

Federal Republic of Nigeria

**Job-creating Ecosystem Development Project**  
**by the Popularization of MaaS Preparation**  
**Survey**  
**(Private Sector Investment Finance)**  
**Final Report**

**January 2022**

**Japan International Cooperation Agency**  
**(JICA)**

**Yamaha Motor Co., Ltd.**

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### Abbreviation Collection

Abbreviation	Formal Name
ACOMORAN	Amalgamated Commercial Tricycle and Motorcycle Owners, Repairs and Riders Association of Nigeria
AfDB	African Development Bank
AHHD	Human Capital, Youth and Skills Development Department
AIDS	Acquired Immunodeficiency Syndrome
BRT	Bus Rapid Transit
BS	Balance Sheet
CCI	Certificate of Capital Importation
CEO	Chief Executive Officer
CF	Cash Flow Statement
CO	Carbon Monoxide
COO	Chief Operating Officer
CSP	Country Strategic Paper
CTO	Chief Technology Officer
CYMNG	CFAO Yamaha Motor Nigeria Ltd.
D/E Ratio	Debt Equity Ratio
DCC	Department of Climate change
DSCR	Debt Service Coverage Ratio
EA	Evaluation and Analysis
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
EIA	Energy Information Administration
EMoP	Environmental Monitoring Plan
EMP	Environmental Management Plan
EU	European Union
FEPA	Federal Environmental Protection Agency
FGN	Federal Government of Nigeria
FME	Federal Ministry of Education
GDP	Gross Domestic Product
GHG	Green House Gas
GPS	Global Positioning System
HC	Hydrocarbon
HIV	Human Immunodeficiency Virus
ICCC	Inter-ministerial Committee on Climate Change
IMF	International Monetary Fund

<b>Abbreviation</b>	<b>Formal Name</b>
IMM	Impact Mitigation Monitoring
IoT	Internet of Things
IT	Information Technology
LAMATA	Lagos Metropolitan Area Transport Authority
LASG	Lagos State Government
LMA	Lagos Metropolitan Area
LRT	Light Rail Transit
MaaS	Mobility as a Service
Max	Metro Africa Express
MBSN	Mobility Business Service Nigeria
NDC	Nationally Determined Contribution
NDF	Non Deliverable Forward
NESREA	National Environmental Standards and Regulations Enforcement Agency
NGN	Naira
NOx	Nitrogen Oxides
NPC	National Planning Commission
ODA	Official Development Aid
PCR	Polymerase Chain Reaction
PCU	Passenger Car Unit
PL	Profit and Loss statement
PoC	Proof of Concept
PPR	Planning, Policy and Registry
SLCP	Short-Lived Climate Pollutants
TBD	To Be Determined
TICAD	Tokyo International Conference on African Development
TOR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
US \$ / USD	United States Dollar
YEI MDTF	Youth Entrepreneurship and Innovation Multi-donor Trust Fund
YMC	Yamaha Motor Co., Ltd.
YRA	Yamaha Riding Academy

## Summary

### 1. Business background and history

In Nigeria, there is a shortage of employment opportunities, especially for young people and women, and chronic traffic congestion and accidents occur frequently in Lagos and the surrounding economic metropolitan areas, so measures to solve these issues are urgently needed. Riding motorcycles serves as a source of employment for the unemployed and is a socially important profession. To make a living riding a motorcycle, it is common for people to procure motorcycles themselves and participate in the business as a sole proprietor. However, the poor do not have access to formal credit lines and often rely on illegal loan sharks to obtain a vehicle.

The main purpose of this project is to promote job creation and support the independence of young people and women in Nigeria through a motorcycle leasing business. The target beneficiaries are assumed to be the poor who cannot buy or rent motorcycles with their own funds. Along with a motorcycle taxi business, we will establish a system to lend motorcycles to these poor people and have them repay the lease fees from the income earned every day. In addition, by strengthening the capabilities of motorcycle riders and mechanic engineers, we will help create an environment of traffic safety and aim to promote the industry in collaboration with local start-up companies.

In this survey, in order to confirm whether the proposing company can develop a stable business, we verified business continuity, the capital recovery scheme and business model, while researching and analyzing the predicted development effects.

### 2. Examination of business continuity

#### ● Motorcycle situation in Nigeria

In Nigeria, motorcycles occupy an important position as a means of transportation.<sup>[1]</sup> Supported by the largest population and highest population growth rate in Africa, the number of motorcycles sold is expected to increase in the future. According to the analysis by the survey team, the number of vehicles sold will exceed 1 million in 2030.

#### ● The situation of motorcycle riders in Nigeria

The use of motorcycles in Nigeria is centered on commercial use, not as a means of personal transportation. There are no official statistics on the number of motorcycle riders in Nigeria, but according to a 2019 Reuters report, there were 8 million motorcycle riders in Nigeria as of 2019.<sup>[2]</sup>

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<sup>1</sup> Akintola Abayomi, "SURVIVAL STRATEGIES OF COMMERCIAL MOTORCYCLE OPERATORS IN YABA LOCAL GOVERNMENT AREA OF LAGOS STATE, NIGERIA", 2019

<sup>2</sup> Alexis A., "Motorbike taxi firms rev up for race into West Africa", Reuters, June 12, 2019, (Viewed December 23, 2021) <https://www.reuters.com/article/us-nigeria-tech-idUSKCN1TD0YM>

- **Status of motorcycle riders (attribute / personas)**

Commercial motorcycles serve as a source of employment for the unemployed in Nigeria, and many motorcycle riders are said to be poor.

- **User needs**

Nigeria has poor transportation infrastructure, and motorcycle taxis are useful for transporting people and goods. Considering the services provided by Nigeria's ride-sharing service platform operators to differentiate them from other companies, it is assumed that there are the following user needs.

- Flexibility of usage charges (ability to negotiate usage charges with the driver)
- Ensuring safety and security

The majority of Nigerians follow either Islam or Christianity, and in the case of Muslims, it is difficult for female customers to use male riders for religious reasons, so female riders are also required.

### **3. Formulation of business plans**

- **Business**

The main business of Mobility Business Service Nigeria (MBSN), a subsidiary established by the proposing company in Nigeria, is an operating leasing business. MBSN rents and leases vehicles (motorcycles) to the vehicle management service provided by the local Mobility as a Service (MaaS) platform operator, and earns revenue with a lease fees.<sup>[3]</sup> Their immediate customer is the MaaS platform operator.

MBSN also provides maintenance services as an ancillary service to the operating lease business. MBSN mainly provides services such as regular vehicle maintenance for the motorcycles that are being leased.

Maintenance service provider: MBSN leases the vehicle to the MaaS platform operator, and MBSN provides maintenance for the vehicle.

Maintenance fee mechanism: Maintenance fees are included in the lease fees for MBSN to lease the vehicle to the MaaS platform operator. No separate maintenance fees are required each time.

Employer of maintenance mechanics: The mechanics will work at MBSN, but in the future maintenance will also be handled by the motorcycle manufacturers. Since MBSN will hire the maintenance mechanics, there are mechanics who belong to MBSN, but in the future, in order to meet the market demand, MBSN will also outsource to the service networks of each

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<sup>3</sup> Mobility as a Service (MaaS) referred to in this survey broadly covers mobility in general, and all businesses that carry people and goods and related services are MaaS. An MaaS platform operator is regarded as an entity that develops and operates the mobility management platform.

manufacturer, so it is expected that there will also be mechanics who belong to the manufacturer.

- **Supply capacity of motorcycles including MBSN and other companies**

For motorcycles, MBSN is expected to purchase vehicles in Nigeria from CFAO Yamaha Motor Nigeria Ltd. (CYMNG), a joint venture of the proposing company in Nigeria that manufactures and sells motorcycles.<sup>[4]</sup> The supply plan is to gradually increase from 3,000 units in the Proof of Concept (“PoC”) phase in 2021. In addition, MBSN will consider procuring not only CYMNG motorcycles but also motorcycle models from other companies.

- **Operation of businesses that contribute to development and public interest such as traffic safety**

This project aims to build a safe rider training system and contribute to traffic safety by combining programs from the two perspectives of driving skills and safety awareness. The purpose of running this training business is not to earn profits, but to improve the local traffic safety environment for sustainable and growth-oriented business continuity.

#### **4. Development effects prediction**

The most promising development effect through this project is the creation of new employment for young people and women in Nigeria and the accompanying improvements in living standards. The project is expected to contribute to the creation of employment for riders. In addition, by strengthening the capabilities of motorcycle riders and mechanics, it is expected to contribute to the creation of a safe traffic environment and to promote industry in collaboration with local start-up companies.

From the viewpoint of environmental and social considerations, there is a risk that exhaust gas and noise will increase due to the increase in the number of motorcycles used in this project, but it is assumed that motorcycles that have cleared the exhaust gas and noise regulations of Nigeria will be used. It is assumed that there will be no problem in terms of social considerations.

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<sup>4</sup> The proposing company has established CFAO Yamaha Motor Nigeria Ltd. with CFAO S.A., a French trading company that belongs to the Toyota Tsusho Group as a 50/50 joint venture for motorcycle manufacturing and sales.

## Chapter 1 Business Background and History

### 1-1 Business Background

Nigeria, which is the target of this project, is a member of the Commonwealth of Nations situated in West Africa. With a land area of about 923,000 square kilometers, the capital city of Abuja, and a population of about 200 million, it is the largest in Africa. By 2050, it will surpass the US population and have the largest population outside India and China. It consists of more than 250 ethnic groups, the official language is English, and many ethnic languages are also used. The main religions are Christianity in the south and Islam in the north.

#### ● Lack of employment opportunities for young people

In Nigeria, access to economic opportunities for young people, low-income earners, etc. is limited, and according to National Bureau of Statistics, Nigeria (National Bureau of Statistics)<sup>[5]</sup>, the unemployment rate for young people aged 15-24 is very high at 53.4% (2020). Improving the unemployment rate is an urgent development issue in Nigeria.

In addition to the high unemployment rate, there are many challenges even when there are jobs available. According to the International Labor Foundation, in the case of non-regular employment, employment is often unstable and wages may be arbitrary depending on the employer.<sup>[6]</sup> Non-regular employment has long working hours and employees are sometimes forced to work overtime. In addition, there are some situations in which employees are dismissed without receiving their wages.

#### ● Lack of employment opportunities for women

In addition to young people, Nigerian women have few employment opportunities, and National Bureau of Statistics, Nigeria (National Bureau of Statistics)<sup>[7]</sup> reports that the unemployment rate for women in the fourth quarter of 2020 was 35.2%. Women need to have good, sustainable work opportunities. Most Nigerians are followers of either Islam or Christianity, and in the case of Muslims, it is difficult for female customers to use male riders for religious reasons.

#### ● Motorcycle riders living in poverty

The motorcycle taxi industry,<sup>[8]</sup> which is the target of this project, consists of economically vulnerable people, mainly young people and women, many of whom do not have proper identification and tend not to have access to loans or other formal economic opportunities.

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<sup>5</sup> Trading Economics "Nigeria Unemployment Rate", December 20, 2021, <https://tradingeconomics.com/nigeria/unemployment-rate> (Viewed January 24, 2022)

<sup>6</sup> Japan International Labour Foundation "2019 Labor Situation in Nigeria", August 29, 2019 [https://www.jilaf.or.jp/rodojijyo/africa/central\\_africa/nigeria2019.html](https://www.jilaf.or.jp/rodojijyo/africa/central_africa/nigeria2019.html) (Viewed January 22, 2022)

<sup>7</sup> National Bureau of Statistics, Nigeria "LABOUR FORCE STATISTICS, 2020\_2020\_LFS NATIONAL", April 14, 2021

<sup>8</sup> In this paper, the workers in the motorcycle taxi industry are called "motorcycle riders".

In Nigeria, motorcycle and tricycle taxis provide direct employment to more than 5 million Nigerians, according to a survey conducted by the proposing company. If the average household size is 5, it can be estimated that approximately 25-30 million people are dependent on this industry. On the other hand, this industry, which comprises people from the informal sector, has insufficient training on the safety of motorcycle riding and currently accounts for many of the deaths in road transportation.

Motorcycle riders generally procure motorcycles themselves and participate in the business as sole proprietors, but they cannot use formal credit lines due to poverty and often rely on illegal loan sharks to obtain vehicles. In such a difficult financial environment, even if someone continues to work as a motorcycle rider, they are not able to become an asset owner for many years, making it difficult to get out of poverty.

In Nigeria, where the traffic congestion issues remain unsolved, motorcycles can function as an inexpensive form of urban transportation infrastructure. However, at present, traffic accidents are occurring frequently due to inadequate rider training and an inadequate understanding of traffic safety rules on the part of individual riders. In February 2021, the passage of commercial motorcycles in the Lagos region was completely banned, underscoring the need to popularize motorcycles as a safe form of transportation infrastructure.<sup>[9]</sup>

## **1-2 Purpose of the Business**

In this project, the proposing company will collaborate with a Nigerian company to build a mechanism to provide motorcycles and employment to those who cannot purchase motorcycles. In addition, as a response to the increased risk of traffic accidents associated with the increase in motorcycles, we will develop a training program for certified drivers and mechanics and introduce the program to local driving schools. By focusing on two closely associated challenges, the popularization of motorcycle taxis and the training motorcycle riders and mechanics, we aim to build a safe and secure motorcycle transportation society in Nigeria.

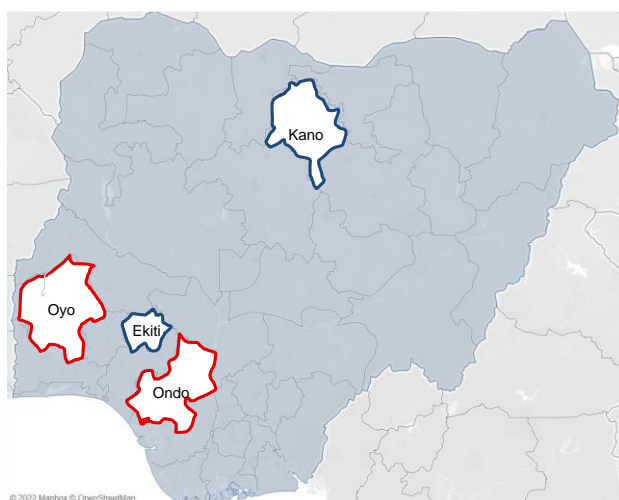
## **1-3 Business Area**

### **● Business area**

The proposing company is collaborating with a MaaS platform operator in Nigeria to develop its business mainly in the states of Oyo (capital Ibadan) and Ondo (capital Akure) in the Federal Republic of Nigeria. The business is scheduled to start in the states of Ekiti and Kano in the near future. In the medium to long term, the business area is expected to expand to African countries such as Ghana, Cameroon and Mali.

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<sup>9</sup> Apart from Lagos, commercial motorcycles are banned in the center of Abja FCT, Kaduna City, and in the states of Delta, Enugu, Kano, Rivers, Abia, Anambra, Bauchi, Plateau, Taraba, Akwa Ibom, Borno, Cross River, Niger and Yobe.



- Existing business development areas:  
Oyo, Ondo (red border)
- Planned business development areas:  
Ekiti, Kano (blue border)

**Figure 1 Project implementation zones**

(Source) Created by the survey team

#### **1-4 Survey Details**

The survey and analysis were conducted focusing on the following four points.

1. Business continuity

We investigated and analyzed whether the entire business consisting of MBSN, a local partner (Max), and motorcycle riders can be operated continuously.

2. Verification of the capital recovery scheme

In this project, it is assumed that the investment and loan from JICA will be utilized in the business in Nigeria to generate operating profits and will be recovered by JICA. As of April 2021, Nigeria's foreign exchange reserves have declined due to the fall in crude oil prices associated with the COVID-19 pandemic, and the conversion from Naira to international currencies such as the US dollar may not be smooth. For this reason, we investigated the situation whether conversion to foreign currencies is possible.

3. Identification of corrections to the business model

As a result of the above, if it is determined that the currently assumed business model does not work well, we will make changes to the business model and verify that it serves a public interest.

4. Development effects prediction

It is expected that this project will contribute to the development of industry, the provision of employment opportunities for young people and women, and the realization of a safe motorcycle society. We investigated and analyzed those effect predictions. We also investigated and analyzed the environmental and social considerations.

#### **1-5 Survey Team Members**

The composition of the survey team members is as shown in Table 1.



**Table 1 Survey Team Members**

Responsibility	Member name	Organization
Business chief, funding scheme	Shoji Shiraishi	Yamaha Motor Co., Ltd.
Funding Scheme Review Assistant 1	Rim Lemchachti	Yamaha Motor Co., Ltd.
Project plan assistant 1	Takashi Yamashita	Yamaha Motor Co., Ltd.
Project plan 1, fund scheme review 1	Tatsuya Imamura	Yamaha Motor Co., Ltd.
Business plan 2, fund scheme review 2	Toshiyoshi Yonezawa	Yamaha Motor Co., Ltd.
Overall supervision of external human resources, supervision of project plans	Tetsuo Shimamura	Mitsubishi UFJ Research & Consulting Co., Ltd.
Business plan 3, funding scheme review 3	Satoru Kubodera	Mitsubishi UFJ Research & Consulting Co., Ltd.
Market research, project plan assistant 2, funding scheme review assistant 2, environmental and social consideration survey, development effects forecast	Naoko Kawate	Mitsubishi UFJ Research & Consulting Co., Ltd.
Development effects forecast, environmental and social consideration	Ryoko Taguchi	Mitsubishi UFJ Research & Consulting Co., Ltd.
Market research assistant, assistant to environmental and social consideration survey	Akane Yamanoi	Mitsubishi UFJ Research & Consulting Co., Ltd.
Project plan assistant 3, funding scheme review assistant 3	Ryosuke Kinoshita	Mitsubishi UFJ Research & Consulting Co., Ltd.
Environmental and social consideration survey assistant 2	Zhou Yue	Mitsubishi UFJ Research & Consulting Co., Ltd.

(Source) Created by the survey team

## Chapter 2 Examination of Business Continuity

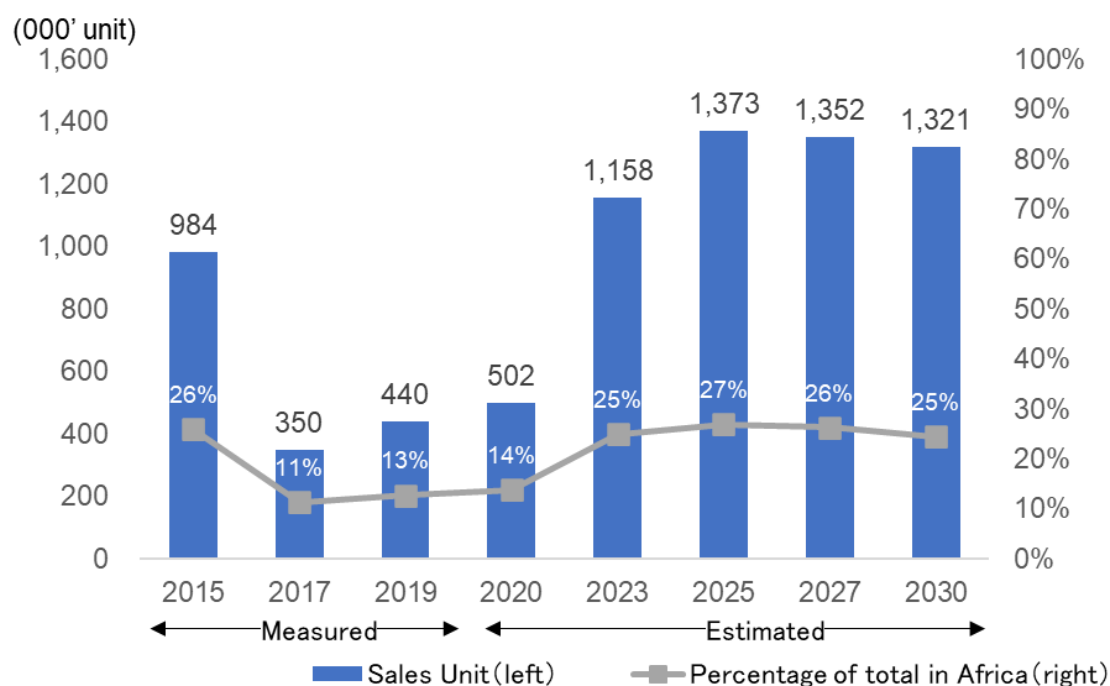
### 2-1 Analysis of Motorcycle Riders

#### 2-1-1 Situation of Motorcycle Riders in Nigeria

- **Motorcycle situation in Nigeria**

In Nigeria, motorcycles occupy an important position as a means of transportation.<sup>[10]</sup>

Supported by the largest population and highest population growth rate in Africa, the number of motorcycles sold is expected to increase in the future. According to the survey team's analysis, Nigeria accounted for more than 25% of new motorcycle sales in Africa as of 2015.<sup>[11]</sup> As of 2019, sales were on a downward trend compared to 2015, but by 2023, sales are expected to exceed one million units and again account for more than 25% of total sales in Africa.



