

## Article

# COVID-19 Burdens on Livelihood Opportunities: A Study of Easy-Bike Drivers in Rangpur City, Bangladesh

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**Abstract:** This research explores the nexus between COVID-19 and the livelihoods of easy-bike (three-wheeler human hauliers) drivers using a case study of Rangpur City, Bangladesh. Although easy-bike has become a prevalent form of paratransit among city-dwellers in medium-sized cities in Bangladesh, many passengers are now avoiding such paratransit to maintain health and safety guidelines during the COVID-19 pandemic. The pandemic has negatively affected easy-bike drivers' income in many medium-sized cities. To conduct this study, we collected primary data from the field, with the health and safety guidelines recommended by the government of Bangladesh in consideration. The results demonstrate a decreasing number of trips due to government policy changes under the COVID-19 pandemic, influencing people's earnings associated with this transit system. We summarized the data to capture the attention of policymakers, who may need to introduce any foreseeable action to assist workers of different professions in need of economic assistance in cities outside of the capital city in Bangladesh. Moreover, we suggest the need to consider these urban transport workers as a vulnerable group for livelihood assistance within the country.

**Keywords:** livelihood; COVID-19; three wheelers; poverty; Bangladesh



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## 1. Introduction

The outbreak of Coronavirus disease (COVID-19) has been declared a pandemic since 11 March 2020 by the World Health Organization [1]. Alongside this novel virus's immediate and tragic influence on health outcomes, the outbreak is also likely to have long-lasting effects on the economy, society, and environment globally [1–3]. Interestingly, GDP projections have already been revised downward in most countries, driven by economic shocks in the local markets for the circulation of goods and services [1]. Per the projections of scholars regarding economic performance and job opportunities, the world unemployment rate will increase by more than 10% at the end of 2020, compared to 5.2% seen in 2019 [4]. Since the very beginning of this pandemic, governments around the world have been focused on managing the spread of the disease and building awareness among the public [5–8]. However, livelihood and food security concerns generally emerged later, when people began to suffer social and economic hardship. Because of the lockdown measures and other immediate government policies, workers who survive on daily wages and work in the large informal sectors (e.g., public transportation, housing, tourism, etc.) have had few

means of livelihood in their places of work. Consequently, those depending on such work have been struggling for assistance from government and voluntary organizations [9]. The overall economic impacts on small businesses (e.g., restaurants, tea-stalls in developing countries, informal transportation sectors, etc.) and their associated workers have been negative, especially since the pandemic has begun to be felt at the local level [10–12]. Moreover, interruptions of the livelihoods of marginalized communities, breaking of supply chains of business and food productions, reduced access to health centers, and disruption of social safety net programs have all been significantly influenced by this pandemic worldwide [5,8].

## 2. Theoretical Framework and Research Aims

The sustainable livelihood framework (SLF) is a widely known concept referring to the capability of a livelihood scheme to nourish food production irrespective of the magnitude of disruption experienced [13,14]. The framework considers institutional settings, flow of natural capital, agricultural productions, and government policies to provide a context for poverty reduction strategies in the global South [11,13,15,16]. Five capital assets are widely considered to influence sustainable livelihoods: (i) human capital (e.g., labour force and capability); (ii) natural capital (e.g., access to natural resources); (iii) financial capital (e.g., access to credit and loans); (iv) physical capital (e.g., land and assets); and (v) social capital (e.g., social and political networks) [13,15,17–20]. This study spotlights financial capital, although it summarizes effects on other capitals and alludes to interconnections between aspects of livelihood sustainability. This is because, during the COVID-19 pandemic, the financial capital of people who earn their livelihoods in the transportation sector was particularly jeopardized, as their livelihoods are dependent on regular wages. As there are far fewer people on the street using public transit during the pandemic, the revenue of the public transportation sectors was highly affected regardless of the workforce's abilities. Thus, financial capital emerges as the focal point for a quick, exploratory assessment. Moreover, a key factor is the reduced capacity of public transport networks in adherence to physical distancing rules [21–23]. This situation has encouraged the alternative options of walking, riding bicycles, staying at home, or using private transport (i.e., car, motorcycle) [22–25]. Consequently, the sustainable livelihood frameworks have considered human, financial, physical, natural, and social capital to influence the access to the required resources for optimal livelihoods [13,18–20]. In the present study, we found that all these required capitals were severely affected due to the impact of the COVID-19 pandemic on specific professions (e.g., three-wheel drivers in Rangpur) that people rely on for their regular livelihoods.

