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# INDIAN ECONOMY

## FUTURE PROSPECTS AND CHALLENGES



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Choudhary & Raj



Edited by:  
Dr. Kanta Choudhary & Dr. Shravan Raj



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# **INDIAN ECONOMY FUTURE PROSPECTS AND CHALLENGES**

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## PREFACE

India is a developing country and it has a huge population. India's major challenges are to generate employment and reduce poverty. Lack of capital formation and underdevelopment of infrastructure are also big issues in India. The bulk of the population lives in a condition of misery. Poverty is not only acute but also chronic in India. At the same time, there exist unutilized natural resources also. The coexistence of the vicious circle of poverty with the vicious circle of affluence perpetuates misery and foils all attempts at the removal of poverty. It is in this context that an understanding of the major issues of development should be made. Low per capita income and low rate of economic growth show that barring a few countries in this world, the per capita income of the Indian people is the lowest in the world.

Another development issue in the Indian economy is a high proportion of people are below the poverty line. In 2020, India's 20.8% population was still below the poverty line. Inequality in per capita income and assets is also a major problem in India. As per the latest World Inequality Report 2022, India is a poor and very unequal country with an affluent elite, where 57% of the National Income is held by the top 10% while the share of the bottom 50% is merely 13% in 2021. A low level of productive efficiency, due to inadequate nutrition and malnutrition, is also a major problem in India. The National Sample Survey (NSS) has estimated that about 56% of the urban population and about 49% of the rural population suffer from inadequate nutrition as they don't get an intake of 2400 calories per day considered a reasonable level of nutrition.

The imbalance between population size, natural resources and capital is also a big problem in India which affects economic development. The instability of the output of agriculture and related sectors is also one of the major problems of the Indian economy. The imbalance between heavy industries and wage goods industries is also a problem in India. After independence, it was very essential to boost heavy industries for defence, basic infrastructure and economic development but wage goods' availability are also important for the masses. The supply of wage goods should grow at a faster rate than that of non-wage goods. Secondly, the price of wage goods should be stabilized.

India's other problem is unemployed persons are not properly trained and not well educated. They don't have the skills, knowledge and technology according to the requirements of current modern industries and the service sector. The government should establish the proper training centres and appoint qualified trainers.

The agriculture sector of India is also not modern yet and it is not implementing modern technological methods and tools. Three challenges are there-feeding a growing population, providing a livelihood for farmers and protecting the environment must be tackled together if we are to make sustainable progress in any of them.

We want to extend our gratitude to the contributors who submitted their research papers based on these issues. Their writing has been reviewed by us and experts. This book will be accommodating to researchers, students, educationists and policymakers.

**Dr. Kanta Choudhary**  
**Dr. Shravan Raj**

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### Words of Thanks

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## **Rural Employment Opportunities by Government Scheme in Assam**

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Dr. Ranjeeta Phukan \*

### **Introduction**

Rural employment means its cover different types of activity, occupational works where people can earn for their better life and by where people can earn their wages and salaries as well as they can self-employed contribution by works. In India rural employment is the major issue for employment progress for works. So, the department of rural development, government have been launched different types of schemes and programme especially for rural areas as like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Pradhan Mantri Awaas Yojana (PMAY), Pradhan Mantri Gram Sadak Yojana (PMGSY), DeenDayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) etc. The researcher found different types of schemes, from these scheme NERGA scheme one of the important schemes and this scheme implemented especially for rural employment development and this scheme first launch in 2005. The main purpose of this Act was to provide employment opportunity to the rural unemployed persons. Under this Act there is a provision that every person can get job but he or she will have to register their names in the concerned gaon panchayat with the help of an application form.

### **Significant of the Study**

Under NREGA Act 2005, when a person applies for job card then the concerned gaon panchayat will have to provide job card within 15 days from the date of application.

Under NREGA scheme there are some functions which are to be performed by the beneficiaries as like fishery, construction of road, soil conservation, water conservation, excavation of bandh, excavation of jan etc.

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Main Objectives of NREGA scheme to provide employment opportunity to the rural employee. This scheme provided Job card for rural employees and as Job Card is a source through which the unemployed persons can get the job so, under job card per household can get worth Rs. 100 for per day work (It was in 2010).

### **Methodology of the Study**

This study is based on primary as well as secondary data. Primary data address has been collected block development office and also with the help of personal interview by taking the aid of questionnaire for officers as well as for beneficiaries.

The total numbers of officers and coordinator are 25 and beneficiaries are 1000 for the area under study as per the Panitola Gaon Panchayat. Out of this all the 25 officers, 10 officers and only 400 beneficiaries have been taken for the year 2020. This is basically based on random sampling.

The primary data so collected from the officers and the beneficiaries with the help of the questionnaire as well as personal interview were further shown in the Master table. From the Master table, segmented table were made and inferences drawn with the help of some statistical devices like Pie Chart, Bar Diagram etc.

### **Hypothesis of the Study**

The hypothesis of the study is that rural people are benefitting from the Implementation of NREGA scheme in Panitola.

### **Objectives of the Study**

Based on the hypothesis the following objectives have been considered for the study:

- To assess the role of the Panitolagaon panchayat towards providing NREGA scheme to the rural people.
- To know how far the beneficiaries are benefited from NREGA scheme offered by the Panitola Gaon Panchayat.
- To make necessary conclusions and suggestion.

### **Limitation of the Study**

#### **Respondents' Knowledge**

As most of the respondents are illiterate so their knowledge was restrained on the knowledge of schemes and they were unaware to a great extent.

#### **Limited Area**

The study was confined to the rural of Panitolagaon only. Therefore, the study could not make a study on the overall factors influencing the beneficiaries which are according to different locations.

### Analysis and Findings of the Officers Surveyed

- **About the survey on the Officers under the NREGA scheme sponsored by Panitolagaon panchayat.**

It was observed from the study that when the ten officers of the Panitolagaon panchayat were enquired for the procedure of providing job card to the applicants the following has been observed.

It has been seen as per guidelines that when the unemployed persons of the Gaon Panchayat applied for Job Card to get himself /herself employed under the concern Gaon Panchayat, the officers can provide the Job Card only after proper checking of the application form and finding whether all the necessary documents are attached to the form with necessary passport size photographs etc. This was being sincerely followed up by the officers in the area under study.

The officers also opened the Bank Accounts of the Job card holders of the concerned Gaon Panchayat, so that regular payments of the workers who are working under Job Card could be made. In the area under study as majority of the Job Card holders are illiterate and so were not capable of opening their Bank Accounts and this was facilitated by the officers.

**Table 1: Number of Officer in Block**

Sr. No.	Age Group	No. of officer	Percentage
1	20-25	3	30.00
2	26-30	4	40.00
3	31-35	2	20.00
4	Above-35	1	10.00

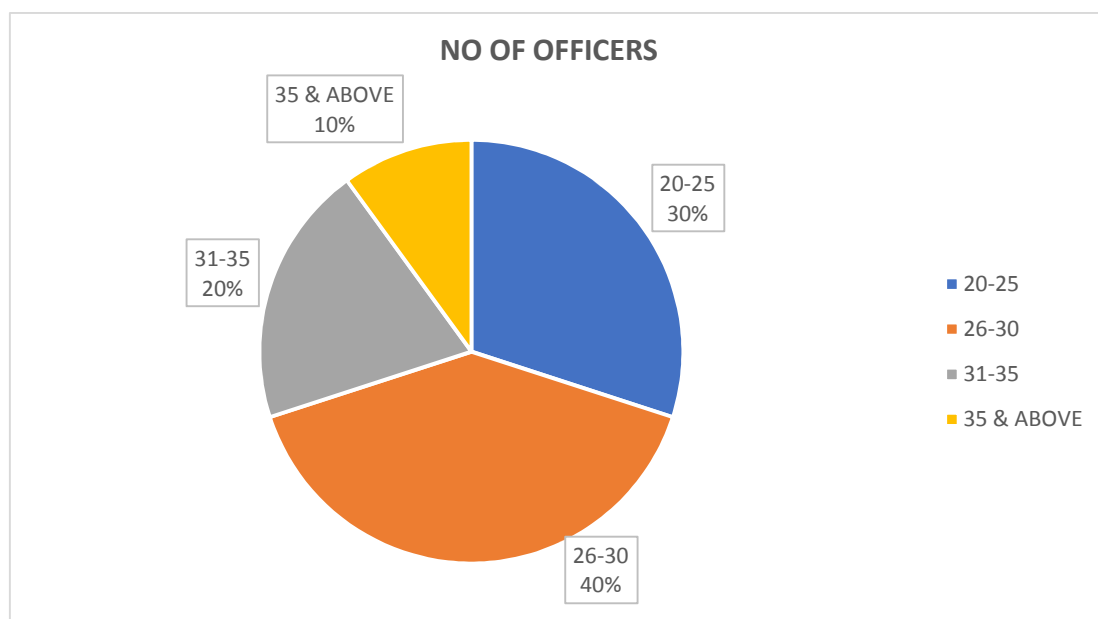
Source: Compiled from Questionnaire

### Analysis

From the table 1.1 it has been found that under the age group i.e., from 20-25, 26-30 and 31-35 there is 3, 4, and 2 number of officers respectively and in the age group between 35 & above, only 1 office is founds.

### Finding

- In the Panitola Gaon Panchayat only 10 officers are appointed. 3 numbers in 20-25years age group, 4 number in 26-30 years age group and 2 members in 31-35 years age group and 1 in the age group above 35 years. These officers are young and capable due to the following reasons.
- They have more attachments with the beneficiaries of Panitola Gaon Panchayat.
- Since all officers are appointed from local people, so, they are able to communicate with the beneficiaries in their local languages.



**Fig. 1: Presented the number of officers in Panitola Gaon Panchayat block**

- **On enquiring the ten officers of the Panitolagaon panchayat for maintaining proper time limit of providing job card to the applicants, the following has been observed.**

It has been seen as per the guidelines that when the applications are received by the officers of the gaon panchayat from the applicants, then after that it will become their duty is to provide job card to the applicants after 15 days from the date of receiving the application form.

The officers should take in to consideration that for per household only one job card is to be provided by the gaon panchayat. In the area under study, it was observed that if the concerned gaon panchayat was unable to provide job card to the applicant, according to law then it is the order of the Central Government that the concerned gaon panchayat will have to provide the necessary provision to the applicant. This is seen table no. 1.2.

**Table 2: Number of Officer Job Card Provided**

Sr. No	Number of officers	Job Card Provided	%, age	Job Card not Provided
1	2 (Within 4days)	Yes	20.00	-
2	3 (Within 7 days)	Yes	30.00	-
3	4 (Within 10 days)	Yes	40.00	-
4	1 (Within 15 days)	Yes	10.00	-

Source: Compiled from questionnaire.

## Findings

It has been found that the officers are bound to provide the job card to the applicants as soon as they have received the applications. And all the officer they have been provided beneficiaries within time period.

- **In the area under study, it was observed regarding the details of 'Job Card' is only for rural and urban people who are unemployed.**

With the help of Job card, the unemployed persons are able to get job. Job card include the State Code, District Code, Block Code, Village Code and House Code and along with this the Job Card also contains the name of the beneficiary and address along with photo. And as Job Card is a source through which the unemployed persons can get the job so, under job card per household can get worth Rs. 223 for per day work.

- **Under this study it was observed that in any case when the task is not given to the applicant by the concerned gaon panchayat:**

Then in that situation, the Central Government can take action against the concerned officer because it was the duty of gaon panchayat to provide Job Card along with a proper task to the applicant within 15 days from the date of application and whenever the officers cannot do so, at that time, the applicants have the right to complain against the officer of the concerned gaon panchayat office and put it in the complaint box or on the office of the Block Development officer and after their complains the enquiry is to be taken by the Block Officers against the officers of the gaon panchayat office.

- **It was observed from the study that when the payment is to be given to applicant under the year 2020**

Then according to the three officers of the Panitolagaon panchayat the payment is to be made on the basis of their performance and after measuring their work the payment should be given within seven days. And in the year 2010 first of all, the workers were given worth Rs. 77 which was increased to Rs.80 but now a day many changes have taken place and the payment has become increased up to Rs. 213.

- **It was observed from the study that when the 10 officers of the Panitolagaon panchayat were enquired about the proportion of male and female**

In the Job Card list then it has been seen that there is no any fixed proportion of the male and female number in the Job card.

- **In the light of this study, it was observed that master role is a payment sheet in which the workers attendance is given such as "present" and "absent" etc.**

Master roles are those from which anyone can know about the fact that whether his/her payment has been made or not. It is just like evidence and is the first document of audit. In case of any default done by any officer regarding payment, it is the master role through which one can easily find out the default because the master role is used at the worksite for giving attendance to the workers. Under the study it is observed that if the payment of workers is more than Rs.213/- then they will have to give revenue ticket which is to be attached with the master role for further proof that the worker has received his/her full payment.

- **It was observed from the study that when the ten officers of the Panitola Gaon Panchayat were enquired regarding the mates then it has been observed that**

The mates are those persons who supervises the workers at the worksite and so they are simply the Supervisors. But the mates are to play a very important role at the worksite because as they are the supervisors of the workers and if any type of conflict arises among the workers at the worksite than the mates will have to control over it. And like other workers, mates also get their wages from the concerned gaon panchayat office.

- **From the survey of the three officers of Panitola Gaon Panchayat it was observed that**

Training is provided to the mates regarding their work till now, but if the need arises then it will be provided to the mates by the State Institute of Rural Development (SIRD), Assam.

- **When the three officers of Panitola Gaon Panchayat were enquired for working the main difficulties faced by them under the “National Rural Employment Guarantee” Act 2005.**

That has been observed that they also face problems like:

- Corruption of money and people.
- Political affairs are more due to which people are bound to do such corrupt activities.
- Labours are not given as much as required at the worksite because of the smaller number of “Job Cards”, so there is less number of workers and works are not completed within the time.
- The persons who are working under this scheme, are mostly illiterate and so, they cannot understand the rules.
- There is an over burden on officers because for giving one job card to a single worker they will have to follow many rules.

- Lastly, the officers are also facing problems regarding giving the payments to the workers because of banks procedures.

### **Survey on the Beneficiaries under the NREGA scheme sponsored by Panitolagaon panchayat.**

After doing survey of all the beneficiaries of Panitolagaon panchayat it was observed that the beneficiaries, as village people apply for the job cards from concerned gaon panchayat office through an application form and after proper checking of the application form and after finding whether all the necessary documents are attached to the forms with necessary passport size photographs etc. the officer of the gaon panchayat provide the job card to the applicant.

For each beneficiary, there is only one job card provided by the gaon panchayat. Sometimes the beneficiaries faced problems regarding the fulfilment of application because as there are a lot of rules which they will have to be followed because they are basically illiterate people. In the area under study, it was observed that this was being sincerely followed up by the officers. Table no. 2.1 presenting age group and number of beneficiaries.

**Table 3: Age Group of Beneficiaries**

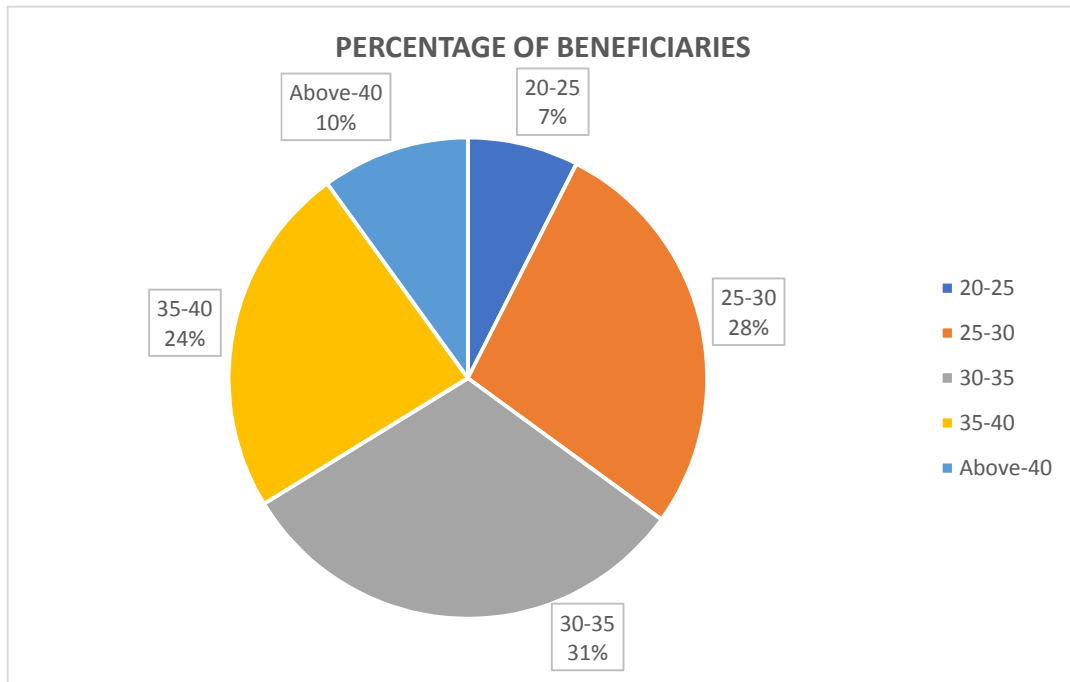
<b>Sr. No</b>	<b>Age</b>	<b>Number of Beneficiaries</b>	<b>Percentage</b>
1	20-25	30	7.50
2	25-30	110	27.50
3	30-35	125	31.25
4	35-40	95	23.75
5	Above 40	40	10.00
	Total	400	100.00

### **Analysis**

From the table 2.1 it has been found that under the age group that is the highest number of beneficiaries lies on 30-35 age group which consist 31.25 percent and the least is the 7.50 percent lies under 20-25.