**Figure 2 Trends and forecasts of new motorcycle sales in Nigeria**

(Source) Created by survey team

- **The situation of motorcycle riders in Nigeria**

Motorcycles in Nigeria are mainly for commercial use, and are not used as a means of personal transportation.<sup>[12]</sup> As a result of the increase in unemployment due to the economic crisis in

<sup>10</sup> Akintola A. (2019), "SURVIVAL STRATEGIES OF COMMERCIAL MOTORCYCLE OPERATORS IN YABA LOCAL GOVERNMENT AREA OF LAGOS STATE, NIGERIA", *European Journal Of Social Sciences Studies*, Volume 4, Issue 1, 2019, p. 155

<sup>11</sup> Tawia A. (Africa Transportation Policy Program), "Power Two Wheelers in AFRICA" Motorcyclists Safety Workshop: Riding in a Safe System", presented on June 10, 2021, p. 13

<sup>12</sup> *ibid.*

Nigeria in the late 1980s, the number of motorcycle riders carrying individuals and cargo, especially young people, has increased. Today, commercial motorcycles are one of Nigeria's main modes of transportation, while being affordable and easy to use, making them the most common informal transportation system in the country.<sup>[13]</sup>

There are no official statistics on the number of motorcycle riders in Nigeria. However, according to a 2019 Reuters report, motorcycle ride-sharing service platforms Max and GoKada had 8 million motorcycle riders in Nigeria as of 2019.<sup>[14]</sup>

Motorcycle riders basically procure motorcycles themselves and participate in the business as sole proprietors.

### ● **Problems surrounding motorcycle riders**

Although a motorcycle rider is a source of employment in Nigeria, it is also a social problem. The problems associated with motorcycle riders can be divided into two types: problems experienced by the motorcycle riders themselves, and problems caused by motorcycle riders.

One of the problems experienced by the motorcycle riders themselves is structural poverty. As mentioned above, motorcycle riders generally procure motorcycles themselves and participate in the business as sole proprietors, but due to poverty, loans using formal credit lines are not available, and they often rely on illegal loan sharks to obtain vehicles. In such a difficult financial environment, even if someone continues to work as a motorcycle rider, they are not able to become an asset owner for many years, making it difficult to get out of poverty.

Another problem caused by motorcycle riders is the large number of traffic accidents caused by their dangerous driving, which is a bigger social issue. Especially in the state of Lagos, home to Nigeria's largest city Lagos, at least 1,500 motorcycle rider-related accidents resulting in 689 people killed and 250 people injured occurred between 2015 and 2019, according to reports by the Lagos Metropolitan Area Transport Authority (LASTMA).<sup>[15]</sup>

The state of Lagos took the situation seriously and completely banned the passage of commercial motorcycles and tricycles from February 2020. In addition, there are moves to regulate commercial motorcycles and tricycles in states other than Lagos.

### ● **Platform operators in Nigeria**

On the other hand, the traffic situation in Nigeria has changed significantly since 2010. One of the reasons is the emergence of ride-sharing services. Since Uber started operating in Lagos in 2014, domestic and foreign platform operators have entered the Nigerian market, and Nigeria has

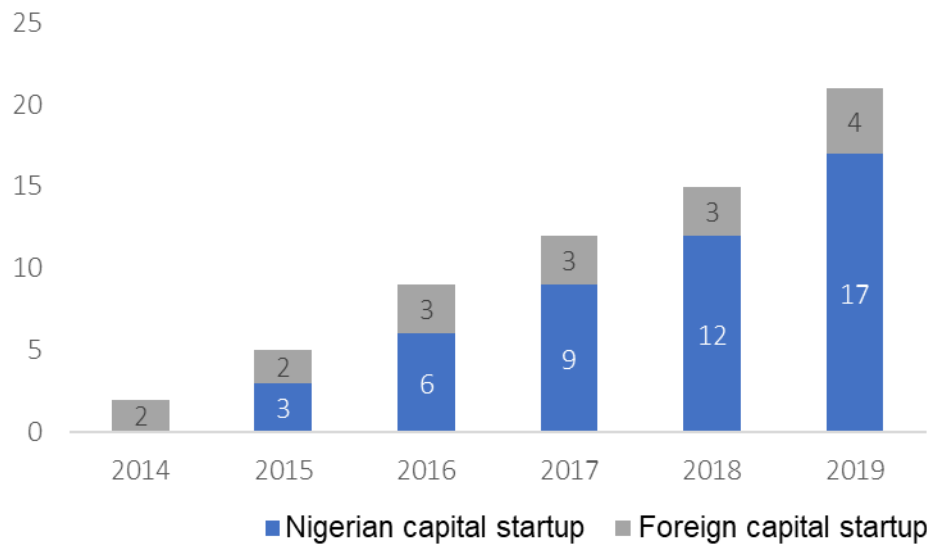
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<sup>13</sup> *ibid.*

<sup>14</sup> Alexis A., "Motorbike taxi firms rev up for race into West Africa", Reuters, June 12, 2019, <https://www.reuters.com/article/us-nigeria-tech-idUSKCN1TD0YM> (Viewed December 23, 2021)

<sup>15</sup> Olasunkanmi A., "Lagos: 689 dead, over 250 injured in 1,500 Okada, tricycle accidents within 4 years — Reports", Vanguard, January 13, 2020, <https://www.vanguardngr.com/2020/01/689-dead-over-250-injured-in-over-1500-okada-tricycle-accidents-within-four-years-reports/> (Viewed December 23, 2021)

become one of the largest ride-sharing service markets in Africa (Fig. 3).<sup>[16]</sup>



**Figure 3 Number of platform operators for ride-sharing services in Nigeria**

(Source) Created by the survey team based on insight2impact Africa’s digital platforms database (2020)

Ride-sharing services have also brought changes to commercial motorcycle riders, which have traditionally operated as informal sole proprietorships. In addition to platform operators such as Uber and Bolt that provide ride-sharing services for cars, startups that develop ride-sharing businesses for motorcycles have emerged. Major companies include domestic startups Max, GoKada, and Ugandan startup Safe Boda. These companies offer registered drivers services such as driving and first aid training and provide them with helmets to match drivers with passengers and achieve safe transportation (see Table 2). Investors are also very interested in these companies, with Max, GoKada, and Chinese-owned ORide raising a total of about US \$185 million in 2019. It is said that about 14,000 jobs have been created.<sup>[17]</sup> However, ORide announced in July 2020 that it would withdraw from the market due to the recession caused by the spread of Covid-19 infections and the Lagos state government’s restrictions on commercial motorcycles.

<sup>16</sup> Chernay J., Matthew D. and Hannah S., “Livelihood experiences of Nigeria’s e-hailing workers”, August 2020, Cenfri, p.2

<sup>17</sup> *ibid.*

**Table 2 Platform operators developing motorcycle ride-sharing businesses in Nigeria**

Company <sup>[18]</sup>	Services	Number of Operating Regions	Operating Regions	Number of riders (2020)	Funding Status
GoKada (Nigeria)	Ride sharing (motorcycles and motorized tricycles), delivery, food delivery	2	Lagos, Ibadan	800	Raised US \$12.4 Million in Series A <sup>[19]</sup> funding by 2019
Max (Nigeria)	Ride sharing (motorcycles and motorized tricycles), delivery, food delivery, electric motorcycle sales	4	Lagos, Akure, Ibadan, Kano	7,300	Raised US \$40.4 million in Series B funding as of 2021
Safe Boda (Uganda)	Ride sharing (motorcycles), delivery, food delivery	1	Ibadan	2,500	Raised US \$1.3 million in Series B funding as of 2019
ORide (China)	Withdrawn from the motorcycle business in 2020	—	—	—	—

(Source) Created by survey team based on press reports<sup>[20]</sup>

### 2-1-2 Status of Motorcycle Riders (Attributes / Personas)

As mentioned earlier, commercial motorcycles serve as a source of employment for the unemployed in Nigeria, and many motorcycle riders are regarded as coming from underprivileged breakdowns. According to interview-based research conducted by South African research firm insight2impact in 2020, more than half of the drivers registered for ride-sharing services are in the 25-34 age group. The next largest group was the 35-44 age group.<sup>[21][22]</sup>(Fig. 4). This shows that nearly 90% of drivers are relatively young in their 20s to 40s. In addition, the percentage of females is very small, and only 1% of the drivers interviewed by insight2impact were female.

Many motorcycle riders do not have a driver's license. For example, as of 2017, 80% of the members of the Amalgamated Commercial Tricycle and Motorcycle Owners, Repairs and Riders Association of Nigeria (ACOMORAN) did not have driver's licenses or a number plates.<sup>[23]</sup>

<sup>18</sup> The name of the country in parentheses indicates the home base.

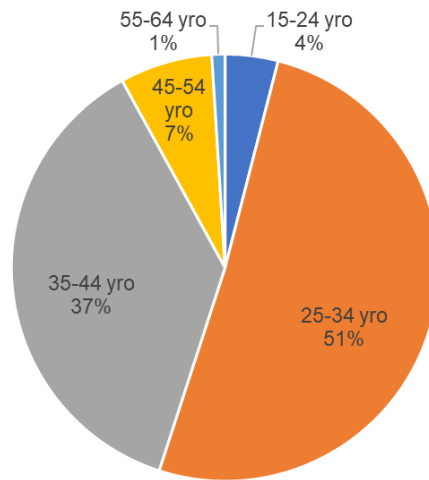
<sup>19</sup> The term "Series" refers to the stage at which investors invest in a company, and is a term commonly used to describe the financing of start-up companies. Although there is no clear definition, Series A refers to the growth stage after the start of business, while Series B refers to the period when the business is on track and management is stable.

<sup>20</sup> References included Techcrunch (<https://techcrunch.com/>) and Techcabal (<https://techcabal.com/>)

<sup>21</sup> Chernay J., Matthew D. and Hannah S. (2020), p. 9

<sup>22</sup> Since we could not conduct large-scale interview-based research this time, we judged that it was sufficient for objective facts, and cited the data in the report on interviews of more than 100 people.

<sup>23</sup> "Why 80% of commercial motorcyclists don't have plate number plates, drivers' licences – ACOMORAN", The



**Figure 4 Age distribution of people registered with rideshare platforms (including car drivers)**  
(N-138)

(Source) Created by a survey team based on insight2impact<sup>[24]</sup>

### 2-1-3 Field Survey by the Proposing Company

This time, the proposing company is also conducting interviews with motorcycle riders (sole proprietors and Max drivers) in Nigeria.<sup>[25] [26]</sup>

#### ● Attributes

First, looking at the age breakdown, most of the interviewed Max drivers were over 45, and despite the small sample of 10 interviewees, it is assumed that there are many middle-aged motorcycle riders, in contrast to the above-mentioned insight2impact survey.

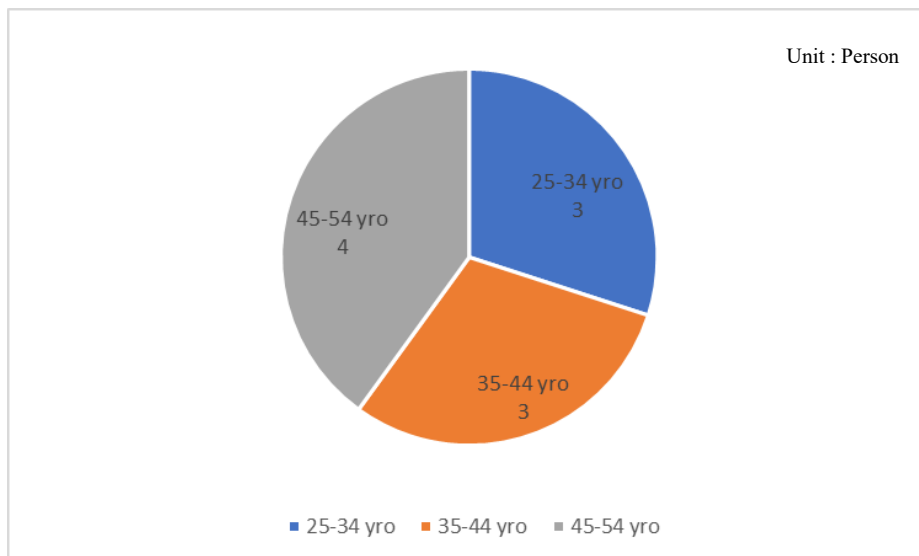
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Eagle Online, September 14, 2017, <https://theeagleonline.com.ng/why-80-of-commercial-motorcyclists-dont-have-plate-number-plates-drivers-licences-acomorán/> (Viewed December 23, 2021)

<sup>24</sup> Chernay J., Matthew D. and Hannah S. (2020), p. 9

<sup>25</sup> The period for this study was short, about one month. Therefore, the number of subjects in the survey was limited.

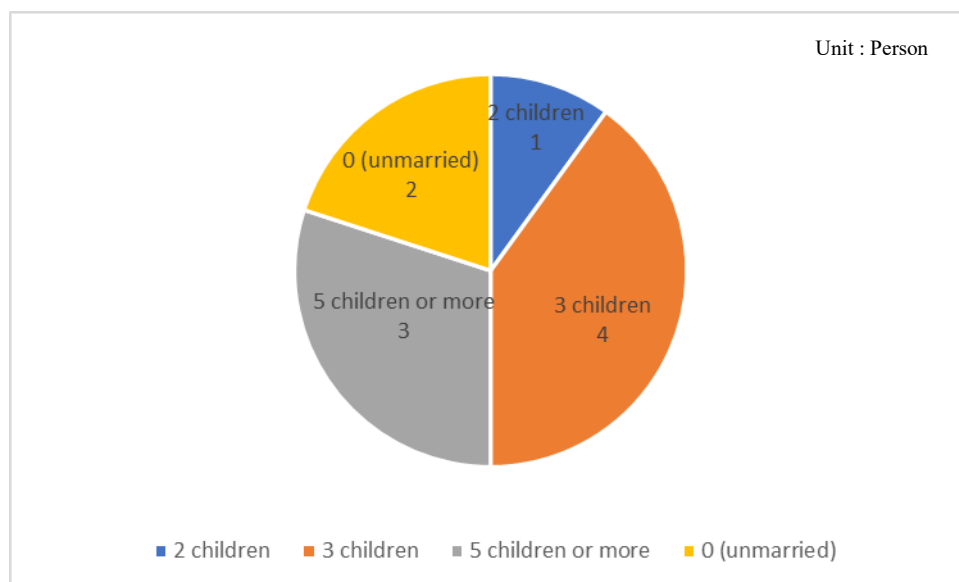
<sup>26</sup> In these interviews, information about the demographic and socio-dynamic attributes of drivers (age / gender, family structure, current annual income, employment rate, work history, educational background, etc.) was only collected for Max drivers.



**Figure 5 Max rider age breakdown**

(Source) Created by the survey team

In terms of household sizes, many were over 35 years old and 80% of them were married. In addition, 70% of riders had three or more children, meaning their households had at least five people.

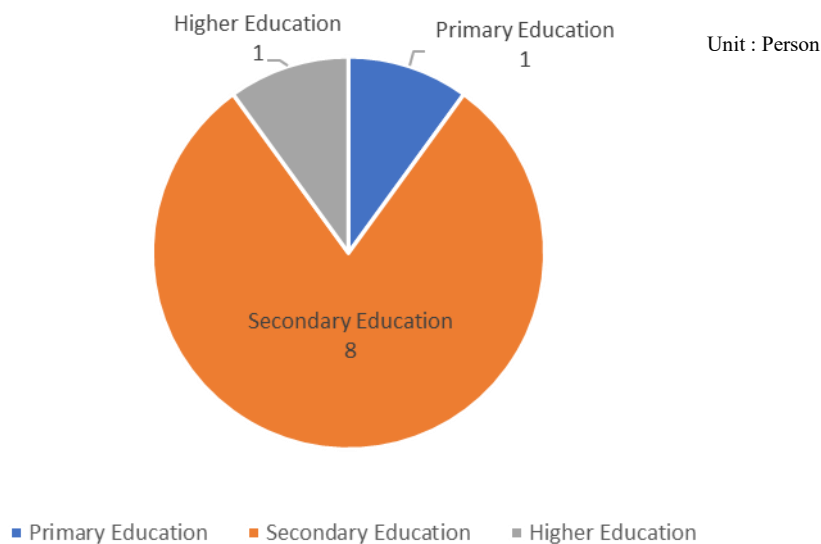


**Figure 6 Number of children**

(Source) Created by the survey team

Regarding academic background, it is often pointed out that many motorcycle riders have low academic attainment, but for Max riders, nine of the interviewees had studied at the secondary

level or higher. Also, some of the riders interviewed said they had to give up going to college because they could not find the money.



**Figure 7 Academic background**

(Source) Created by the survey team

Also, of the Max riders who responded to the interview, only one is engaged in a side job, and the remaining nine are engaged in motorcycle riding full-time. Regarding the level of engagement in the motorcycle riding business, we also interviewed motorcycle riders who were working as sole proprietors, but only 6 out of 12 people were full-time.

● **Qualities of good motorcycle riders**

Max is always looking for motorcycle riders. There are more than 1,000 people on the waiting list for about 100 successful applicants every month, which suggests a certain level of recognition and demand. Max's riders are of high quality, as it is essential that Max screens prospective motorcycle riders and has successful applicants take its safety training program. In addition, there were no delays in the repayment of lease fees by motorcycle riders even in the PoC conducted by the proposing company with Max, suggesting that Max motorcycle riders have the qualities of good riders.

**2-2 Market (user) Analysis**

**2-2-1 Understanding user needs**

Considering the services provided by Nigeria's ride-sharing service platform operators to differentiate them from other companies, it is assumed that there are the following user needs.

- Flexibility of usage charges (ability to negotiate usage charges with the driver)



- Ensuring safety and security

The majority of Nigerians are followers of either Islam or Christianity, and in the case of Muslims, it is difficult for female customers to use male riders, so the availability of female riders is also required.

### 2-2-2 Interview Survey in the Field

With the cooperation of a local research company, we conducted an interview-based survey of taxi service users, including motorcycle taxis in Nigeria. The outline of the survey is as follows.

- **Survey overview**

Implementation time: January 4th to 7th, 2022

Target states (cities): Oyo (Ogbomosho, Oyo, Ibadan), Ondo (Ondo East, Ondo West, Akure)

Number of interviews: 30 motorcycle taxi users (15 each in Oyo and Ondo)

- **Survey Results**

**Table 3 Frequency of use of taxi service**

(unit: person)

<b>Frequency of use</b>	<b>Male</b>	<b>Female</b>	<b>TOTAL</b>
Multiple times a day	8	9	17 (57%)
Once a day	4	3	7 (23%)
2-3 times a week	3	3	6 (20%)
Never	0	0	0 (0%)

(Source) Created by the survey team

The highest percentage (57%) of respondents reported using taxi services multiple times a day. The percentage of respondents who reported using taxi services once a day or two or three times a week was similar at around 20%. In addition, there was no gender difference in usage. The results showed that both men and women used the services the same amount. It was also clarified that most of the respondents who reported using the services multiple times a day used them twice a day, mainly for commuting.