Inhabitants of cities across the world rely on diverse transportation systems for their mobility requirements. People in these cities usually travel for various reasons such as going to work and educational institutions, recreation, shopping, and sometimes marketing small goods [20]. However, the COVID-19 pandemic has had a profound relationship with mobility in daily life in south Asian cities. Travel restrictions have discouraged the use of public transport in the short term. Furthermore, physical distancing policies stagger passengers' seating inside the vehicle [20]. These circumstances lower the confidence of passengers in public transportation for psychological and behavioral reasons and, thus, affect the daily livelihood patterns of the service providers. A person infected with COVID-19 is contagious before they show any symptoms, which is particularly worrisome for virus exposure in public places, including public transit [26–28]. Literature also suggests that several contributing factors make public transportation stations and vehicle environments high risk and susceptible to COVID-19 contagion [24,25,29]. First, people are confined in a limited space when travelling in crowded buses, trains, or other modes of transport. Second, there may be scarce access control for passengers or workers who may be sick. Finally, the existence of multiple surfaces, such as seats, handrails, doors, ticket machines, and currencies, mean the COVID-19 virus may be easily transferred. As a result, passengers who use public transportation modes at cities across south Asia are opting for alternative transport in order to avoid the coronavirus.

In Bangladesh, smaller cities are highly dependent on paratransit for regular transportation. Paratransit refers to community transportation services that take passengers on individualized routes, in contrast to mass public transit with fixed timetables and journeys. The paratransit vehicle, also known as an easy-bike, looks like a cycle rickshaw and operates through battery power. It is a modern version of the manually driven tricycle rickshaw with the ability to carry more passengers (i.e., 6 versus 2 passengers) at higher speeds (15 km/h on an average). Easy-bikes account for an average of 30,000 passenger-miles with nearly 100 ton-miles of goods movement annually in the whole country [30]. This mode of transport is very popular outside of Dhaka and in comparatively smaller cities such as Rangpur. Paratransit options are usually considered informal transportation systems because the modes and drivers are not formally registered to operate within the city; as the vehicle registration process requires time and money, many easy-bike owners start driving before receiving formal registration [30–34]. In Rangpur, there are approximately 300 registered easy-bikes transporting passengers and goods within and outside the city boundary [35]. The drivers associated with these easy-bikes earn approximately BDT 800 to 1000 (approximately USD 10 to 13) per day, with an average of five family members dependent on each of them [33,35]. As a result, drivers are keen to make as many trips as they can, from 6 a.m. in the morning to 10 p.m. at night, so that they can earn a decent livelihood. However, since the advent of the COVID-19 pandemic, fewer passengers have been using this paratransit mode because of the fear of COVID-19 infection from these poorly maintained vehicles. Consequently, the number of easy-bike users (both passengers and goods) have decreased drastically in last five months. The drivers are struggling to meet the basic regular needs of their family members in this unwanted situation. The present research is an attempt to understand the nexus of COVID-19 on the regular life of drivers of easy-bikes. Specifically, it aims to address the following research questions:

- Has the COVID-19 pandemic affected the livelihood sustainability of easy-bike drivers?
- In particular, has the COVID-19 pandemic negatively affected the financial capital, i.e., income, of easy-bike drivers?
- How has the workday of easy-bike drivers changed since the advent of the pandemic, compared to before?