### **Findings**

- The beneficiaries are those youths who are basically illiterate as well as unemployed.
- Have their responsibility towards their family.



- **Gender analysis of the Beneficiaries**

**Table 4: Gender analysis of the Beneficiaries**

Gender	Beneficiaries	Percentage	Percentage of Beneficiaries in Pie Chart
Male	230	57.50	$230/400 \times 360 = 207$
Female	170	42.50	$170/400 \times 360 = 153$
Total	400	100%	360

Source: Compiled from questionnaire

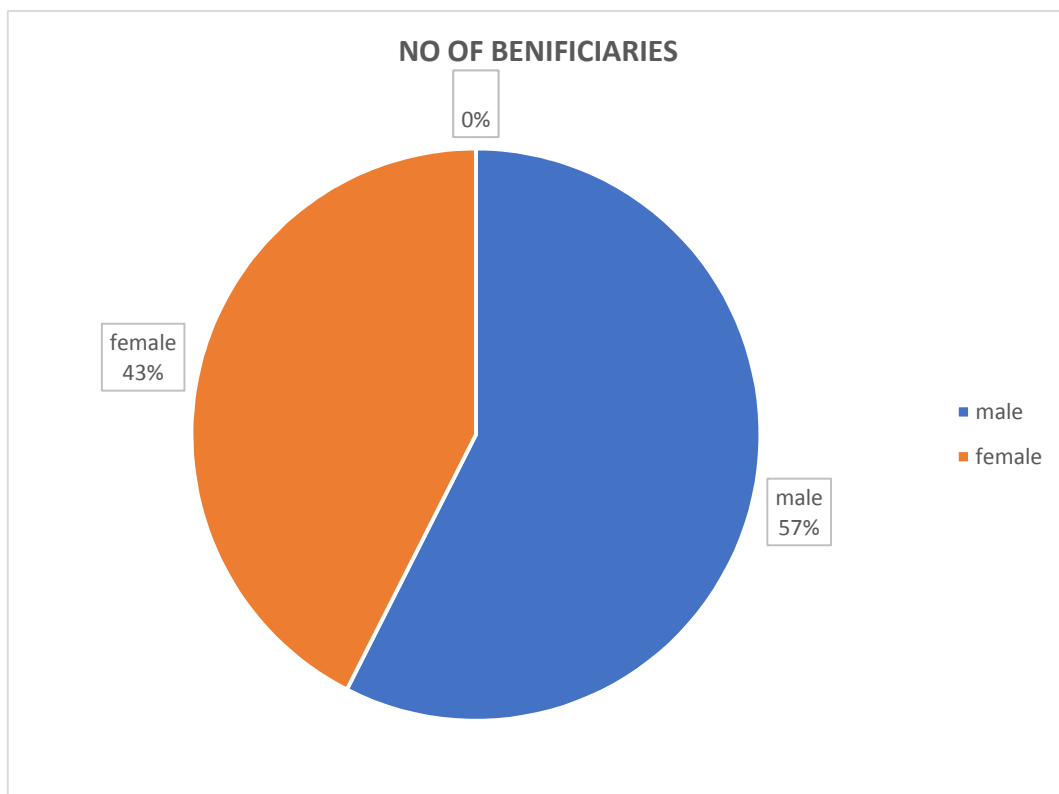
### Analysis

From the table 2.2 it has been found that in gender analysis the number of male beneficiaries consists of 57 percent and rest 43 percent is female beneficiaries.

### Findings

Both the male and female of the beneficiaries are almost equal due to the reason that:

- The both beneficiaries can take equal initiative for any type of works. And block development officer also considered.
- Though the female is not often allowed to go for doing the job as a worker due to they are hold back by society's convention but now a days allowing women to go for such work



**Fig. 2.2: Pie Chart**

- Analysis of the marital status of the beneficiaries:**

**Table 5: Marital analysis of the Beneficiaries**

Marital status	Beneficiaries	Percentage
Unmarried	130	32.50
Married	270	67.50
Total	400	100%

Source: Compiled from questionnaire

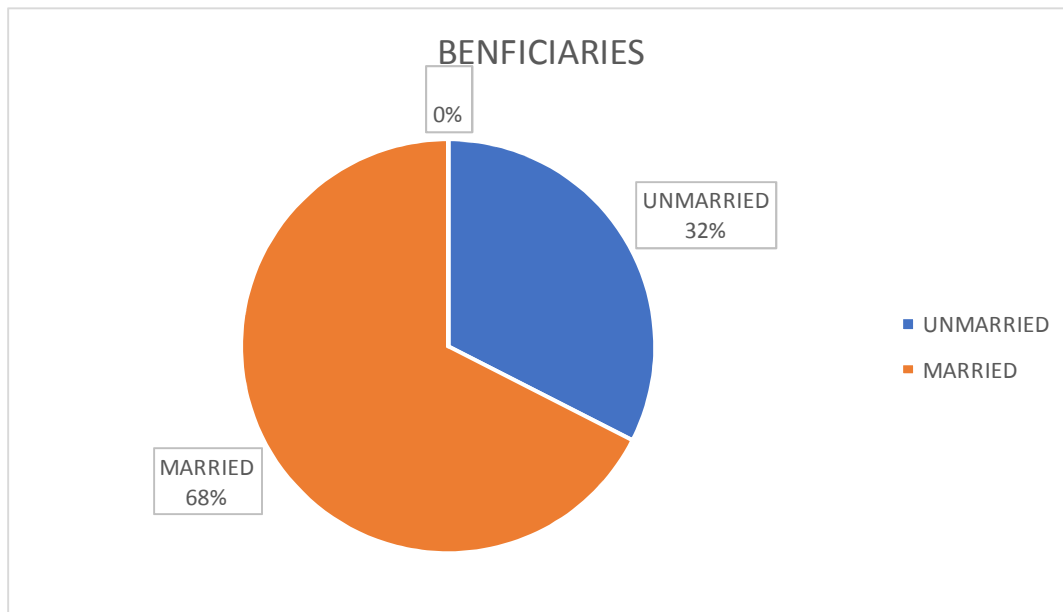
**Analysis**

From the table 2.3 it has been found in the marital status, the number of married beneficiaries consists of 67.50 percent and the rest of 32.50 are unmarried beneficiaries.

**Findings**

The percentage of married beneficiaries is more than that of unmarried and it has been observed that the married beneficiaries have more patience in handling some of the works than the unmarried beneficiaries.





- **It has been observed that there are only two facilities provided to the applicants at the worksite under the NREGA scheme:**
  - Drinking Water facility
  - First aid facility.
- **Under the study it has been observed that there are many functions to be performed by the workers under the NREGA scheme and those functions are:**
  - Fishery.
  - Construction of road.
  - Plantation.
  - Soil Conservation.
  - Water Harvesting
  - Water Conservation
  - Excavation of Baandh
  - Excavation of Jan

Under this study it has been observed that although there are a lot of functions which are to be performed under the NREGA scheme but in case of Panitola Gaon Panchayat when a thorough study was done than it has been found that mainly the Construction of road, Plantation, Soil Conservation, Water Conservation and Water Harvesting are done by the workers at the worksite.

- **It has been observed from the study that there a few special rights given to the beneficiaries in the different areas under this NREGA scheme as:**
  - The officers of the gaon panchayat office are bound to give 100 days of work to the beneficiaries.
  - If the beneficiaries are found any fault at the worksite, then they can give written complain to the gaon panchayat office or to the Block Development Officer
- **It has been observed from this study** that whenever the work of the beneficiaries is measured either by the mates or by the officers then at that time the payment is to be given to them within 7 days of the measurement of their work.
- **It was observed from the study** that when the 150 beneficiaries of the Panitola Gaon Panchayat were enquired for the difficulties faced by them regarding their payment than the following has been observed.

It has been seen that most of the beneficiaries are illiterate and they do not know about the rules, regulations which are to be followed by them under this scheme and because of that they have to wait for long time. Some of their difficulties are as follows:

- Delay in payment of wages due to the carelessness of office staffs.
- Large number of procedures and activities of bank, create difficulties for beneficiaries for getting their payment because it will take a long time.
- The lengthy procedure of providing job card to the applicants by the gaon panchayat office.
- Misbehaviour done by bank with the beneficiaries, whenever they go to bank for getting their money.
- Mistakes done by the Mates at the time of giving the attendance of the beneficiaries at the worksite.

### **Conclusion and Suggestions**

The conclusion extracted from the study on the National Rural Employment Guarantee Act 2005(NREGA) scheme of Panitola Gaon Panchayat with special reference to the rural people, which helped to find out the rural people's growth within the area of Panitola Gaon.

Under this study it is drawn out that the NREGA scheme has a good scope in the periphery of the Panitola Gaon as because from the analysis made, it is found that this scheme is very much helpful for providing employment opportunity to the rural people who are unemployed. One of the interesting thing is to be highlighted here is that the total 15 beneficiaries had made their remarks that the NREGA scheme is a

good way for the unemployed rural youth to avail employment opportunity which will also help them to get the guarantee of getting job for 100 days in every year through 'Job Card'. Because Job Card is only for rural and urban people who are unemployed and with the help of it unemployed are able to get Job.

So, we see that this scheme is benefitting the people in the area under study and the hypothesis is true.

### **Suggestions**

Suggestions to officers under Panitola Gaon for better development of NREGA scheme:

- There should be continuous support and assistance from the officers to the beneficiaries regarding the application of form and for getting their wages after the completion of work.
- They should check out the bank activities that whether the bank provides the money to the concerned beneficiaries at proper time or not.
- Day to day monitoring of the worker the worksite should be done by the officers.

Suggestions to beneficiaries under Panitola Gaon for better development of NREGA scheme:

- The beneficiaries should be made aware of the extent of subsidy be availed in the NREGA scheme.
- The beneficiaries have to make use of every opportunity provided by the officers as well as under NREGA scheme.
- Training programmers extended by "State Institute of Rural Development" (SIRD) is most essential for the beneficiaries as well as for Mates. So, the Mates should try to avail of such training.



## Prospects of Electric Vehicles in the Developed and Developing Countries: A Literature Review

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### Introduction

The highest of air pollution in India is transportation. To solve this climate crisis, experts need to develop the vehicles as clean as possible. (Aguirre, K., Eisenhardt, L., Lim, C., Nelson, B., Norring, A., Slowik, P., & Tu, N. 2012). According to the climate experts, we have only one decade to save the climate and to avoid the worse affect of the Global warming. (Andwari, A. M., Pesiridis, A., Rajoo, S., Martinez-Botas, R., & Esfahanian, V. 2017) Emissions from the vehicles are not only bad for our planet it is also very harmful for our health. Air pollution can be a cause of severe disease like asthma, cancer, bronchitis and premature deaths. (Yuan, X., Li, L., Gou, H., & Dong, T. (2015) the long-term impact on health may be lung damages and hearts conditions. According to a study by Harvard University have found “ a striking association between long term exposure to harmful fine particulate matter and COVID-19 mortality in the United States”. (Bjerkkan, K. Y., Nørbech, T. E., & Nordtømme, M. E. 2016) Combustion from gasoline and diesel car engines may be the primary reason of particulate matter pollution. (Brückmann, G., Willibald, F., & Blanco, V. 2021) A study by duke University estimated the health cost, which proves that “ Each gallon of gasoline purchased at the gas station carries with it up to \$ 3.80 in health and environmental cost”. There are various forces that pull and push the equilibrium state for the market of different mobility vehicles. (Choi, H., Shin, J., & Woo, J. 2018) several driving forces are associated with Electric Vehicles adoption, such as efficient use of energy, greenhouse gas emissions and low operation cost. (Franke, T., Günther, M., Trantow, M., & Krems, J. F. 2017) some resisting forces are affecting the acceptance of Electric Vehicles including high purchase pricing, inadequate range, slow charging process and new adoption of production.

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## Background

In this study we have followed the developing and developed country classification as prepared by UNO (United Nations Organisation). (Marra, F., Yang, G. Y., Træholt, C., Larsen, E., Rasmussen, C. N., & You, S. 2012, July) these countries are classified by UNO on the basis of Gross Domestic Product and Gross National Product. The developing countries mainly included regions of Africa, South Asia, East Asia, Western Asia, The Caribbean and Latin America. There are different types of electric vehicle have been taken for the study such as E4Ws, E2Ws and HEVs in the developing countries are explained. The E4Ws refer to electric cars or four wheelers. The E4Ws has only the electric battery as a source of energy generation in the long distance around 400 to 500 km. In the developed market, the price of E4Ws varies from 30,000 to 45000 USD. The second type of electric vehicle has selected for the study is Hybrid Electric Vehicle or HEV. The speciality of HEV does not required the external charging system, the required power generates by the internal combustion engine. The prices of HEV varies from 25000 USD to 30000 USD.

**Table 1; Characteristics of Different types of Electric Vehicles**

Characteristics	E4Ws	HEVs	E2Ws
Speed	More than 150	180 km h <sup>-1</sup>	45 km h <sup>-1</sup>
Range in per KM full Charge	300-400	863	20-70
Charging Time	3 to 8 Hours		8 hours
Electricity consumed per KM	.15		0.45
Battery Storage	24 kWh	0.8-1.3 kWh	0.5-15 kWh
Battery Type	Predominantly lithium-ion battery used	Predominantly lithium-ion battery used	Lead-acid (Asian markets), lithium-ion batteries (European markets)

Source: Ruan, J., Walker, P., & Zhang, N. 2016

## Current State of Electric Mobility in the Globe

(Kawamoto, R., Mochizuki, H., Moriguchi, Y., Nakano, T., Motohashi, M., Sakai, Y., & Inaba, A. 2019) according to the various studies, USA and China have 65% users of global E4Ws customers. And the users are in Europe at 2<sup>nd</sup> position, around 23% of the global customers. In 2016, There were around six countries that attained the E4Ws market share above 2% of the global users. (Smart, J., & Schey, S. 2012) after considering these countries, Norway is the in disputable international frontrunner, 28% E4Ws market in its PLDV share. Due to pragmatic policies, Norway achieved this position in the recent years involving a wider variety of incentives, tax exemption and reductions of tolls on the road for E4Ws. Sweden and Netherland hold the largest E4Ws sustainability 2020. The electric cars in majority, registered in UK, Netherland and Sweden. France and China have BEV-oriented markets, in 2016. Around 75% of electric cars sold, it was E4Ws and 25% were PHEVs.

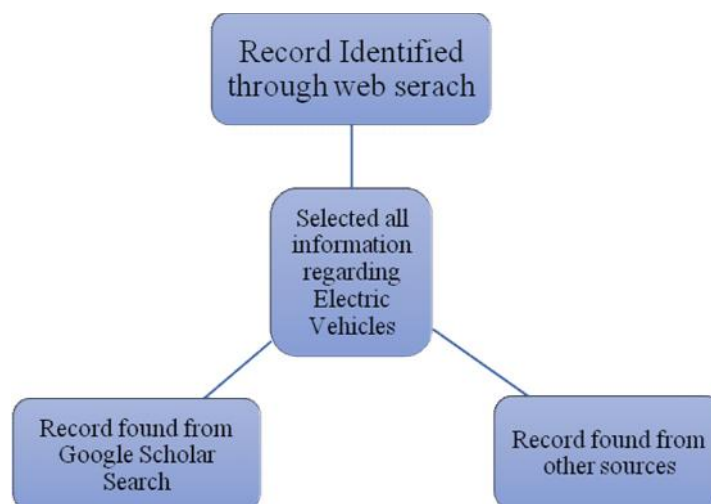
### State of Electric Mobility in Developing Countries

(Rahman, K., Jurkovic, S., Hawkins, S., Tarnowsky, S., & Savagian, P. 2014) electric vehicles are remains unpopular in developing countries. According to the recent studies, developing countries have less than 1% market of the electric vehicle ownership. Emerging countries such as India, China, Vietnam, an overwhelming number of E2Ws are sold. This is mainly related to the ease of travelling and low cost of purchase of E2Ws. In 2018, the sale of E2W has a sale of 30 million units and the total stock of 230 million units in China. Demand for E2W is growing in the Asian countries such as India, Taiwan and Vietnam. It is very important to develop EVs in developing countries which would resonate with the power structure in these countries. An electricity mix has been developed in these countries. (Nazari, F., Rahimi, E., & Mohammadian, A. K. 2019) the HEVs were suggested as they generate higher emissions savings for countries having a predominantly thermal based electricity mix. After considering the case out of the cost for the middle-class people due to higher prices and maintenance cost.