**Table 4 Taxi service user breakdown by academic background**

<b>Item</b>	<b>Primary Education</b>	<b>Secondary education</b>	<b>Higher education</b>	<b>Other</b>
Number of persons	8 (27%)	7 (23%)	10 (33%)	5 (17%)

(Source) Created by the survey team

There were no particular differences in taxi service users linked to academic background.

**Table 5 Types of taxi services used**

(unit: person)

Type	18-24 years old	25-33 years old	34-40 years old	41 and older	TOTAL
Motorcycle (Okada)	5	4	3	1	13 (44%)
Motorized Tricycle (Keke)	3	3	2	3	11 (36%)
Ride sharing service <sup>[27]</sup>	1	2	2	1	6 (20%)

(Source) Created by the survey team

Most of the taxi services used are motorcycles (Okada) and motorized tricycles (Keke), accounting for about 80% of the total. Only 20% of users of ride-sharing services use the app, and it seems that personal services are still preferred in Oyo and Ondo.

**Table 6 Usage of ride-sharing services by family structure**

Response	TOTAL (unit: person)
Uber	2
Bolt	1
Max	1
Gokada	2
Other	-

(Source) Created by the survey team

There were no significant differences in the use of ride-sharing services.

**Table 7 Criteria for choosing taxi services by household size**

(unit: person)

Selection criteria	2-3 people	4-6 people	7-9 people	10 or more people	TOTAL
Price	7	4	2	1	14 (47%)
Safety	3	2	1	1	7 (23%)
Newness of the vehicle	3	2	1	-	6 (20%)
Vehicle brand	2	1	-	-	3 (10%)

(Source) Created by the survey team

<sup>27</sup> Refers to the use of ride-sharing services using apps like Uber and Bolt. The use of motorcycle services such as Max and Gokada is also included in this item

Price ranked highest for all household sizes, but the safety and newness of the vehicle are both considered to be linked to safe use, suggesting that price and safety are the most important criteria for using taxi services.

Despite the small sample size, this survey showed that taxi services, especially motorcycle taxis, are widely supported as a means of transportation in Oyo and Ondo, where MBSN is considering expanding, and that this is not dependent on gender, household, academic background, etc. Users care about price and safety the most.

Some interviewees said that they use motorcycle taxis because of their low prices, and it is thought that the price of use is related to the fact that private motorcycle taxis remain popular rather than ride-sharing services. In order for Max to expand its market share in the future, it will be necessary for the company to show flexibility in responding to price negotiations from passengers.

As for safety, which was another area of high demand, Max also provides safety training to registered riders, and if it can appeal to this point, it will be possible to meet this need.

Although it was not able to hear the needs of actual users in this survey, other promising MaaS areas using commercial motorcycles include food delivery services, medicine delivery services to hospitals and individual homes in the medical field, and blood transportation services (market scale: 148 million USD).<sup>[28]</sup> Some startups have actually raised funds for these services.<sup>[29]</sup> In light of the above, further expansion of the MaaS market beyond the motorcycle taxis business is expected.

## **2-3 Search for Prospective Partners to Introduce Motorcycle Rider Training Program**

### **2-3-1 Search for Local Driving Schools**

In this project, to expand the rider and mechanic training program, we will search for partner companies able to introduce the training program at local driving schools. However, the results of the field survey by the research team show that Nigeria's motorcycle licenses are largely non-functional as of 2021, and most riders are unlicensed. As long as a motorcycle license system has yet to be established, the regulatory climate for establishing a driving school will not be in place. Therefore, almost no companies have the requisite know-how in motorcycle training programs or systems that can be deployed locally. In addition, license systems and motorcycle rider registrations are carried out on a state-by-state basis, and it is difficult to introduce a training program without a decision from the state government. Given the current situation, the policy of

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<sup>28</sup> From Lifebank pitch materials [Profilebook\\_en\\_African\\_startup2.pdf \(jetro.go.jp\)](https://jetro.go.jp)

<sup>29</sup> For example, Lifebank's fundraising;

“Nigerian startup LifeBank expands into Kenya”, Logistics Update Africa, September 21, 2020, <https://www.logupdateafrica.com/nigerian-startup-lifebank-expands-into-kenya-technology> (Viewed January 21, 2022)

action regarding the introduction of training programs is as follows.

- **Supporting the expansion of Max's training program**

Max runs a training program at a training center in Ibatan. Although the company's training program is suitable for the local area, Max's program implementation capacity is not high, and there is a possibility that the proposing company can help develop instructor capacity for program introduction. We would like to build a training system for riders, focusing on the proposing company's skills and expertise in motorcycle riding to foster an awareness of safety that is in particularly high demand in Nigeria.

## **Chapter 3 Business Planning**

### **3-1 Business Analysis of MBSN**

#### **3-1-1 Confirming MBSN's Business Capacity**

- **Business**

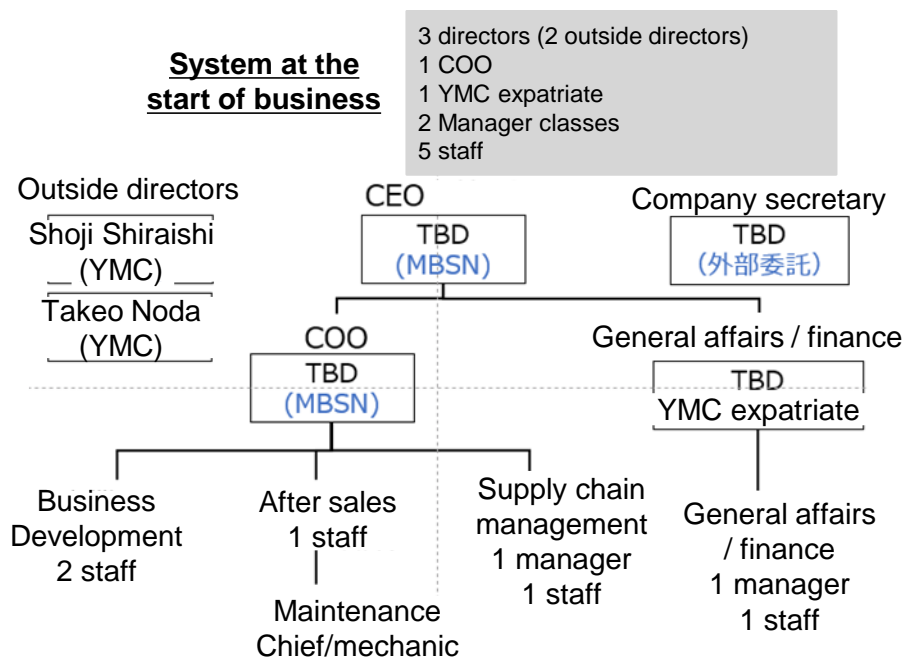
The main business of MBSN is the operating lease business. MBSN rents motorcycles to the vehicle management service provided by the local MaaS platform operator, and earns revenue in the form of lease fees. Their customer for the time being will be the MaaS platform operator, but in the future MBSN will consider providing direct services to riders.

MBSN will also provide maintenance services as an ancillary service to the operating lease business. Services such as the regular maintenance of vehicles under lease will be the main focus. Maintenance fees, including wages and equipment costs, will be included in the lease fees of the operating lease business and collected from riders in a lump sum. The necessary spare parts will be charged to the riders at cost, with no profits made from the spare parts sales business alone. On the other hand, accidents occur frequently due to the use of poorly maintained vehicles, and it is hard to say that appropriate maintenance services are being provided. The services will be provided from the perspective of shaking up these conditions locally and aiming to create development effects through the employment of maintenance mechanics.

- **Function**

MBSN will have an office in Lagos and will rent a warehouse / workshop in Ibadan. As will be described below, it is assumed that finished vehicles will be supplied, and production-related functions and equipment will not be included.

Figure 8 shows the management system at the start of the business. There will be a total of three directors, the CEO (President) and two outside directors (YMC Shoji Shiraishi, YMC Noda Takeo). A COO will be assigned to take charge of business development, after-sales support, and supply chain management. One YMC expatriate will be assigned as to be in charge of general affairs and finance. The two manager class personnel and five regular staff members shown below are expected.



**Figure 8 Management system at the start of business**

(Source) Created by the survey team

- **Supply capacity of motorcycles including our own company and other companies**

For motorcycles, it is assumed that the vehicles will be purchased from CYMNG in Naira. The supply plan is to gradually increase from 3,000 units in the PoC in 2021. In addition, as the number of operating units increases, sales from the operating lease business (lease fee collection) will also increase. We will also consider procuring not only CYMNG motorcycles but also motorcycle models from other companies.

- **Operation of businesses that contribute to development and publicity such as traffic safety**

This project aims to build a safe rider training system and contribute to traffic safety by combining programs from the two perspectives of driving skills and safety awareness. The purpose of operating this business is not to generate profits, but to improve the local traffic safety environment for sustainable and growth-oriented business continuity.

As the proposing company, the YRA Yamaha Riding Academy has introduced a safe riding skill program to improve riding skills, and is considering introducing and expanding it to driving schools in Nigeria.

To raise safety awareness, our partner Max owns a training center and offers a locally suited rider training program that recruits and screens riders for safety training. There are more than

1,000 people on the waiting list for about 100 successful applicants every month, which suggests a certain level of recognition and demand.

Especially in Ekiti, the state government is advancing the management and certification of a driver's license system, motorcycle rider registration, etc. As part of this, Max is participating from a technology perspective with Ekiti acting as a candidate region for the design of a program in collaboration with the public and private sectors.

### **3-1-2 Motorcycle Contract Method**

- **Confirmation of type and status of contracts with Max and riders**

For the time being, the lease contract in the operating lease business will not be targeted at individual riders, but will be concluded with MaaS platform operators such as Max.

- **Motorcycle rights protection mechanism**

Rights protection is carried out in three stages.

One is the custody of the registration certificate by Max. A registration certificate will be issued by the Transport Bureau when a motorcycle is introduced. As the motorcycle cannot be driven without this, it will be physically kept at Max.

The second stage is the maintenance of motorcycles in service. Motorcycles are expected to be bought and sold outside normal routes even without registration certificates, but the motorcycles leased out by the proposing company will be constantly monitored by attached GPS trackers, and will be recovered using location information if lost. In terms of realistic operations, Nigerian motorcycle taxi users pay the taxi fees in cash, so riders will take the sales to the office on a daily basis or once every few days. Since the riders will visit on their motorcycles at that time, this will become a daily habit and the office will be able to check the actual motorcycle.

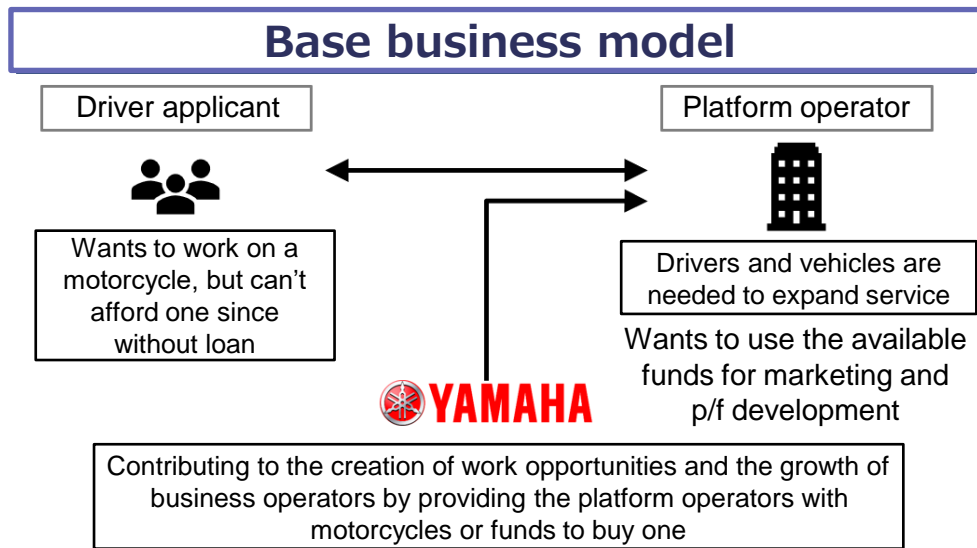
The third stage is using technology to maintain the motorcycles through remote control of the engine. The motorcycles to be leased out in this project are equipped with a device to stop the engine remotely in addition to the ability to capture its position using the GPS tracker.

### **3-2 Analysis of the Overall Business model**

#### **3-2-1 Checking the Flow of the entire Business Model**

- **Basic business model**

There are many local drivers who want to get a job that requires a motorcycle, but they do not have the necessary funds to purchase a motorcycle up-front and cannot get a loan, so they cannot purchase a motorcycle. By leasing motorcycles to platform operators, the proposing company will create employment opportunities for such prospective riders via platform operators and contribute to the growth of platform operators (Fig. 9).

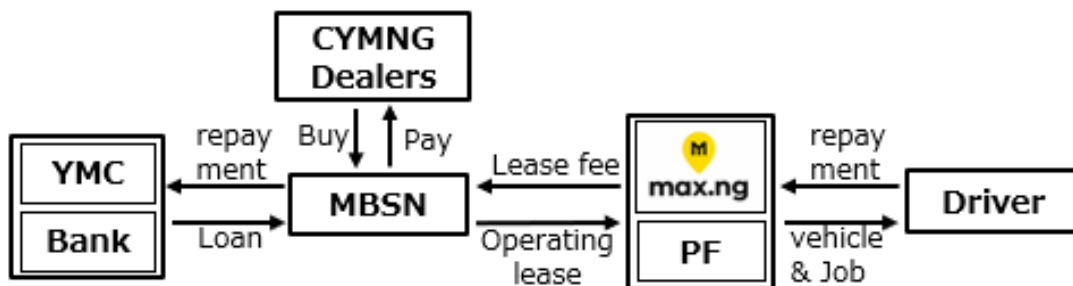


**Figure 9 Basic business model**

(Source) Created by the survey team

● **Overall business model flow**

Figure 10 shows the business model flow of the operating lease business. On the establishment of MBSN, a capital injection will be received from the proposing company. Regarding financing, MBSN will receive parent-child loans from the proposing company as needed and loans from financial institutions. Vehicles will be procured by YMC, motorcycles will be procured from CYMNG, and other motorcycles will be procured from other dealers by MBSN. The procured vehicles will be leased to platform operators such as Max. In addition, the platform operator will lease out the vehicles to individual riders.



**Figure 10 Overall business model flow**

(Source) Created by the survey team

As for the maintenance service, it is expected that the service will be equal to or better than the current maintenance performed by Max. The service fees will be billed and collected together



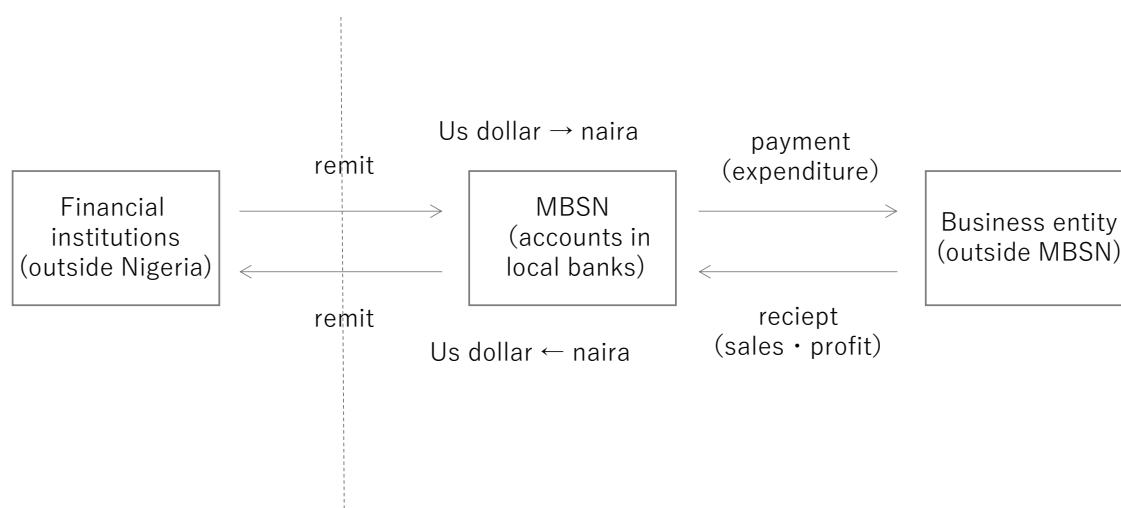
with the lease fee in the above operating lease business. Spare parts will be charged to the riders at cost.

## Chapter 4 Examination of capital Recovery Scheme

### 4-1 Fact-Finding Survey on whether Domestic Profits can be Converted to Foreign Currency

Concerns about recouping capital from Nigeria were raised at the start of this survey. Specifically, it was suggested there may be hurdles in the flow where funds (loans, capital) are invested in Nigeria from overseas, and then the local currency, Naira, is exchanged mainly into international currencies such as US dollars and sent overseas.

For this issue, we investigated and analyzed the actual conditions of conversion from Naira to foreign currency and remittance (at the time of repaying borrowings) to financial institutions such as local banks. Although we had ascertained information in the literature and online in advance, we could not ascertain the actual situation, so we mainly collected information through research companies used on an outsourcing basis.



**Figure 11 Flow of injection and recovery of capital from overseas**

(Source) Created by the survey team

The bottom line is that, most recently, due to the lack of dollars in Nigeria, it is not always possible to convert from Naira to the dollar without an upper limit. Interviews and other sources suggest that it is not entirely impossible to convert to dollar. A certain amount can be converted. However, it was also confirmed that due to the shortage of dollars in Nigeria (low liquidity), it is assumed that there will be situations where it is not possible to convert at the required timing and amount.

However, as will be described later, we believe that there is a way to recoup the funds invested from overseas by combining several methods and scenarios in complex ways, such as using appropriate of investing funds, together with taking opportunities of a recovery in Naira liquidity with the improvements in the macroeconomic situation.

#### **4-1-1 Confirmation of the Current Status of Conversion from Naira to Dollars**

From information gathering and interviews, we have not confirmed that it is “impossible” to convert Naira to dollars. The answer from financial institutions is that if there is a formal investment of funds (capital, loans), dividends and payments can be made. Therefore, even if there are actual limitations, it is possible for certain amounts and at certain times. However, in other words, in terms of actual situation at the time of the survey, it is assumed that capital cannot be recovered with complete freedom in terms of the amount of money and timing. (It is difficult to judge how much money you can exchange and the probability that you can exchange it.)

The formal way is to obtain a Certificate of Capital Importation (remittance permission; CCI) which is a permit that allows remittances to the home country, at the time of funding. This makes it possible to remit dividends on an investment or loan repayments back to an originated country when recovering capital. More specifically, when a bank exchanges from Naira to dollars, the bank can confirm the validity of the transaction and can exchange it. Conversely, without this CCI, foreign currency exchange (conversion to dollars for Naira) would not be possible through the formal route. If you have dollars in hand (assuming a foreign currency denominated account in Nigeria), it is assumed that you can make remittances.

The main reason for the shortage of foreign currency is that Nigeria’s foreign exchange reserves have suffered with the drop in crude oil prices.<sup>[30]</sup> As a result, there is a shortage of domestic dollars, and there is actually a limit on the conversion to dollars in Nigeria.

In addition, it is difficult for the central bank of Nigeria to intervene in foreign currency exchange, and Naira has continued to depreciate (since 2014).<sup>[31]</sup> We have not confirmed any laws or regulations that directly prohibit banks from exchanging Naira for dollars. However, there is information that money changers are banned, and it seems that there is a direction to curb non-regular foreign currency exchange to maintain Naira and control foreign currency.<sup>[32]</sup> As a result, it seems that currency exchange through banks will be the main route for foreign companies at this time.