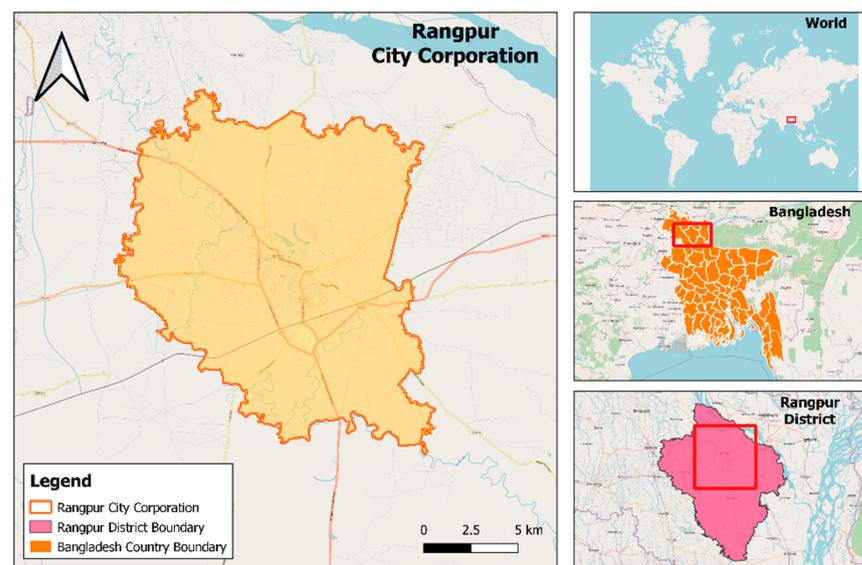
Moreover, the outcomes of this paper explain the need for readjusting the lifestyles of poor people associated with paratransit systems in the face of economic downturn in a typical mid-sized Bangladeshi city (i.e., Rangpur).

### 3. Study Area

We chose the city of Rangpur as our study area to conduct this research. Rangpur is one of the eight divisional districts situated in Rangpur Division in the northernmost part of Bangladesh and serves as its major city. Figure 1 demonstrates the location of Rangpur city in the context of Bangladesh. The city itself comprises 33 small administrative divisions with an approximate area of 205.76 km<sup>2</sup> [35].

Rangpur municipality gained city corporation status (one of the 12 city corporations across the country) on 28 June 2012 [35]. The city corporation area of Rangpur is highly connected with other parts of the country as the town center works as a hub for transportation systems covering Bangladesh's northern region [36]. About 80% of the area of Rangpur district consists of alluvial soil of the Teesta Basin, while the remaining 20% is barind soil [37]. As a result, the city of Rangpur is considered one of the critical nodes for transporting agricultural products throughout the country. Consequently, millions of people regularly travel through the city, making the area especially vulnerable to the recent COVID-19 pandemic. Although no database for transport exists, an increase in transit maybe inferred from the city's rapid urbanization following its achievement of city corporation status. By 2014, the amount of built-up land in Rangpur had doubled from around 18% in 2000 to around 36% [38]. In the 2011 census, the population of Rangpur city was 307,053, but by 2017, the city corporation encompassed a population of 796,556 [39,40]. Since Rangpur received its city corporation status, easy-bikes have gained immense popu-

larity among the commuters and local residents making regular trips within and beyond the city boundary. Many more easy-bikes have begun to operate in last 8 years to meet the growing demand of passengers. In a survey by Pramanik and Rahman [41], a majority of respondents believed that easy-bikes had greatly improved connectivity within Rangpur since their introduction. Furthermore, Rangpur City has been longstanding as a dynamic city with many healthcare services and a medical college hospital in the area serving the local people.



**Figure 1.** Location map of Rangpur division and city in the context of Bangladesh. Authors' illustration.

During the recent pandemic, the Rangpur Medical College and Hospital has been working as a COVID-19 testing center under the oversight of the Ministry of Health of the Government of Bangladesh. This center provides approximately 12,000 tests per day, with an additional center recently opened. The facility is equipped to test 376 samples per day [42,43]. Rangpur was selected as the study site because it is a representative medium-sized city by population density, with COVID-19 test rates roughly comparable to those of other mid-sized divisional headquarters, Rajshahi and Khulna [39,44]. Easy-bikes were the mode of transport chosen for study as they were identified as the most prevalent form of paratransit in the city, constituting nearly two-fifths of Rangpur's overall traffic composition [41].

#### 4. Methods

To fulfil this research's aims, we used mainly quantitative and qualitative primary data obtained through short, structured surveys distributed to the respondents. The quantitative questionnaire was prepared based on variables related to the daily income strategy of easy-bike driving, as financial capital was the focal topic of our study. This was supplemented by qualitative questions on broader livelihood impacts, following the remaining four capitals. The following numerical and categorical variables were included in the survey: age, number of dependent family members, vehicle ownership (personal or rented), time spent engaged in the driving profession, hygienic preparedness during COVID-19, and the measures used to manage daily expenditures. Respondents were asked to provide the data for the following variables for the periods before and during COVID-19: daily income, monthly maintenance cost of the vehicles, driving schedule, and passengers per trip. The respondents also provided some qualitative contextual information about how they had entered the easy-bike business.