### Methodology

For this study around fifty research papers, articles and case studies have been taken. The overall findings are based on literature review of the research papers which are indexed in Scopus, Google Scholar and Web of Science. Some industrial analysis and reports are also included in the study. For electric vehicle, Electric cars, Hybrid electric vehicles, electric scooters have been considered. In this study some search protocols also included such as “energy saving” or “high purchase price” etc. Ten years of time period (from 2010 to 2020) has been taken. Screening process has been applied, in which we have eliminate the unused articles and research papers which are not related to the electric vehicles.

Figure 1



## Results & Discussion

In the coming section, study incorporate some important evidences and resisting forces for the implementation of electric vehicles in the context of developed and developing countries and also focused on its comparative analysis. In some previous research we can find out barriers and opportunities related to the developed countries. The study employs the different driving forces retrieved from the past study.

### Overview of the Driving Force of EVs

(Hasan, S., &Simsekoglu, Ö. 2020) for the reduction in GHG emissions the energy is dependent on fossil fuel or not, the electric vehicles offer minimum GHG(Greenhouse gas) emissions. In a study conducted in European country, different sources of energy production has been analysed and found that E4Ws incur only 30%-40% external environment cost when it has been compared with ICEV vehicle. In a study conducted in China and India, small range E2Ws and E4Ws were studied by using Tank-to-Wheel method. In a study conducted by UK for E2Ws by using this method, it was found E2Ws emit 3.9 and 1.7 times less GHG emissions than motorcycles and gasoline cars, where France has a clean electricity mix and low LLR, therefore Electric Vehicles would be safer and environment friendly.

**Table 2: CO2 emissions in different Developing Countries**

Countries	CO2 Emissions in Gram per Kwh
China	756
India	928
Indonesia	632
Turkey	478
Mexico	547
Bangladesh	566
Pakistan	640

Source :Sun, X. H., Yamamoto, T., & Morikawa, T. 2015

### Energy Saving

(Wu, Z., Wang, M., Zheng, J., Sun, X., Zhao, M., & Wang, X. 2018) in comparison of the other gasoline vehicles. The energy saving can increase the petrol saving and gasoline savings due to adopting the electric vehicles. Due to electrification of mobility, India is saving 44000 L of Gasoline and around 109,884 kg CO2 per day. A study by Zhou and Coworkers considered a life cycle assessment in China on E4Ws by involving two major aspects, total energy used form production to end of life and energy used in well-to-wheel. This study revealed that E4Ws can save more than 35% energy than conventional cars. Whereas, HEVs can save around 20% energy than ICEV cars. (Sun, X. H., Yamamoto, T., & Morikawa, T. 2016) according to the study, HEVs consume more energy than E4Ws.It has been found that E2Ws consume 2.9 and 6.1 less energy than motorcycles and gasoline cars.In Europe, E2Ws are running with lithiumion batteries that are very expensive but provide 140

Wh kg – 1 of energy density. Table No. 3 showing the considering energy consumption per kilometre among various electric and non-electric mobility modes.

**Table 3: Comparative analysis among Different Electric Mobility Modes Considering tank-to-wheel Energy Use**

Mode	Tank-to-Wheel Energy use represented in KWh per Km
E-Bicycle	0.015 ± 0.005
Midsized E2Ws	0.045 ± 0.02
Midsized gasoline-powered two-wheelers	0.25 ± 0.09
Large E2W	0.07 ± 0.03
Large gasoline-powered two-wheelers	0.41 ± 0.13
E4Ws	0.15 ± 0.04
HEVs	0.4 ± 0.1

Source: Momen, F., Rahman, K., & Son, Y. 2018

### Low Operational Cost

(Hagman, J., Ritzén, S., Stier, J. J., & Susilo, Y. 2016) the major reason for using electric vehicles is its fuel cost savings as compared to gasoline vehicles. For E4Ws, the cost of one Joule of energy from electricity of its energy mix is lower than the cost of gasoline. (Mukherjee, S. C., & Ryan, L. 2020) the cost of 100 km would be only 21 kWh for E4Ws. As like as E4Ws, E2Ws also have a superior operational cost saving due to their reliance on electricity rather than gasoline. After this study, it was revealed that operational expenses were 25% better in comparison to motorcycle and cars. The operational cost of E2Ws is less than counterpart gasoline motorcars. It also proved that the complete cost of ownership consists of fixed price, apart from variable cost.

### High cost of infrastructure is required for implementation of E4Ws

(Ruan, J., Walker, P., & Zhang, N. 2016) infrastructure for charging is an important factor which can reduce the range of demand for electric vehicles. The customer's intention to purchase electric vehicle is affected by the availability of the charging stations. In the developed countries, the investments in the infrastructure seem to be prerogative. (Sun, X. H., Yamamoto, T., & Morikawa, T. (2015) in United Kingdom, the government has allocated around 250 million Euro for the development of the infrastructure for Electric Vehicles. A study by Hadded for EVs in the developed country of Lebanon, there were five types of mobility modes have been defined by energy consumption such as LPG, CNG, PHEVs, HEVs and EVs. (Neubauer, J., Brooker, A., & Wood, E. 2012) it was found that, energy and emission savings are possible with the infrastructure development, in comparison to other modes of energy.



In the developing countries, the governments are not very confident to invest in the infrastructure for the EVs.

### **Lack of Government Policy**

With the special support of the government, the EVs market can be created successfully, especially in developing countries. (Melliger, M. A., van Vliet, O. P., & Liimatainen, H. 2018) the governments of India and China are the forerunners to promote the policies regarding the developing the infrastructures for electric vehicles. By a supervision of the heavy industry in India, the manufacturing of the faster adoption and electric vehicles (FAME) were initiated by the government in 2015. The aim of Fame was to promote the customer for the adoption of the electric vehicles in India. (Momen, F., Rahman, K., & Son, Y. 2018) in some states of India, the tax on the registration of the EVs are exempted, In china, the government had introduced some policies, such as restrictions on the purchasing of the gasoline vehicles, which face a high level of pollution. (Neubauer, J., & Wood, E. 2014) seven major centres of China have witnessed the license restrictions. The governments of developing countries are needed a robust plan for developing the infrastructure for EVs.

### **Conclusion & Policy Implications**

The literature review for this study is focused on the resisting and driving forces towards the three types of electric vehicles such as E4Ws, E2Ws and HEVs in developing countries. After reviewing many research papers and case studies it was found that in developing countries customers are increasing for E2Ws due to low operational cost and for its feasibility. The E2Ws have a potential to reduce the congestion and GHG emissions without the investments in infrastructure. (Tao, Y., Huang, M., & Yang, L. (2018) the E2Ws faces divergent resistant forces like electricity blockouts, strong gasoline two wheelers, lack of awareness etc. (Wai, C. K., Rong, Y. Y., & Morris, S. 2015) it was suggested that the implementation of E4Ws can be delayed due to reduction of economies of scale which will reduce the various costs associated with the E4Ws. HEVs and E2Ws are successfully increasing their markets in developing countries. It can be better through the proper policies of the government. Moreover, it is interesting to understand that the E-Bikes, E-Bicycles, E-Scooters or electric motorcycles will be preferred choice of future customers of EVs.

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## **National Education Policy 2020**

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Saroj Bala Dewatwal\*

### **Introduction**

The National Education policy 2020 focuses on improving the quality & broadening of education system in India. The key objectives of the National Education Policy 2020 include the multidisciplinary and holistic approach in Indian education system. Education is the foundation for overall development of the human beings and the nation as a whole. Its core principles include access, equity, affordability and inclusiveness. The Ministry of Human Resource Development, Government of India had announced the New Education policy 2020 which is based on recommendations of an expert committee headed by Dr. K. Kasturirangan. The new education policy is learner centric & multi-disciplinary approach with multiple entry and exit of programs with the benefit of credit transfers. More emphasis is provided to technological application in teaching, learning, assessment and research. Further, the NEP 2020 announced the setting up of HECI & NRF. The Higher Education Commission of India will be for entire higher education segment and will replace the various existing regulatory bodies. Also, the Formation of National Research Foundation for funding & managing of research proposals in colleges & universities in India.

### **Background of Education Policies in India**

The first National education policy post independence was announced in the year 1968 and the second National education policy was announced in the year 1986 which had improvement over the previous education policy. After that the new National policy is announced in the year 2020. The new education policy is built on the recommendations from the Education Commission (1964-66) and Justice J.S. Verma Commission (2012) as well as the previous version of policy- National Policy on Education 1986, which was modified in the year 1992 (NPE-1986/ 92), Right of children to free and compulsory Education Act, 2009 and Rights of Persons with disabilities (RPWD) Act, 2016 (KMPG report, 2020). Further, as per the GOI report, the implementation of previous policies on education had focused largely on issues of access & equity. The unfinished agenda of the National Policy on Education 1986,

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modified in 1992 (NEP 1986/92), is appropriately dealt in present Policy. One major development since the last Policy of 1986/92 had been the Right of Children to free and compulsory Education Act 2009 which laid down legal underpinnings for achieving universal elementary education (Government of India report on National Education Policy 2020).

### **Highlights of National Education Policy 2020**

The National Education Policy 2020 emphasizes on holistic and multidisciplinary education with an aim to provide 21st Century skills to learners. National Education Policy 2020 states that such “education would be aimed at developing all capacities of human beings” (MHRD, National Education Policy 2020). The principles of the policy include development of good human beings that are capable of rational thoughts & actions, possessing compassion & empathy, courage & resilience, scientific temper and creative imagination, with sound ethical values. It aims at producing engaged, productive and contributing citizens for building an equitable, inclusive and plural society as envisaged by our Constitution (GOI, NEP 2020). The key points of the policy include:

- Multidisciplinary & holistic education approach
- Credit transfer -Academic bank of credits
- Extensive use of technology
- Multidisciplinary education and research university models
- Emphasis on conceptual understanding
- Creativity & critical thinking
- Recognizing, identifying & fostering unique capabilities of each student
- Flexibility to choose own path
- Ethics and human & Constitutional values
- Life skills

The National Education Policy 2020 focused on enhancing the quality of higher education institutions in India. The policy has announced formulation of Higher Education Commission of India (HECI) for the entire higher education segment. Setting up of HECI will replace the existing regulatory bodies and the HECI will be the sole regulator for management and controlling. The new policy has stressed on providing of flexible curriculum. It includes interdisciplinary approach with multiple exit options and under graduate program of four years. Further, the National Education Policy 2020 emphasized on the higher education system for accessibility and inclusiveness. The new policy will enhance equity and inclusion in education sector in India. It is emphasized that the pedagogy in higher education institutions will focus on communication, presentation, discussion, debate, research & inter-disciplinary thinking. The NEP 2020 has also focused on inclusion of technology in education in teaching, learning & assessment. The policy also focused on improving access & equity through Open Distance Learning and online programs. The policy also

addressed the issue of faculty shortage in higher education sector and on faculty student ratio. For enhancing the quality of education, talent management is recommended for faculty. Moreover, formation of National Research Foundation (NRF), for funding purposes for competitive & innovative research proposals of all types & across all disciplines in the colleges & universities. The NRF will manage for funds for peer reviewed grant proposals, growth & facilitation of research in academic institutions & universities, liaison between the researchers & government/industry and recognition of outstanding research & its progress.

As per NEP 2020, the undergraduate degree course will be of either 3 or 4 years duration, with multiple exit options within this period, with appropriate certifications e.g. a certificate after completing 1 year in a discipline or field including vocational & professional areas or a diploma after 2 years of study or a Bachelor's degree after a 3 years program and multi-disciplinary bachelor's program after 4 years. The credits earned by the students will have a digital storage. For this purpose, there would be formation of Academic Bank of Credit (ABC) that would digitally store the academic credits earned from various recognized higher education institutions. It is announced that the 4-year program may also lead to a degree 'with Research' if the student had completed a rigorous research project in their major area of study as specified by the higher education institutions (GOI NEP, 2020).

### **Technology Inclusion**

The National Education Policy 2020 highlighted on more usage of technology in education. The technology inclusion is for improving learning outcomes, improving the access & equity through online courses & online distance learning modes and enhancing digital platforms for e-learning with DIKSHA & SWAYAM (KMPG report, 2020). Also the NEP 2020 emphasized on blended modes of learning, online teaching, e-learning & e-assessment, establishment of virtual labs, wider use of online teaching platforms/ tools, open & distance e-learning and development of e-content & MOOCs with the inclusion of technology.

### **Conclusion**

To sum up, the National Education Policy 2020 focused on equity and inclusive education. It further denotes accessibility, affordability & flexibility for all. The NEP 2020 highlighted on quality education with technology inclusion. Blended learning, MOOCs & online portals have been given more attention with promotion to distance learning in India. To conclude online teaching, learning and assessment are stressed upon for Indian education system.

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## **Appendices**

### **Table of Glossary**

13. ABC- Academic Bank of Credit
14. GOI - Government of India
15. HECI - Higher Education Commission of India
16. MHRD - Ministry of Human Resource Development
17. MOOCs – Massive Open Online Course
18. NDLI- National Digital Library of India
19. NEP - National Education policy
20. NPTEL –National Program on Technology Enhanced Learning
21. NRF - National Research Foundation
22. RPWD - Rights of Persons with disabilities
23. SWAYAM –Study Webs of Active -Learning for Young Aspiring Minds
24. UGC- University Grants Commission.

## **Micro Finance Institutions and Inclusive Growth**

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Amit Parmar\*  
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### **Introduction**

For Inclusive growth Micro financial Institutions plays an important role. On the micro economic and macroeconomic levels, an inclusive financial system has virulent repercussions. Financial inclusion, according to Conroy (2006), improves economic efficiency and equity distribution by allowing a large number of people to deposit money and providing fruits of economic growth that can be shared by all. Previously, only a few academic studies on the financial sector's performance in terms of financial inclusion and its impact on economic growth (Agnello 2012, Claessens et al 2007 Ashta,2010) concluded that The financial sector plays a unique role in the promotion of growth in underdeveloped countries.

Microfinance is a type of financial service that gives poor and low-income people small loans and other financial services. It is a financial inclusion tool that enables poor and low-income households to rise out of poverty, boost their income levels, and improve their overall living standards. It can aid in the implementation of national policies aimed at reducing poverty, empowering women, assisting disadvantaged groups, and raising living standards.

Over the last two decades, the Indian microfinance sector has seen tremendous expansion in terms of both the number of institutions providing microfinance and the amount of credit accessible to microfinance users. Microcredit is distributed through a number of institutional channels, including I scheduled commercial banks (SCBs) (including small finance banks (SFBs) and regional rural banks (RRBs)) lending both directly and through business correspondents (BCs) and self-help groups (SHGs), (ii) cooperative banks, (iii) non-banking financial companies (NBFCs), and (iv) microfinance institutions (MFIs) registered as NBFCs, as well. As per RBI there are total 197 lenders in the country which are actively dealing into microfinance with total loan amount outstanding Rs 2,27,942 crore .

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### **Research Objectives**

The objective of the study is to determine the significance of the Micro financial Institution in the inclusive growth of the country in this technology driven era . How the digital technology has benefitted MFIs reaching out to the customers and the limitations will also be evaluated as an objective of the study. Further what are the challenges and hinderances for MFIs and how MFIs influence and play a crucial role in the inclusive growth of the country will be discussed as another objective.

### **Significance of the Study**

The significance of the study is to highlight the role of Micro Financial Institutions and their importance in Inclusive Growth.

### **Limitations of the Study**

- The study is restricted to India Only
- The area of the study is limited to the role of Micro finance Institutions only.

### **Research Methodology**

The research is basically doctrinal research based on secondary data and data that includes books relevant articles national and international journals and various information available on Internet.

### **Literature Review**

It is never ending aspirations of a society to make their citizen's lives better by with inclusive growth. Microfinance Institutions plays a pivotal role in achieving this objective the following is the literature review on the basis of the objective of our study.

**Agnello, Mallick and Sousa (2012)** in their study shows that financial reforms reduce Income Inequalities and financial reforms in general promote more equal distribution of Income .

The study by **Nasser, Imran and Azam, Amir (2019 )** shows that there is strong positive relationship between Micro finance Institution's performance , Financial Inclusion and Economic Growth .