#### **4-1-2 Scheme-Based Workarounds**

As a result of information gathering and analysis, we believe it is possible to repay the funds (loans from overseas) as described below, by combining several methods. Therefore, it is assumed

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<sup>30</sup> Shigeyo Nihizawa, "Regional / Analysis Report: Declining foreign currency reserves and rising prices due to falling oil prices still have growth potential (Nigeria)", Japan External Trade Organization(JETRO), February 9, 2021, <https://www.jetro.go.jp/biz/areareports/special/2021/0201/23aee18493b162e1.html>, (Retrieved January 13, 2022)

<sup>31</sup> “UNITED STATES DOLLAR - NIGERIAN NAIRA (USD - NGN)”, MARKETS INSIDER, <https://markets.businessinsider.com/currencies/usd-ngn>, (Retrieved January 13, 2022)

<sup>32</sup> Takuma Taninami, "Business Brief Central Bank Stops Selling Foreign Currency to Authorized Money Changers", Japan External Trade Organization(JETRO), February 5, 2021, <https://www.jetro.go.jp/biznews/2021/07/d6d033e671a30d0d.html>, (Retrieved January 13, 2022)

that there is no need to use any workarounds in the scheme in the sense of a large framework, such as the establishment of a corporation by MBSN or transactions with platform operators such as Max.

#### **4-1-3 Information Gathering and Analysis on How Repayments can be Made**

At this time, we are not in a situation where we can exchange Naira to dollars at any time and without limit. On the other hand, we think that it is possible to repay loans by combining various measures such as the following.

(1) The main methods are exchange to dollars using CCI properly and overseas remittance.

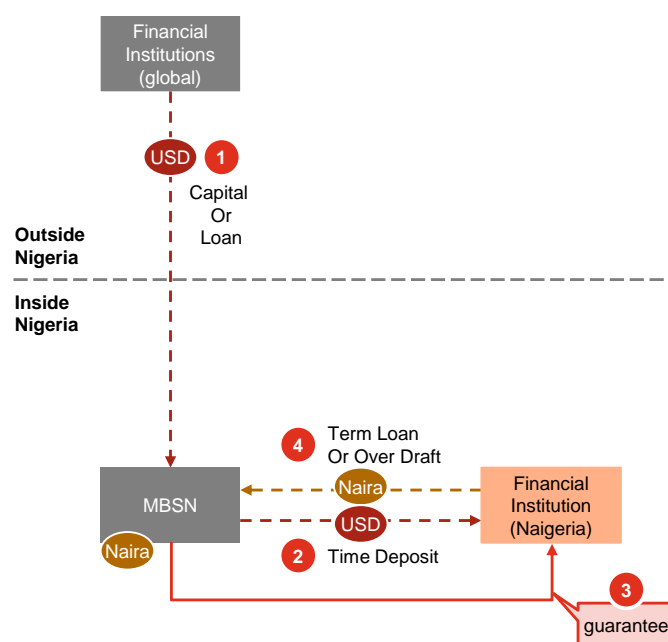
In principle, a CCI is a prerequisite for utilizing the usual currency exchange / remittance (refund) routes.

However, as mentioned above, due to liquidity issues, it may not be possible to exchange the required amount from Naira to dollars at the right time. To address that, we will respond through multiple methods and scenarios such as:

- Responding in how funds are held (held in dollars, etc.) (corresponding to (2) below)
- Responding from a medium-to-long-term / macro perspective (corresponding to (3) below)

(2) Secure dollars to remit by borrowing Naira with dollar deposits as collateral.

In the former case, it is conceivable to deposit the dollars in a bank and have Naira lent out domestically with the dollars as collateral. After that, the profits earned from domestic business will be repaid in Naira. At that time, the dollars that had been the collateral are unlocked and sent overseas.



**Figure 12 Flow of injection and recovery of capital from overseas**

(Source) Created by the survey team

However, since this approach entails some conditions and restrictions, it is necessary to consider its limits when using it. For example, it may not be possible to use the entire amount of foreign borrowing because it is necessary to hold at least part of the dollars invested from abroad. Also, when using this method, it is desirable to obtain a CCI in order for the transaction to be formal (eligible for the bank). However, since a CCI is a permit to convert funds invested from overseas to Naira, it is necessary to convert the amount of money obtained for the permit to Naira. Therefore, it is assumed that certain measures will be taken, such as securing dollars in the account by first converting them to Naira and converting back some of the amount into dollars the same day or at the earliest opportunity (while holding the dollar at the bank concerned).

Also, in this case, since the loan will be made domestically, it is possible that the interest rate will eventually be close to the domestic interest rate, based on interviews and other sources. Therefore, it should be noted that the relatively low interest rate benefits from overseas financial institutions may be offset by domestic interest rates.

In view of the above situation, it is assumed that this method will be used to secure a certain amount of dollars to be repaid, and it is not considered that the entire amount will be used by this method.

(3) Plan to repay when the liquidity of the Nigerian dollar recovers due to the rise in crude oil prices.

In the latter case, it will be quite possible to make repayments when the dollar's liquidity recovers in the medium term. If the current impediments to the dollar's liquidity are removed, the

actual problems with the conversion from Naira to the dollar are expected to be significantly reduced.

In Nigeria, which is a single economy, there is a high correlation between oil prices and foreign exchange reserves in the medium term.<sup>[33]</sup> If the oil market continues to recover over the next few years, it is expected that exports will increase and foreign currencies will also come in.

In recent months, foreign currency has not increased despite the high price of crude oil due to the large amount of subsidies including COVID-19 spending. However, this is due to a short-term problem, and it is expected that the correlation will be restored in the medium-to-long-term. To reiterate, it is assumed that the above (1), (2) and (3) will be implemented in a combined manner. Basically, (1) a CCI is acquired and exchange to dollars by the regular route is the main focus, (2) At certain times (example: timing to repay a large amount of funds) and certain amounts (overall) according to the repayment plan, dollars are secured for remittance using the dollar-backed method, (3) Repayments will be carefully considered in light of the recovery of oil prices, etc. (e.g. the timing of repayments should be long-term in principle, but flexible enough to allow early repayment depending on circumstances). In this way, a combination of methods and scenarios will be employed.

#### **4-1-4 Analysis Similar to Loan Repayments Due to Assumed Need for Settlement of Trade Prices**

This time, MBSN will not engage in importing. Therefore, no analysis will be performed.

Initially, MBSN was planning to import parts for knockdown. At the moment, we are planning to purchase motorcycles from our group company CYMNG and other dealers. Therefore, MBSN will only be able to make domestic transactions, and there is no need to analyze foreign currency repayments and trade payments.

#### **4-1-5 Calculation of Approximate costs for repayment of loans and trade prices**

For loans, we currently assume an interest rate of about 15% / year.

In reality, the conditions differ depending on the financial institution we borrow from. In particular, while it is thought that from international financial institutions, the proposing company can borrow at low interest rates

As a weighted average of these, 15% is assumed in the simulation.

Based on interviews and other information from research, the following are expected for domestic and overseas borrowing. Domestic Naira borrowing is expected to vary from financial institution to financial institution, but it is expected to be around 20%. Regarding loans from

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<sup>33</sup> JETRO, "Regional and Analytical Report: What are the Economic Issues Surrounding Nigeria?", October 26, 2021, <https://www.jetro.go.jp/biz/areareports/2021/e09d30525d710718.html>, (Retrieved January 13, 2022)

overseas, in the case of international financial institutions including JICA, it is assumed to be 2 to 3% / year (in the case of dollar-denominated lump-sum repayment after 5 years).

Regarding dollar-denominated loans, it is assumed that MBSN will hedge the foreign currency assuming depreciation of Naira. We currently expect to use non deliverable forward (NDF) contracts, but based on interviews the cost of this is 7-8% / year based on materials introducing bank products prior to funding (costs of similar hedged financial products were also reference).

In 2021, E-Naira, a digital currency by the central bank, was introduced. However, although it is a digital currency and technically easy to remit, it is still Naira, and it seems that it cannot be used overseas or exchanged for dollars as-is. It also includes measures to deal with the popularity of virtual currencies in Nigeria, and if anything, it is thought that the management of currencies (including foreign currencies) will become stricter. Therefore, repayment utilizing E-Naira is not expected at this time.

## Chapter 5 Development Effects Prediction

### 5-1 Investigation and Analysis of Effect Prediction

The main purpose of this project is to promote job creation and support the independence of young people and women in Nigeria through the motorcycle leasing business. The target beneficiaries are assumed to be the poor who cannot buy or rent motorcycles with their own funds. Along with the motorcycle taxi business, we will establish a system to lend motorcycles to these people and have them repay the lease fees from the income earned every day. In addition, by strengthening the capabilities of motorcycle riders and mechanics, we will help create an environment of traffic safety and aim to promote the industry in collaboration with local start-up companies.

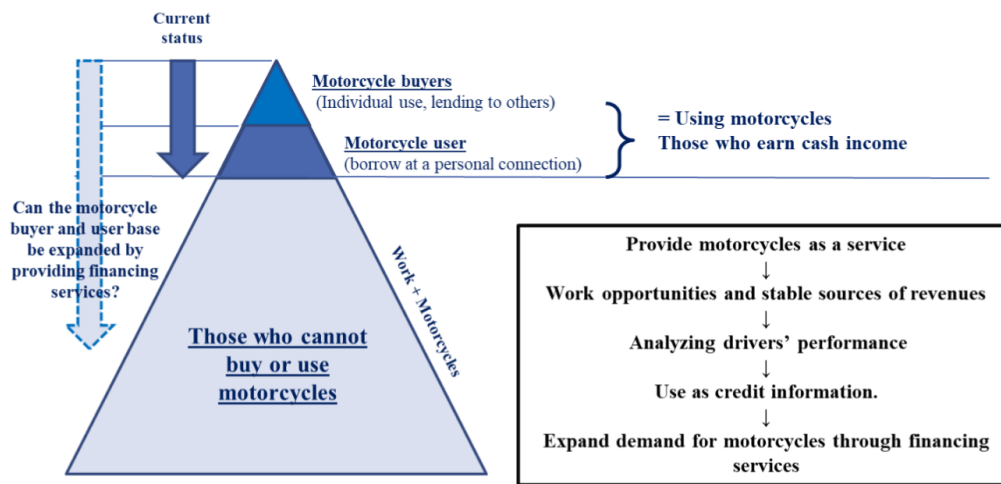


Figure 13 Beneficiary groups targeted by this project

(Source) Created by the survey team

### 5-2 Understanding Development Issues and Expected Development Effects

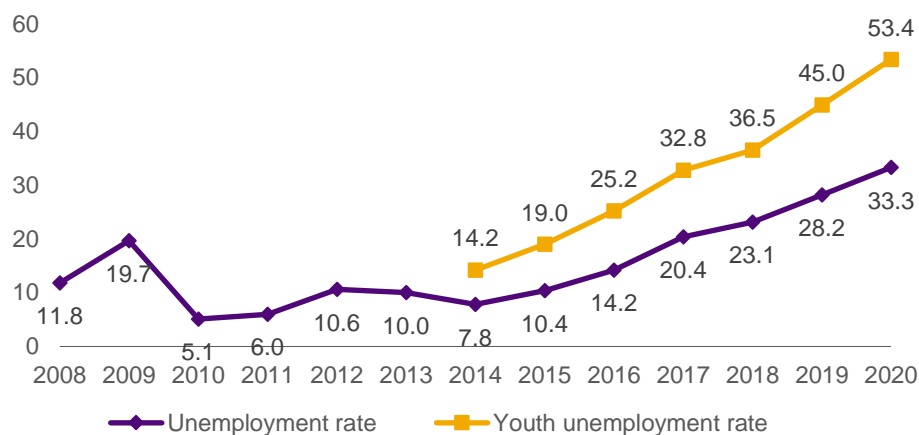
#### 5-2-1 Development Issues

In Nigeria, there is a shortage of employment opportunities, especially for young people and women, and chronic traffic congestion and accidents occur frequently in Lagos and the surrounding economic metropolitan areas, so measures to solve these issues are urgently needed.

- **Lack of employment opportunities for young people and women**

In Nigeria, although population growth is expected to continue, access to economic opportunities for young and low-income earners is limited. The youth unemployment rate for young people aged 15-24 is very high at 53.4% (2020). Improving the unemployment rate is an urgent development issue in Nigeria.





**Figure 14 Nigeria Unemployment Rate Trends (2008-2020)**

(Source) Created by the survey team based on the National Bureau of Statistics, Nigeria<sup>[34]</sup>

In addition to the high unemployment rate, there are many challenges even when there are jobs available. According to the International Labor Foundation<sup>[35]</sup>, non-regular employment is often unstable and wages can be arbitrary depending on the employer. Non-regular employment has long working hours and employees are sometimes forced to work overtime. In addition, there are some situations in which employees are dismissed without paying their wages.

In addition to young people, Nigerian women have few employment opportunities, and the National Bureau of Statistics reports that the unemployment rate for women in the fourth quarter of 2020 was 35.2%. Women need to have good and sustainable work opportunities. The majority of Nigerians are followers of Islam or Christianity, and in the case of Muslims, it is difficult for female customers to use male riders.

The motorcycle taxi industry, which is the target of this project, consists of economically vulnerable people, mainly young people and women, many of whom do not have proper identification and tend not to have access to loans or other formal economic opportunities.

In Nigeria, the motorcycle and tricycle taxi industry provides direct employment to more than 5 million Nigerians, according to a survey conducted by the proposing company. If the average household size is 5, it can be estimated that an estimated 25-30 million people are dependent on this industry.

Motorcycle riders generally procure motorcycles themselves and participate in the business as sole proprietors, but they cannot use formal credit lines due to poverty and often rely on illegal

<sup>34</sup> There are differences between the National Statistics Bureau and the IMF and the World Bank because many economic indicators do not provide accurate statistics due to domestic instability and tribal issues.

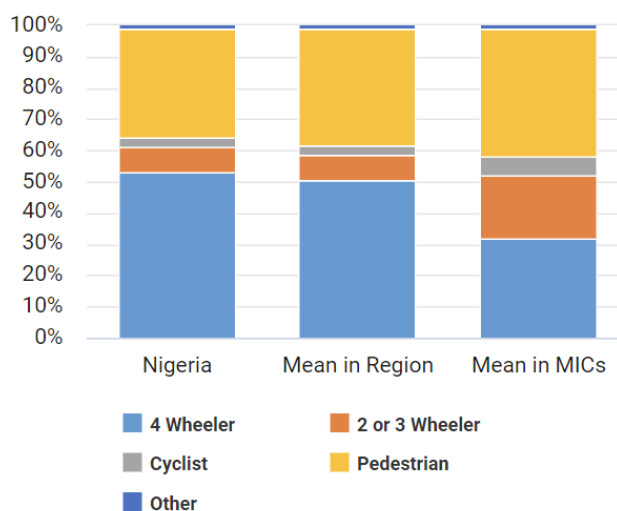
<sup>35</sup> Japan International Labour Foundation "2019 Labor Situation in Nigeria", August 29, 2019 [https://www.jilaf.or.jp/rodojijyo/africa/central\\_africa/nigeria2019.html](https://www.jilaf.or.jp/rodojijyo/africa/central_africa/nigeria2019.html) (Viewed January 22, 2022).

loan sharks to obtain vehicles. In such a difficult financial environment, even if someone continues to work as a motorcycle rider, they are not able to become an asset owner for many years, making it difficult to escape poverty.

- **Chronic traffic congestion and occurrence of accidents due to underdeveloped urban infrastructure**

In Nigeria, the concentration of economic functions in cities and the accompanying rapid increase in urban population are remarkable. In particular, the economic zone in and around Lagos, Nigeria’s largest city, is said to account for about 10% of the total population and about 50% of GDP, and the urban population is increasing. On the other hand, the transportation and logistics infrastructure in urban areas is still underdeveloped, resulting in chronic traffic congestion and serious air pollution. The inefficiency of the movement of people and goods is also an obstacle to economic revitalization, and facilitation of transportation is an urgent issue.<sup>[36]</sup>

In particular, the motorcycle taxi industry comprises people from the informal sector, so training on the safety of motorcycle riders is often inadequate. It is also a problem that motorcycles account for about 10% of the causes of death in road transportation due to such factors.



**Figure 15 Percentage of deaths by user (Nigeria / mean in region / mean in Middle Income Country (MIC))**

(Source) World Bank Global Road Safety Facility<sup>[37]</sup>

In addition, due to the lack of technical skills of mechanics who maintain motorcycles and the

<sup>36</sup> Ministry of Foreign Affairs "Business Development Plan for the Federal Republic of Nigeria," April 2020 <https://www.ng.emb-japan.go.jp/files/100134417.pdf>

<sup>37</sup> World Bank Group Global Road Safety Facility, "Road Safety Country Profile, NIGERIA", 2016, <https://www.roadsafetyfacility.org/country/nigeria> (Viewed January 22, 2022)

lack of mechanics required, accidents caused by poorly maintained motorcycles being used in the motorcycle taxi industry and air pollution due to exhaust gas are regarded as problems. In February 2021, the passage of commercial motorcycles in the Lagos region was completely banned, underscoring the need to promote motorcycles as a safe form of transportation infrastructure.

### **5-2-2 Expected Development Effects**

The most promising development effect through this project is the creation of new employment for young people and women in Nigeria and the accompanying improvements in living standards. In addition, by strengthening the capabilities of motorcycle riders and mechanics, the project is expected to help create an environment of traffic safety and promote industry in collaboration with local start-up companies.

#### **● Job creation and livelihood improvements for young people and women**

As of 2021, Max's business is being developed with 1,000 motorcycles for business verification purposes with a loan from the proposing company to Max. The number of leased out vehicles is expected to increase in Nigeria as a whole, which is expected to create employment opportunities. Apart from job creation, it is expected that it will be possible to create jobs for 100,000 people separately through efforts to train riders and mechanics. (Improvements to the unemployment rate)

The minimum wage in Nigeria is 600 Naira / day<sup>[38]</sup>, and the average income per rider engaged in this project is 4,000-5,000 Naira / day (\$10-13 / day), which is sufficient to provide the means for a livelihood in light of the minimum wage. (Providing employment opportunities for young people - providing quality and sustainable work)

As with young people, it is difficult for women to get regular jobs in Nigeria. Since this project includes women as motorcycle riders, it is expected that women will also be provided with stable income and sustainable employment opportunities. (Providing employment opportunities for women - providing quality and sustainable work)

Further, through this project, riders can improve their individual creditworthiness by leasing and making repayments for motorcycles. (Worthwhile work for riders - improving personal creditworthiness)

#### **● Realization of a safe and secure motorcycle transportation society**

In the urban areas of Nigeria where chronic traffic congestion remain unsolved, motorcycles can function as an inexpensive form of urban transportation infrastructure. Unlike cars,

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<sup>38</sup> Japan International Labour Foundation "2019 Labor Situation in Nigeria", August 29, 2019  
[https://www.jilaf.or.jp/rodojijyo/africa/central\\_africa/nigeria2019.html](https://www.jilaf.or.jp/rodojijyo/africa/central_africa/nigeria2019.html) (Viewed January 22, 2022)

motorcycles enable the smooth movement of people, so demand is expected to be high especially in Lagos and its surrounding areas, where economic activities are concentrated, and where they can also contribute to alleviating traffic congestion.

In addition to the popularization of motorcycle taxis, this project aims to realize a safe and secure transportation society by both training motorcycle riders and mechanics as professions that rely on one another. In other words, in addition to teaching and training motorcycle riders on the rules necessary for traffic safety, by training mechanics with advanced maintenance skills, it is thought that awareness of the importance of safe driving will increase, and by extension, traffic accidents caused by motorcycles will be prevented and reduced.

- **Contribution to development of industry through collaboration with local start-up companies**

Providing robust, energy-efficient, high-quality motorcycles developed for Africa by the proposing company to Max, a startup company engaged in the MaaS platform business, is expected to contribute to the promotion of local startups and the development of industry. In particular, Max has a track record of conducting similar businesses in emerging countries such as India, and it is expected that the business will expand from Nigeria first and then to other African regions.

In the medium term, we are looking to partner with promising local startups including LifeBank, which provides delivery of blood, oxygen, and medicines and simple medical devices such as PCR test kits, and Rxall, which operates a delivery business to consumers and stores scattered in remote and outlying areas. This will not only promote startups, but will also contribute to the economic development of the last-mile areas by tapping into a new consumer base that has not been able to receive products until now, by taking advantage of the mobility strength of motorcycles.