This survey was supplemented by quantitative and qualitative secondary data in local and national government statistics, print media sources, photographs taken in the field,

and other existing reports. These mixed methods provide a more comprehensive overview of the concerns facing easy-bike drivers when discussing the wider livelihood implications of their income disruption. The data were subsequently analysed and synthesized to understand and provide conclusions about the livelihood consequences of COVID-19 on easy-bike drivers, especially on their financial capital.

#### *4.1. Sample Selection and Primary Survey*

We selected a sample of 70 ( $n = 70$ ) easy-bike drivers to survey. Note that there are approximately 300 easy-bike drivers officially registered in Rangpur city, and we targeted a sample that would provide less than an 11% (10.27% in this case) margin of error. We randomly surveyed the available easy-bike drivers on the street at five major intersections of the city from 6 a.m. to 4 p.m. in July 2020. The survey team requested the time of the easy-bike drivers at intersections when they were not on duty. The intentions and scope of the survey were explained, including the anonymity of the data, so that the drivers could offer their voluntary and informed consent to the research. Upon being requested for a short interview within a 15 min time window, approximately 30% of drivers were not interested in talking to the survey team. However, the remaining 70% of drivers accepted the invitation to discuss their situation and explained issues they had relating to their livelihood under the pandemic situation.

The structured questionnaire interview was conducted while maintaining the necessary physical distancing and following the precautionary guidelines from the Ministry of Health. The survey team sent out to the field to obtain the primary data was small, consisting of only two individuals. The survey team always maintained the recommended 2 m (6 feet) physical distance, wore face masks, and used disposable gloves at the survey points.

#### *4.2. Summarizing Data*

We analysed the obtained results using statistical software and summarized them in a simple but scientific fashion using graphs and tables. We also collected photographs during the survey and used them as supporting information to explain the situation in further detail. Once we finished collecting the interview data, we first secured them as printed copies. We stored these for three days to ensure they would be safe to handle in case they had been contaminated. After this point, we translated the data into English and uploaded them to the computer for further analysis. Then we analysed the data using statistical software (MS Office Suite 10 and SPSS Statistics 22.0.1 used at Khulna University) in order to summarize them in graphs and tables. We also used ArcGIS software to prepare maps using WGS84 projection systems (Figure 1). Furthermore, for secondary data, we reviewed the contemporary literature related to the COVID-19 outbreak and livelihood issues worldwide, emphasising developing countries in the global South. We relied often on daily newspapers (in their printed form in most cases) to understand issues related to poverty-stricken people in the study area. The information was used mostly for discussion purposes, to support our primary findings.

#### *4.3. Limitations*

The main limitations of the study derive from its quick design and data collection in the effort to provide a timely survey of the novel situation. The size of sample taken into consideration is small. While illustrative of the impact of the COVID-19 pandemic on easy-bike drivers' income, it may not be representative. Likewise, while it can offer some insights into the impact of the pandemic, it does not provide a full quantitative picture of livelihood effects, especially in the long term. While we have provided an overview of general livelihood impacts, the survey is primarily concerned with income effects and the daily routine of easy-bike business as an income strategy.

## 5. Results

### 5.1. Background and Socioeconomic Profile

According to the recent government data until 12 June 2020, Rangpur division has tested 20,350 people for COVID-19 cases (Table 1). However, the number of tests administered were only 1554 persons per million. Additionally, government guidelines are in place that tell people not to go out except for emergency situations. However, offices, small businesses, and other government services are still operating in the city area, with some time limits and appropriate health measures as recommended by the concerned authorities. As a result, the number of people using the easy-bikes is drastically decreasing, directly affecting the income of the poor people associated with the easy-bike-related businesses in the study area.

**Table 1.** Summary statistics of the easy-bike drivers' profile ( $n = 70$ ).

	Mean	Std. Dev.	Min.	Max.
Age	30.88	10.03	18	54
Household size	4.76	1.64	3	10
Years active	6.06	3.85	0.7	15

Table 1 shows the summary statistics of the respondents' background, including their age, the number of dependents they have, and the number of years they have been active as easy-bike drivers. Interestingly, we noticed that most of the easy-bike drivers surveyed had been operating their vehicles for 6 years on average. This suggests that after the declaration of Rangpur's city corporation status in 2012, many people chose easy-bike operation as their new profession. Only a few drivers had been in this business for 10–15 years. Note that these drivers had been working in non-motorized rickshaws before the introduction of easy-bikes in 2010. Additionally, some new drivers have taken up the profession only since last year, after expressing a keen interest in the transportation sector and receiving loans from financial institutions to run their business as small- and medium-size entrepreneurs in the city.

