



# Reasons and Circumstances for Choosing Toto Operation as an Occupation :

## A Case of Two Adjacent Municipalities of Kolkata Metropolitan Area



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# Contents

**I** **NTRODUCTION**

**L** **ITERATURE STUDY**

**F** **IELD STUDY**

**F** **INDINGS**

**C** **ONCLUSION**

**T** **HE FUTURE**



## INTRODUCTION

# E-Rickshaws or Totos

- Battery-Operated 3-wheeler Rickshaws (BRs) are called toto in West Bengal
- Uses brushless DC motor, 750-2000W battery capacity, usually lead-acid battery (TERI study, 2017)
- Nearly all the battery operated rickshaws in the study area are 4-passenger.
- Authorised models are called E-Rickshaws
- **BR operator** is defined as a person driving a vehicle that is owned or rented by him/her.



4-passenger

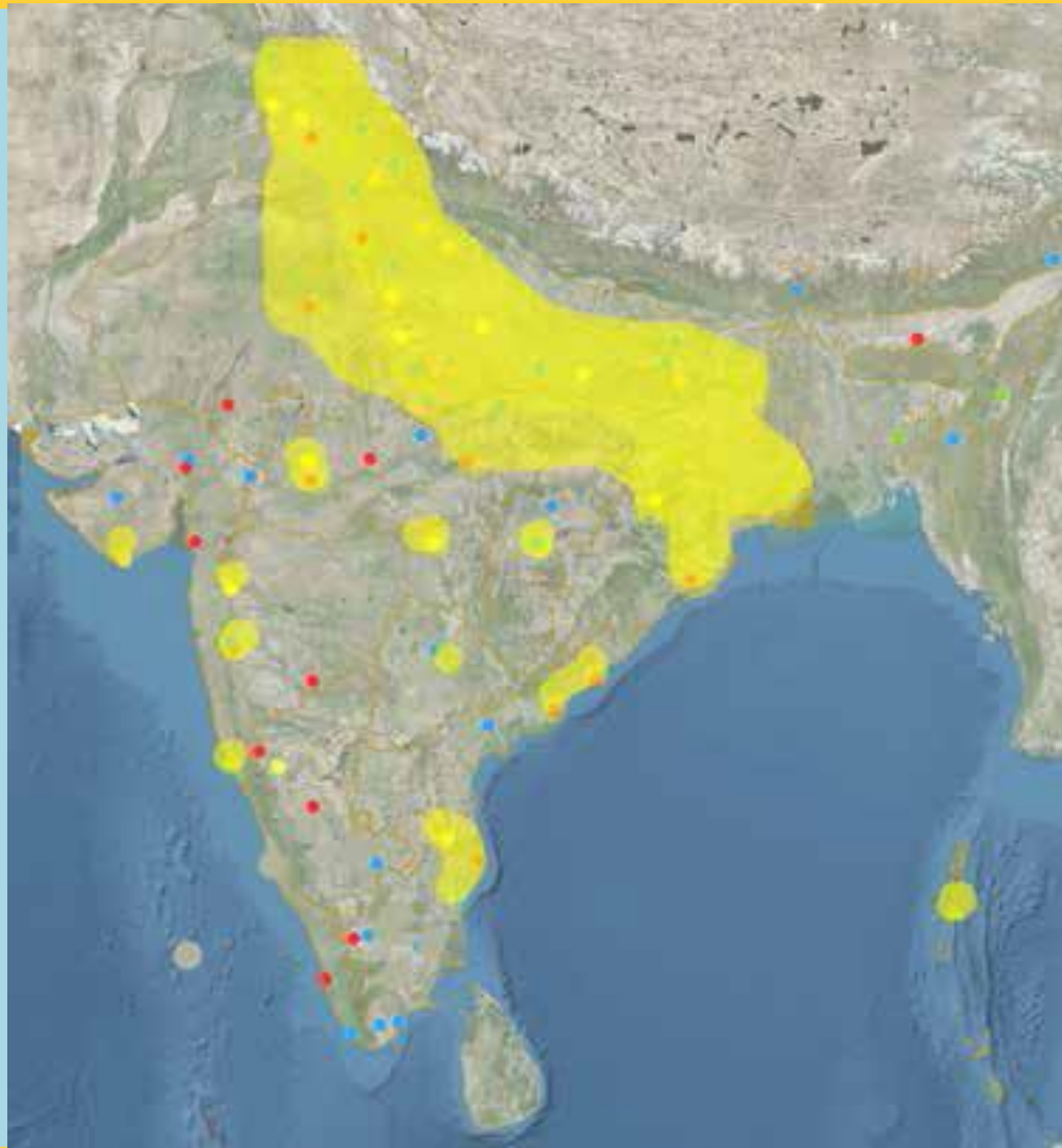


6-passenger

# E-Rickshaws or Totos

- ❖ 2010 : Introduced in New Delhi
- ❖ Proliferated in India, especially Gangetic plain, without few barriers and demand for affordable commercial vehicle suited for small towns.
- ❖ Then was unrecognised by Central Motor Vehicle Act. Act amended in 2014.
- ❖ There was no administrative barrier to import the motor and battery, assemble the rest locally and sell these vehicles in retail market. Price INR 80,000-1,10,000 for new vehicle. Regn. cost extra.
- ❖ Authorised models : classified as a “special purpose vehicle” providing last-mile connectivity (MoRTH, 2014b, 2014a) with 4 passenger capacity, 40kg luggage limit, maximum 2000KW battery power (eight times the previous power limit), speed-cap of 25kmph, handle-bar operation and maximum physical dimension of 2.8m (L) x 1m (W) x 1.8m (H) as per the amended CMVR (MoRTH, 2015c, sec. 93)] of India (ICAT, 2016; MoRTH, 2015a, 2015b).
- ❖ Models manufactured according to approved prototypes (MoRTH, 2015c Article 126 : Prototype of every motor vehicle to be subject to test).
- ❖ In Delhi, number increased from 4,000 to 1,00,000 in first four years. Similar growth elsewhere but no census available.

## Map illustrating where e-rickshaws are operating (yellow)



Source : ICLEI and Shakti Energy Foundation. (2018). Handbook : E-Rickshaw Deployment in Indian Cities.