Another researcher **Joseph Mary G , Muthu Krishnan A and Varlakhmi T ,** the Digital Innovation are quickly infiltrating the lending process among Micro finance Institutions in India. They mentioned that Microfinance Institutions are more alert for their competitive advantage of private relationship with their clients.

The study by **Sailejasevella, Soumya padma , purnachary M (2018)** concluded that despite of Bottlenecks, microfinance Institutions helps marginalized and very poor people to upscale them to a better living and plays a significant positive role in upgrading them.

**Micro Finance Institutions and their Role in Inclusive Growth of India**

Microfinance in India is critical to the country's development. For people living in rural areas, it acts as an anti-poverty vaccination. Its goal is to help economically disadvantaged communities achieve better asset accumulation and financial security at the family and community level. Microfinance is extremely important in India since it provides small businesses with access to money. Microfinance in India provides loans, insurance, and access to savings accounts.

Microfinance is a concept that emphasises women by providing loans to them. It serves as a tool for poor women's empowerment because as they become more self-sufficient, they are able to contribute directly to their families' well-being and address all gender disparities. Poor rural and urban households, as well as women, are the main beneficiaries of microfinance. The Reserve Bank of India does not impose any limits on the amount of money that can be borrowed.

Credit is vital to poor people because it allows them to preserve the typical income-to-expend ratio. It is also necessary for poor people to engage in income-generating activities such as marginal farming and other small-scale self-employment initiatives. Due to a lack of resources and the structure of official credit institutions, they have limited access to traditional banking channels. As a result, microfinance institutions and self-help groups in India are leading to other traditional banking channels in order to meet the credit needs of the poor. It has made a significant contribution to improving the poor people's quality of life. As a result, microfinance is not a financial system, but rather a vehicle for alleviating poverty in the country and bringing about social change, particularly in raising the status of women in our country so that they can become self-sufficient. The public interest in microfinance is what makes it a legitimate goal for public policy.

**Recent Developments in Microfinance Sector**

In the early 1990s, microfinance became popular, and RBI saw it as a new paradigm with enormous potential, and it lent its backing to its development. However, as the sector evolved, significant flaws and shortcomings became apparent, culminating in the microfinance crisis in Andhra Pradesh (AP) in 2010. This crisis was blamed on some MFIs' irrational exuberance, who, in their eagerness to expand their company, had ignored conventional wisdom and sound practises such as due diligence in lending and ethical recovery practises. Borrowers' over-indebtedness caused difficulty with repayments, and aggressive recoveries by some MFIs resulted in public outcry and later involvement by the state government.

The microfinance sector's landscape has shifted dramatically in the recent decade. In 2014, one of the two entities granted approval to create a universal bank, Bandhan Financial Services Limited, was an NBFC-MFI, while eight of the ten entities granted approval to launch SFBs in 2016 were NBFC-MFIs. Some NBFC-MFIs have merged with banks, such as Bharat Financial Inclusion Limited, the country's largest

NBFC-MFI at the time, which merged with IndusInd bank in July 2019. As a result, NBFC-MFIs account for slightly more than 30% of the microfinance sector's overall loan portfolio of 2.27 lakh crore as of September 2020.

### **How Digital Technology is Helping Micro Finance Institutions**

Digital technologies are rapidly gaining traction around the world, infiltrating all aspects of human life. Individuals, corporations, and governments are all benefiting from digital advancements that are opening up new avenues of communication, expanding opportunities, and enhancing efficiency. Microfinance organisations around the world are also quickly adjusting to technological advancements in the financial sector. Digital dividends, which can raise GDP, expand opportunities, and improve service delivery, are possible as a result of increased connection and technical breakthroughs. Some of the major transformations that digital technology has brought in the Microfinance Industry are here below.

#### **Development of Alternate Risk assessment Methods**

The innovation in the field of technology and data science has made it possible to assess the risk of lending to the people who were excluded by the formal banking system. A US based company has developed a mobile app which collects user's digital data and behavioural data to construct customer credit profile with the consent of customer and share it with credit bureaus for more reliable credit profiles. With the help of Digital technology, the companies are using non traditional source of data and payment transactions to find out the customer's ability to repay.

#### **India Stack**

India Stack is a set of APIs ( Application Programming Interface ) that allows Government, companies , start-ups and developers to utilize a Unique digital Infrastructure to solve India's problem towards presence-less, paperless, and cashless service delivery. MFIs are creating products and services for different customer need by accessing the India Stack,

#### **E-KYC**

E- KYC is a paperless method to digitise the KYC procedure and enables the MFI to validate the customer's identification in real time and shorten the time it takes for loan approval and disbursement.

#### **E- Signature**

E-signatures — provide convenience to customers by allowing them to legally sign a form/document electronically at any time and from any location, resulting in increased efficiency.

#### **Unified Payment Interface (UPI)**

Through UPI the cashless direct delivery and repayment of loans to the customer's account is provided by using – Aadhaar-Enabled Payment System (AEPS) and Aadhar Payment Bridge System (APBS), which reduces leakage and fraudulent activities.

## **Channels of Microfinance**

### **Self Help Group – Bank Linkage Program (SHG-BLP)**

A self-help group (SHG) is a village-based financial intermediary committee made up of 10–20 women or men from the community. Members contribute small amounts of money on a monthly basis for a few months until the group has enough money to start lending. The funds can then be re-loaned to members or others in the community for any purpose. To ensure proper credit end-use and timely payback, the group members employ collective wisdom and peer pressure. This technique, which does away with the need for collateral, is similar to solidarity lending, which is frequently employed by microfinance firms. SHG Borrow from banks under NABARD's 'SHG Bank Linkage' programme if they have developed a base of their own capital and a track record of regular repayments.

### **Joint Liability Group (JLG)**

The concept of Joint Liability Group launched by National Bank for Agriculture and Rural Development (NABARD) in India in 2014 to give institutional financing to small farmers. A Joint Liability Group is a group of 4-10 people from the same village/locality with similar natural characteristics and socioeconomic backgrounds who come together to create a group for the purpose of obtaining a loan from a bank without putting up any collateral.

### **Difference between SHG and JLG**

SHGs are generally savings-oriented groups whose borrowing capacity is dependent on their savings. JLG, on the other hand, is a credit-oriented organisation that was founded primarily to obtain a loan from a bank or other formal credit institution.

### **Microfinance's Potential**

With a large and expanding working population, our country is undergoing a big demographic shift. With the help of institutional financing, a sizable portion of the population aspires to join the middle class. As a result, microfinance can help them meet their needs and achieve their objectives. Low-income people require credit for a variety of reasons, including emergency loans, consumer loans, company loans, working capital loans, housing, and so on. Poor households would benefit from a combination of financial services, such as savings, remittances, loans, micro-insurance, micro-pensions, and the like, in addition to credit. Technology is influencing the future of money in today's society. To give an efficient experience to the end user, all of the main actors are utilising technology. FinTech is critical in improving the accessibility of financial platforms in India. As a result, designing appropriate financial products that cater to the specific needs of the financially excluded people, as well as providing amenities such as digital onboarding, is critical to attaining the goal of financial inclusion.

The only way to achieve universal financial inclusion is for mainstream financial institutions and other stakeholders like MFIs, Fintech, and others to work together, since they all play a complimentary role in advocating this cause. As a result, banks and NBFCs should investigate the prospect of forming business partnerships with one another and with FinTech firms, as this might be critical in advancing the objective of financial inclusion through innovation.

Microfinance institutions could collaborate with FinTechs and other entities to help them mine customer and transaction data, cross-sell products, introduce new customer-centric products and services, and streamline operations, in addition to incorporating emerging technology faster into their businesses. They will also have the opportunity and responsibility to improve the digital literacy of their consumers who are not well-informed and aware and hence vulnerable to fraud.

### **Challenges Faced by Microfinance Institutions**

#### **Over - Indebtedness**

Over-indebtedness provides a serious impediment to the microfinance sector's expansion because it deals with neglected parts of Indian society who want to enhance their standard of living. The most major challenges that stress the microfinance business in India are the growing trend of multiple borrowing by clients and ineffective risk management. Microfinance institutions make loans without requiring collateral, increasing the risk of bad debts. Fast-paced growth necessitates well-planned infrastructure, which the Indian microfinance sector clearly lacks. Over-indebtedness exposes MFIs to credit risk and raises the monitoring costs they must bear in order to remain profitable in the long run.

#### **Higher Interest Rates**

When compared to commercial banks in India, MFIs' financial success is modest. The centuries-old banking system has a deep foundation in Indian soil and is steadily developing to meet modern needs. When compared to commercial banks, most microfinance institutions charge a fairly high rate of interest (12-30%). The Reserve Bank of India (RBI) announced instructions removing the highest restriction of 26% interest on MFI loans. While the RBI guideline modification helped several MFI sector businesses, the borrowers suffered as a result. Borrower indebtedness caused by increasing interest rates has led in a large trend of farmer suicide in places like Andhra Pradesh and Maharashtra.

#### **Dependence on Banks**

Financing for small businesses Institutions rely heavily on financial institutions like commercial banks for stable funding in order to carry out their lending activities. The majority of these commercial banks are private entities with higher interest rates. They also grant loans for a shorter length of time. Indian MFIs are incompetent lending partners due to their heavy reliance on banks.

**Lack of Financial Literacy**

India, a developing country in the making, has a low literacy rate that is even lower in rural areas. A huge portion of India's populace is unaware of basic financial principles. The general public is mostly unaware of the financial services provided by the microfinance industry. The rural population's lack of understanding is a major barrier to them being able to obtain easy credit from MFIs to meet their financial demands. It also contributes to the country's significant financial isolation. MFIs also have the extra responsibility of educating the public and developing trust before making loans. MFIs find it difficult to survive in the highly competitive markets found in underdeveloped countries due to a serious lack of awareness about their policies and goods.

There is high digital talent gap, although the internet connectivity across India has increased but availability of talent who can use the latest digital products is very scarce.

**Regulatory Challenges**

The Reserve Bank of India (RBI) is the regulator of Microfinance Industry. However, the RBI favours commercial and established banks over microfinance institutions. Microfinance institutions' needs and structures are completely different from those of other traditional lending institutions. Some laws appear to have benefited MFIs, while others have left a slew of difficulties unresolved. Despite occasional and unusual regulatory reforms, the Microfinance sector appears to be fighting to stay afloat. New regulations cause structural and operational changes, but they also create ambiguity in ethical standards. As a result, the creation of new financial goods and services suffers from sub-optimal performance and failure. Finally, a separate regulating authority for the microfinance industry is required.

**Data Security**

Data security is a big concern for customers while using the latest digital products as there is apprehension among customers that sharing their personal details with MFIs may result in security breach and thereby resulting in customer's lack of confidence in lenders.

**Conclusion**

To summarise, the microfinance industry is witnessing numerous changes as a result of increased competition, rising public expectations, technology developments, and a changing regulatory landscape. As a result, the sector is likely to expand beyond micro finance in order to alter borrowers' lives. The banking and financial services industry must continue to explore the adoption of creative, futuristic, and high-impact business models, keeping in mind the industry's technological change. The sector's concentration should be on digital microfinance. In order to promote transparency, address customer-centric concerns, and protect the interests

of low-income consumers, microfinance lenders must prioritise their clients' needs and follow the Code for Responsible Lending and the Code of Conduct to the letter. Resolving customer complaints quickly and effectively should be at the top of MFIs' and Self-Regulatory Organizations' agendas (SROs). To avoid concentration risk and service a larger consumer base, microfinance organisations must increase their client outreach. They should also do a thorough evaluation of their activities to ensure that some areas remain underserved in terms of financial inclusion. While the microfinance sector has grown steadily in recent quarters, we must be aware of the sector's vulnerability to variables such as external developments, technical changes, event risks, and borrowers' income discrepancies. The increased use of technology would create operational hazards, as well as worries about customer data security, which would necessitate action to be taken in this regard.

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## **Fruits and Vegetables Processing Industry in Bihar**

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Mukund Madhav\*\*

### **Introduction Processing Industry**

- **Concept**

The process industries are those industries where the primary production processes are either continuous, or occur on a batch of materials that is indistinguishable. For example, a food processing company making sauce may make the sauce in a continuous, uninterrupted flow from receipt of ingredients through packaging. The term 'processing' is used in more than one context. The first stage of processing starts at the producer's level itself whereby he subjects his produce to certain treatments in order to make it fit for sale. Commodities like fruits, vegetables and eggs are sorted out according to size, shape and color; this form of grading the produce in a way constitutes the simplest form of processing. Cleaning of grains before sale is also a simple form of processing. Then curing of tobacco leaves and extraction of fiber from Sam hemp and Jute sticks also constitute processing at farmer's level. Often the farmer does not sell his sugarcane or oilseeds directly, but prefers to prepare gur or crush oil and then sell these commodities latter. In such cases, even unmaking and oil crushing constitute processing at farmer's level. Then, in certain cases, even after the farmer has sold the produce, it is still not in a directly utilization form e.g. paddy requires dehusking, pulses require to be split into dal and kapas needs to be ginned. Such treatments, which certain commodities require after the sale at the farmer's stage and before purchase at the consumer's stages, are also considered under 'processing'. Further, the treatments by which many vegetables, fruits, meat and fish are preserved either for absorbing the surpluses or for making the

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produce available for off-season use constitute another form of processing. Lastly, even biscuit making and bakery products manufacture are forms of processing, which are more manufacturing agriculture (National Commission on Agriculture)<sup>1</sup>.

- **Needs**

A strong and dynamic food processing sector plays a vital role in reduction in the wastage of perishable agricultural produce, enhancing shelf life of food products, ensuring value addition to agricultural produce, diversification & commercialization of agriculture, generation of employment, enhancing income of farmers and creating surplus for the export of agro & processed foods. The case for developing processing industry is placed mainly on ground of (a) generating additional employment opportunities, and (b) for creating opportunities for value-addition. Introduction of new technology in agriculture and 'globalization' hold promise before the Indian agriculture for commercial and export oriented agri-business. How much of this possibility can be translated into real gains by an agriculturally backward State like Bihar is a matter of serious concern. Agricultural growth in the State has been much below the expectations on account of very little technological change, poor infrastructure development and unproductive agrarian structure. The potential of fruits and vegetables processing industry depends largely on an appropriate technological, infrastructural and institutional support. An attempt has been made to review the situation as it exists today and to suggest measures for the development of this sector.

- **Kinds of Processing Industries in Bihar**

- Fruits and Vegetables Industry
  - Grain Crops
  - Livestock
  - Fisheries
  - Tea
  - Dairy

**Fruits and Vegetables Processing Industry in Bihar**

Bihar is the largest producer of vegetables and the second largest producer of fruits in India. It is the largest producer of Okra in the country, second largest producer of Cabbage, third largest producer of Potato, Brinjal, Cauliflower and Onion. It is one of the strongest agricultural States, with very high productivity. The state has an excellent climate with fertile soil and abundant water. Its diverse agro-climatic conditions translate into diverse crops suited to different agro-economic conditions. The percentage of population employed in agricultural production in Bihar is estimated to be around 80 per cent, which is much higher than the national average.

Coupled with the fact of ever growing population with an increasing purchasing power and changing life style, the state thus offers an immense opportunity to establish wide range and big numbers of food processing units. The Government of Bihar has special emphasis on the establishment and growth of food processing industry to create modern enabling infrastructure for food processing unit in the State with farm to market linkages.

Vegetables produced in the state feeds far off places including Delhi and Kolkata also apart from the huge local markets. While production of vegetables is well dispersed over the districts, major vegetable growing districts of the state are Patna, Nalanda, Vaishali, Muzaffarpur, W. Champaran, E. Champaran etc. Growth of organized retail market in fresh fruits and vegetables offers significant opportunities for processing and value packaging facilities in vegetable production centers in the state.

Fruits are grown in different parts of the State on over 3 lakh hectares while vegetables are cultivated on about 8 lakh hectares of land. About 34 lakh tonnes of fruit and 117 lakh tonnes of vegetables are produced annually. Mango, banana, pineapple, guava, litchi, papaya and citrus fruits are the more important fruits<sup>2</sup>. The major items of vegetables produced are potato, cabbage, cauliflower, brinjal, tomato, okra, onion and chillies.

Bihar occupies a commanding position in mango vis-a-vis area, production and yield (third amongst all States). Production of mango of different varieties adds up to about 15 lakh tonnes on average per annum. In the case of (high value) litchi, it is the largest growing State accounting for as high as 75-80 per cent of the total output in the country. Area under litchi in Bihar increased from 16,306 hectares in 1985-95 to 18,573 hectares in 1990-91 and to 20,985 hectares in 1994-95. Muzaffarpur district which produced the best quality of litchi has the distinction of contributing maximum area of 4000 hectares equal to 19 per cent of the State's acreage' under litchi. Litchi Cultivation in Muzaffarpur district grew significantly over the last ten years. Production of litchi in the State has thus gone .up from 1,46,822 tonnes in 1985-86 to 2,10,000 tonnes in 1994-95. Next to litchi and mango, the fruits which occupy important position are banana, guava and pineapple. Jack fruit and juju-berries are popular fruits in the plateau region of Bihar (now in Jharkhand) and tamarind grows widely in the forest<sup>3</sup>. While the yield per hectare of banana, guava and pineapple arc relatively lower in Bihar compared to other States, it is much better in the case of papaya.