Furthermore, the average age of the easy-bike drivers surveyed here was around 31 years. As per the cultural norm, people at this age generally have a family with an average family size of four [44]. Typically, all the family members are dependent on the household head for their daily livelihoods. Accordingly, among the surveyed easy-bikes drivers, the average number of dependents was about five. Overall, the number of dependents ranged from three to ten Table 1.

### 5.2. Summary of Livelihood Effects

In the qualitative survey, respondents reported variable effects on their overall livelihood. Here, they are addressed in terms of the five capital assets under the livelihood capitals pentagon. Alongside financial capital, human capital may be highly threatened under a pandemic scenario as it concerns the health of household members, in addition to their skills, knowledge, and labour capacity. Although health concern was usually present among households, the adverse impacts sustained emerged from reduced food intake rather than from COVID-19 infection. Some household members had begun to suffer from nutrient and protein deprivation and starvation. However, they faced inadequate medical support; one interviewee said, "Most of the time, doctors prescribed excess medicine and diagnostic tests, which are not available in the hospital, and we are unable to test due to the financial crisis and excess cost of the private diagnostic lab. It is also not clear how much it cost for the COVID-19 test". As a result, they have no alternative but to remain without proper medication. Again, respondents perceived earning a regular livelihood to support subsistence as a more urgent issue than protecting household health against infection. Notably, most respondents claimed they did not test for COVID-19 and treated any symptoms with accessible generic medicine due to time and money constraints. Thus, while

health was unambiguously affected, the prevalence of COVID-19 itself among households is uncertain. They gave less importance to their health than to earning a daily livelihood. Nevertheless, on account of the COVID-19 situation, they often washed hand and used a mask.

Overall, many respondents felt that the pandemic and lockdown had jeopardized aspects of their social capital, most notably political connectivity. They felt that local leaders ignored their plight due to the lack of significant aid distribution and relief from the government and other organizations. One interviewee claimed, “We have been deprived of government relief and subsidies. There are no significant aid distribution and support from government organization or local political leaders during the pandemic”. Meanwhile, some were moved to break lockdown regulations to continue earning a livelihood, increasing the sense of disunity between low-income groups and the authorities. The pandemic conditions brought the low status of some respondents into sharp relief. Within households, some reported that domestic violence had risen as a result of poverty and depression.

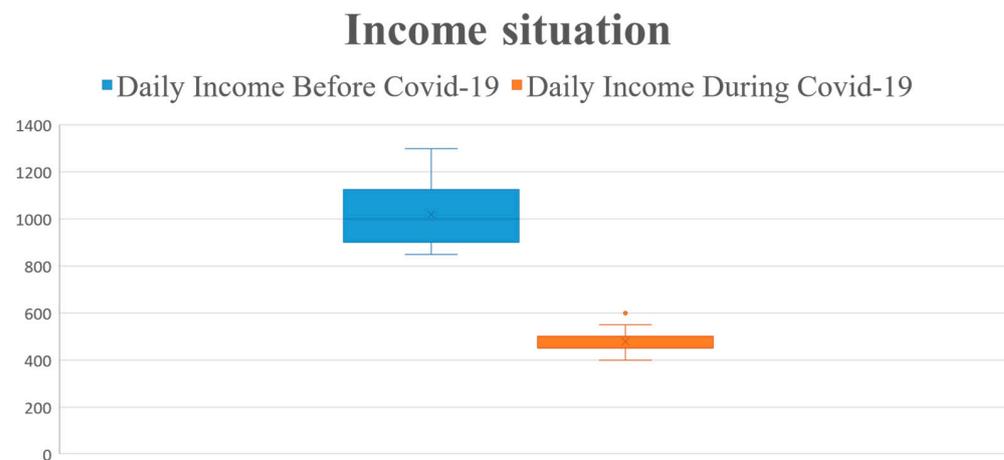
The underlying physical capital of the easy-bike drivers and their households is low, but it did not sustain significant impacts under the pandemic scenario. Housing conditions are poor as most families reside in slums or tin-shed housing, while a few respondents commute from villages. Most households do not have any utility services aside from electricity; they collect water from tube wells or electric pumps. However, respondents did not face any water scarcity or changes in utility services at home due to the pandemic. Natural capital among easy-bike drivers is also low, as most urban dwellers rely on the service sector income. Although these capitals did not experience immediate changes, their poor condition has exacerbated the strains of life under the pandemic. For example, without natural capital, households cannot turn to agriculture or resource extraction as an alternative livelihood when the easy-bike occupation loses viability.