# Occupation as an operator

**Pre-owned e-rickshaw can cost as little as INR 30,000/-**

**An owner-driver can earn INR 500-600 per day and even higher**

**INR 100-150 : daily maintenance cost including electricity, repair, battery**

**There are no legal administrative fees to buy and operate E-Rickshaws (most cases)**

**E-rickshaws are outmoding cycle-rickshaws and are perceived as competitors by autos.**

**In spite of a mechanism to register authorised models and provide training and license to drivers, estimated 90% of the 10lakh e-rickshaws in India are unregistered. No estimation of how many are non-compliant.**



## LITERATURE STUDY



## Singh, 2014

140 samples

22%

15%

INR 90,000 to INR 1,20,000 for new vehicle (not the E-Rickshaw specified in amended CMVR)

Life of more dignity, better living standards, less labourious than cycle-rickshaw driving

## Harding, 2014, 2017

381 samples

25%

55%,  
16%

• Shifted from labourious cycle-rick. operation

• Already unemployed

• Initial investment

• Bank accountholder  
• Loan for buying toto

• Perception of change in lifestyle

# Learnings from literature

## Major focus of current research :

- Technical specifications of vehicles
- Regulatory framework
- Methods to integrate them in transport infrastructure as non-pollution vehicles

## Why operate BRs ?

- Ease of entry : negligible capital cost, no official administrative cost, can be 're-fueled' at home
- Comfort and dignity of operation

**What are the personal circumstances under which people opt to become operator of this mode and continue to work there?**



**FIELD STUDY**

# Two field - studies

	Field work	Objective of study	Methodology	Sample / FGD group size	Year, Month
1.	Toto associations	History of toto operation, mechanism of regulation, liaising activities, relationship with other toto associations, auto and rickshaw association, competition, anticipation about the future	Questionnaire based personal interview	7 exclusive sessions and more casual discussions with various members (11nos.) of the associations	2016 Oct to – 2019 Aug and continuing
2.	Toto operators	Comprehensive study of personal profile, initiation to the occupation, experience, income, expenses, route,	Question guide based interview	70 operators	2018, April- Nov