### **5-3 Setting of Operational and Effect Indicators**

In this project, the following indicators are expected to measure the development effects produced through the motorcycle lease business overseas investment and loan business will measure these indicators and analyze their effects.

**Table 8 Indicators of expected development effects**

<b>Item</b>	<b>Development effects (hypothetical)</b>	<b>Proposed operational and effect indicators</b>
Economic effects	Increased employment opportunities for young people and women	<ul style="list-style-type: none"> <li>▪ Number of motorcycle rider employees               <ul style="list-style-type: none"> <li>➤ Number of young riders (15-35 years old)</li> <li>➤ Number of female riders</li> </ul> </li> </ul>
	Improvements to the livelihoods of young people and women	<ul style="list-style-type: none"> <li>▪ Average monthly income of motorcycle riders               <ul style="list-style-type: none"> <li>➤ Average monthly income of young riders (15-24 years old)</li> <li>➤ Average monthly income of female riders</li> </ul> </li> </ul>
	Development of local industry	<ul style="list-style-type: none"> <li>▪ Achievements of collaboration with local start-up companies</li> <li>▪ Sales at partner start-up companies</li> </ul>
Social benefits	Alleviation of traffic congestion	<ul style="list-style-type: none"> <li>▪ Travel times in certain periods / areas</li> </ul>
	Reduction in the number of traffic accidents	<ul style="list-style-type: none"> <li>▪ Number of motorcycle riders and mechanics who have received safe driving training</li> <li>▪ Number of traffic accidents in a certain period / area</li> </ul>

(Source) Created by the survey team

#### **5-4 Development Planning**

The Nigerian government aims to be ranked in the top 20 economies in the world by size by 2020 in its medium-to-long-term development strategy “Vision 20: 2020”. The government has focused on moving away from a monocultural economy through industrial diversification, developing infrastructure as the basis for economic activity, job creation centered on young people, social development such as improvements to public health, and humanitarian and reconstruction assistance in the North(East) of the country.

In addition, the Nairobi Declaration, which is the product of TICAD VI, has three priority areas for development toward Africa: (1) Promoting structural economic transformation through economic diversification and industrialization, (2) Promoting resilient health systems for quality of life, and (3) Promoting social stability for shared prosperity.<sup>[39]</sup>

In November 2021, the Government of Nigeria approved the “National Development Plan 2021-2025” in six priority areas: economic growth and development, infrastructure, administration, human capital development, social development and regional development. In line with this, it

<sup>39</sup> Ministry of Foreign Affairs "Country Policy on Development and Cooperation for the Federal Republic of Nigeria," September 2017  
<https://www.mofa.go.jp/mofaj/gaiko/oda/files/000072428.pdf>

plans to invest 348.7 trillion over five years. It aims to achieve an average annual real GDP growth rate of 5% over the course of the plan.<sup>[40]</sup>

Further, regarding national-level policies related to the transportation sector, the “National Integrated Infrastructure Master Plan” was formulated in October 2020. It describes comprehensive infrastructure development plans and goals for roads, railroads, ports, aviation, energy fields, etc. In the plan, the Nigerian government has set short-, medium- and long-term goals for the road transport sector, as follows.<sup>[41]</sup>

**Table 9 Periodic targets for the road transport sector**

2021-22 target (Short-term target)	<ul style="list-style-type: none"> <li>• Most highways are maintained in good condition.</li> <li>• Enhance connectivity between economic centers Repair and expand highways that cross national borders.</li> <li>• Repair degraded parts of the federal highway network and improve connectivity at distances of 4,000 km.</li> </ul>
Target in 2023 (Medium-term Target)	<ul style="list-style-type: none"> <li>• Develop and dualize major economic routes</li> <li>• Rehabilitate major link roads</li> <li>• Restore 70.0 per cent of Federal and State roads</li> </ul>
Target in 2043 (Long-term target)	<ul style="list-style-type: none"> <li>• Dualize North-South routes.</li> <li>• Dualize all East-West routes.</li> <li>• Restore 100% of federal and state roads.</li> </ul>

(Source) Prepared by survey team based on the Federal Ministry of Finance, Budget and National Planning, “National Integrated Infrastructure Master Plan,” October 2020

### **5-5 Potential for Contributing to Japan’s Development Policy**

In its business development plan for the Federal Republic of Nigeria, Japan has adopted a basic policy of “developing a high-quality and inclusive economy and society, and promoting social stabilization,” and one of its priority areas is “building a foundation for quality economic growth.” Improvements to “urban infrastructure” are shown as a sub-goal. The action policy of the plan describes facilitating the transportation of goods and people in Nigeria within major cities from the perspective of supplying labor and supplies that support the urban economy. Specifically, the plan says that this will contribute to the development and revitalization of means of transportation that can replace cars through the development of plans for the transportation of goods and people,

<sup>40</sup> Premiumtimes, “FEC approves National Development Plan for 2021-2025 Plan with N348.7 trillion investment,” November 2021, <https://www.premiumtimesng.com/business/494718-fec-approves-national-development-plan-for-2021-2025-plan-with-n348-7-trillion-investment.html>.

<sup>41</sup> Federal Ministry of Finance, Budget and National Planning, “National Integrated Infrastructure Master Plan,” October 2020, <https://ngfrepository.org.ng:8443/bitstream/123456789/2776/1/final%20EDITED%20VERSION%20OF%20NIIMP%20-%2012th%20Jan.%202021.pdf>.

and through infrastructure development.<sup>[42]</sup> In economic cities, primarily Lagos, traffic congestion is chronic due to underdeveloped transportation infrastructure, the explosive spread of cars, neglect of traffic safety rules, and so on. We therefore aim to lease motorcycles in this project, which is consistent with Japan's development goals that include the policy of facilitating urban transportation.

In addition, the results of Japan's assistance to Nigeria related to urban transportation infrastructure in recent years are as follows. In 2014, a survey was conducted to explore the possibility of supporting the railway sector in Lagos, and in the capital Abuja, a project to renew the master plan for urban development is underway.

**Table 10 Japan's aid record related to urban transportation infrastructure**

<b>Cooperation program name</b>	<b>Project name</b>	<b>Scheme</b>	<b>Business Period</b>	<b>Summary</b>
Program for transportation of goods and people	Abuja Comprehensive Urban Development Master Plan Renewal Project	Development planning	FY 2020-2023	Contribute to the development and revitalization of alternative means of transportation to four-wheeled vehicles through planning and infrastructure development, and to facilitate the transportation of goods and people.
Program for transportation of goods and people	Second Urban Railway Sector Information Collection / Confirmation Survey	Basic information gathering	FY2014	Contribute to the development and revitalization of alternative means of transportation to four-wheeled vehicles through planning and infrastructure development, and to

<sup>42</sup> Ministry of Foreign Affairs "Business Development Plan for the Federal Republic of Nigeria" April 2020, <https://www.ng.emb-japan.go.jp/files/100134417.pdf>

				facilitate the transportation of goods and people.
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(Source) Created by the survey team based on the Ministry of Foreign Affairs “Business Development Plan for the Federal Republic of Nigeria”

## 5-6 Potential for Cooperation with other Donors

### 5-6-1 Trends in Aid Provided by other Donors

Many other donors have provided support to Nigeria to date. Among them, we will summarize the World Bank, African Development Bank, and China, each of which are actively supporting the urban transportation sector.

- **World Bank**

To support the urban transport sector, the World Bank has been implementing the Lagos State Urban Transport Project since 2002, establishing the Lagos Metropolitan Area Transport Authority (LAMATA), and the Bus Rapid Transit (BRT), and also conducting road repairs, capacity building.<sup>[43]</sup> From 2010, under co-financing with the French Development Agency, Lagos Urban Transportation Project Phase 2 was implemented, and BRT construction was carried out on major roads to improve the convenience of transportation<sup>[44]</sup>

- **African Development Bank (AfDB)**

AfDB lists six strategic priorities in the Country Strategic Paper (CSP) 2020-2024 for Nigeria. That is, (i) scaling up infrastructure investment, (ii) improving capacity for domestic resource mobilization, (iii) leveraging special economic zones as a development vehicle, (iv) building human capital skills development, (v) sound macroeconomic policies, and (vi) catalyzing SMEs for private sector development. In particular, infrastructure development will continue to be a priority of the CSP, while new emphasis will be placed on infrastructure to combat climate change, COVID-19 infections and health infrastructure for future pandemics, and a value chain to promote industrialization-led structural transformation.

- **China**<sup>[45]</sup>

In the 2000s, China introduced a “go out” policy (foreign direct investment by Chinese companies and expansion of overseas contract work), and many Chinese companies entered

<sup>43</sup> JICA "Second Urban Railway Sector Information Collection / Confirmation Survey" November 2014, <https://openjicareport.jica.go.jp/pdf/12245403.pdf>.

<sup>44</sup> World Bank, “Nigeria Lagos Urban Transport Project 2,” <https://projects.worldbank.org/en/projects-operations/project-detail/P112956>.

<sup>45</sup> Hideki Aramaki "Transportation Infrastructure Project in Nigeria, the Giant of Africa," *Kokukenkyo-Joho*, March 2018 (No.865).



Nigeria between 2005 and 2006. The entry of Chinese companies was accompanied by a tremendous amount of infrastructure support by the Chinese government, and infrastructure development is being actively carried out in return for Nigeria's oil interests. In particular, most of the railway transportation projects are centered around the capital Abuja and the commercial city of Lagos. The following are examples of transportation infrastructure projects involving Chinese companies:

- Abuja Light Rail Transport System
- Lagos-Kano Standard Gauge Railway
- Lagos LRT (Lagos Rail Mass Transit)
- Lagos – Calabar Coastal Railway
- Central Line: Itakpe – Ajaokuta --Warri rail line
- 3rd & 4th Mainland Bridges
- Lekki Port

#### **5-6-2 Possibility of Cooperative Aid**

The proposing company, with the aim of coordinating aid with AfDB, is continually engaged in proposal activities for the Human Capital, Youth and Skills Development Department (AHHD) Youth Entrepreneurship and Innovation Multi-donor Trust Fund (YEI MDTF). The target areas are Nigeria and Uganda, and 90% of the budget will be in Nigeria. This is a program to develop drivers who have undergone safe driving training as well as mechanics, in collaboration with public institutions. Those who have completed the program are given priority for employment and financial support, aiming to create an environment in which they can immediately work as drivers and mechanics. By implementing this in parallel with the financing, we believe that it will be possible to speed up the improvement of safe driving skills of motorcycle riders and mechanics supported by the proposing company.

Through the above YEI MDTF proposal project, we aim to realize a mobility business that contributes to the prevention of social problems such as traffic accidents and crime, and allows young people to work safely and comfortably using motorcycles. The support is targeted at young people aged 15-35, and the participation ratio of men to women is 1: 1. In terms of specific business details, in addition to basic research on transportation infrastructure and verification of the finance business, the project expects to implement safe driving education and provide development and training for motorcycle mechanics. Through this project, the goal is to create 100,000 new jobs for motorcycle drivers and mechanics, and to obtain a separate loan of \$30 million from AfDB in 2022.

The following four points are set as long-term goals for 2025 after the end of the program.

1. Obtaining an additional \$200 million loan
2. Obtain \$100 million in annual funding from other financial institutions based on the AfDB

program

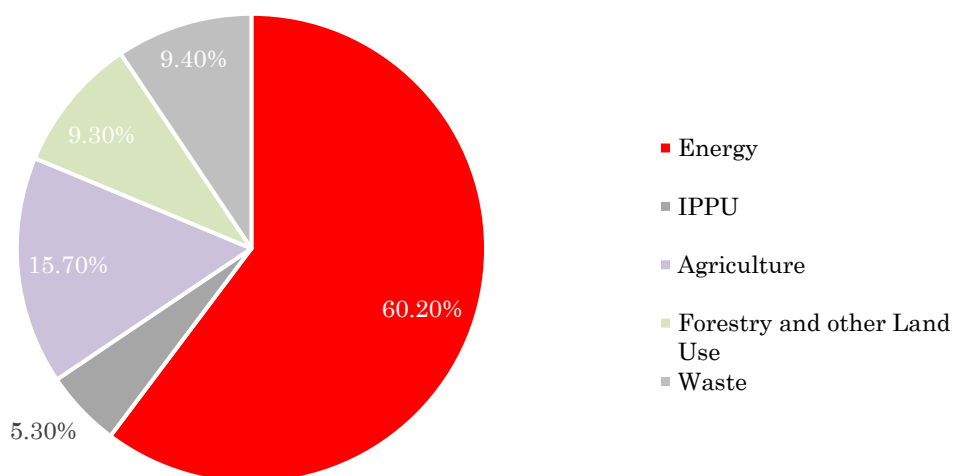
3. Acquire a 10% share of the Nigerian market (150,000 units per year)
4. Expand business to other countries such as Ghana, Cameroon, Togo and Benin

## Chapter 6 Environmental and Social Considerations

### 6-1 Confirming the Basic Environmental and Social Conditions

#### ● Status of exhaust gas in Nigeria

According to Nigeria's Nationally Determined Contribution (hereinafter abbreviated as NDC) 2021 Update, the energy sector is the largest source of greenhouse gas (GHG) emissions in the country, accounting for 60% of the country's total emissions.



**Figure 16 Nigeria's 2018 National Total GHG Emissions Composition**

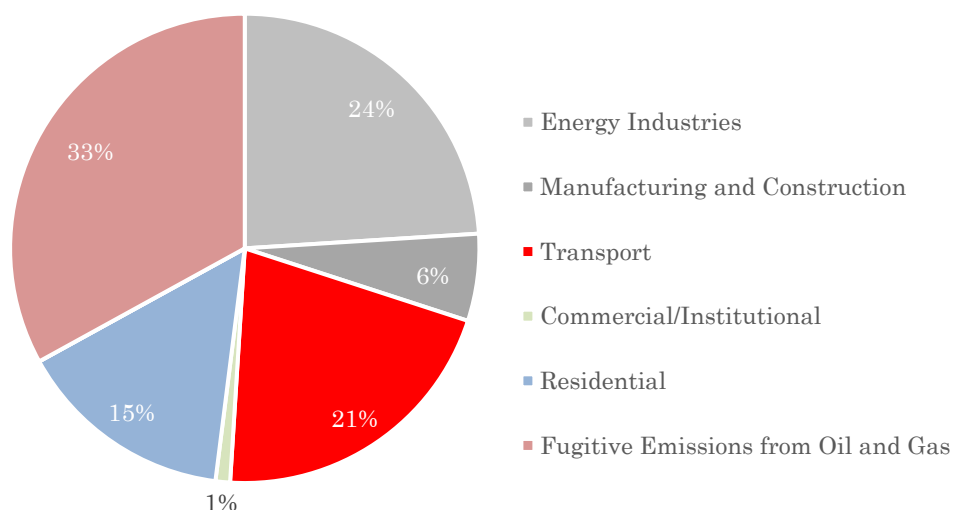
Source: Created by the survey team based on information from "Nigeria's Nationally Determined Contribution 2021 Update"<sup>[46]</sup>

Note 1: IPPU stands for Industrial Processes and Other Product Use.

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<sup>46</sup> Federal Government of Nigeria, "Nigerian Nationally Determined Contributions 2021 Date", page 17, July 2, 2021  
<https://moelagos.gov.ng/wp-content/uploads/2021/09/NIGERIA-2021-NDC-FINAL- as-submitted-30-Jul-2021.pdf>  
(viewed January 21, 2022)

Of the energy sector in Figure 19, the transportation sector accounts for 21% of GHG emissions, but the breakdown of motorcycle emissions is not disclosed. To reduce emissions from the transport sector, Nigeria has set emission targets that all vehicles will meet the EURO3 emission limits by 2023, with the aim of meeting EURO4 by 2030.



**Figure 17 Composition of 2018 GHG emissions in Nigeria's energy sector**

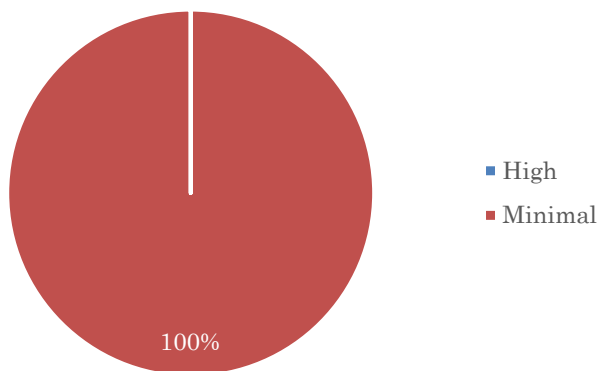
Source: Created by the survey team based on the information from “Nigeria’s Nationally Determined Contribution 2021 Update”<sup>[47]</sup>

● **Noise situation in Nigeria**

Interviews with local residents regarding the scale, frequency, and range of noise caused by motorcycle taxis were conducted via an outsourcer.

In light of the results of interviews with 23 people in Oyo state, the local residents do not consider that the noise from motorcycles has a significant impact on the environment, as they all thought the noise was minimal. No one answered that they were concerned about the noise of motorcycles and thought the noise was high. So in reality, the risk of noise from motorcycles becoming an issue is low.

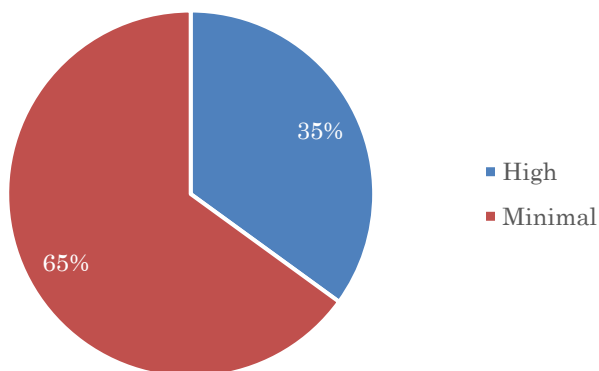
<sup>47</sup> Federal Government of Nigeria, "Nigerian Nationally Determined Contributions 2021 Date", page 21, July 2, 2021  
<https://moelagos.gov.ng/wp-content/uploads/2021/09/NIGERIA-2021-NDC-FINAL- as-submitted-30-Jul-2021.pdf>  
 (viewed January 21, 2022)



**Figure 18 Motorcycle / Tricycle Noise Pollution Survey of Oyo state" How would you describe the noise from motorcycles / motorized tricycles around your house?"**

Source: survey results of the survey team

In a similar interview survey in Ondo state, 35% of residents said they were concerned about noise, as they all thought the noise was high. while 65% said they were not concerned about noise, as they thought the noise was minimal, indicating that the risk of motorcycle noise becoming an issue is low.