The impact on the financial capital of the easy-bike drivers and their households, the primary focus of the quantitative study, is elaborated in the following section.

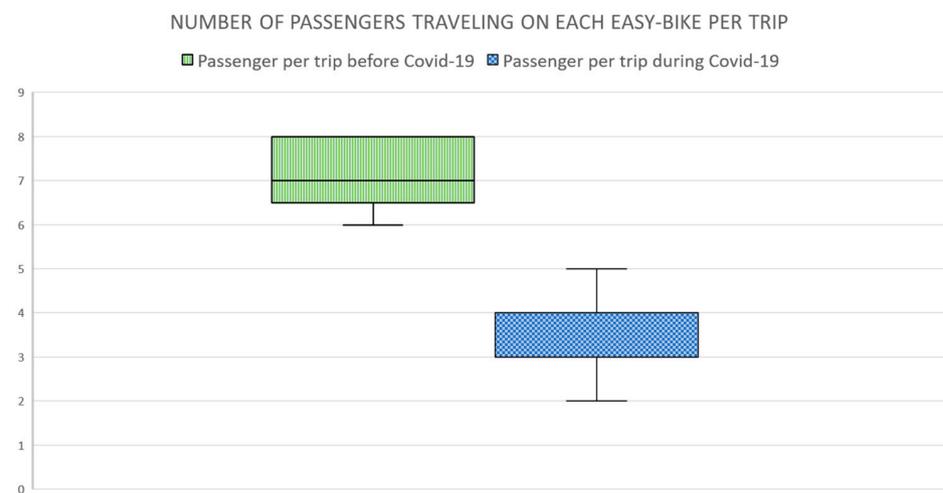
### 5.3. Income and Occupation Effects

The daily average income of the easy-bike riders has diminished significantly since the onset of the COVID-19 pandemic (Figure 2). Before the pandemic, the drivers earned an average of about BDT 1100 per day. During the pandemic, this fell by about a half to BDT 500. Interestingly, the easy-bikes’ monthly average maintenance expenditures were approximately BDT 4500 (approximately USD 60) before the COVID-19 pandemic. It has remained at approximately BDT 3700 (USD 50) per month on average. However, there was a significant income difference before and after COVID-19 ( $t = 23.1672, p < 0.05$ ). Note that the drivers were spending more time on the street during COVID-19 in order to search for passengers. The majority of the drivers reported that they did not have their own vehicle and instead rented it for their regular income after spending the associated maintenance costs. Drivers report that the electricity charge required for these vehicles remains the same, and if the vehicle does not operate on the street, the batteries may fail in two weeks. To keep these vehicles functional, drivers are now asking for lower rents. Results show that the average monthly maintenance cost remains relatively similar to that before the pandemic, in contrast to the reduction in the regular income of the drivers.

The COVID-19 pandemic has caused disruptions to travel activities worldwide since the outbreak first emerged in November 2019 [45]. Bangladesh has been experiencing a situation similar to that occurring globally, as people fear travelling outside of their homes. However, since the end of June 2020, the government has withdrawn some of the travel restrictions, and people have been travelling again for their daily livelihoods and earnings [42]. Figure 3 demonstrates that the average number of passengers per trip on the easy bikes has dropped from approximately eight people to four people (about 50%) during the COVID-19 outbreak. This accordingly corresponds to a similar reduction in average income (Figure 2).