# Study area

- Three municipalities
- One major paratransit feeder route (7.5km, north to south leading to collection point at south)
- 116 shared autos – 7 fixed routes
- 800-1000 tolos, 13 pseudo-routes + D2D in 2018 June
- 800-1500 tolos, 5 routes in UKM, none in KM.
- Not all registered with association
- 7 buses passing through

Municipalities →	UKM study area	KM	Total (UKM study area+KM)	Bally Munic.
Area (sqkm)	7.053	4.32	11.373	0.8 approx
Population	1,19,786	76,172	1,95,958	
Person per sqkm	17,000	17,632	17,230	





# What is/are the reason(s) for proliferation of e-rickshaws in the municipalities in KMA area?

## **EXTERNAL - Unmet demand for mobility**

1. *Physical barrier to introduce adequate bus / rail service – narrow, meandering roads, inadequate density*
2. *Inadequate institutional and financial capacity to introduce in capital intensive projects and to operate them*
3. *Poor pedestrian or cycling facility*
4. *Inaccessibility of bus or rail services*
5. *Travel priorities and preferences of people*
6. *Poor service of formal transport*

## **INTERNAL - Unique features w.r.t other modes**

1. *Available, affordable, fast, frequent*
2. *Comfortable, at least for short distance*
3. *Flexible as per need of passengers*

## **EXTERNAL – Policy gaps, lack of job**

1. *Unskilled workforce*
2. *Poor job opportunities*
3. *Lack of clear and comprehensive regulations and execution*
4. *Low barrier to entry - investment in vehicle, administrative barrier*
5. *Grey market of unauthorised vehicles (Ehebrekht, 2018)*

## **INTERNAL – profit & protection**

1. *Protection from and support of informal or semiformal associations*
2. *Facilitated or cooperated with by Government Body(s) – local, state or national*
3. *Recognition of services yet freedom due to inadequate regulation*
4. *Freedom to operate*
5. *Minimum income assured*



# Growth of toto in study area

- The number of BRs in this area has risen from 1 to almost 1000 between November 2014 and August 2018.
- In the first three months number rose from 1 to 70
- Two associations and five routes in Uttarpara-Kotrung and one association in Konnagar
- UKM has more regulated (by associations) routes compared to KM
- Associations liaise between traffic police to maintain traffic.
- Registering vehicles is quite voluntary due to poor implementation of rules. Rule are not clear to operators.



## FINDINGS

# General observation

1. Income and expenditure data is not carefully noted by operators. The figures were arrived by general consensus – INR 400 on a bad day, INR 700 on a good day.
2. It is possible for an unskilled and more or less fit person of any age group to start operating toto as an owner-driver with a capital investment INR 50,000 and earn INR 10,000 per month (including 3000 for maintenance) by working in shifts of one's own choice, 11 hours for 6 days a week without having to pay for commute and permits.
3. **Financially the main lure is not a high income but rather, a stable income with modest labour in a humane environment.**
4. While 18 (25%) bought the vehicle with formal loan, 11 took loan from Bandhan Bank.
5. The toto is a mobile analogy of family-owned shop - it is a family asset.
6. The *association* negotiates with the urban local bodies and police for the collective interest of the operators who otherwise are completely illegal. The operators are confident that implementation or rules will not harm anyone individually.
7. Renting out toto ensures INR 9,000/month including around INR 2,500 maintenance though the practice is frowned up by the owner-drivers.

# Batteries & expenses

1. INR 22,000 to 30,000 per set of four batteries and that need to be replaced every six months.
2. Old batteries can be exchanged for INR 8000 to 9,000 hence replacing batteries cost around INR 18,000 to 20,000.
3. In UKM, negotiating a bridge on the Bally Canal everyday reduces the battery life to 4-5months. However, operators have been found to stretch the standard 6month battery-life to 7-8 months only to be able to drive for 2 to 3 hours only after fully charging the battery.
4. The mandatory operating expenses are electricity (included in the fee for garage in most cases), membership fee and/or parking fee and some basic repair like punctures.
5. INR 150/day (cost of repairing one puncture on each of the 3 tires) as maintenance and INR 100/day for new battery.
6. Parking charge of INR 15/day and *association* membership fee of INR 40/month have to be paid in UKM and KM respectively to use the stands.
7. Charging and garaging fee are calculated on a daily or monthly basis ranging from INR 1500 to 2500/month depending of garaging facility
8. Round figure of INR 3,000/month is the minimum operating cost