Vegetables crops occupy a very important position in the agricultural economy of the State. Fruits and vegetable combined together contribute 28.2 per cent of the gross value of agricultural produce; the share of agriculture in the State domestic product (SDP) being more than 30 per cent. Area under vegetables in the State constitutes generally 2.3 per cent of the total cropped area and the yield rate is also

not very high. Potato claims the largest area in Bihar with 34.20 thousand hectares of land under its Cultivation while the State's share in total area under potato cultivation is only 23.65 per cent. Yield per hectare of potato in the State is 12 tonnes which is lower than all-India average of 14 tonnes and much lower than Gujarat (25 tonnes), Punjab (20 tonnes) and UP- Hills (21 tonnes). The State, nonetheless, claims the highest share at the all-India level of production of cauliflower (30.79%) although the yield per hectare is not the highest, this is followed by okra (26.55%). Yield of tomato in the State at 20 tonnes per hectare (which is the most promising crop from the point of view of processing) is lower than States like Himachal Pradesh (27 tonnes), Karnataka (25 tonnes) and Punjab (24 tonnes).

All important varieties of vegetables are grown locally in all the districts. Large variations in the covered area under different vegetables do exist. Districts of Dumka (now in Jharkhand) Darbhanga, Muzaffarpur, Vaishali, Patna, Katihar, Samastipur and West Champaran has substantial area under the cultivation of cauliflower. Onion is, similarly, cultivated in large area in the district of Patna, and East Champaran, West Champaran Muzaffarpur, Katihar, Nalanda and Purnea. The plateau region which is now part of Jharkhand State has large area covered under tomato. Cabbage is grown on a large scale in the Ranchi District. Most of the plateau region region (including Ranchi) is endowed with a favorable agroclimatic condition (compound with good rainfall) for the production of a wide variety of vegetables during the different seasons.

While India is the largest or the second largest producer of fruits and vegetables in the world, only 18-20 per cent of total production is processed. This compares very unfavorably with many countries. Malaysia's processing level is as high as 83 per cent of the total output, followed by Philippines (78%), Brazil (70%) and USA (60-70%). 'Murabbas' (conserves), acharas (pickles), sharbats (syrops) have been in use in this country since time immemorial. The manufacture of mango chutney, which caused the fancy of the early Britishers, appears to have been started on a commercial scale by the middle of the 19th century. The consumption of chutney was then confined mainly to foreigners and Anglo-Indian. Subsequently, it spread to the United Kingdom and some other countries too. Preservation of fruits and vegetables by modern techniques is, however, of recent origin in India. Items like jams, jellies, marmalades, fruit squashes, ketchups, canned fruits and vegetables came to be known in this country only after the First World War, when these products were imported freely on a large scale. Their manufacture in India is said to have started only in the late twenties<sup>4</sup>.

- **Status**

Fruits and Vegetables Processing Industry (FVPI) in Bihar may be grouped under the three phases of processing, namely, primary, secondary and tertiary. The primary processing phase involves value addition by way of dehusking of paddy or

packaging of wheat flour or milled rice etc. The secondary phase of processing involves elementary modification of natural foods such as hydrogenation of edible oils. High level of modification with the promise to make the natural produce 'ready-to-eat' like break and biscuits etc., come under the tertiary phase. Food processing in Bihar, today is concentrated in the primary phase.

The existing food processing technology in the State is tradition bound. Post-harvest technology, in particular, in regard of fruits and vegetables is primitive. Higher efficiency in post-harvest operations is basic to the development of this sector. Huge losses amounting to 25-30 per cent of the total fruits and vegetables produce occur annually on account of poor methods of harvesting. Loss of quality of these crops is another casualty of the outmoded operations. The obvious solution lays the adoption of modern post-harvest technology on a large scale.

Fruits and vegetables grown in Bihar so far are, moreover, mostly of trade variety. Processing industries, however, require, varieties with more solid content and high pulp yield. It has been observed that 7 tonnes of Indian tomato produces the same amount of paste as 4 tonnes of Italian tomato. There is need therefore to also upgrade the production technology. Poor infrastructure is another problem for future development of FVPI in Bihar. There is a near absence of cool-chain storages, refrigerated transport facilities and other basic infrastructures such as good roads, good transport and good power supply.

According to one view the existing Land Ceiling Act does not allow the industry to acquire land above the ceiling limit for its own captive production (With the exception of sugarcane Cultivation). But this may not be necessary as it has been observed. 'It is contended that only large farms will be able to give the output of desired quality, uniformity, etc. This is a false notion. Nowhere in the world have the large farmers enjoyed superiority as primary producers. In most of the circumstances there is an adverse relationship between size and productivity; in some very special circumstances the primary products need proper handling, sorting, grading and initial processing particularly when they have to be exported, and these operations have scale economy. The solution is not the large farms but the specialized agencies to do precisely these tasks. In a very large number of countries where such products as fruits and vegetables or dairy product are exported in bulk the primary production is left to the small producers, but there are organizations at the secondary level which bring-in the required degree of expertise and specialization. Equally important to note here is the creation of additional employment which occurs because of the need for specialization.

The National Committee on Development of Backward Areas, Planning Commission recommended for the setting up of processing industries by the Market Committees. It was of the opinion, 'It is first of all necessary as the first move towards

effective development of agro processing units in the backward areas to establish fully effective regulated markets with professional supervision covering the important cash crops in the area'. Unfortunately, the functioning of the market Committees has itself come under severe criticism in recent years. It is stated that farmers have hardly benefited from regulation of agricultural market. The Market Committees are merely tax (market fee) collecting bodies without providing any service to the farmers. The role of the market Committees should indeed be broadened to include support to the farmers and the other willing parties for setting up of agro-processing units.

Fair price for raw materials as well as the processed fruits and vegetables are other key factors for developing FVPI. Some kind of a minimum support price (MSP) for farm produce could be guaranteed by the Government. Domestic prices of many of the processed fruits and vegetables are often 2 to 4 times higher than those prevailing in international markets. High marketing cost, particularly, on account of packaging constitutes as much as 40 per cent. Average taxation on processed food products in India ranges between 20 to 40 per cent of the wholesale prices against negligible tax in other countries. As high as 40 per cent 'duty' is imposed on refrigeration knowing fully well that it is very essential for the preservation of fruits and vegetables. Customs and excise duties on packaging materials have been also high ranging between 20 to 30 per cent of the value of the product.

- **Problems**

It is worth noting that location of industrial units bears no relationship with the availability of raw materials. The ratio of FVPI to production of fruits and vegetables further indicates regional imbalances in the development of FVPI. Bihar which has a share of 12.96 per cent in the total production of fruits and vegetables accounts for only 1.28 per cent of the processing units<sup>5</sup>. FVPI in the State is very underdeveloped and faces much difficulty in terms of profitability.

- **Strategy**

The strategy for development of FVPI in Bihar would thus primarily involve, first of all, improving productivity of the crops. 'Agricultural extension services' deserve special mention in this regard. This would make farmers aware of the improved technology and they would like to make the necessary investments. Secondly, there is large scope for expansion of area under fruits and vegetables cultivation in the State. Thirdly, the post-harvest management of fruits and vegetables through ensuring better transportation and refrigeration etc. has to be paid greater attention due to highly perishable nature of these commodities. This would also reduce post-harvest losses and provide training programme on 'post-harvest management' for each crop may be started in the State at the earliest. The market Committees may give the lead in matters of providing the basic infrastructural facilities. Farmers, particularly, the small and marginal farmers may be encouraged to form 'co-operative' for marketing of their

products. The Government (both State and Central) may provide further appropriate incentives to the investors for establishing FVPI in the State. There is also need to modernize the existing units and make them more profitable.

### **Findings**

This article clearly States that there is a good agro-based industries in Bihar. But they are suffering from a number of problems. They can contribute in the economic development in Bihar. Most unfortunate thing is that the Govt. of Bihar is overlooking the growth and development of these industries in Bihar.

The agro-based industries can contribute a lot in economic development of Bihar in the present context of globalization because the land of Bihar is really very favorable for the growth of the industries. But it needs proper care and attention of the government. The government should identify the areas of sugar industries and sugarcane production and should be made available adequate infrastructure for that. The private sector should be encouraged to promote such industries in this poor State. This article clearly States that there is a bright future for the growth of Agro-processing industries in this State. Proper strategy is required to be developed for Agro-processing industries in general and fruits and vegetables processing industries in particular.

The most favorable point is that the fruits and vegetables available in our State may be exported in those seasons to the other parts of the country where and when those products are generally not produced and the whole production is not sufficient there. The most fortunate part is that the cost of production of fruits and vegetables in our State is the lowest in the world.

Based on these findings, it is recommended focusing government policies on supporting honest entrepreneurs. This could be done by improving brand awareness for products from Bihar, formally recognizing and rewarding successful entrepreneurs, and ensuring effective information and training programmes.

If the government of Bihar succeeds in formulating the growth policy of the different processing units particularly fruits and vegetables it may compensate the loss of division to the larger extent.

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## **An Analysis of Growth of MSME's In India: A Comparative Study of Rajasthan and Uttarakhand**

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Ms. Deepali Tomar\*

### **Introduction**

In this tough global business environment micro Enterprises have survived and even flourished therefore ,in recent time the micro Enterprises sector is emerging as an option of supporting business environment of any developed and developing economy (Munoz. S. Mark Joseph (ed), (2010) ). In the present time all developed and developing countries are facing unemployment, unequal distribution of wealth, income and economic fluctuations, etc. therefore , micro enterprises has emerged as an economic growth engine in all the nations of the world. . Development of micro Enterprises can help to create immediate employment opportunities at lower investment level therefore micro Enterprises have emerged as a real bone for the poor ( U. Jerinabi 2009 ). Micro enterprises are also called small businesses. In the present time world's all developed and developing Nations are adopting the various programs of micro enterprises development for creation of self -employment opportunities and economic development. During this economic environment, in the mid 1970 Dr. Yunus introduced Holistic development strategy by linkage micro enterprises to micro finance concept in Bangladesh. After the success of the development strategy in Bangladesh ,world -wide it was considered micro enterprises are the best way to generate employment opportunities and overall economic growth .Since 1980, various development agencies and developing and developed nation had been started various micro enterprise development programs and after 1990 microenterprise have been become the synonyms of economic development in all the countries of the world . The World Bank has been actively engaged micro enterprise development since 1990 e as it approved roughly 49 project between 1989 and 1993 that aims to improve the living standards of low-income people and just under half of these incorporated micro enterprise development programme (Websler M. Leila, Riopelle Rabdall, and Chidzero Morie Anne, (1996)).

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MSMEs are said to be highly innovative, having high growth potential and a major contribution to economy as a whole but the growth and performance of MSMEs could not be assessed accurately due to the sector comprising of more unorganised and unregistered sector rather than registered. Micro, small and medium enterprises are also facing various challenges that are uncommon to the large scale companies and multinational companies like lack of finance, marketing, skilled labour, technology, infrastructure and so on. In an endeavour to promote, develop and enhance competitiveness of the sector, Government of India enacted a single comprehensive legislation the MSME Act 2006 and also the NDA government has committed to boost micro, small and medium enterprises by invoking slogan like "make in India".

### **Objectives**

- To analyse the growth of MSME's in Rajasthan and Uttarakhand.
- To examine problems faced by MSME's in respect of availability of raw materials, finance, skill-promotion and capacity-building, labour and marketing strategies.
- To suggest appropriate guidelines for strengthening the MSME's.

### **Review of Literature**

**C. Lalroluahpuia (2016)**- The paper "study on the performance of msme in lunglei district, mizoram", tried to find out the role and performance of micro, small and medium scale Enterprises in Lunglei district, Mizoram. It was observed in the study that the small scale and medium scale industries in India can make a significant contribution to achieve social and economic objectives such as labour absorption, eradication of poverty, reducing regional imbalances, ensuring equitable distribution of national income, rural development and growth of various development activities. **Manvendra Pratap Singh, Arpita Chakraborty and Mousumi Roy (2016)**- The paper "entrepreneurial commitment, organizational sustainability and business performance of manufacturing msme: evidence from India", was an attempt to understand the motivation of micro, small and medium enterprises towards organisational sustainability in such a competitive environment. Conceptual Framework was developed to test the link among entrepreneurial commitment, organisational sustainability and business performance. Structural equation modelling and other standard statistical analysis have been used to analyse the data collected through questionnaire survey from 262 manufacturing micro, small and medium enterprises in India. The study findings highlighted that organisational sustainability emerged as a driving source of motivation to improve the business performance among manufacturing micro, small and medium enterprises in India. In addition, there is significant mediation effect of organisational sustainability on entrepreneurial commitment and business performance. **Dr. Samuel Muiruri Muriithi**



(2017)- he paper “**african small and medium enterprises (smes) contributions, challenges and solutions**”, was based on empirical evidence and current research on small and medium scale Enterprises worldwide with the major focus on African small and medium scale enterprise and how to improve their operations and profitability It was observed that the African government have to put more efforts t and come up with practical rather than theoretical solution because of small and medium scale Enterprises alarming rate of failures and solutions **Ms. Heena Upadhyay and Dr. Vivek Singh Kushwaha (2017)**- The paper “**Growth of MSMEs in INDIA: Its’ Performance and Future Prospects**”, highlighted the performance of Indian micro, small and medium enterprises and also forecasts the future trend. The research design was analytical research design. The data required for the present study had been collected from secondary sources It was observed that micro, small and medium enterprises not only help in industrialization of rural and backward areas but also they play a crucial role in providing large-scale employment opportunities at reasonably lower capital cost than large scale industries. Thereby ensuring more impartial distribution of national income, resources, wealth and thus reducing the regional imbalances. Economically this sector has strengthened the regions of the country and helps in achieving the self -reliance in every aspect of life. It also eliminate the imbalances between rich and poor. **Karabo Molefe, Natanya Meyer, Jacques de Jongh (2018)**- The paper “**A Comparative Analysis of the Socio-Economic Challenges Faced by SMMEs: The Case of the Emfuleni and Midvaal Local Municipal Areas**”, tried to identify and compare the main socio-economic challenges faced by SMEs in two local areas within the Vaal Triangle region. The study used quantitative research approach and a cross-sectional research design through means of the survey method. A total of 198 SME owners that resided in both the Emfuleni (ELM) (n=100) and M idvaal (MLM) (n=98) local municipal areas were surveyed. Data analysis involved the use of descriptive statistics, cross-tabulations and chi-square tests. The study revealed that managerial and economic challenges were the biggest challenges faced by SMEs which include: lack of skilled labour, insufficient business training and local economic conditions. The findings of the study provide valuable insight towards fostering an enabling environment for SME development on local levels. **Simranjeet Kaur Virk, Pinnacci Negi (2019)**- The paper “**An Overview of MSME Sector in India with Special Reference to the State of Uttarakhand**”,. performance of micro ,small and medium sector of India was highlighted by last annual report by government of India that is annual report of 2017 to 18 The study of observed that MSMEs have the potential to act as a catalyst of growth and does social crisis So observed that the Uttarakhand State should drive for MSME penetration across all the 13 district to ensure an overall development of the state Also the Uttrakhand government needs to provide adequate support to the MSME to develop to its full potential in the state **Dr. Megha Batola (Main Author)**,

**CA Bijaya Laxmi Thapliyal, Ms Neha Rani, Dr Ankur Singh Bist4 (2020)-** The paper “**Growth and Performance of Small and Medium Scale Enterprises in Women Entrepreneurship Development (A Case of Uttarakhand)**”, studied the impact of type of industry, age of entrepreneur and form of Organisation on women entrepreneurial development in Uttarakhand. The study basically included the small and medium scale women entrepreneurs of Uttarakhand from Dehradun, Haridwar, Nainital, Udham Singh Nagar and Haldwani and the sample size for the study comprises of 300 women entrepreneurs chosen according to stratified random sampling. Cross-sectional bivariate analysis was performed to determine the impact of various factors on the growth and performance of women entrepreneurship development. It was observed from the study that women are unaware of latest technological developments and market trends.

**Research Methodology**

The study area selected to accomplish the objectives of the paper is Uttarakhand and Rajasthan State.

**Sample and Data Type**

- In this study we have used secondary data due to time limitation from different sources.
- Descriptive in nature
- Quantitative study.