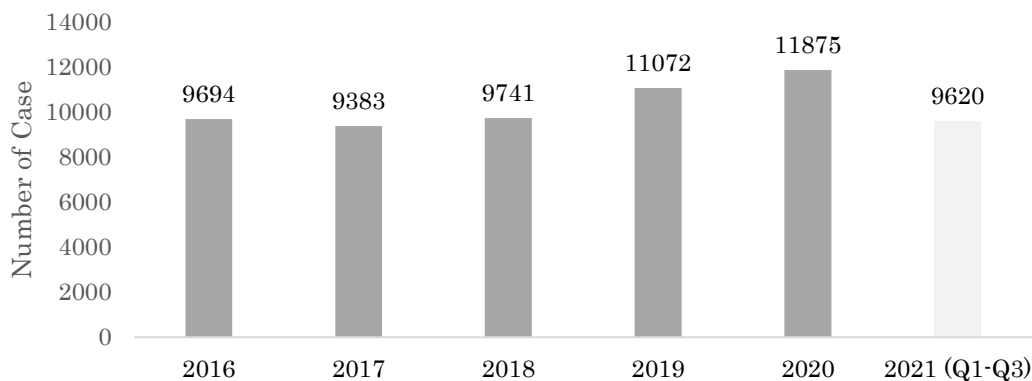


**Figure 19 Motorcycle / Tricycle Noise Pollution Survey of Ondo state" How would you describe the noise from motorcycles / motorized tricycles around your house?"**

Source: survey results of the survey team

● **Overview of traffic accidents in Nigeria**

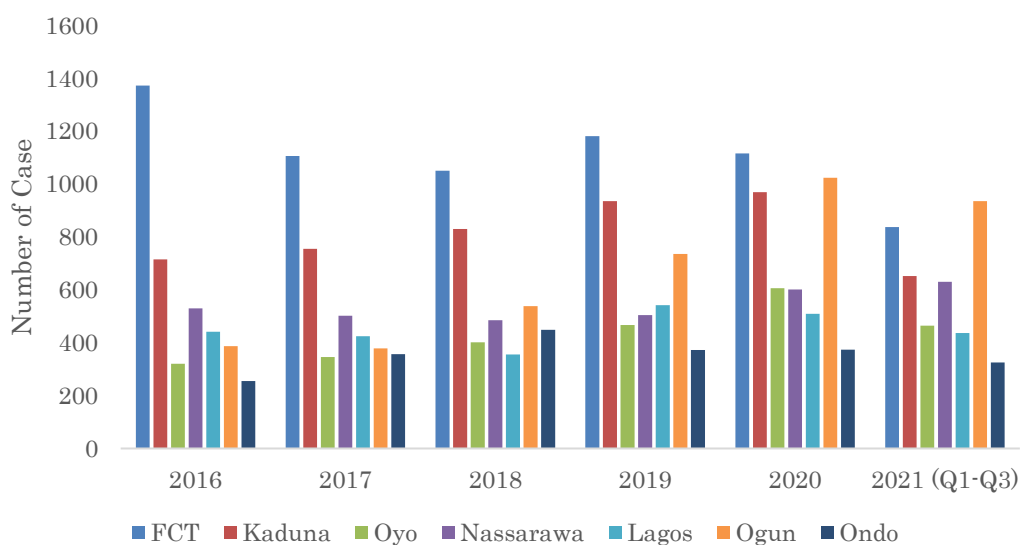
From 2017 to 2020, road traffic crashes (RTCs) were on the rise.



**Figure 20 Annual Road Traffic Crashes from 2016 to Q3 2021 (case)**

Source: Created by the survey team based on the date of the Federal Road Safety Commission and the National Bureau of Statistics from 2016 to 2021

In 2020, 11,875 road traffic crashes were reported across Nigeria, with Ogun state having the highest number of 1,116 cases, Oyo state in third and Ondo state in sixth.



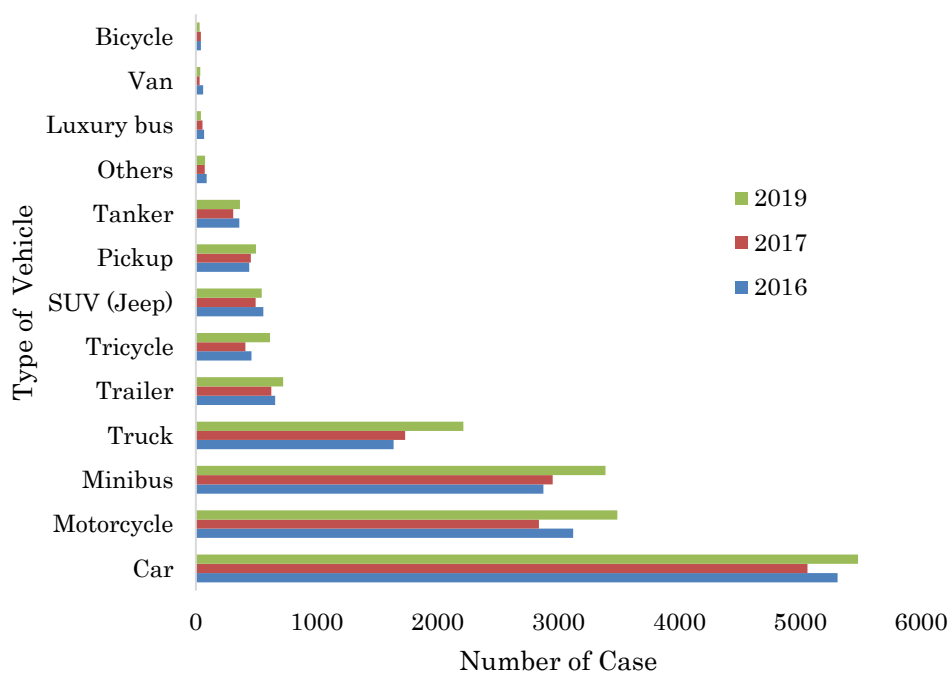
**Figure 21 Trends in top States with Road Traffic Crashes in Nigeria (case)**

Source: Created by the survey team based on the date of the Federal Road Safety Commission and the National Bureau of Statistics from 2016 to 2021

Note 1: FCT is the Federal Capital Territory (FCT), the metropolitan area of Abuja located in the central part of Nigeria.

According to vehicle classifications, four-wheeled vehicles were the most commonly involved

in traffic accidents in Nigeria from 2016 to 2019, followed by motorcycles. Looking at the types of vehicles involved in road traffic accidents in Nigeria in 2019, 31.3% (5479 cases) were cars, 19.9% (3488 cases) were motorcycles, 19.3% (3389 cases) were minibuses, and 3.5% (613 cases) were tricycles.



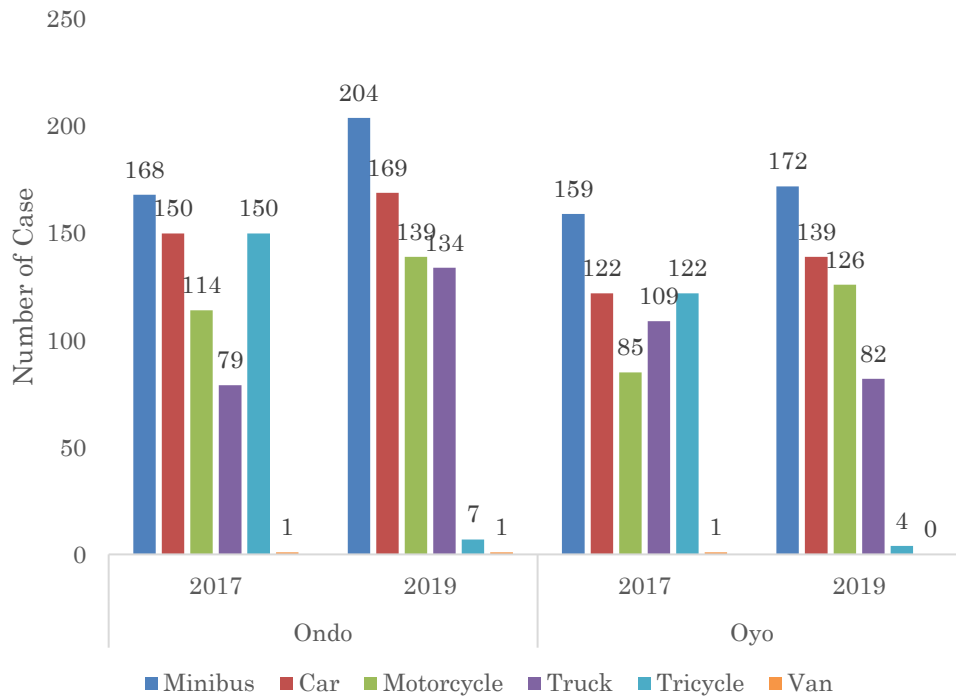
**Figure 22 Analysis of Vehicles types involved in RTCs**

Source: Created by the survey team based on the date of the Federal Road Safety Commission and the National Bureau of Statistics from 2016 to 2017 and 2019

The Federal Road Safety Commission (FRSC) reports that between 2018 and the third quarter of 2021, the number of road accidents in Ondo fell by 28%, but the record of accidents in Oyo increased, with a record high 606 cases in 2020.

Between 2017 and 2019, the most commonly reported traffic accidents in Oyo and Ondo involved minibuses. This was followed by cars. This may be due to major interstate commuting on federal roads through the states. In 2017, 114 motorcycles (17%) were involved in accidents in Oyo, and 85 motorcycle accidents (14%) were recorded in Ondo. In 2019, these numbers increased to 139 cases and 126 cases in Oyo and Ondo, respectively.

The top causes of traffic accidents in 2020 were speed violations, tire ruptures, illegal overtaking, dangerous driving, and traffic light violations. Driver education, vehicle safety checks, and compliance with traffic rules while driving are measures that can help reduce road accidents.



**Figure 23 Analysis of number of vehicles involved in road traffic crashes**

Source: Created by the survey team based on the data of the Federal Road Safety Commission and the National Bureau of Statistics in 2017 and 2019

## 6-2 Confirmation of the Environmental and Social Schemes and Organizations in Nigeria

### ● Project Components that have an Impact on the Environment and Society

The implementation of this project will lead to an increase in the number of motorcycles operating in Nigeria, which may have an impact on the environment from the perspective of increasing exhaust gas emissions and noise. It is also expected that the increase in motorcycle riders will lead to an increase in traffic accidents. In accordance with JICA's "Guidelines for Environmental and Social Considerations (April 2010)," the "Category B" survey was done.

**Table 11 Business activities that affect the environment and society**

Activities	Results	Social and environmental impacts
The project is expected to increase the number of motorcycles.	Increase in motorcycles	Increase of exhaust gas emissions
		Increase of noise
	Increase in motorcycle riders	Increase in traffic accidents

(Source) Created by the survey team



- **Increase of exhaust gas emissions**

The National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011, stipulates maximum emission figure for exhaust gas carbon monoxide (CO), hydrocarbons (HC), and nitrogen oxides (NO<sub>x</sub>) from motorized vehicles (including two-wheeled and three-wheeled vehicles) in Nigeria. However, among the above regulations, the regulation figure for new vehicles is not effective because there is no description of the measurement method. On the other hand, the regulation for vehicles in use describes both the regulation figures (Table 22 Schedule III) and the measurement method and is effective.

In this project, it is assumed that a model that clears the environmental regulation figures for vehicles in use in Nigeria will be used, and the negative impact on air pollution will be limited. Although not actually measured, the regulation figures for the vehicles in use (Table 22 Schedule III) are a loose standard, so if the figures in Table 22 Schedule III are measured according to the method for the vehicles in use, it is assumed that the regulation figure of CO3.5% and HC600ppm will have been cleared.

Further, the motorcycles used by the proposing company have a displacement of 110cc, and the displacement of carbon monoxide (CO) and hydrocarbons (HC) is very limited compared to a four-wheeled vehicle.

**Table 12 Emission regulations for automobiles (including two- and three-wheeled vehicles) in Nigeria (new vehicles, before 2015)**

Schedule I

Emission standard of Pollutants for Petrol Engine. The emission of the gaseous pollutant of Carbon Monoxide and the combination of Hydrocarbons and Nitrogen Oxides shall not exceed the following standards:

Reference Mass (rm)(kg)	Mass of CO (g/km)	HC (g/km)	NO <sub>x</sub> (g/km)	Combined Emission Mass of Hydrocarbons and Nitrogen Oxides (HC+NO <sub>x</sub> ) (g/km)
(Class I) rm < 1305kg	2.2	--	--	0.5
(Class II) 1305 <rm <= 1760	4.0	--	--	0.6
(Class III) 1760 < rm	5.0	--	--	0.7

Source: “National Environmental (Control of Vehicular Emissions from Petrol and Diesel

Engines) Regulations, 2011”<sup>[48]</sup>

**Table 13 Emission regulations for automobiles (including two- and three-wheeled vehicles) in Nigeria (new vehicles after 2015)**

Schedule II

Emission standard of Pollutants for New Models of Petrol Engines on or after 1<sup>st</sup> January, 2015.1. For a petrol engine with a gross Vehicle Weight (GVW) of more than 2500kg, the exhaust emission of the gaseous pollutant of Carbon Monoxide and the combination of Hydrocarbons and Nitrogen Oxides shall not exceed the following standards:

Reference Mass (rm)(kg)	Mass of CO (g/km)	HC (g/km)	NOx (g/km)	Combined Emission Mass of Hydrocarbons and Nitrogen Oxides (HC+NOx) (g/km)
(Class I) rm < 1305kg	2.3	0.20	0.15	-
(Class II) 1305 <rm <= 1760	4.17	0.25	0.18	-
(Class III) 1760 < rm	5.22	0.29	0.21	-

Source: “National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations,2011”<sup>[49]</sup>

**Table 14 Emission regulations for automobiles (including two- and three-wheeled vehicles) in Nigeria (automobiles in use)**

Schedule III

Emission Standard for Petrol Engine in Use :

	Carbon Monoxide (%)	Hydrocarbons (parts per million)(ppm)
Existing model	4.5	800
New model	3.5	600

Source: “National Environmental (Control of Vehicular Emissions from Petrol and Diesel

<sup>48</sup> Federal Government of Nigeria, "National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011", p. B625, June 17, 2011  
<https://gazettes.africa/archive/ng/2011/ng-government-gazette-dated-2011-05-17-no-47.pdf> (viewed January 21, 2022)

<sup>49</sup> Federal Government of Nigeria, "National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011", page B626, June 17, 2011  
<https://gazettes.africa/archive/ng/2011/ng-government-gazette-dated-2011-05-17-no-47.pdf> (viewed January 21, 2022)

Engines) Regulations,2011”<sup>[50]</sup>

● **Increase of noise**

This project has the risk of increasing noise, but its impact on noise is limited. The noise regulation value of the 110cc electric motorcycle expected to be used in this project is 78dB according to Nigeria noise regulation, “National Environmental (Noise Standards and Control) Regulations 2009 (S.I. 288 of 2009)” which applies to automobiles, but the noise regulation does not describe the measurement method, and the regulation is not effective.

On the other hand, the noise level of the base motorcycle model manufactured by the proposing company in India is 74 dB, which has cleared the regulations equivalent to the international noise regulation UNR41-03,<sup>[51]</sup> and the model to be used in this project is expected to clear regulations equivalent to UNR41-03. When comparing the regulation figure for 110cc electric motorcycles in UNR41-03 with Nigeria’s noise regulations, the noise figure for 110cc electric motorcycles stipulated in UNR41-03 are lower, noise from the operation of the motorcycles to be used in this project would be limited.

Compared to four-wheeled vehicles, the impact on environmental noise from motorcycles is smaller, and maintenance can be expected to prevent worsening noise over the course of use.

**Table 15 Motorcycle noise regulation figure in the international noise regulation UNR41-03**

Series	R41	R41-01	R41-02	R41-03
Date of entry into force	Jun 1, 1980	July 24,1984	Apr. 1, 1994	Feb 5 2000
Limit value	86 (<500cc) 85 (350<=500cc) 83 (175<=300cc) 80 (80<=175cc) 78 (<=80cc)	83 (<175) 80 (80<=175cc) 77 (<=80)	80 (<175cc) 77 (80<=175) 75 (77 (<=80)	80 (<175cc) 77 (80<=175) 75 (77 (<=80)

(Source) “ECE R41, R51: Noise from motorcycles and noise from passenger cars”<sup>[52]</sup>

<sup>50</sup> Federal Government of Nigeria, "National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011", page B626, June 17, 2011 <https://gazettes.africa/archive/ng/2011/ng-government-gazette-dated-2011-05-17-no-47.pdf> (viewed January 21, 2022)

<sup>51</sup> International Noise Regulation UNR41-03 was formulated by the United Nations World Forum for Harmonization of Vehicle Regulations (UN-ECE / WP29) Working Party on Noise (GRB), and Japan has also introduced a new testing method to harmonize international noise standards.

<sup>52</sup> JASIC Noise-sub committee,"ECE R41, R51 NOISE on motorcycles and passenger cars NOISE on motorcycles and passenger cars", page 14, October 2009 [https://www.jasic.org/j/07\\_wp29/pdf/2009/21st\\_Expert\\_Meeting\\_j.pdf](https://www.jasic.org/j/07_wp29/pdf/2009/21st_Expert_Meeting_j.pdf) (viewed January 10, 2022)

**Table 16 Comparison of international noise regulation UNR41-03 and Nigeria’s motorcycle noise regulation figures**

Classification of UNR41-03	Regulation figure of UNR41-03 (dB)	Regulation figure of Nigeria (dB)
Less than 80cc	75	78
80cc or more and less than 175cc	77	
175cc or more and less than 500cc	80	

(Source) Created by the survey team from information on “ECE R41, R51: Noise from motorcycles and noise from passenger cars” and “National Environmental (Noise Standards and Control) Regulations 2009 (S.I. 288 of 2009)”

Note 1: Nigeria’s regulatory classifications apply to vehicles with 9 people or fewer, including the driver.

● **Impact on traffic accidents**

As described in 5-2-1 Development Issues, it is expected that over 1 million motorcycles will be introduced from the development of this project, and there is a risk that traffic accidents will increase due to the increase in motorcycles in Nigeria. However, since this project will also provide training on safe riding for riders, it is expected to reduce the risk of traffic accidents.

**6-2-1 Laws, Regulations and Standards Related to Environmental Impact Assessments and Information Disclosure, etc.**

● **Environmental laws and regulations (The Federal level)<sup>[53]</sup>**

The basis for Nigeria’s environmental policy is contained in the 1999 Constitution of the Federal Republic of Nigeria. In accordance with Article 20 of the Constitution, states are empowered to protect and improve the environment and protect Nigeria’s water, air, land, forest and wildlife. In addition to this, Section 2 of the 1992 Environmental Impact Assessment Act (EIA Act) states that the public or private sector of the economy must not implement, initiate or approve projects or activities without prior consideration of environmental impacts. Under the Constitution, the Federal Government of Nigeria has promulgated various laws and regulations to protect the environment in Nigeria.

- The Federal Environmental Protection Agency Act (FEPA Act) of 1988 was abolished by the National Environmental Standards and Regulations Enforcement Authority (NESREA) Act of 2007. The following regulations were created in accordance with the FEPA Act.

<sup>53</sup> Oghogho Makinde and Temitayo Adeyoke, "The International Comparative Guide to PFI / PPP Projects", November 20, 2007, Global Legal Group Ltd, London Publishing <https://www.mondaq.com/nigeria/energy-law/53804/environment-law-in-nigeria> (viewed January 21, 2022)

- National environmental protection (drainage restriction) regulations
- National Environment Protection (Pollution Abatement in Industries and Facilities producing Waste) Regulations
- Federal Solid and Hazardous Waste Management Regulations
- 1992 Environmental Impact Assessment Act (EIA Act)
- Harmful Waste (Special Criminal Provisions) Act of 1988 (Harmful Waste Act)

The National Environmental Standards and Regulations Enforcement Agency (NESREA) is responsible for environmental development, conservation of biodiversity, sustainable development of Nigerian natural resources, and protection including environmental technologies. It coordinates and maintains contact with relevant stakeholders inside and outside Nigeria regarding the enforcement of environmental standards, regulations, rules, laws, policy and guidelines.

The NESREA Act allows national and local governments to establish their own institutions to protect and improve the environment in the states. Each state is also empowered to enact legislation to protect the environment within its jurisdiction. Every state also has an environmental agency and state laws

**Table 17 List of Nigerian environmental laws (laws related to this project)**

Name	Summary
Constitution of the Federal Republic of Nigeria (1999) Constitution of the Federal Republic of Nigeria (1999)	The Constitution stipulates that Nigeria shall protect and improve the environment and protect Nigeria's water, air and land, forests and wildlife.
Federal Environmental Protection Agency Act (1988) Federal Environmental Protection Agency Act (FEPA,1988)	The law established a federal environmental protection agency with environmental protection functions and powers for the effective implementation of environmental protection
National Environmental Standards and Regulations Enforcement Agency (Establishment) Act (2007) National Environmental Standards and Regulations Enforcement Agency (Establishment) Act (2007)	The law replaced the Federal Environmental Protection Agency Act (FEPA, 1988) to establish a federal environmental protection agency with environmental protection functions and powers for the effective implementation of environmental functions. NESREA, the leading federal agency responsible for environmental protection in Nigeria, is responsible for enforcing all environmental laws, regulations, guidelines and standards. This includes the enforcement of environmental conventions, treaties and protocols

	signed by Nigeria.
Environmental Impact Assessment Act (revised in 1992 and 2004) Environmental Impact Assessment Act (1992, Cap E12 LFN 2004)	The law assesses the environmental impact of investment projects. The law sets out the general principles, procedures and methods of environmental impact assessments in various areas.
National Environmental (Noise Standards and Control) Regulations (2009) National Environmental (Noise Standards and Control) Regulations, 2009	Federal noise regulations
National Environment (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations (2009) National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011	Federal vehicle emission regulations for automobiles (including motorcycles and motorized tricycles)

(Source) Created by the survey team from various public information<sup>[54]</sup>

#### ● **Environmental Sector Laws and Regulations in Oyo State**

The Oyo State Policy on Environment (2013) formulates, implements, and enforces environmental regulations for environmental protection and compliance. In addition to federal laws and regulations, there is an environmental regulation enforced by Oyo State, the "Oyo State Environmental Protection Agency Law"; however, vehicle emission regulations in Oyo State are not yet in place.