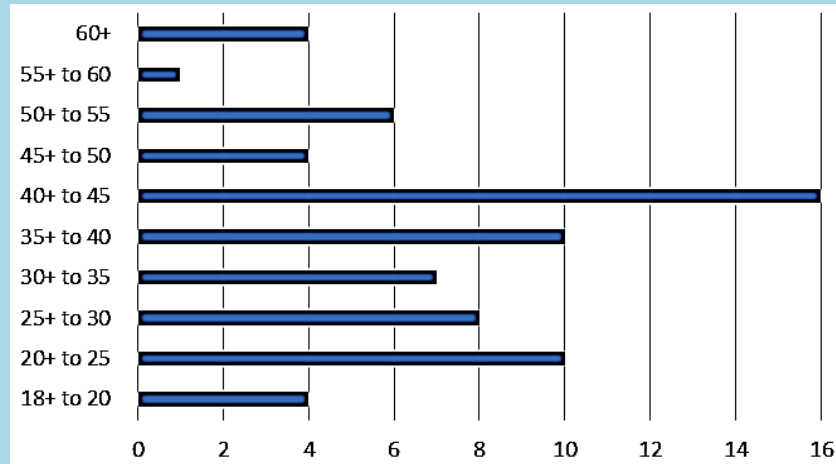
# Initial cost

## Purchase price of first vehicle (when purchased by the respondent) against source

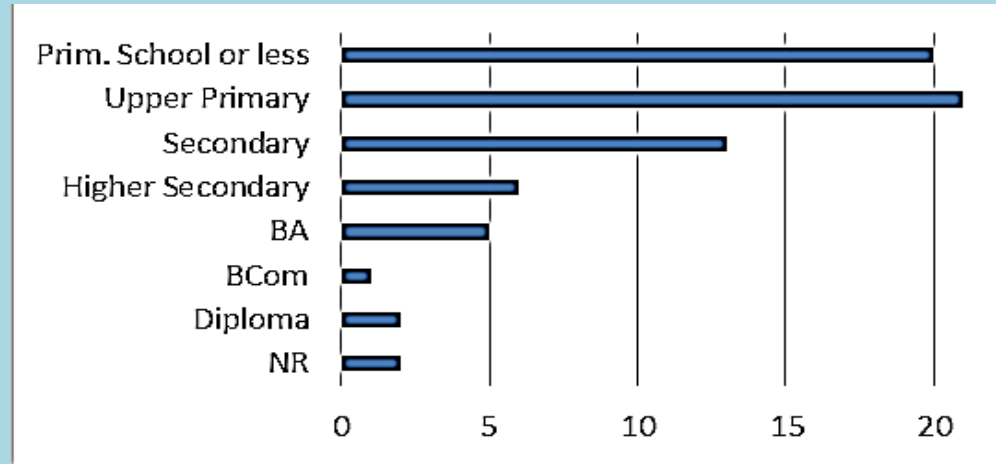
Price range in INR thousand →	30+ to 50	50+ to 70	60+ to 70	70+ to 80	80+ to 90	90+ to 100	100+ to 110	110+ to 120	120+ to 130	130 +	DN	Always drivers (NA)	Total of row
Source ↓													
First hand (Brand showroom)					2	9		5	1	3	1		21
First hand (Local shop)					1	2	1	2	1		1		8
First hand (Assembled)								1	1				2
Pre-owned (personal source)	3	2	1	2	2	5			2				17
Does not know/remember (DN)				1		6					4		11
Always drivers (NA)												11	11
Total of columns	3	2	1	3	5	22	1	8	5	3	6	11	70

- Vehicles bought between 2015 and early 2017 costed INR 90,000-1,00,000 (new or a year old) or as low as INR 70,000 and were claimed to be compliant with amended.
- The 4 cases of vehicles with RTO registration number all costed around INR 1,50,000 including fees and taxes.
- 22/59 (37% of the owners) purchased their first vehicle for INR 90,000+ to 1,00,000.
- Lowest price of new vehicle was INR 80,000, 2 from brand-showroom and 1 from assembler and were bought between end of 2015 and beginning of 2017.