**Sources of Data**

- Industries Department Uttarakhand
- National sample survey organization
- PHD Chamber of commerce and industry
- Confederation of Indian Industry
- KVIC reports
- Directorate Of Industries

**Findings**

**Table 1: Number of MSME's Registered in Rajasthan and Uttarakhand**

Years	Micro		Small		Medium	
	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand
2015-16	29022	1337	4655	393	188	40
2016-17	89533	3485	11937	1132	448	103
2017-18	111190	4666	11231	951	359	69
2018-19	113144	7886	12404	1468	414	112
2019-20	153563	14988	18774	2011	548	148
2020-21	50971	7321	14722	1679	456	95

Source: Ministry of MSME, Government of India Report 2020-21

The above table shows the number of MSME's units registered from 2015-16 to 2020-21. It is quite evident from the table that before COVID-19 i.e. 2020, number of MSME's units were increasing over the years till 2019-20 both in Rajasthan and Uttarakhand, although MSME units were more in Rajasthan as compared to Uttarakhand. But, in 2020-21 i.e. after the outbreak of COVID-19, MSME units declined both in Rajasthan as well as Uttarakhand state. However, Rajasthan is still much ahead than Uttarakhand.

**Table 2: Total Employment in MSME in Rajasthan and Uttarakhand**

Years	Micro		Small		Medium	
	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand
2015-16	139439	6806	69127	8968	10717	4223
2016-17	365161	21420	184473	29583	37002	8743
2017-18	388859	20066	134657	22223	25313	7007
2018-19	411678	37571	143735	28391	25272	12222
2019-20	530333	56617	195461	33684	31108	10570
2020-21	202119	36671	150319	24286	2665	7172

Source: Ministry of MSME, Government of India Report 2020-21

The above table shows the total employment in MSME sector from 2015-16 to 2020-21. It is quite evident from the table that before COVID-19 i.e. 2020, total employment was increasing over the years till 2019-20 both in Rajasthan and Uttarakhand, although total employment was more in Rajasthan as compared to Uttarakhand. But, in 2020-21 i.e. after the outbreak of COVID-19, employment declined both in Rajasthan as well as Uttarakhand state. However, Rajasthan is still much ahead than Uttarakhand.

**Table 3: Male Registration in MSME in Rajasthan and Uttarakhand**

Years	Micro		Small		Medium	
	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand
	Male	Male	Male	Male	Male	Male
2015-16	1308	49	430	44	34	7
2016-17	13817	453	2235	231	104	27
2017-18	91252	3642	9496	785	324	66
2018-19	94969	5870	10667	1212	369	97
2019-20	129780	10089	16195	1718	483	127
2020-21	44246	6175	13325	1454	409	85

Source- Ministry of MSME, Government of India Report 2020-21

The above table shows the number of males registered in MSME sector from 2015-16 to 2020-21. It is quite evident from the table that before COVID-19 i.e. 2020, number of males who were registered in MSME sector were increasing over the years till 2019-20 both in Rajasthan and Uttarakhand, although males participation in MSME sector was more in Rajasthan as compared to Uttarakhand. But, in 2020-21 i.e. after the outbreak of COVID-19, males participation declined both in Rajasthan as well as Uttarakhand state. However, Rajasthan is still much ahead than Uttarakhand.

**Table 4: Female Registration in MSME in Rajasthan and Uttarakhand**

Years	Micro		Small		Medium	
	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand	Rajasthan	Uttarakhand
	Female	Female	Female	Female	Female	Female
2015-16	213	9	80	8	2	0
2016-17	3350	108	389	50	8	2
2017-18	19938	1024	1735	166	35	3
2018-19	18175	2016	1737	256	45	15
2019-20	23783	4899	2579	293	65	21
2020-21	6725	1146	1397	225	47	10

Source- Ministry of MSME, Government of India Report 2020-21

The above table shows the number of females registered in MSME sector from 2015-16 to 2020-21. It is quite evident from the table that before COVID-19 i.e. 2020, number of females who were registered in MSME sector were increasing over the years till 2019-20 both in Rajasthan and Uttarakhand, although females participation in MSME sector was more in Rajasthan as compared to Uttarakhand. But, in 2020-21 i.e. after the outbreak of COVID-19, females participation declined both in Rajasthan as well as Uttarakhand state. However, Rajasthan is still much ahead than Uttarakhand.

#### **Problems faced by MSME's in Uttarakhand and Rajasthan**

Uttarakhand has been facing some crucial problems since last few decades that are responsible for hindering the performance of khadi village institutions in the state. Some of them are mentioned below;

- There is a problem of effective marketing and selling in the state due to uneven geographical factors.
- Inadequate Infrastructure
- Lower technology levels
- The industries are heavily weighed down by the rules and regulation imposed on them. investment in the khadi and village sector
- Shortage of energy leading to high energy cost is also an issue.
- Problems of storage, designing, packaging and product display
- Youth of the state lacks in proper skill development and training.
- Lack of proper research and development is also an issue.

#### **Conclusion**

- MSME's are termed as the "engine of economic growth" of any country both developed and developing but specially developing countries. It's the panacea to alleviate poverty and also a proven way to improve the quality of life particularly for the poor people.

- MSME's have the potential to act as catalysts of growth and thus curb this societal crisis.
- From the study it is observed that COVID-19 has seriously affected the MSME sector in both the states as there was a sharp decline in number of MSME units registered, employment and gender-wise participation.
- The State should strive for MSME's penetration across all the thirteen districts to ensure an overall development of the state.

### **Recommendations**

- **Availability of Data**
  - There is no data which shows the percentage contribution of tourism on MSMEs, it should be made available
  - Data should be made available for the revenue generated from tourism.
- **Infrastructural development**
  - Investments in tourism infrastructure may include development of both tourism as well as civic infrastructure.

Also involves provision of tourist information bureaus and websites for providing requisite tourist information

- Efforts towards enhancement of overall transport infrastructure in the form of good quality roads, rail network, airports, availability of tourist vehicles etc. may also be strengthened in order to improve the overall infrastructure.
- There is less number of beds per million people. Steps should be taken to increase and improve accommodation facilities.
- **Human resource development**
  - Provision of additional training institutes, enhancing capacity of existing ones along with introduction of short term courses providing specific skills directed at hospitality and travel trade sector employees may be required for catering to the increased manpower and skill requirements.
  - Rural youth may be provided vocational training through special institutes to provide them employment opportunities.
- **Marketing Programs**
  - Collaborative marketing efforts may be required for promotions. Focused branding and promotional campaigns may be designed.
  - Involvement of local travel trade partners may be encouraged.
  - Trips to involved destinations, informative sessions, financial support and incentives may be provided.

- A greater number of domestic tourism events and road shows may be organized in order to offset seasonality of tourist inflow. Events may be based on innovative themes of music, dance, sports, food, fruits, handicrafts, Indian culture and traditions, Indian villages, festivals etc.

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## **Boost in e-Commerce before and during Covid-19: An Overview**

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Ankita Jaiswal<sup>\*</sup>  
Richa Gupta<sup>\*\*</sup>  
Mriganka Tripathi<sup>\*\*\*</sup>

### **Introduction**

The advent of COVID-19 has impacted the human life in number of ways. Among other repercussions of the pandemic, social and physical interactions at the global level have been vastly rammed. Isolation at personal level and social distancing among masses in various nation has accelerated digital awareness and transformation.

India by 2025 is expected to witness a surge of 278million internet users making it a total of 900 million from 622 million in 2020, concluded by a report published by IAMAI and Kantor Research growing at a CAGR of 45% until the former. As per the report, 9 out of 10 persons are active internet users fetching an approximate 107 minute of their 24 hours on internet.

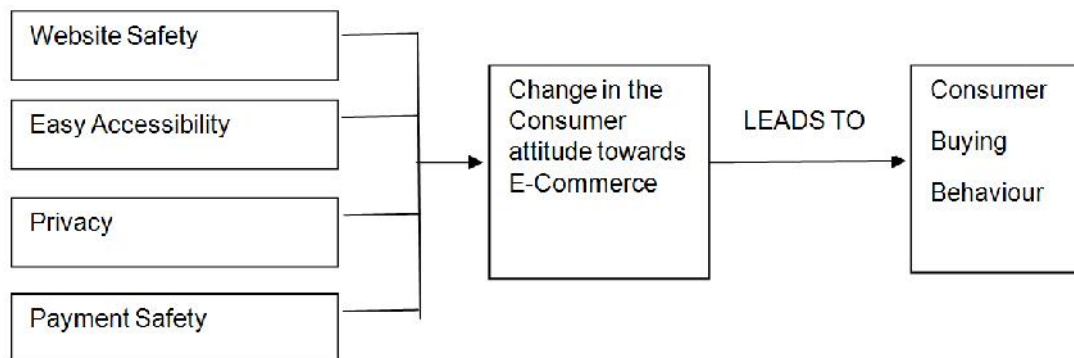
This study is undertaken to examine the influence of COVID-19 pandemic in changing consumer behavior towards various approaches of E-Commerce. Variable used in this study depended on various drivers of customer behavior change including easy payment, fast delivery, distance proximity, time saving and privacy relating to which the conceptual framework is given below:

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## Literature Review

### e-Commerce

**Sahana Dinesh et al., (January,2021)** in the research paper titled “**Scalability of E-Commerce in the COVID-19 Era**” focuses on the shift of consumers towards E-Commerce during the pandemic. The Indian markets have a large scope for the growth of online businesses in the view of the fact that people are more inclined towards buying products from home considering it as the ‘new normal’.

**Dr. Kishore Kumar Das et al., (July,2015)** in the paper titled “**Growth of E-Commerce in India**” have given broad outlook on how various factors resulted in the growth of E-Commerce in India. One of the major factors in this growing trend is due to the rapid increase in the internet user in urban as well as rural parts of the country. The paper studies how E-Commerce can be taken to new horizons in the future of the India business market.

**Mr. Harjot Kaur et al., (April,2015)** also elaborated on the various possibilities in for E-Commerce in India in his paper titled “**E-Commerce in India – Challenges and Prospects**” the study highlights the challenges that can act as barriers to the effectiveness of the E-Commerce in the market. These challenges include are related to security in the doing the business through online services, lack of awareness among the consumers due to lesser knowledge about internet and the accessibility of internet, the targeted audience which is sitting at home is hard to reach. The paper also lookout the crucial factors studying the consumer desires towards E-Commerce which includes ease to the consumers provided by making the product available at their doorsteps by providing various payment methods.

### Covid-19

**Ms. K. Susmitha (February,2021)** presented an analysis on how the Novel Coronavirus influenced the online services market in India in the paper titled “**Impact of COVID-19 on E-Commerce**”. The paper traced how the various factors dragged the consumer towards the online services available to them amid lockdown period. The paper also studies the different factors highlighting the benefits consumers can avail while using online services such as getting large number of preferences, readiness of the product by 24\*7 with the best and suitable prices. **Komal Sharma**



(December,2020) discussed in the paper titled “**A Surge in E-Commerce Market in India After COVID-19 Pandemic**” studied that by the pandemic hitting the world the E-Commerce and its services got a boom of 17% in the market that to comparing with 2019. The surge is showing in every service of E-Commerce being fashion, home living, FMCG etc.

### **Consumer Behaviour**

**Veeragandham el. at., (September,2020)** presented in the paper titled “**Consumer Buying Behaviour towards E-Commerce during COVID-19**” a radical shift can be seen in the purchasing practices of the consumers from traditional markets to online services. The tremendous shift with 46% of people preferring online services amid lockdowns have also shown a substantial growth from companies mainly Amazon & Flipkart in India. By the availability of options like cash on delivery the services are resulted in a hustle free working of the people in the serve situation. **Bhatti el. at., (2020)** discussed in the paper titled “**E-Commerce trends during COVID-19 Pandemic**” that with the hike in the use of internet among the people E-Commerce grew significantly. **Javadi el at., (September,2012)** researched in the paper titled “**An Analysis of Factors Affecting on Online Shopping Behavior of Consumers**” that E-shopping can gain popularity among the consumers on the basis of the suggestions provided by the known persons. Also the suggestions are made by the keeping in mind the financial security involved while doing the transactions. **Corbitt el. at., (2003)** in the paper titled “**Trust and E-Commerce: a study of consumer perceptions**” studied that how with the advent use of internet, consumer is becoming a friend of E-Commerce by developing a trust relation.

### **Online Services**

**Sanjeev Gajanan Raikar el. at., (August,2012)** in the research titled “**A Study of Influence of Information, System and Service Quality on the Success of E-Ticket Booking Firms in India**” shows a positive inclination of consumers towards e-booking due to the quality in service, notification facilities, lower prices and information which provides consumers with the satisfaction while booking the tickets. **Arpita Khare el at., (2012)** in the research work titled “**Customer behavior toward online insurance services in India**” while working with online services related to banking and insurance sectors people’s trend are changing by being more inclined towards them but there is still a large scope for the improvement as the sense of security is still lacking. **Deepshikha Aggarwal (February,2009)** in the paper title “**Role of E-Learning in a Developing Country Like India**” presented that E-learning has been adopted in a lesser number being a contemporary concept. The process can observe a growth in the nearer future as more students at universities level are inclined towards E-learning. The pace will shoot up in the coming future by the elimination of barrier i.e., physical touch.

### Research Objectives

- To examine the boost in E-Commerce before and during COVID-19.
- To analyze the factors affecting the use of E-Commerce.
- To understand and examine the consumer behavior towards E-Commerce.

### Research Methodology

This study represents the “**Boost in e-Commerce Before and During COVID-19: An Overview**” which aims to assess the E-Commerce status as well as its consumer’s perception. The research also describes the factors which affect the consumers to interact with E-Commerce. The study is based on both primary and secondary data. The secondary data is collected from various research papers, magazines, reports published etc., whereas the primary data is collected through questionnaire provided to the target audience which includes students from various universities in the age bracket of 16-25 years. The cumulative responses are 283 out of the total sample size of 300. The data is collected through online questionnaire and has been sorted, classified and edited for analysis in proper format.

### Analysis and Interpretation

The conclusion derived from the entire study is based on the primary data collected. The following tables and graphs represent the consumer responses about the E-Commerce, COVID-19 and the factor which affects consumers and their buying behaviour. Also, it shows E-Commerce services and products which are mostly preferred by the consumers. The actual consumer behaviour can be seen through following tables:

#### Socio-Demographic Factors

S. No.	Demographic factors	Frequency	Percentage
I.	Female	125	44.2
	Male	158	55.8
II.	16to18 years	78	27.6
	19 to 21 years	169	59.7
	21 to 23years	23	8.1
	23 to 25 years	13	4.6

Primary Source

As seen from the table above, the men and the women are almost at par with each other in terms of awareness of E-Commerce. 55.8% of the former and 44.2% of the latter has responded in the questionnaire which included questions based on online services and its products.

### Factors Influence Consumer Buying Behaviour

S. No.	1.	2.	3.	4.	5.
Factors & Value É	Time saving	Distance	Fast delivery	Privacy	Discount
Strongly Agree	111	121	59	68	60
Agree	124	120	117	121	114
Neutral	36	33	94	67	81
Disagree	9	9	12	16	24
Strongly Disagree	3	0	1	11	4
<b>Total Responses</b>	283	283	283	283	283

Primary Source

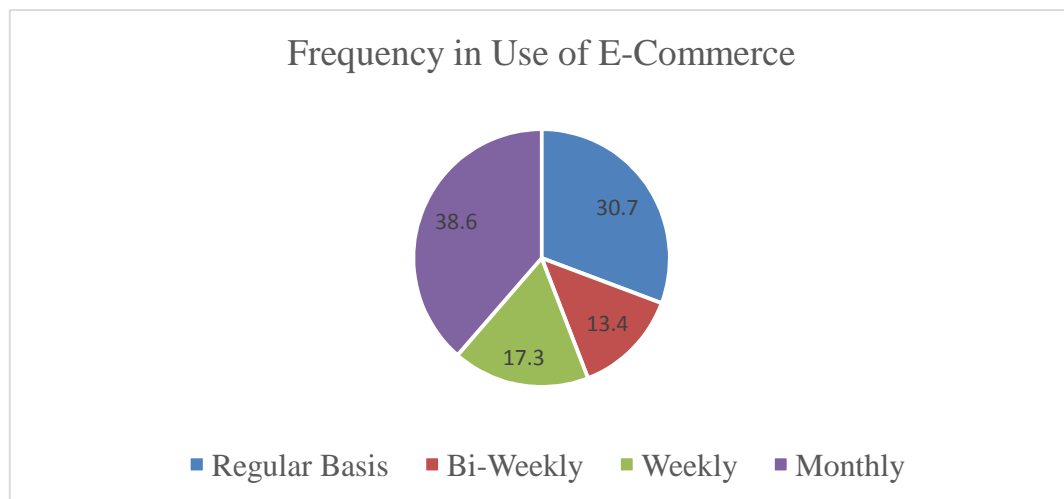
We all know that various factors affect the consumer buying behaviour; the above table represents the various factors that affect the buying behaviour. Consumer strongly agree with the factors i.e., time saving and distance plays a vital role in influencing their behaviour.