**Figure 2.** Daily average income of the easy-bike drivers.

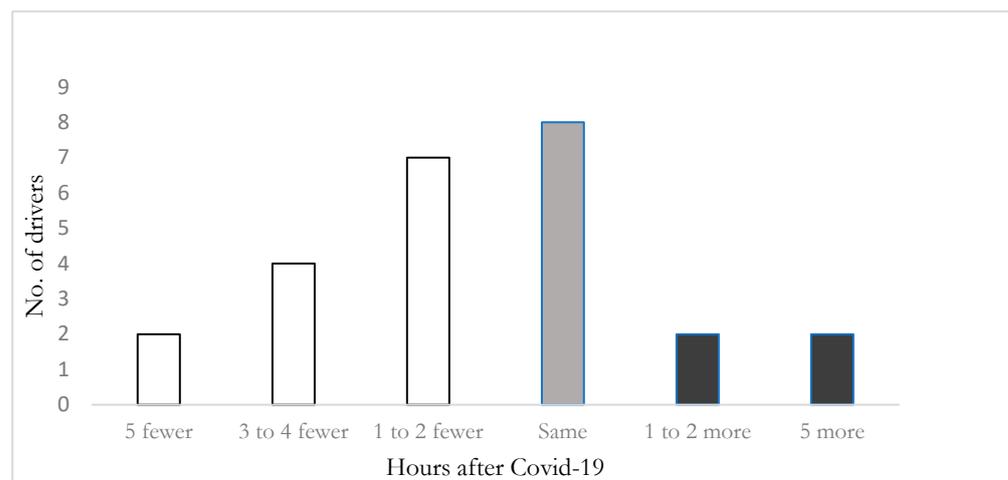


**Figure 3.** Number of passengers travelling on each easy-bike per trip.

Furthermore, regarding hygienic preparedness in the face of the COVID-19 pandemic, all of the 70 easy-bike drivers in the survey reported using some form of personal protective equipment (PPE) during their shifts. A strong majority of them used a face mask as their sole form of protection. However, only five drivers also mentioned using some form of PPE that helped protect against transmission of the virus via touch, namely hand sanitizer and gloves. One driver reported also using goggles to protect their eyes.

Figure 4 shows the business schedule of the easy-bike drivers before and during the COVID-19 pandemic, i.e., the hours at which the drivers reported that their easy-bikes were operational. It demonstrates that there were some changes to the drivers' working schedules following the onset of the pandemic, as they attempted to adjust to the changing situation by shifting their schedules in turn. Notably, several drivers reported having overall shorter schedules or an earlier finishing time than before COVID-19 in response to the reduced passenger demand. On the other hand, a handful of drivers were on the road for extended hours since the onset of the pandemic in order to search for passengers who had become scarcer.

Finally, respondents were asked how they managed their daily expenditure to sustain their households during an income shortfall, such as the present pandemic. The majority mentioned they resorted to relying on loans, either microcredit or taken from relatives. However, many also simply had to reduce their consumption. A few of the easy-bike drivers had savings, and only two had alternative income strategies to rely upon (farming and a part-time fruit business).



**Figure 4.** Change in drivers' working hours since COVID-19 ( $n = 70$ ).

## 6. Discussion

Outside of the capital city of Dhaka, in the small- and medium-sized cities of Bangladesh, easy-bikes have become the cheapest and most immediately accessible paratransit mode [35,46]. Passengers use easy-bikes mostly for travelling within short and medium distances [47]. In Rangpur, people often prefer to travel by easy-bike rather than by traditional rickshaws because they have a lower fare than human-pulled rickshaws. Therefore, easy-bikes provide almost a door-to-door transport service, as an affordable and efficient mode of travel in country's medium-sized cities, including Rangpur. Because of limited testing facilities in divisional areas such as Rangpur, and a low rate of testing, it is difficult to know the actual COVID-19 infection rate in the area [42]. According to the Health Department of the Government of Bangladesh, the COVID-19 infection rate in Rangpur is still lower than in some other city corporations as of the time of this study, but it has shown an increasing trend [48]. The pandemic has directly influenced peoples' daily lives and mobility in the city. Due to the fear COVID-19 infection, people limit their daily travel, especially travel using modes of public transit. This has a knock-on result on the transportation sector, especially on its poor workers, such as the easy-bike drivers, who were highly reliant on the city's dynamic and mobile population.

In accordance with health guidelines provided by authorities, many people within Rangpur City choose to avoid travel by easy-bike as it is a small vehicle within which physical distancing is impossible to maintain (Figure 5). At its comfortable capacity, six people may occupy the vehicle, sitting both side by side and face to face at close proximity; however, even with one or two passengers, the requisite two metres of distancing is not attainable. Furthermore, the easy-bike is a closed space as compared to the traditional open-air rickshaws, where the passenger does not have a roof over their head (Figure 6)—this may mean the latter presents a more appealing choice of paratransit for passengers concerned about COVID-19. Furthermore, regarding easy-bike drivers' own compliance with health regulations, the present study shows that drivers largely defied health guidelines regarding COVID-19, as the vast majority only wore face masks and did not report using hand sanitizer or gloves to reduce the risk of transmission via touch.



Figure 5. Driver and passengers riding an easy-bike in Rangpur city.

P.C.: Shakil 2020.



Figure 6. Easy-bikes and rickshaws on a major road in Rangpur city.

P.C.: Shakil 2020.

Therefore, easy-bike drivers emerge as a group who are particularly hard hit by the circumstances of the COVID-19 pandemic. Aside from income, the pandemic also had a minor influence on the business schedules of the drivers, who adjusted their hours in response to these novel circumstances. Crucially, however, the reduction in passengers has resulted in a significant deterioration in the actual daily incomes earned from easy-bike operation. The survey shows that at the time of the study (July 2020), the number of passengers and the regular income of the drivers had more than halved since the advent of the pandemic (Figure 2). Moreover, as most of the easy-bike drivers in Rangpur City rent the easy-bikes they operate, they have to spend a larger proportion of their income for the daily maintenance costs of the vehicle, which remain largely similar to before (Figure 3). This suggests that while rents, electricity, and household costs remain almost the same as before the pandemic, they must now be maintained with only around 50% of the workers' previous income. It is also important to note that the drivers each have several dependents reliant on their income. Thus, the livelihoods of the easy-bike drivers and their dependents, which were already relatively precarious before the COVID-19 pandemic, are now even more vulnerable. Reduced income may make it a struggle for easy-bike drivers' families to manage house rents, children's education expenses, healthcare expenses, food expenses, and other daily necessities. Most of those surveyed in the present study reported that they had to resort to taking loans to maintain their daily needs, usually from relatives or microcredit banks. Many claimed that they were reducing their daily expenditures as much as possible. A minority of the drivers conceded that they often faced starvation without being able to manage their daily expenditures. Overall, various attributes identified as risk factors—such as service sector profession, socioeconomic status, informal and self-employment, lack of savings [49]—have made easy-bike drivers' livelihoods especially vulnerable during the pandemic situation. However, when we conducted the survey for the study, the restrictions and lock-down condition were still in place. There might be alternative arrangements of livelihoods, but we could not assess those possibilities to bring them into the current scope of the paper. In addition, we conducted the field survey during a difficult time with lots of fear among people from different groups due to the potential of infection. This study provides a brief overview of the effect on the viability of their income strategy, especially in light of the pandemic's broader livelihood effects.

## 7. Concluding Remarks

This research has explored how the easy-bike drivers in Rangpur city are struggling to maintain their livelihoods under the current COVID-19 pandemic situation. Following the introduction of the easy-bike as a mode of paratransit in medium-sized cities such as Rangpur, it had become a popular choice for city travellers due to its lower fare compared to its counterparts on the roads. Many people then started driving easy-bikes as their profession, and it became a major income source for young workers with low educational backgrounds. However, maintaining physical distancing is quite impossible while travelling by easy-bike, making many city people reluctant to use them during the COVID-19 pandemic. This drastically reduced the number of passengers per trip taken by the easy-bikes, which accordingly reduced the daily income of easy-bike drivers by more than 50%. The guidelines for the public to protect against COVID-19 spread are in place for the foreseeable future. If this pandemic situation persists for a long period, easy-bike driving will no longer be a viable source of income for the people currently engaged in this profession. Their families are likely to be pushed into deeper poverty for a long duration [50].

Further exploration of the quality of the easy-bike drivers' other livelihood capitals, such as social networks, can suggest the extent of such duress and the best strategies for ameliorating it. The present study highlights the emerging need for policymakers to provide economic assistance to these workers. The current struggle, which has already necessitated reliance on loans from relatives and sometimes starvation, indicates an urgent need for formal assistance for poor workers in the transportation sector as they cope with the immediate effects of the pandemic on their wages. This study has identified easy-bike

drivers as a highly affected sector of the population and begun to explore the nature of the pandemic's concerns on them. However, further studies are required to explore the extent to which easy-bike drivers, and other poor transit workers in Bangladesh and developing countries the world over continue to be affected in the short and long term under this novel pandemic situation.

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