# Basic profile of operators



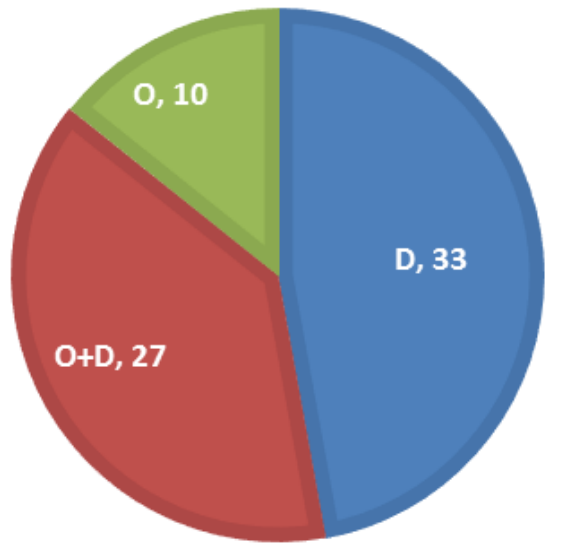
**Age of respondent at the time of interview**



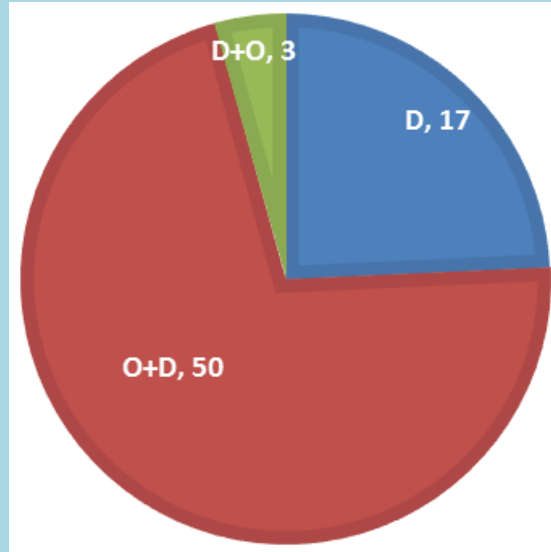
**Highest academic qualification of respondent**

- 16 out of 70 (23%) were aged between 40+ and 45 years. 61 out of 70 (87%) were between 20 and 55 years of age
- 49 out of 70 (70%) respondents have a family size of 3, 4 or 5
- 4 cases kin(s) father or elder son of operator share income and/or expenses in spite of living apart but nearby.
- 48 out of 70 (70%) are married but 6/48 are without children

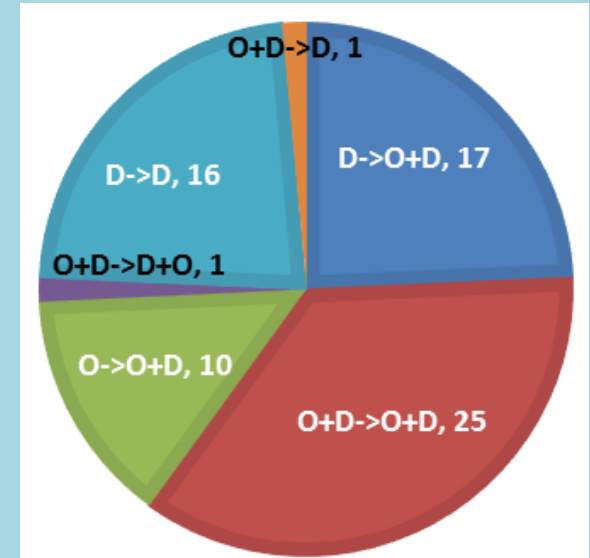
# Vehicle ownership profile and transition with time



**Number of operators and ownership status – at the beginning. Sample size 70**



**Number of operators and ownership status – at the time interview. Sample size 70**

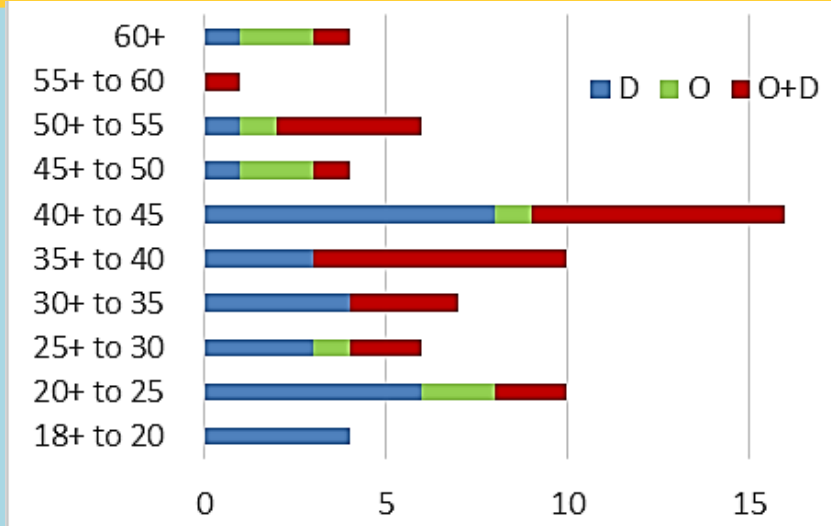


**Change of status of individual operator from beginning to at the time of interview. Sample size 70**

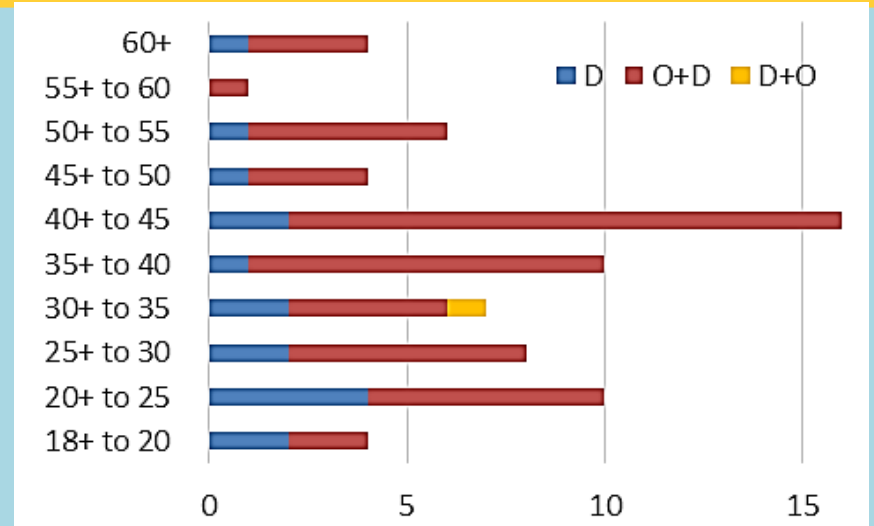
There are 4 types of operators base on the nature of ownership :

- *Owns the vehicle that he drives or owner-driver (O+D)*
- *Drives a vehicle but does not own any or Driver (D)*
- *Owes a vehicle but does not drive or Owner (O) :*
- *Drives a rented vehicle, owns another that is driven on rent or Driver-owner (D+O) :*

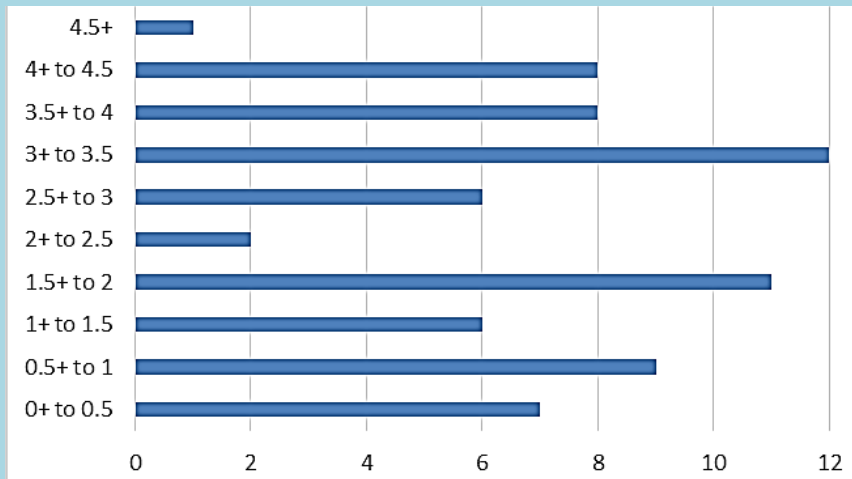




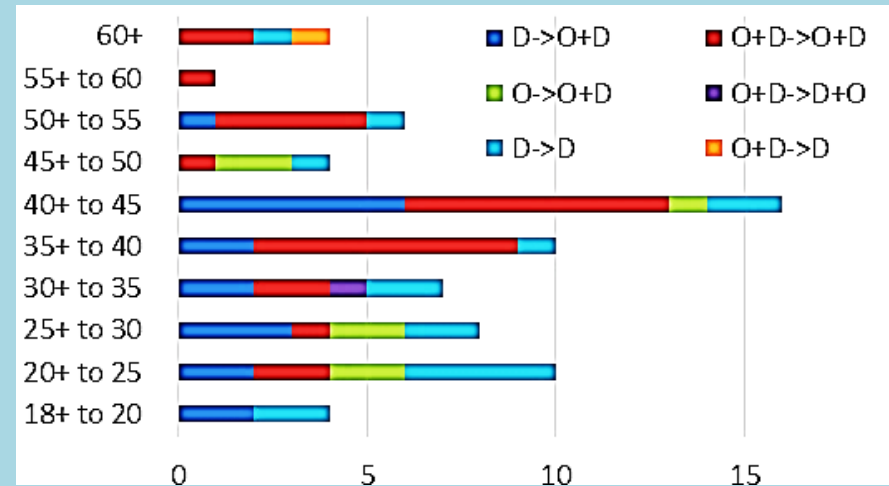
**Initial ownership status of respondent against respondent's age at the time of interview. Sample size 70.**



**Ownership status of respondent at time of interview against respondent's age at the time of interview. Sample size 70.**



**Years of operating toto at the time of interview. Sample size 70.**



**Transition in ownership status respondent from the time of initiation to the time of interview against respondent's age at the time of interview. Sample size 70.**

# *Personal background & circumstances*

## **Qualification and skill of operator**

- 80% had no specific skill or training other than those acquired during the previous occupations. They were unskilled works at factories, shops, construction site or salesmen.
- 8 knew driving. Only 2 worked as drivers.
- Photography, event photography, photo editing, DTP was found to an alternative or Plan B for young people.

## **Employment history and transition from earlier employment to toto operation**

- 50/70 and 14/70 respondents had had 1 and 2 occupations prior to becoming an operator, respectively.
- 15/70 were actually sitting idle for some time when they finally decided to join toto operation and 2 were never employed before.
- 3/70 continued with their previous occupation for up to 1.5years of joining toto operation.
- 40% left their job because it was too labourious or underpaid or both. Half of them also left because the income was not fixed or regular. 40% in total stated “lack of fixed/regular income” as a reason to leave.

# WHO BECAME A TOTO OPERATOR ?

**70 respondents**

Underpaid in a  
labourious and /  
or hazardous job

27

Unsteady income  
(may be 3rd, 4th  
or 5th job)

27

12

Sitting idle or  
doing occasional  
odd jobs

15

33

27

Toto  
driver

17

Toto  
driver

17

Toto owner-  
driver

50

12<sup>th</sup>  
C



## CONCLUSION

# Conclusion

- ❖ Capital cost is affordable, especially due to loans.
- ❖ Time and money invested in commute to work is NIL.
- ❖ Steady income, not necessarily higher income – enough for a nuclear family (INR 450/day net).
- ❖ Less labourious than many jobs, including commute for jobs.
- ❖ It is equally easy to become a toto operator and drop out of it.
- ❖ High social capital : operators reside in the same Municipality.



**THE FUTURE**

# The future

- ❖ **Local operation is a major time-saver for operators**
- ❖ **Freedom to choose work hours are important for all age group to maintain the “less labourious” character.**
- ❖ **Toto is more like a family asset. Owner-Driver rule will upset the system of families where members drive the “family toto” as per convenience.**
- ❖ **Totos encroach road-space or public space not only during operation but during night-garaging as well. Parking and garaging, if regulated, will increase cost of maintenance.**





**THANK YOU**

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