### E-Commerce Factors Affecting the Consumers

S. No.	Factors	Options	Frequency	Percentage
I.	Are you aware about E-Commerce like online shopping, educational app etc.	Yes	279	98.6
		No	4	1.4
II.	When you have started using E-Commerce platforms.	Before covid-19	220	77.7
		During covid-19	63	22.3
III.	Is it easy to understand (E-Commerce)	yes	264	95.3
		no	13	4.7
IV	Are you Satisfied with the E-Commerce Services?	Yes	277	97.9
		No	6	2.1

Primary Source

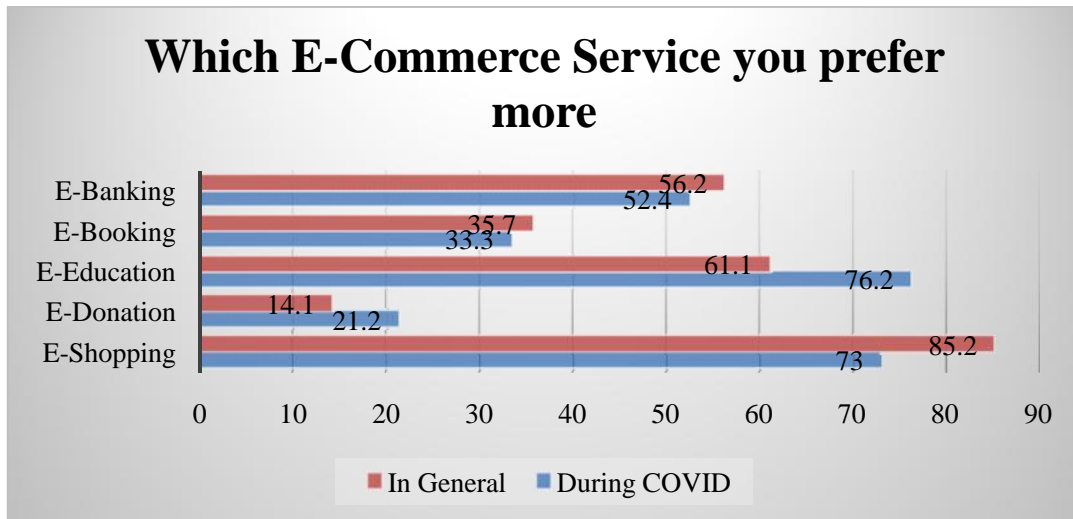
### Frequency in use of e-Commerce



Primary Source

The above pie-chart represents the responses of the consumers about the frequency in the use of E-Commerce. Out of 283 most of the consumers are using E-Commerce on monthly basis i.e., approx. 38.6%. Apart from this 30.7% consumer prefer to use E-Commerce on regular basis; thus  $H_6$  was accepted.

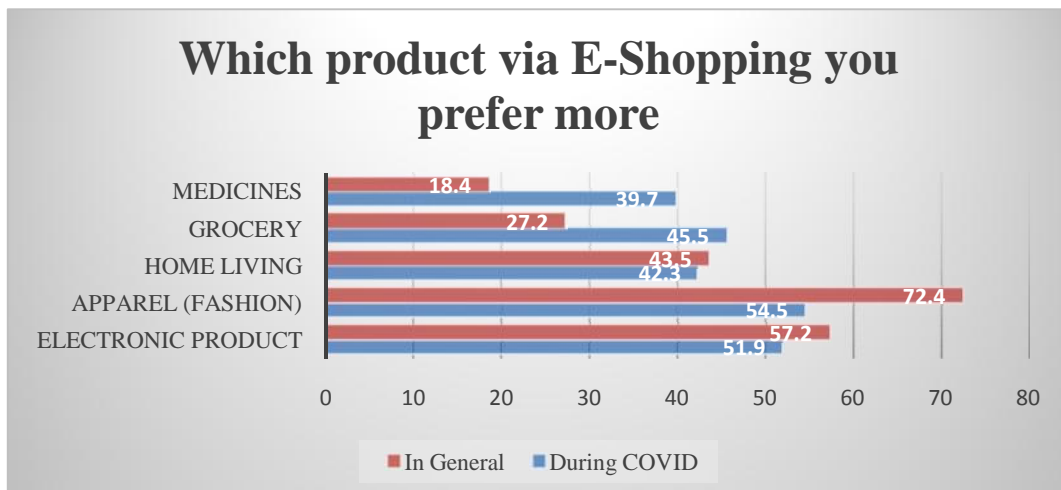
**E-Commerce services Preferred by the Consumer**



Primary Source

The bar graph shows the E-Commerce services which are mostly preferred by the consumers. Various service-based questions were included in the questionnaire wherein after analysis E-education was preferred during COVID-19 and E-shopping was preferred otherwise.

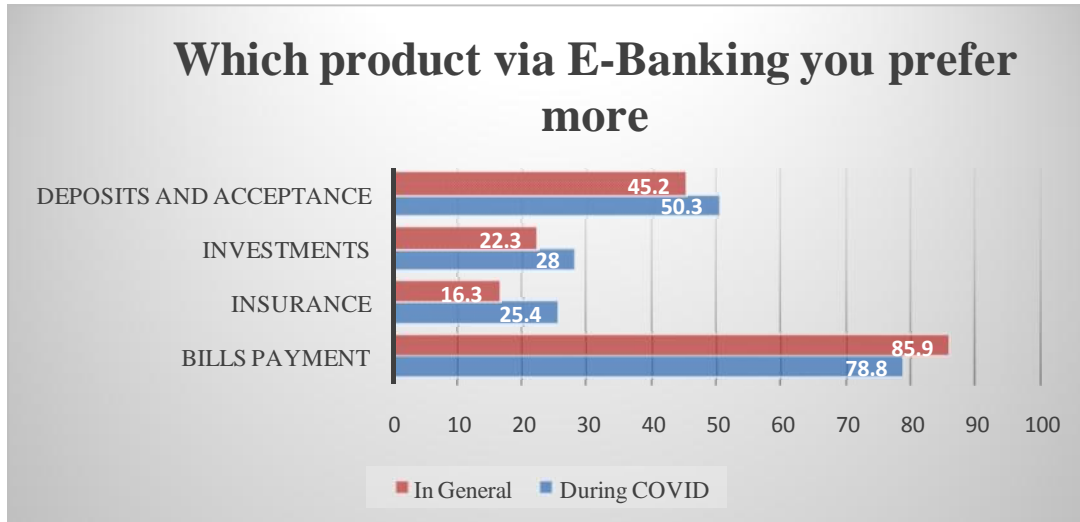
**Mostly Preferred E-shopping Products**



Primary Source

The vertical axis of the bar graph represents various products related to E-Shopping. We have included preferences in general and during COVID-19. In general Apparel (Fashion) category has outperformed other categories marginally with 72.4% whereas Medicinal purchases has increased more than two-fold from 18.4% to 39.7% during COVID.

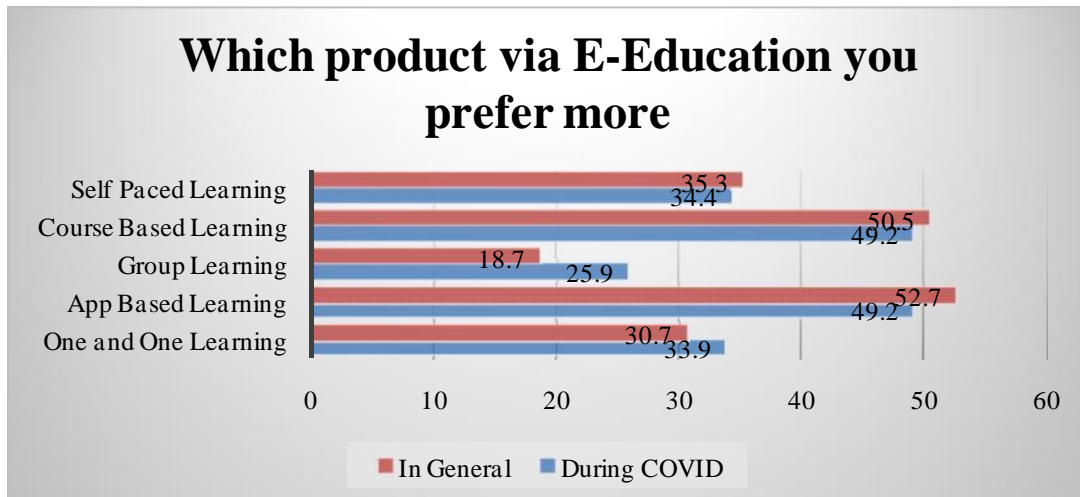
**E- Banking Products Preferred More**



Primary Source

The above graph considers four sub-categories in E-Banking services wherein Bill Payments has outshined any other sub-category marginally during COVID and otherwise.

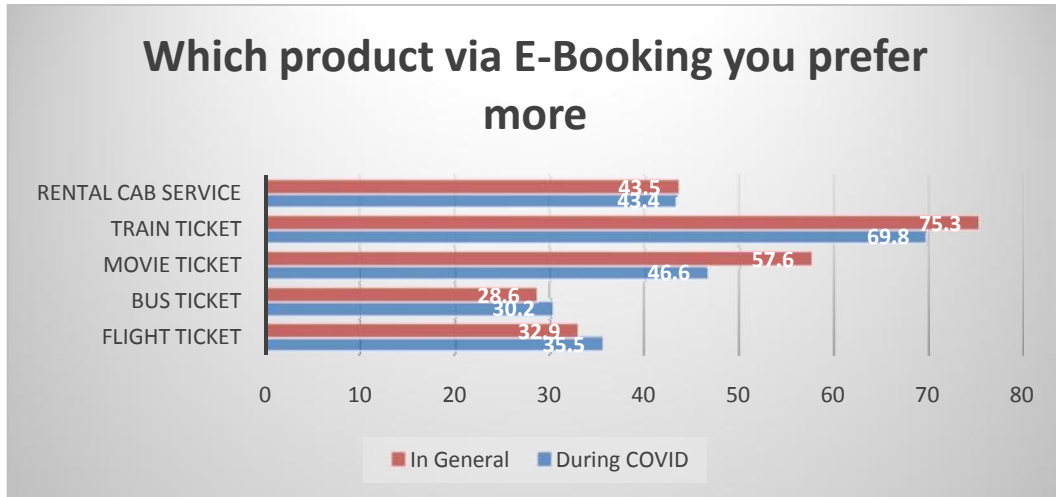
**Preference Relating to e-Education Products**



Primary Source

The study identifies that the consumer preferences about E-Education product is almost similar in general and during COVID where most of the consumers preferred App Based Learning. Group Based Learning has shown positive growth during COVID.

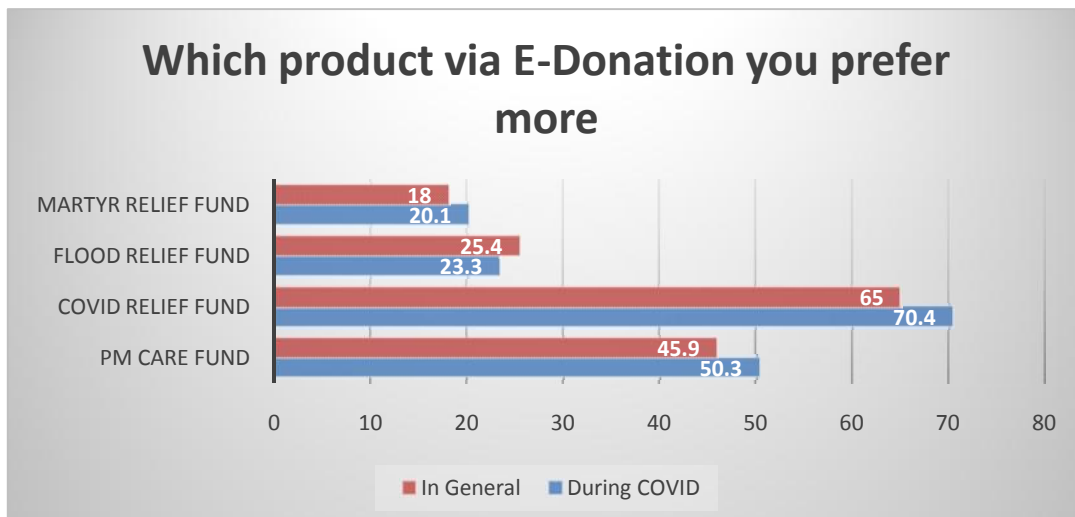
**Highly Preferred E- Booking Product**



Primary Source

We all know that E-booking facility is the most essential service provided by government or other private institutions. Majority of the consumers prefer booking of train tickets during COVID and in general. We can also conclude that E-booking services are highly preferred by the consumers during COVID.

**Preference among e-Donation Products**



Primary Source

In the given chart, majority of the consumer via E-donation opted for Covid Relief Fund and PM Cares fund.

### **Conclusion**

The trend of E-Commerce has significantly grown in past few years especially in a country like India where the technology is changing with such a magnificent rate. Now a day's consumer is allured by the "new normal" amid pandemic. E-Commerce have seen growth in past few years also but the quantum of boost is noticeable during the pandemic as there was the restriction in the movement due to various lockdowns. As the study is dependent on the students, it shows that the awareness about E-Commerce among the consumer was there pre COVID as well. The study also shows how E-learning platform was the most preferred service during the pandemic as students were dependent on them amid lockdown. The bill payment modewas made easier as the movement of people were restricted during pandemic. More importantly the booking services of E-Commerce took a hike as they were the only option for the consumer to avail the product like train travelling or bus booking. Thus, the research shows the positive growth in the E-Commerce in the Indian market as more and more consumers are moving towards the use of E-Commerce creating a boost in the sector.

### **Scope for the Future Research**

The research is restricted to a particular age group of 16-25 years, which majorly includes students who are studying in the various universities. The upper or the lower limits of the age can be preferred by the future researchers for the boarder research in the area.

The study is limited to Northern and Middle parts of the India to analyze the boost in E-Commerce. Future researchers can maximize the scope in the area of their study.

The services included in the questionnaire for the collection of data were mainly focusing on shopping, learning, education, booking and donation. The other services like E-governance, social media etc., can be included for the further research.

The factors taken into consideration that affects the buying behaviour of the consumer were limited. More factors relating to consumer behaviour can be taken by the future researchers.

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## **A Geo-Critical Anecdote Regarding the Panorama of Residential Glorification within the City of Joy: An Enigma to the Regional Planners**

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Dr. Ayan Das Gupta\*

### **Introduction**

Currently Rameswara, Ekta, Siddha, Mani and Purti groups have turned up in north Kolkata with some tantalizing Housing Estates and their projects are also multiplying in a remarkably faster pace in East Kolkata. Merlin, Natural, Orbit and Pasari Group are constructing Sky-scrappers exclusively for North Kolkata. So extremely congested north Kolkata is getting gorgeous day by day and its shabby environs will be alleviated much more in near future through the introduction of modern Developers' proud activities. Commercial renewal is also of considerable demand amongst the city-dwellers of all over Kolkata. In order to meet the demands and requirements of Metro-lifestyle of the 'Calcuttans', several commercial projects have been launched in south Kolkata and those projects are running there with great aura and excellence. In some portions of Central Kolkata also, the upcoming and persisting residential as well as commercial projects are drawing attention of the inhabitants of entire city. South-city mall, E-mall, Metro Plaza, Shree Ram Arcade, Marlin Homeland, Forum Courtyard, Mani Square Mall, Silver Arcade, Enclave Mall etc. are now expressing the pride and glory of the city itself and these commercial places have become the centres of almost regular visit for the elite class people of Kolkata (Bhattacharya, 1998).

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### **Role of KMDA and JNNURM in Residential and Commercial Renewal**

The Kolkata Metropolitan Development Authority (KMDA) had been established under West Bengal Town and Country (Planning and Development) Act, 1979 with the aim of facilitating development and planning in the Kolkata Metropolitan Area (KMA). KMDA has been taking Kolkata ahead by bringing about various advancements such as industrial area growth, increase in retail markets, IT sector boom, new townships, and so on and these are contributing a lot to commercial and residential renovation and glorification of KMC and its adjacent areas. There has been significant improvement in waste management, water supply, and drainage management in KMC by the direct initiative of KMDA and these modern efforts are all facilitating the rejuvenation of Kolkata city. The Kolkata Metropolitan Planning Committee (KMPC) is structuring different commensurate plans and programmes so that the Urban renewal programme of the city gets intensified. Expert social scientists, high-profile engineers, architects and planners at KMDA have been working on various developmental projects with regard to land use modification, physical infrastructural improvisation, upgradation of healthcare facilities and decoration of living environment and all these efforts are pleading strongly for holistic residential and commercial renewal of Kolkata (Bhole, 1988). In its endeavor to reach out to a wider section of KMC people, the KMDA has developed very expensive infrastructural framework. The major “KMDA projects” which are including KMC also along with Howrah Municipal Corporation and Chandernagore Municipal Corporation are given below:

- **Real Estate:** Sourav Abasan, GL Block Housing Complex, Baishnabghata-Patuli Township Project, Ashabari Housing Complex, Purba Housing, Dakshini Housing Complex, and Valmiki Ambedkar Awas Yojana projects (VAMBAY) are eye-catchers in residential development realm. Commercial estates are Dakshineshwar Arcade, South-end Conclave, and Riverfront development for Sri Sarada Math (Dakshineshwar).
- **Infrastructure Projects:** Sewerage, Drainage and Sanitation projects like Maniktala Sewerage and Drainage Project, Tollygunge Sewerage and Drainage development project, Drainage Basin Improvement Projects with special reference to Cossipore-Chitpur Drainage are mentionable in this particular premise. Transportation projects like the very recently completed Chingrighata flyover, Grand Foreshore Road, and Lake Gardens Flyover are noticeable.
- **Public Private Partnership Projects:** Hiland Park (Baghajatin), Riverbank Holdings Private Limited, City Center projects are praiseworthy.
- **Special Projects:** Kolkata Slum Improvement Program (KSIP), Bustee Improvement Programme (BIP), Refugee Colony Development Project (RCDP), India Population Project (IPP) are a few such projects adding flavour and flair to the renewal mission in Kolkata.

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) has been working since 2005 in collaboration with KMC and KMDA for the purpose of urban development and planning efficacy. Kolkata Metropolitan Development Authority has been working since 2006 on various development schemes. Land Use Maps and Registers (LUMR), and Land use Development Control Plans (LUDCP) are beneficial for renewal in Kolkata. The Statutory Planning Unit of KMDA takes up activities such as depositary works of different Government departments in Kolkata, planning townships, residential and commercial projects and so on and so forth. Kolkata Metropolitan Development Authority has also made a profound impact in developing conspicuously the oldest metropolis in India and has given also it a more modern and brighter outlook, thereby making Kolkata one of the most sought-after cities in India. But the efforts of JNNURM for residential renewal in Kolkata are basically confined to the structuring and development of housing for slum dwellers and also for the people residing in urban shanties of KMC. On the other side, the full credit for construction of sky-scrappers and gigantic commercial projects goes to the private developers and here the contribution of Government is really meager.

#### **Development of Real Estates in Kolkata**

Real estate in its true sense means actually the Property consisting of land and the pre-constructed or dilapidated buildings on it, along with its all-natural endowments and an interest vested in this also. In narrow sense, buildings or housings in general are regarded as real estate. The residential glorification in Kolkata is basically getting accomplished through real estate development by Public and Private Ventures. Development of real estates and residential glorification of the city-these two terminologies are nowadays getting applied synonymously in urban literature by different established urban planners or engineers. The development of real estates has taken place in KMC through the construction and renovation of the flats and apartments but apart from apartments, there are some other types of constructions to be found in Kolkata and those are as follows:

- Housing cooperatives or cooperative livings.
- Affordable housings.
- Co-housing community building and
- Social Housing.

#### **Construction of Apartments and Flats**

An apartment or flat is a self-contained housing unit (a type of residential real estate) that occupies only part of a building. Such a building are called in Kolkata as an *apartment building* or *apartment house*, *block of flats*, *tower block*, *high-rise* or occasionally *mansion block*, especially if it consists of many apartments for rent.

Apartments may be owned fully or given to an *occupied* by leasehold tenure or rented by *tenants*. All these types are very common for South Kolkata.

### **Different types of Apartments Structure in Kolkata**

As recently the real estate projects all over Kolkata, have attracted lots of people from the outskirts areas of the city, therefore the developers are trying their level best to structure miscellaneous types of flats and apartments there, depending on the manifold needs and demands of the customers. In Kasba, Jadavpur, Regent Park, Thakurpukur and Garia, a good number of residential projects have been launched in last few years and in most of the major projects, the architects have planned for some special types of flats for specific groups of customers. The main typologies of apartments constructed in last two decades in Kolkata incorporate the followings.

#### **Studio Apartment**

Recently in Kolkata, the famous apartments are the studio or bachelor apartments. These all tend to be the smallest apartments with the cheapest rents or low cost of purchase in a given area. This kind of apartment usually consists mainly of a large room which is the living cum dining and bedroom combined. There are usually kitchen facilities as part of this central room, but the bathroom is completely a separate and smaller room. Some newly married couples are also found in south Kolkata, buying these types of flats in comparatively cheap rates. Moving up from the bachelors' are one-bedroom apartments, in which one bedroom is separate from the rest of the apartment. Then there are two-bedroom, three-bedroom etc. apartments (apartments with more than three bedrooms are extremely rare). Small apartments often have only one entrance on the other hand; the big ones are always bi-entrance (perhaps a door in the front and another in the back). Depending on the building design, the entrance doors may be directly to the outside or to a common area inside, such as a hallway. Depending on location, apartments may be available for rent furnished with furniture or unfurnished/semi furnished into which a tenant moves in with their own furniture. In Naktala, Kendua, Laxminarayan Colony, Baishnabghata, Ramgarh, Rabindra Pally and Asoka Trust areas of South Kolkata, the bachelor apartments are envisaged in good numbers.

#### **Garden Apartment**

A garden apartment complex consists of low-rise apartment buildings built with landscaped grounds surrounding them. The apartment buildings are often arranged around courtyards that are open at one end. A garden apartment has some characteristics of a townhouse: each apartment has its own building entrance, or just a few apartments share a small foyer or stairwell at each building entrance. Unlike a townhouse, each apartment occupies only one level. Modern garden apartment buildings are almost never more than four stories high, since they typically don't have

elevators. Some garden apartment buildings place a one-car garage under each apartment. The grounds are more landscaped than for other modestly scaled apartments. The implication is that there is a view or direct access to a garden from the apartment, but this is not necessarily the case. Due to the need for resisting earthquakes at a low building cost, these low rise apartments are sometimes built up of wooden frames with thin plaster-board based interior dry wall. In Charak Avenue, Kalikapur, Santoshpur, Baidya Para, Vivekananda Sarani, Garfa, Padmashree and Ganguly Bagan areas, this type of apartment is found in a few numbers.

### **Secondary Suite**

When a part of a flat is converted for the ostensible use of a landlord's family member, the unit may be known as an *in-law* apartment or *granny flat*, though these created units are often occupied in Kolkata by ordinary renters rather than family members. In Naba Pally, Prantik Pally, Rajdanga, Sarat Park area of south-east Kolkata, this type of suit is found to be very common.

### **Maisonette**

Maisonette is a large multi-storey apartment located in a big apartment complex. The usual layout is here combined kitchen and dining room with a big arch, living space and accessories in a big cubicle, several bedrooms and a second bathroom also. The Maisonette is always to combine the advantages of living in apartment and house. First, it is separated private part of the apartment (bedroom) from the so-called social. Duplex apartment often provides beautiful views, with large windows and often the terrace. Another advantage is the peace of mind beyond the reach of ground noise. In Netaji Nagar, Mukundapur, Ajay Nagar, Kalikapur, Rajapur-Krishak Pally areas Maisonette are found in large number. Especially in Kalikapur, along both sides of the main road, these types of apartment have been constructed by high-profile developers. Most of the Maisonette has been purchased there by the non-residential Indians and they generally give their flats to the renters and collect high amount of monthly rent from them through some middle-men.

### **Advantages of Apartments**

People have been attracted recently to the apartments because of so many advantages provided by these types of residential complexes and those advantages are enlisted below.

#### **High Security**

Some apartment buildings have high levels of security. For example, to enter a high-security building, a person must validate their smartcard at the main entrance. In some apartments, while at the lift, the smartcard is used again to be able to press the button for lift access. Finally, the person walks to their apartment and uses their key to unlock the entrance door. This 2 or 3-tier security in most cases, prevent home invasions and theft. Some buildings may have a doorman to guard the premises.

Many middle and upper-tier apartments have video phones, close circuit camera whereby residents can see and verify who is at the main entrance before allowing access to the building. In Unnayan, Udit, Avishikta and Avishar Apartments on bypass and Kalikapur main-road, all these aforesaid facilities are present.

### **Convenience**

Owning or renting an apartment is also more convenient than owning a total house as the general maintenance and landscaping is taken care of fully by the owner there. Here a certain amount of monthly maintenance cost only has to be paid by each owner on the basis of which various funds are generated and at the time of various needs, money is disbursed from the central maintenance fund.

### **Real Estate Investment**

The total cost for the construction of an apartment is much less than the cost invested in the construction of a single house. When the cost of a single unit in the apartment is compared to a single house of the same dimension, the difference in cost is very large. The cost of land is shared by all the owners of the apartment. But the price at which the flats are sold is not exactly proportional to the difference, but the real estator makes a big share of profits because the price at which the flats are sold are almost equal to the price of the houses in specific areas of the city. In this way apartment construction is an advantage to the real estator.

### **Disposable Income**

In Kolkata, dwelling and renting through non-profit housing co-operatives is commonplace. Apartment users are allowed to modify the interior of the apartment to suit their wishes. Often the extended families have a shared holiday house in the city-core. The investment in real estate for a family is reduced leading to greater disposable income for better quality of life.

### **Disadvantages**

Dwelling in different types of apartments is not always rosy and in some cases, there are some disadvantages also that are furnished below.

### **Energy Use**

Buildings between 4 and 7 stories have a lower energy footprint per m<sup>2</sup> than do high-rises greater than 7 stories. There seems to be a tradeoff with many other variables in a life cycle analysis, which would suggest that 7 stories (around fifty dwelling units per hectare for optimum transport petroleum use) is the optimum density in A1 urban areas, the city of Kolkata being an example. Buildings not requiring lifts (around 4 floors), though it could be five with a final two storey apartment (maisonette) that are normally more energy efficient.

**Climate Factors**

High-rise buildings cast a significant shadow over nearby buildings, reducing solar energy harvesting. They also cast shadows over public spaces, reducing their amenity value, and these spaces are a very valuable resource in mid and high-density cities. Wind turbulence can also be a significant problem at ground level if scientific design-provisions are not made. The prevailing cooling breezes in summer can be disrupted for nearby buildings also (Chatterjee and Bhattacharya 1999).

**Big-shot Residential Projects/Apartments of South Kolkata**

With growing demand for residential complexes in the city of Kolkata, the developers have been amalgamated in this city to construct different big-shot projects that can give permanent shelter to a good number of high and middle-class people. Actually due to extreme space-scarcity and escalating population-pressure, the horizontal expansion has become completely stopped and therefore the vertical expansion is the one and only way to salvage the burning urban problems (with reference to housing) of the city. Here in a tabular format, the most popular and big-shot housing projects of Kolkata along with their location are mentioned and also the developer groups who have built-up these glorious residencies are enlisted below.

**Table 1: Some Big-Shot Residential Projects of South Kolkata**

<b>Developers</b>	<b>Projects</b>	<b>Location</b>
Belani Group	Moore Heights	Moore Avenue, Tollygunge
Bengal Greenfield and Srijan	Sunrise Junction	Behala, Shibrampur
Diamond Group	Diamond City West	Behala Chow Rasta
Diamond Group	Diamond City West	Tollygunge
Dream Developers Pvt. Ltd.	Dream Arcadia	Garia
Dream Developers Pvt. Ltd	Dream Park	Garia
Eden Group	Eden Tolly Signature	Tollygunge Metro
Eden Group	Eden Tolly Greenwood	Tollygunge Metro
Eden Group	Eden Tolly Lakeside	Tollygunge Metro
Eden Group	Eden Brookside	Thakurpukur
Eden Group	Eden Exotica	E.M.Bypass
Eden Group	Eden Pearls	E.M.Bypass
Eden Group	Eden Serenity	E.M.Bypass
Eden Group	Eden Ixora	E.M.Bypass
Eden Group	Eden Majestic	E.M.Bypass
Eden Group	Eden Harmony	E.M.Bypass
Eden Group	Eden Lavender	E.M.Bypass
Eden Group	Eden Sapphire	E.M.Bypass
Eden Group	Eden Cedar	E.M.Bypass



Ideal Group	Ideal Lakeview	Behind Science City
Ideal Group	Ideal Regency	Ironside Road
Larica Estates	Larica Tolly	Haridevpur
Mayfair villa Pvt. Ltd.	Mayfair Palms	Malancha Mohitnagar
Mayfair villa Pvt. Ltd.	Mayfair Venus-II	SN Ghosh Avenue
Mayfair villa Pvt. Ltd.	Mayfair Venus-III	SN Ghosh Avenue
Merlin Projects	Merlin Cambridge	Prince Anwar Shah Road
Merlin Projects	Merlin Jabakusum	SN Roy Road
Merlin Projects	Merlin Trinoyoni	Sarsuna – Behala
Merlin Projects	Merlin Jasmine	Chandranath Chatterjee Street
Merlin Projects	Merlin Vasundhara	Sealpara, Behala
Orbit Group	Orbit Sky Garden	Ballygunge
Orbit Group	Orbit Anveshan	Block-B, New Alipore
Orbit Group	Orbit Sankar	Block-G, New Alipore
Orbit Group	Orbit Royale	Alipore
Orbit Group	Orbit Crystal	Alipore
Orbit Group	Orbit Abinash	James Long Sarani
Paharpur Cooling Towers	Genexx Valley	Thakurpukur
Pasari Group	Roopkatha	Prantik Pally, Near R.B.Comector
Purti Group	Purti Colors	Behala
Purti Group	Purti Perch	New Alipore
SGIL	SGIL Gardenia	Padmashree-Raipur, Rathtala, Garia
SGIL	Diamond Residency	Behala Chowrasta
Siddha Group	Siddha Lovelock	Lovelock Place, Ballygunge

Source: KMDA

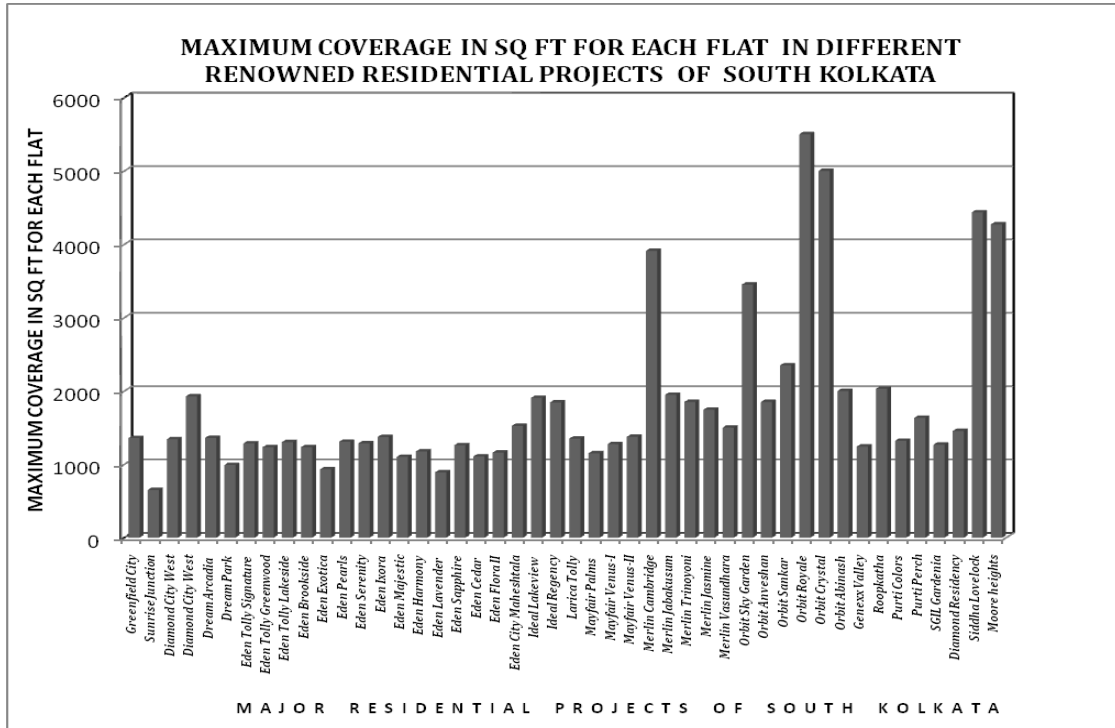
### Coverage in Sq.ft for each Flat

Eden Group, Marlin Group and orbit Group have constructed most of the big-shot housing projects in south Kolkata and the projects are basically concentrated in E.M.Bypass, New Alipore, Behala, Prince Anwar Shah Road and Thakurpukur. On the basis of total coverage in Sq.ft per flat in these big-shot housings, the following cartogram has been drawn. For the projects like Orbit Royale, Orbit Crystal and Merlin Cambridge, the coverage is very high and ranging between (4000 to 5500) