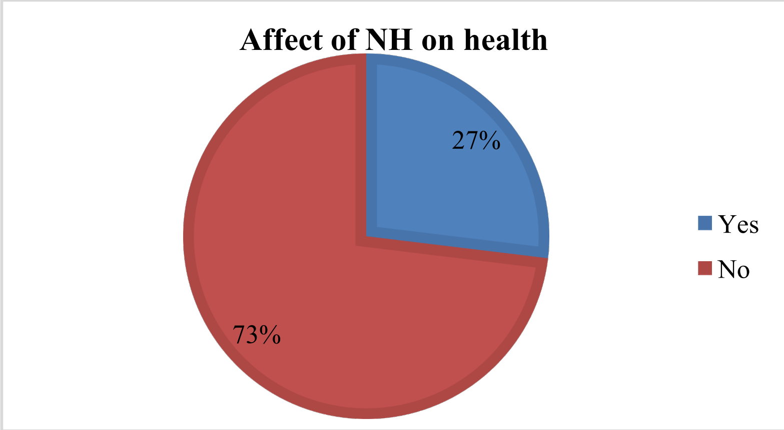
As one of the respondents pointed out: "Although many cars drive by, hardly any pull over to purchase our goods. Most of our customers are villagers, not travellers on the highway." This observation points to the disconnect between traffic volume and actual customer conversion.



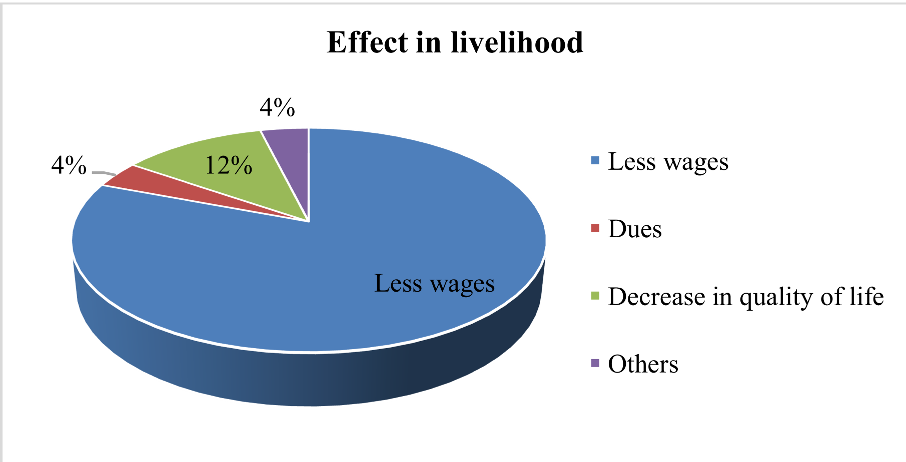
The chart above indicates that 65% of the respondents' challenges are due to fewer customers, while the challenges of 27% are because of price influx, and the remaining 8% is due to the unavailability of the products at their shop. The dominance of customer shortage as the main issue indicates underlying market forces more than location disadvantage. Volatile prices generate uncertainty in pricing and profit margins. Restricted access to stable supply chains impacts business continuity. One shopkeeper who dealt with local pickles described: "When we raise prices because of the cost of raw materials, people go elsewhere. If we reduce prices, we don't make any profit. It's a tricky balance."



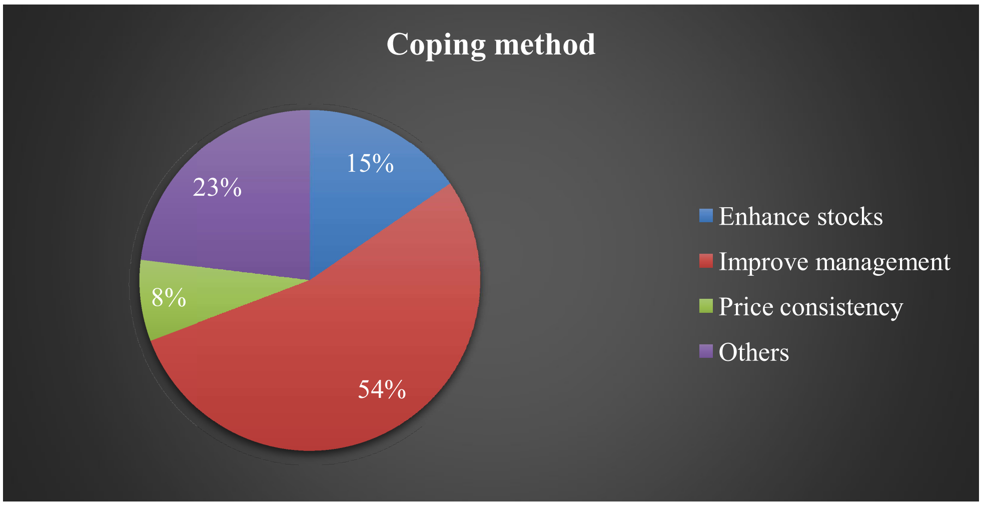
Product lack of availability presents itself as a significant chokepoint, with 62% (n=17) of the population survey identifying it as a significant customer draw inhibitor. This result indicates systemic supply chain inefficiencies that add to the bane of highway-belt commerce. Other 15% (n=4) identify poor branding and packaging as obstacles, pointing to a lack of marketing principles knowledge. And 11% of the respondents believe that price influx in the products is a challenge for them and the rest 12% said that there are other reasons.



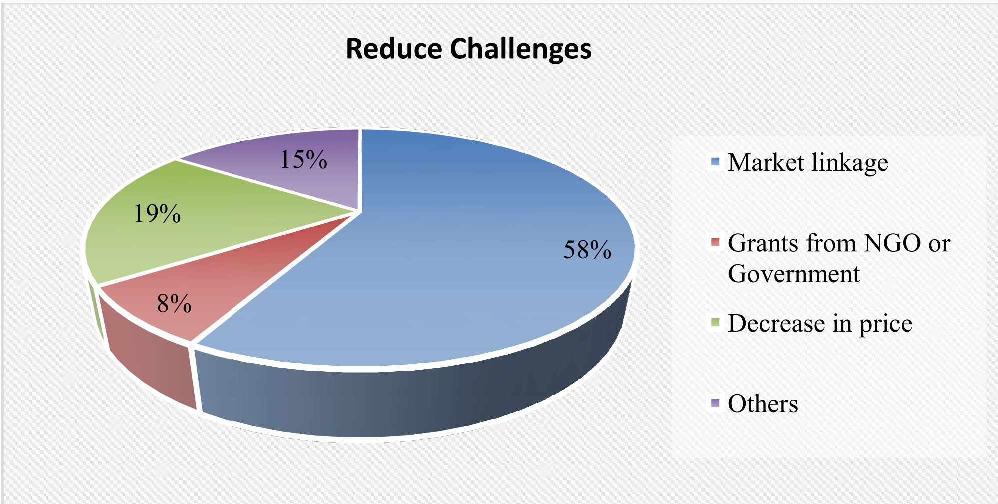
The above chart specifies that 73% of the respondents say that National Highway has no effect on their health, as they have not experienced anything yet. Whereas the remaining 27% of the shopkeepers say that the National Highway causes a threat to their health as they might have experienced it. This contradiction indicates that although highway construction has not created immediate health effects, it has created some indirect financial pressures on income security.



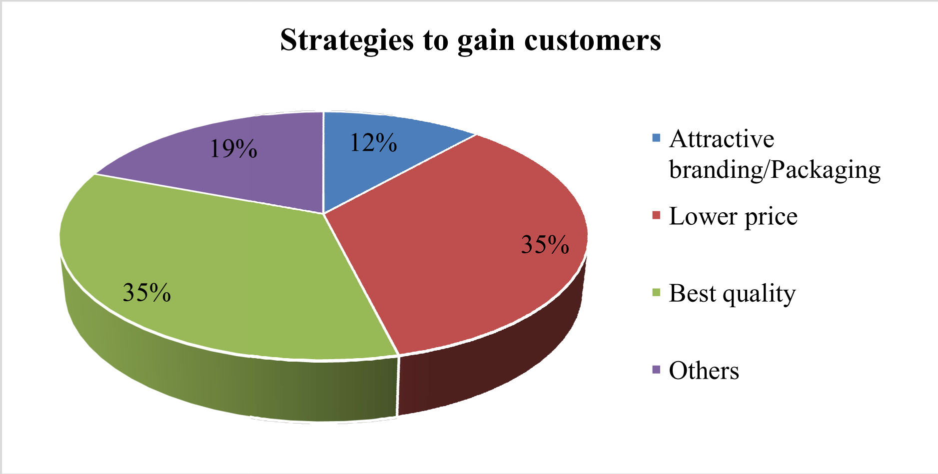
The above chart specifies that 80% of the respondents say that due to the changes in their business, there is also an effect on their livelihood, and that is lower wages; it affects their livelihood as before their wages were higher compared to the current market conditions. While 12% of the respondents stated that since there has been a change in their business, it also affects their quality of life. Whereas another 4% say that they have issues going on because of the change in their business, and the remaining 4% have different opinions.



The above figure indicates that there are 54% respondents that said that they improve management of their shops in order to cope with the challenges they face, while 23% of the respondents have other reasons, whereas 15% states that they enhance their stocks in order to cope with the difficulties and only 8% work on price consistency to cope well with the situation.



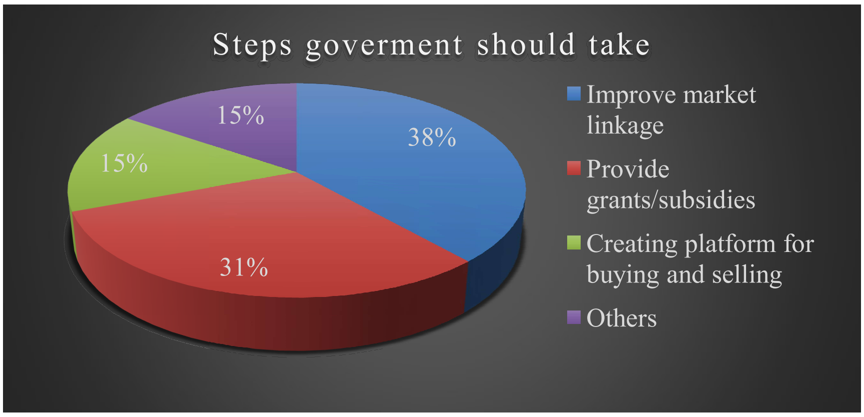
The above figure shows that 58% of the respondent's states that proper market linkage can help to reduce the current challenges, while 19% shows concern on reducing the price of the products, whereas 15% of the respondents have other reasons and 8% of the respondents believe that receiving grants and subsidies from the government can help them to reduce their challenges.



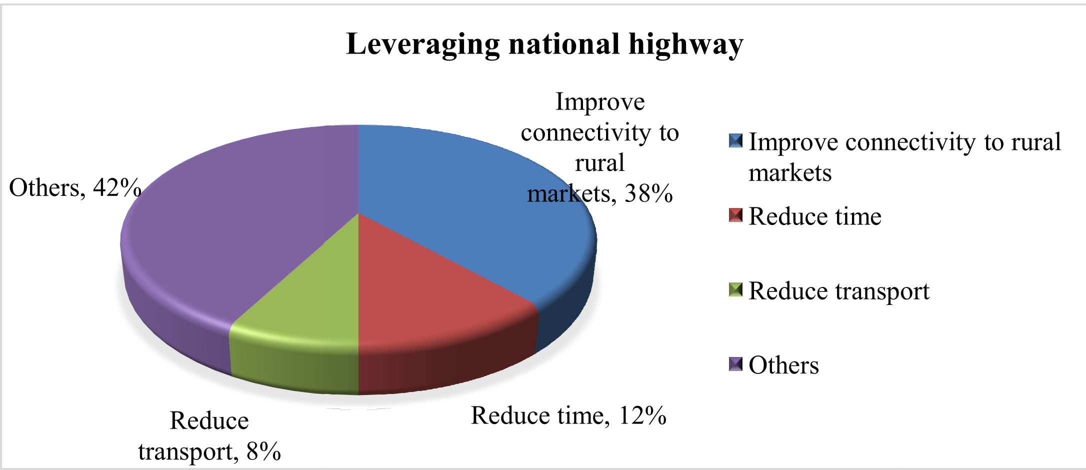
The above figure indicates that 38% of the respondents work on the quality of their product to gain customers. 35% of the respondents tried to lower the price of the products as a strategy to gain customers, whereas 19% of the respondents had other reasons, and 12% of the respondents tried to improve their branding and packaging or make their shops attractive.

The above figure specifies that 42% of the respondents stated that customers demand a low-price product, yet wanting a good quality, and this poses a challenge for them as they cannot get a good quality product even from the wholesalers. Whereas 38% of the respondents stated that customers prefer a quality product, but the shopkeepers sometimes fail to provide that, as quality products come with a higher price. While the remaining 12% of the respondents demand the availability of products that they want.

The above figure indicates that there are 42% of the respondents that have other options on how can we leverage the presence of national highway, while 38% states that we can leverage the presence of national highway by improving connectivity to rural markets, whereas 12% agrees that National Highway has help them to reduce their time of transport as it is more feasible and also can get more time to run their shop. While the rest 8% of the respondents stated that it has reduced their transportation costs.