#### ● **Environmental Sector Laws and Regulations in Ondo State**

In Ondo State, the state ministry of Environment oversees the state's environmental compliance and protection, as authorized by the State Environmental Protection Agency Law, 2006. The Ondo State Emission Control Scheme sets the standards and regulations for vehicle emissions in Ondo State. It states that no person in the state shall use a vehicle that has been shown to exceed the permissible limit in spot tests or initial tests conducted by a test center. The standard emission

<sup>54</sup> International Finance Corporation World Bank Group, Overview Environmental Legislation – Nigeria [https://esrmafrica.org/nigeria-posts-3/\(viewed January 21, 2022\)](https://esrmafrica.org/nigeria-posts-3/(viewed%20January%2021,%202022))  
THOMSON REUTERS PRACTICAL LAW, Environmental law and practice in Nigeria: overview [https://uk.practicallaw.thomsonreuters.com/w-006-3572?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-006-3572?transitionType=Default&contextData=(sc.Default)&firstPage=true) (viewed January 21, 2022)

limits for CO and HC for two-wheeled tricycles were set at 3.5% and 900 ppm, respectively. The regulation provides for the establishment of Vehicle Emission Testing Centre for inspection and certification of all categories of electric and non-electric combustion engines with state gas emissions. For registration/sale of vehicles in the state, a certificate of fitness must be obtained from the testing center. Periodic (annual) inspections shall be conducted on the vehicles at the test center.

### ● **Environmental Impact Assessment System in Nigeria**

In Nigeria, the Environmental Impact Assessment Decree No. 86 of 1992 stipulates the implementation of an environmental impact assessment for projects that may have an impact on the environment. As a result of confirming with the department in charge of EIA in Nigeria that the motorcycle leasing business is a target business of EIA because it provides maintenance services. In addition to the basic process, detailed procedures and guidance for each industry are prepared. According to the department in charge, there is no detailed guidance for maintenance services, and the proposing company must formally contact the department in charge of EIA to confirm the specific procedure.

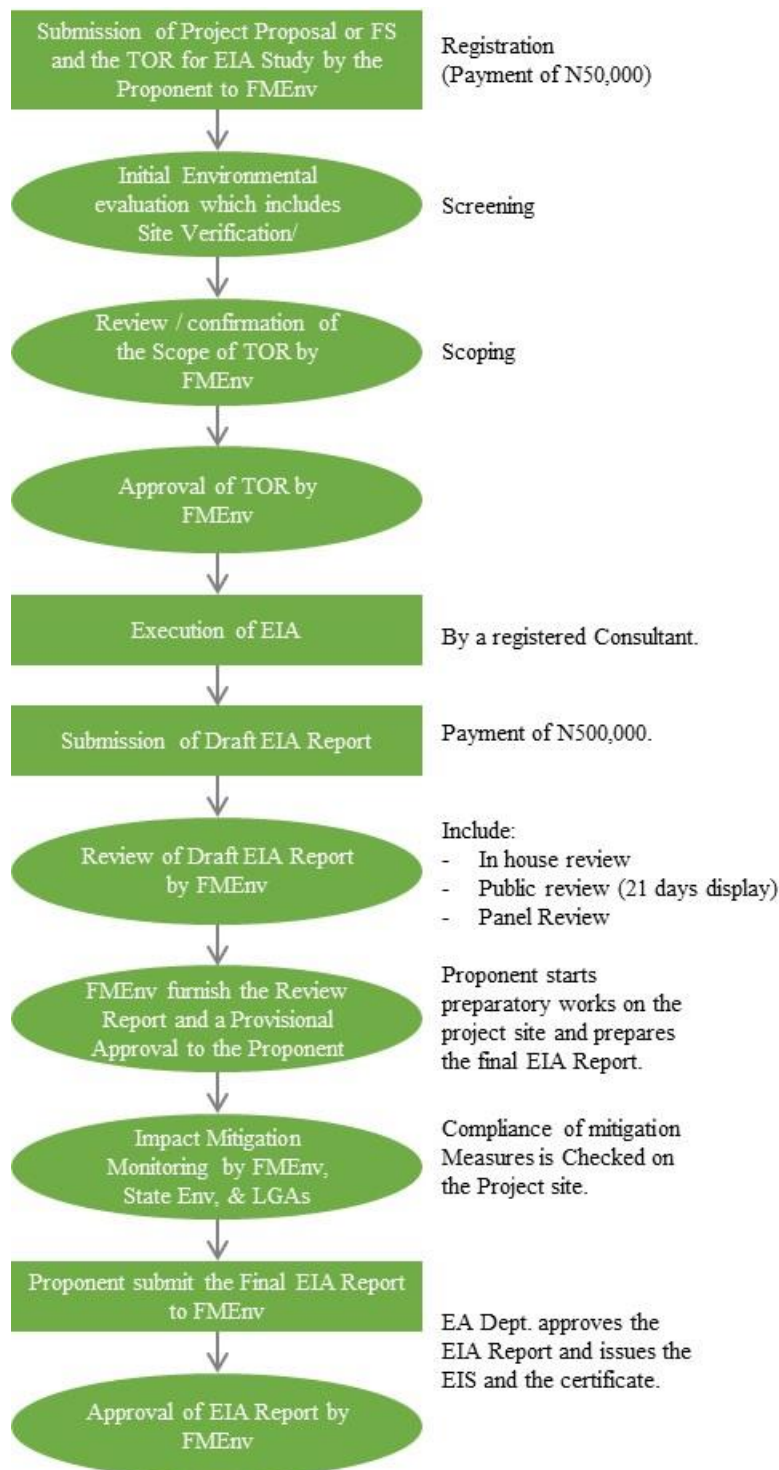
An environmental impact assessment shall include at least the following minimum matters:

- a. a description of the proposed activities
- b. a description of the potential affected environment including specific information necessary to identify and assess the environmental effects of the proposed activities
- c. a description of the practical activities, as appropriate
- d. an assessment of the likely or potential environmental impacts on the proposed activity and the alternatives, including the direct or indirect cumulative, short term and long-term effects
- e. an identification and description of measures available to mitigate adverse environmental impacts of proposed activity and assessment of those measures
- f. an indication of gaps in knowledge and uncertainty which may be encountered in computing the required information
- g. an indication of whether the environment of any other State, Local Government Area or areas outside Nigeria is likely to be affected by the proposed activity or its alternatives
- h. a brief and non-technical summary of the information provided under paragraph (a) to (g) of this section.

Regarding the process of environmental impact assessment, figure 26 shows the EIA flowchart confirmed with the department in charge of environmental impact assessment in Nigeria. Previously, the EIA procedure required 500,000 Naira, but as of January 2022, it is no longer required (the website will be updated, but the timing of the update is unknown). The period from

the submission of the EIA report to the provisional approval by the Federal Ministry of the Environment depends on the business characteristics, and the specific required period must be formally contacted by the proposing company to the department in charge of EIA. The proposing company has not prepared an environmental impact assessment. From the stage when the development of the proposed project is certain, an environmental impact assessment will be prepared and submitted to the Federal Ministry of the Environment of Nigeria.





**Figure 24 Process Flowchart of Environmental Impact Assessment in Nigeria**  
 (Source) “Environmental Impact Assessment Decree No. 86 of 1992”<sup>[55]</sup>

<sup>55</sup> The Environmental Assessment Department,  
<https://ead.gov.ng/eia-process-flowchart> (viewed January 28, 2022)

- **Comparison of international standards for emission regulations and Nigeria’s emission regulations**

Comparing the international standards that use the exhaust gas standards of Japanese motorcycles as benchmarks with the exhaust gas standards of Nigeria, the Japanese standards are stricter for carbon monoxide, hydrocarbons, and nitrogen oxides.

**Table 18 Comparison of emission regulations for automobiles (including motorcycles) in Nigeria and Japan**

Regulation	Motorcycles type	CO (g/km)	HC (g/km)	NOx (g/km)	HC+Nox (g/km)
Japan (After 2016)	Class 1	1.14	0.30	0.07	-
	Class 2	1.14	0.20	0.07	-
	Class 3	1.14	0.17	0.09	-
Nigeria (After 2015)	Class 1※	2.30	0.20	0.15	-

Note 1: Japanese class standards:

Class 1: Maximum speed 50 km/h or more and less than 100 km/h

Class 2: Maximum speed 100 km/h or more and less than 130 km/h

Class 3: Maximum speed of 130 km/h or more

Note 2: Nigerian class definitions

Class 1: Gross vehicle weight <1305kg, applies to motorcycles. Schedule II Regulation 3 (6) standard value after 2015

(Source) Created by the survey team based on the contents of “National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011”<sup>[56]</sup> and “Motorcycle Emission Regulations”<sup>[57]</sup>

### 6-2-2 Deviation from JICA Environmental Guidelines (April 2010) and How to Eliminate It

When comparing the Environmental Impact Assessment Act system in Nigeria with JICA’s Guidelines for Environmental and Social Considerations, it can be seen that the main items are included and no major differences are seen, despite differences in detailed items and methods. In addition, the EIA process in Nigeria also stipulates information disclosure and consultation with stakeholders, and there are no significant divergences in terms of information disclosure. A comparison table with JICA environmental guidelines is clearly shown in 6-10.

<sup>56</sup> Federal Government of Nigeria, "National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011", page B626, June 17, 2011 <https://gazettes.africa/archive/ng/2011/ng-government-gazette-dated-2011-05-17-no-47.pdf> (viewed January 21, 2022)

<sup>57</sup> Japan Motorcycle Accessories Association, Motorcycle Emission Regulations [https://jmca.gr.jp/about\\_muffler/emissions\\_regulations/](https://jmca.gr.jp/about_muffler/emissions_regulations/) (viewed December 23, 2021)

### 6-2-3 Roles of Related Organizations

- **Bodies with environmental jurisdiction**<sup>[58]</sup>

In Nigeria, the issues of air quality and climate change come under the jurisdiction of the Federal Ministry of the Environment. In the Federal Ministry of the Environment, the Department of Pollution Control and Environmental Health is in charge of general air quality issues, and the Department of Climate Change is in charge of work to implement the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement. The Federal Ministry of the Environment works in collaboration with the Inter-ministerial Committee on Climate Change. The Inter-Ministry Committee on Climate Change is a policy advisory body that advises the federal government on appropriate climate change measures.

The National Environmental Standards and Regulations Enforcement Agency is the environmental agency of Nigeria's federal government and was established by law in 2007 to "ensure a cleaner and healthier environment for Nigerians." This agency functions as a quasi-state governmental agency of the Federal Ministry of the Environment. Since its inception, NESREA has made several achievements in the areas of environmental compliance, monitoring and enforcement. This includes the enactment of several regulations on environmental protection, environmental compliance monitoring and enforcement measures. NESREA typically employs preemptive measures to ensure compliance with relevant legal requirements and license terms, but authorities use their enforcement power when voluntary compliance is not expected.

**Table 19 environmental regulatory authorities in Nigeria**

Name of environmental authorities	
FME	Federal Ministry of Environment
DCC	Department of Climate Change
ICCC	Inter-ministerial Committee on Climate Change
NESREA	National Environmental Standards and Regulations Enforcement Agency

(Source) Created by the survey team based on publicly available materials

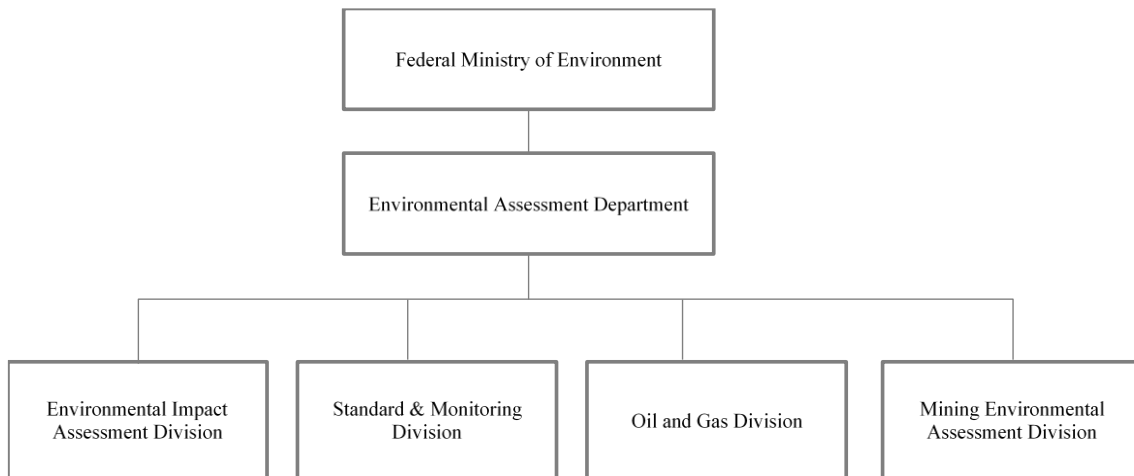
- **Organizations related to environmental impact assessments**

The Environmental Assessment Department of the Federal Ministry of the Environment is responsible for environmental impact assessments in Nigeria. The systematic chart of related organizations is shown below. The legal system, procedure and approvals for EIA are administered by Environmental Impact Assessment Division.

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<sup>58</sup> THOMSON PEUTERS PRACTICAL LAW, Environmental law and practice in Nigeria:overview [https://uk.practicallaw.thomsonreuters.com/w-006-3572?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-006-3572?transitionType=Default&contextData=(sc.Default)&firstPage=true) (viewed January 21, 2022)

**Figure 25 Organizational chart of the Federal Ministry of the Environment related to EIA**



(Source) Created by the survey team

### **6-3 Scoping**

The following table shows the business activities that are believed to impact the environment and society inside and around the business area, as well as summaries of those activities. In terms of the impact of the project on the environment and society, the impact caused by the increase in motorcycles due to the implementation of the project falls under the scoping.

**Table 20 Scoping**

Classification		Impact items	Selection status		Reason for choosing this theme
			Before construction Under construction	During project operation	
Pollution control	1	Air pollution	N/A	✓	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> Depending on the degree of increase in the number of operating vehicles, the exhaust gas from traveling vehicles is expected to have a negative impact on air quality.</p>
	2	Water pollution	N/A	N/A	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> No activities that cause water pollution are expected in this project.</p>
	3	Waste	N/A	N/A	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> No activities that generate waste are expected in this project.</p>
	4	Soil	N/A	N/A	<p><b>Under construction:</b> Since</p>

Classification	Impact items	Selection status		Reason for choosing this theme
		Before construction Under construction	During project operation	
	pollution			<p>this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> No activities that cause soil pollution are expected in this project.</p>
	5 Noise / vibration	N/A	✓	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> If there are areas around roads that are easily affected (houses, schools, medical facilities, etc.), noise effects due to an increase in the number of vehicles in service and a faster running speed is conceivable.</p>
	6 Land subsidence	N/A	N/A	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> No activities that cause land subsidence are expected in this project.</p>
	7 Foul odors	N/A	N/A	<b>Under construction:</b> Since

Classification		Impact items	Selection status		Reason for choosing this theme
			Before construction Under construction	During project operation	
					<p>this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> No activities that generate a foul odor are expected in this project.</p>
	8	Bottom sediment	N/A	N/A	<p><b>During construction / During project operation:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p>
Natural environment	9	Protected areas	N/A	N/A	<p><b>During construction / During project operation:</b> Since there are no plans to use land for this project, no impact on protected areas is expected.</p>
	10	Ecosystem	N/A	N/A	<p><b>During construction / During project operation:</b> Since there are no plans to use land for this project, no impact on the ecosystem is expected.</p>
	11	Hydrological conditions	N/A	N/A	<p><b>During construction / During project operation:</b> Since there are no plans to use land for this project, work that may affect hydrological conditions is not expected.</p>
	12	Topography, geology	N/A	N/A	<p><b>During construction / During project operation:</b></p>

Classification		Impact items	Selection status		Reason for choosing this theme
			Before construction Under construction	During project operation	
					Since there are no plans to use land for this project, no impact on topography or geology is expected.
Social environment	13	Land acquisition / relocation of residents	N/A	N/A	<b>During construction / During project operation:</b> Since there are no plans to use land for this project, no impact on land acquisition or relocation of residents is expected.
	14	People living in poverty	N/A	✓	<b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered. <b>During project operation:</b> After the service starts, those living in poverty will be able to lease a motorcycle and possibility operate a motorcycle taxi service as a profession. Therefore a positive impact on the poor is expected.
	15	Ethnic minorities and indigenous peoples	N/A	N/A	<b>During construction / During project operation:</b> Since there are no plans to use land for this project, no impact on ethnic minorities or indigenous peoples is expected.
	16	Local	N/A	✓	<b>Under construction:</b> Since



Classification	Impact items	Selection status		Reason for choosing this theme
		Before construction Under construction	During project operation	
	economy such as employment and means of livelihood			<p>this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> The implementation of the project may improve the income and livelihoods of motorcycle riders.</p>
	17 Land use and local resource use	N/A	N/A	<b>During construction / During project operation:</b> This project is not expected to affect land use or local resource use.
	18 Water Use	N/A	N/A	<b>During construction / During project operation:</b> Since this project does not use water and is not expected to affect land use or local resource use.
	19 Existing social infrastructure and social services	N/A	N/A	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> This project is not expected to affect existing social infrastructure or social services.</p>
	20 Social institutions such as	N/A	N/A	<b>During construction / During project operation:</b> This project is not expected to

Classification	Impact items	Selection status		Reason for choosing this theme
		Before construction Under construction	During project operation	
	social capital and local decision-making institutions			affect social capital or local decision-making institutions.
21	Misdistribution of benefits and damages	N/A	N/A	<b>During construction / During project operation:</b> This project is not expected to bring unjust harm or benefits to the surrounding area.
22	Conflicts of interest within the region	N/A	N/A	<b>During construction / During project operation:</b> This project is not expected to cause conflicts of interest within the region.
23	Cultural heritage	N/A	N/A	<b>During construction / During project operation:</b> No impact on cultural heritage, etc. is expected in or around the project area.
24	Landscape	N/A	N/A	<b>During construction / During project operation:</b> This project is not expected to affect the landscape.
25	Gender	N/A	✓	<b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered. <b>During project operation:</b>

Classification	Impact items	Selection status		Reason for choosing this theme
		Before construction Under construction	During project operation	
				No negative impact on gender is expected from this project. As the number of female riders increases, it is expected that the number of female motorcycle taxi users will increase, which will have a positive impact on the improvement of female working and living environments.
26	The Rights of Children	N/A	N/A	<b>During construction / During project operation:</b> This project is not expected to affect children's rights.
27	Infectious diseases such as HIV / AIDS	N/A	N/A	<b>Under construction:</b> This project is not expected to affect infectious diseases such as HIV / AIDS. <b>During project operation:</b> No particular impact of this project on infectious diseases is expected.
28	Working environment (including occupational safety)	N/A	N/A	<b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered. <b>During project operation:</b> No work is planned that could have a negative impact on workers during the in-service

Classification		Impact items	Selection status		Reason for choosing this theme
			Before construction Under construction	During project operation	
					phase.
Other	29	Accident	N/A	✓	<p><b>Under construction:</b> Since this project will not involve construction, the examination of this impact item will not be covered.</p> <p><b>During project operation:</b> There is concern that the number of traffic accidents will rise with the increase in the number of vehicles in service.</p>
	30	Cross-border impacts and climate change	N/A	N/A	<p><b>During construction / During project operation:</b> This project is not expected to have cross-border impacts or impacts related to climate change.</p>

(Source) Created by the survey team

The survey items and survey methods in this survey which correspond to the environmental items and impacts identified through scoping are shown below.

**Table 21 TOR**

Environmental issue	Survey item	Methodology
Examination of alternative proposals	① Considering the use of electric motorcycles	① Confirming the impact on the environment, including from proposed alternatives
Air pollution	① Confirmation of environmental standards (Nigeria's motorcycle exhaust gas	① Survey of existing materials ② Survey of existing

Environmental issue	Survey item	Methodology
	standards, Japan's motorcycle exhaust gas environmental standards, etc.) ② Understanding the current state of air quality ③ Understanding the degree of increase in exhaust gas during operation of the project	materials and actual measurement as necessary ③ Impact forecast based on market demand forecast results ④ Field surveys and interviews
Water pollution	N/A	N/A
Waste	N/A	N/A
Soil pollution	N/A	N/A
Noise / vibration	① Confirmation of environmental standards (Nigeria noise standards, Japanese noise standards, etc.)	① Survey of existing materials ② Field surveys and interviews ③ Survey of existing materials and actual measurement as necessary
Hydrological conditions	N/A	N/A
Land acquisition / relocation of residents	N/A	N/A
People living in poverty	① Checking the existence and impact on of poor motorcycle riders	① Population census ② (If poor motorcycle riders are confirmed to exist) focus group meetings aimed at those people
Local economy such as employment and means of livelihood	① Confirmation of the impact on employment due to the increase in motorcycle taxis ② Confirmation of the impact on the livelihoods due to motorcycle taxis	① Survey of existing materials ② Field surveys and interviews
Water Use	N/A	N/A

Environmental issue	Survey item	Methodology
Existing social infrastructure and social services	<ul style="list-style-type: none"> <li>① Livelihood status of residents in target areas</li> <li>② Types of livelihood activities and cash income</li> <li>③ Employment status due to development projects, etc.</li> </ul>	<ul style="list-style-type: none"> <li>① Status of residents' livelihood activities and cash income based on socio-economic baseline survey</li> <li>② Gaining understanding of the employment situation based on socio-economic baseline survey</li> </ul>
Gender	① Gender impact	<ul style="list-style-type: none"> <li>① Survey of existing materials</li> <li>② Field surveys and interviews</li> </ul>
The Rights of Children	N/A	N/A
Infectious diseases such as HIV / AIDS	N/A	N/A
Working environment (including occupational safety)	N/A	N/A
Accident	① Increase in the number of traffic accidents during the project	① Survey of existing materials, examination of methods to reduce traffic accidents, etc.
Stakeholder consultations (SHM)	N/A	N/A

(Source) Created by the survey team

#### 6-4 Impact Prediction

An environmental impact assessment was conducted based on scoping. The results were categorized for each of the following business components.

**Table 22 Forecast of environmental and social impacts**

Classification	N o.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
Pollution control	1	Air pollution	N/A	✓	N/A	B-	<b>During project operation:</b> Increased vehicle operation is expected, leading to an increase in exhaust gas, but the negative impact on air quality is limited as it is expected to fully meet national and international standards.
	2	Water pollution	N/A	N/A	N/A	N/A	N/A
	3	Waste	N/A	N/A	N/A	N/A	N/A
	4	Soil pollution	N/A	N/A	N/A	N/A	N/A
	5	Noise / vibration	N/A	✓	N/A	B-	<b>During project operation:</b> If there are areas around roads that are susceptible (houses, schools, medical facilities, etc.), noise effects due to increased vehicle

Classification	No.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
							operation and faster running speed are conceivable. On the other hand, the increase in noise is limited because it is expected to adequately meet domestic and international noise standards.
	6	Land subsidence	N/A	N/A	N/A	N/A	N/A
	7	Foul odors	N/A	N/A	N/A	N/A	N/A
	8	Bottom sediment	N/A	N/A	N/A	N/A	N/A
Natural environment	9	Protected areas	N/A	N/A	N/A	N/A	N/A
	10	Ecosystem	N/A	N/A	N/A	N/A	N/A
	11	Hydrological conditions	N/A	N/A	N/A	N/A	N/A
	12	Topography, geology	N/A	N/A	N/A	N/A	N/A



Classification	No.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
Social environment	13	Relocation of residents	N/A	N/A	N/A	N/A	N/A
	14	People living in poverty	N/A	✓	N/A	B+	<b>At the time of service:</b> After the service starts, those living in poverty will be able to lease a motorcycle and possibly operate a motorcycle taxi service as a profession. Therefore a positive impact on the poor is expected.
	15	Ethnic minorities and indigenous peoples	N/A	N/A	N/A	N/A	N/A
	16	Local economy such as employment and means of livelihood	N/A	✓	N/A	B+	<b>During project operation:</b> The implementation of the project may improve the income and livelihoods of motorcycle riders.

Classification	No.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
		d					
	17	Land use and local resource use	N/A	N/A	N/A	N/A	N/A
	18	Water Use	N/A	N/A	N/A	N/A	N/A
	19	Existing social infrastructure and social services	N/A	N/A	N/A	N/A	N/A
	20	Social institutions such as social capital and local decision-making institutions	N/A	N/A	N/A	N/A	N/A
	21	Misdistribution of benefits and damages	N/A	N/A	N/A	N/A	N/A

Classification	No.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
	22	Conflicts of interest within the region	N/A	N/A	N/A	N/A	N/A
	23	Cultural heritage	N/A	N/A	N/A	N/A	N/A
	24	Landscap e	N/A	N/A	N/A	N/A	N/A
	25	Gender	N/A	✓	N/A	B+	<b>During project operation:</b> This project is expected to have a positive impact on female commuting and life, as the number of female riders is expected to increase, leading to an increase in the number of female motorcycle taxi users.
	26	The Rights of Children	N/A	N/A	N/A	N/A	N/A
	27	Infectiou s diseases	N/A	N/A	N/A	N/A	N/A

Classification	No.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
		such as HIV / AIDS					
	28	Working environment (including occupational safety)	N/A	N/A	N/A	N/A	N/A
Other	29	Accident	N/A	✓	N/A	B-	<b>During project operation:</b> There is concern about an increase in traffic accidents due to an increase in the number of motorcycles in service. On the other hand, as a response to the increased risk of traffic accidents due to the increase in the number of motorcycles, this project will develop a training program for certified riders and mechanics and

Classification	No.	Impact items	Impact assessment during scoping		Impact assessment based on survey results		Reason for assessment
			Before construction Under construction	During the project	Before construction Under construction	During the project	
							introduce the program to local driving schools, which will mitigate the negative impact on traffic safety.
	30	Cross-border impacts and climate change	N/A	N/A	N/A	N/A	N/A

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C: Extent of impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected.

N/A: Impact assessment isn't conducted because the item was categorized into D in scoping phase.

(Source) Created by the survey team

### 6-5 Impact Assessment and Comparative Study Including Alternatives “Do Not Implement the Project”

To confirm the basis and validity of this project plan, alternatives are examined. In addition to this project plan, we will compare and consider three options (1) the case of not implementing the project (zero option), (2) the case of implementing the project plan, and (3) the case of using electric motorcycles. We examined these options from the viewpoints of technology, cost, and environmental and social considerations. The results are shown in Table 32. As a result of comparative examination, we confirmed that the proposed project is recommended.

**Table 23 Consideration of alternatives**

Item	Option 1	Option 2	Option 3
Overview of the options	Case where the project is not implemented	Case where the project is implemented	Case where an electric motorcycle lease business is implemented
Business unit	None	Gasoline-powered motorcycle lease business	Electric motorcycle lease business
Land use	Never	Never	Never
Technical aspects	Never	<ul style="list-style-type: none"> <li>➤ Engine-powered motorcycle technology is mature and popular.</li> </ul>	<ul style="list-style-type: none"> <li>➤ The technology of electric motorcycles is advancing, and there are challenges in battery safety and long-distance driving.</li> </ul>
Cost aspects	No project costs	<ul style="list-style-type: none"> <li>➤ Motorcycle procurement costs are projected to be 820 million USD<sup>[59]</sup></li> <li>➤ Infrastructure development such as gas stations is progressing, and existing infrastructure can be utilized.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Estimated motorcycle procurement cost is 2.87 billion USD<sup>[60]</sup></li> <li>➤ Infrastructure development such as charging stations has not progressed, and it is thought that a large amount of equipment and capital investment is required.</li> </ul>

<sup>59</sup> Assuming that the funding scheme in Chapter 2, where it is expected that 1.08 million motorcycles will be leased out, and assuming a procurement price of 758 USD / unit for engine-powered motorcycles, the procurement cost is assumed to be 820 million USD.

<sup>60</sup> As with engine-powered motorcycles, it is assumed that 1.08 million electric motorcycles would be procured, and the estimated procurement cost would be 2.87 billion USD, assuming that electric motorcycles cost 2,653 USD / unit.

Item	Option 1	Option 2	Option 3
Environmental and social considerations	<ul style="list-style-type: none"> <li>➤ Natural environment: No impact on the natural environment</li> <li>➤ Social environment: No impact on the natural environment</li> </ul>	<ul style="list-style-type: none"> <li>➤ Natural environment: May increase motorcycle emissions and noise</li> <li>➤ Social environment: There is concern that traffic accidents will increase with the increase in motorcycles.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Natural environment: No impact on the natural environment</li> <li>➤ Social environment: There is a concern that traffic accidents will increase with the increase in motorcycles.</li> </ul>
Recommended optimal plan and the basis for it	<ul style="list-style-type: none"> <li>➤ This proposal is not recommended.</li> <li>➤ Reason: Even if technical, cost, environmental and social aspects are taken into consideration compared to Option 2, the benefits of introduction with this option are significantly inferior to Option 2.</li> </ul>	<ul style="list-style-type: none"> <li>➤ This plan is recommended.</li> <li>➤ Reason: Although it may have an environmental impact, the scope of impact is limited because it uses motorcycles that meet EU4 and meet stricter emission standards compared with Nigeria. To deal with the risk of an increase in traffic accidents, this project will develop a training program for certified riders and mechanics and introduce the program to local driving schools, which will mitigate</li> </ul>	<ul style="list-style-type: none"> <li>➤ This proposal is not recommended.</li> <li>➤ Reason: Due to the high cost burden, it is not possible to implement this option in Nigeria at this stage.</li> </ul>

Item	Option 1	Option 2	Option 3
		the negative impact on traffic safety.	

(Source) Created by the survey team

### 6-6 Examination of for Mitigation Measures (Avoidance / Minimization / Compensation)

The following table shows mitigation measures or future action for items that were A, B, or C in the impact assessment in Section 6-4. In the impact assessment, items judged to have “no impact” during the project period are omitted. The entity responsible for implementing all mitigation measures / future action shown in the table is the proposing company. The supervisory authority is the Federal Ministry of the Environment.

**Table 24 Environmental Impact Mitigation Measures**

Classification	Item	Mitigation measures	Cost estimation
Pollution control	Air pollution	Minimizing negative effects: Exhaust from the motorcycles: Exhaust gas control (prohibiting engine idling, setting speed limits, providing maintenance). Introduce motorcycles that meet the standards of Nigeria’s automobile emission regulations.	Expenses related to overall project management
	Noise / vibration	Minimizing negative effects: Motorcycle noise and vibration: Prohibiting engine idling, setting speed limits Introduce motorcycles that meet the standards of Nigeria’s automobile noise regulations.	Expenses related to overall project management
	People living in poverty	<Positive impact> Improving people’s livelihoods through employment Continual hiring of residents living in poverty	Expenses related to overall project management



Classification	Item	Mitigation measures	Cost estimation
	Local economy such as employment and means of livelihood Done	<Positive impact> Improving the livelihoods of residents through employment Continuing to ensure employment and monitoring improvements to people’s livelihoods	Expenses related to overall project management
	Gender	<Positive impact> Raising gender awareness through project expansion This project will continue to support women and the spread of gender awareness.	Included in overall project management costs
Other	Accident	Minimizing negative effects: To mitigate the negative impact on traffic safety, this project will develop a training program for certified riders and mechanics and introduce the program to local driving schools.	Included in motorcycle rider training activities

(Source) Created by the survey team

### 6-7 Draft Environmental Management Plan / Monitoring Plan

This project propose an environmental monitoring plan to regularly grasp the implementation status of mitigation measures and their effects. This project will consider and propose mitigation measures to be implemented for the target environmental items, monitoring items, locations, frequencies, organizations responsible for implementation, and the reporting system for results. The monitoring targets are the items for which “mitigation measures / future action” were proposed during and after the project period in the previous section. In this project, the organization that records the monitoring results and takes future action as necessary is the proposing company.

### 6-8 Clarification of Implementation System

Since this project does not require land acquisition, it is not necessary to discuss the environment with the residents. Similarly, construction and environmental permits during construction are not required. In implementing the project, it is assumed that air pollution and noise meet Nigeria’s emission regulations and noise regulations, but the actual measurement tests required for

environmental regulations will be carried out. During the project, the results of the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) will be recorded, with future action taken as necessary. The party responsible for taking action is the proposing company.

### 6-9 Support for Conducting Stakeholder Analysis and Holding Stakeholder Discussions

This project is a motorcycle lease business, and since offices will use existing buildings and no land use associated with construction is expected, it will involve no deforestation or landscape destruction, and no stakeholder consultation with residents in the target area is required. Although exhaust gas and noise may be generated, the impact is extremely limited as described above, and as the operating area of the motorcycles is unspecified, it is not necessary to hold stakeholder consultations in specific areas.

### 6-10 Creating an Environmental Checklist

An “Environmental Checklist” was created based on the JICA’s Guidelines for Environmental and Social Considerations (April 2010). The items applicable to the environmental checklist are as follows.

**Table 25 Environmental checklist**

Classification	Environmental issue	Main items to be checked	Yes: Y No: N	Specific environmental and social considerations (Reason for Yes / No, grounds, mitigation measures, etc.)
1 Permits and explanations	(1) EIAs and environmental permits	(a) Have you prepared an environmental assessment report (EIA report), etc.?	(a)N	(a) Currently being confirmed with Nigerian environmental authorities
	(2) Explanations to local stakeholders	(a) Have you obtained an understanding by appropriately explaining the details and impact of the project to local stakeholders, including information disclosures?  (b) Did you reflect the comments from the residents in the project details?	(a)N (b)N	(a) (b)( because there is no land acquisition or movement of residents, and the operating range of motorcycles is not fixed)

Classification	Environmental issue	Main items to be checked	Yes: Y No: N	Specific environmental and social considerations (Reason for Yes / No, grounds, mitigation measures, etc.)
	(3) Examination of alternatives	(a) Have multiple alternatives to the project plan been considered (including environmental and social aspects at the time of consideration)?	(a)Y	(a) In formulating the project plan, on the premise of concerns about exhaust gas and noise, we will consider developing an electric motorcycle business if this project is not implemented. Among the alternatives, we decided to finally adopt this project after considering the technical, cost, environmental and social aspects.
2 Pollution control	(1) Water quality	(a) Has consideration been given to prevent pollution of surrounding rivers and groundwater?	(a)N	(a) Not applicable (because no harmful substances are discharged into rivers and groundwater)
	(2) Waste	(a) Is waste properly treated and disposed of in accordance with the regulations of the country concerned?	(a)N	(a) Not applicable (because no waste is treated)
	(3) Soil pollution	(a) Will soil pollution occur?	(a)N	(a) Not applicable (because no harmful substances are released into the soil)
	(4) Land subsidence	(a) Is there a risk of land subsidence?	(a)N	(a) Not applicable (because no water, minerals or other materials will be taken from underground)
	(5) Foul odors	(a) Is there a source of foul odors? If so, is there a risk of the foul odors causing problems with local residents?	(a)N	(a) Not applicable (no source of foul odors)
3 Natural	(1) Protected areas	(a) Is the site located in a protected area stipulated by the laws and international	(a)N	(a) Not applicable (because the project does not involve land acquisition)

Classification	Environmental issue	Main items to be checked	Yes: Y No: N	Specific environmental and social considerations (Reason for Yes / No, grounds, mitigation measures, etc.)
		treaties of the country concerned? Will the project affect the protected area?		
	(2) Ecosystem	(a) Is there any impact on the ecosystem?	(a)N	(a) Not applicable (Although there is exhaust gas emission, only products within the regulation range will be used)
4 Social Environment	(1) Relocation of residents	(a) Will involuntary relocation of residents occur in connection with implementation of the project? If so, will efforts be made to minimize the impact of the relocation?	(a)N	(a) Not applicable (because the project does not involve land acquisition)
	(2) Life and people's livelihoods	(a) Will the project have a negative impact on the lives of local residents? Will consideration be given to mitigating the impact if necessary?	(a)Y	(a) Not applicable (This project will create local employment and has a positive impact on the livelihood of the residents)
	(3) Cultural heritage	(a) Is there a risk that the project will damage archaeological, historical, cultural or religiously significant heritage or historic sites? Also, have the measures stipulated by the domestic laws of the country concerned been considered?	(a)N	(a) Not applicable (because the project does not involve land acquisition)
	(4) Landscape	(a) If there is a landscape that requires special consideration, will the	(a)N	(a) Not applicable (because the project does not involve land acquisition)

Classification	Environmental issue	Main items to be checked	Yes: Y No: N	Specific environmental and social considerations (Reason for Yes / No, grounds, mitigation measures, etc.)
		project have an adverse effect on it? Will necessary measures be taken if there is an impact?		
	(5) Ethnic minorities and indigenous peoples	(a) Is care taken to mitigate the impact on the culture and lifestyles of ethnic minorities and indigenous peoples? (b) Are the rights of ethnic minorities and indigenous peoples regarding land and resources respected?	(a)N (b)N	(a) Not applicable (because the project does not involve land acquisition) (b) Not applicable (because the project does not involve land acquisition)
4 Social environment	(6) Working environment	(a) Will the project observe the necessary laws covering the working environment of the country in question? (b) Will personnel systems be planned and implemented for project personnel, such as developing health and safety plans and conducting safety training (including traffic safety and public health) for employees, etc.?	(a)N (b)Y	(a) Not applicable (laws on the working environment are observed)(b) There is a risk that traffic accidents will increase due to the increase in motorcycles in Nigeria following the implementation of this project. However, since this project will also provide training on safe riding for riders, it is expected to reduce the risk of traffic accidents.
5 Other	(1) Impact during construction	(a) Are mitigation measures prepared for pollution during construction (noise, vibration, muddy water, dust, exhaust gas, waste, etc.)? (b) Does the construction have an adverse effect on	(a)N (b)N (c)N	(a) Not applicable (because the project does not involve any construction) (b) Not applicable (because the project does not involve any construction) (c) Not applicable (because the

Classification	Environmental issue	Main items to be checked	Yes: Y No: N	Specific environmental and social considerations (Reason for Yes / No, grounds, mitigation measures, etc.)
		<p>the natural environment (ecosystem)? Also, are there any mitigation measures in place for the impact?</p> <p>(c) Does the construction have an adverse effect on the social environment? Also, are there any mitigation measures in place for the impact?</p>		<p>project does not involve any construction)</p>
	(2) Monitoring	(a) Of the above environmental items, is monitoring of the business operator planned and implemented for the items that may have an impact?	(a)Y	(a) The proposing party will develop a monitoring plan when required by authorities

(Source) Created by the survey team

## **Chapter 7 Challenges for Future Business Promotion**

### **7-1 Future Considerations for Promoting This Project**

#### **7-1-1 Detailing of the Capital Repayment Flow**

Although we are on track to establish a capital repayment flow, in the future it will be necessary to set up interest and collateral while working out the details with local and international financial institutions. Whether realistic values including interest rates for lease repayment can be set will be confirmed in the future. Currently, we are proceeding with discussions on conditions and other matters with local financial institutions, and it will be necessary to work out details such as interest rates.

#### **7-1-2 Environmental and Social Considerations**

It is assumed that the exhaust gas and noise levels produced by the proposing company's motorcycles have complied with local regulations, but this will be proven in the future based on actual measured values.