The above figure indicates that 38% of the respondents stated that the steps the government should take are to improve the market linkage of the shopkeepers. While 31% say that the government should take initiative by helping the shopkeepers with grants and subsidies. Another 15% stated that the government should create a common platform for buying and selling. Whereas the rest 15% have other options on how the government should take a step towards the improvement of the shopkeepers.



Discussion and Conclusion

The statistics show an alarming trend where 88% of retailers only get 1-30 customers per day, showing low market turnover and possible sustainability problems. Such low customer traffic has a ripple effect on business viability, especially considering that 65% of them cite "fewer customers" as their main problem. This does not indicate localized business issues but rather a systemic problem. The study unearths three interlinked challenge clusters: 62% identify unavailability of the product as a customer attraction barrier, and 27% encounter price volatility problems. These supply-side challenges have a direct bearing on customer satisfaction and retention. 15% only identify branding/packaging problems, indicating low knowledge of marketing principles. 42% of customers insist on low prices yet high quality - an expectation gap shopkeepers find difficult to fill, 38% value quality but cannot be provided by shopkeepers consistently due to budget limitations. 73% feel no direct health impacts of the National Highway, but 81% feel livelihood impacts in the form of lower wages. This points to indirect economic pressure from infrastructure development without commensurate benefits.

Strategic Response Analysis

54% are geared towards enhanced shop management - although practical, this is unlikely to solve deeper problems. 23% utilize unspecified "other methods" - implying ad-hoc means without systematic planning. 58% recommend market linkage enhancements, but just 38% of government suggestions target this sector. Price reduction emphasis (19%) is not likely to be sustainable with the supply chain. The dominance of low-volume enterprises (88% with 1-30 daily customers) reflects saturation or a lack of demand stimulation. Problems arise from supply chain susceptibility (62% product unavailability), marketplace forces (price-quality expectations), and economic changes (81% suffering livelihood impacts). Existing coping methods are geared towards internal enhancements, whereas sustainable solutions entail external market integration and value chain optimization. The evidence indicates that sustainable solutions need to be achieved through synergistic action between individual firm improvements, collective action through associations, as well as facilitative policy regimes. The challenge is not just operational but systemic, demanding multi-stakeholder engagement for proper resolution. The study establishes that enhancing sustainable livelihood for informal traders along highways calls for synergistic intervention between independent enterprise development, collective action in associations, and facilitatory policy systems. The research discloses a multifaceted relationship between road development and informal sector livelihoods in Nongpoh, Meghalaya. As NH 40 has improved regional connectivity and ensured potential economic opportunities, roadside shopkeepers have not benefited equally from the advantages. The dominance of low-volume enterprises, supply chain weaknesses, and price-quality expectation gaps reveal systemic problems calling for across-the-board policy interventions. The research adds to the body of work on highway impacts in developing economies through offering empirical evidence from the distinctive environment of Northeast India.

Way Forward

Through the findings of the study "Transforming Lives: National Highway as an Economic Catalyst for Nongpoh shopkeepers". The researchers have summed up the following suggestions to overcome the problem, and they are as follows:

- Implementing policies that will benefit the shopkeepers and prevent them from having drawbacks to help them sustain their livelihood. Provide training in sales, management, branding, and food processing to help them enhance their skills in marketing.
- Set up lay-by markets in every village beside the national highway.
- Reduce the price of products, especially local products, to help the shopkeepers purchase and sell more products, and when there is an availability of more products, there is also an improvement in the market.
- Through the findings, the researchers also recommend providing grants or subsidies to the shopkeepers so that they can sustain their business during the market downfall.
- Organize a common market for local products occasionally that can attract customers and help the shopkeepers display their products.
- Collaboration with the tourist vehicle drivers can also help them improve their market and provide a small commission for them.

These suggestions are in line with a few current national and regional policies:

Act East Policy (2014): Locating Northeast India as India's gateway to Southeast Asia through increased connectivity and economic integration

SARDP-NE: Ongoing support for the development of road infrastructure in Northeast India

Pradhan Mantri Gram Sadak Yojana (PMGSY): Improvement of rural connectivity

Digital India: Service delivery through technology and digital literacy

Make in India: Encouragement of local manufacturing and entrepreneurship

A multi-tiered implementation strategy is suggested:

State Level: Meghalaya State Rural Livelihoods Mission to oversee skill development and financial inclusion efforts

District Level: Ri Bhoi District Collector's office to manage market infrastructure development and regulatory processes

Block Level: Local administration to allow cooperative formation and technology uptake

Community Level: Self-Help Group networks to allow peer learning and collective action

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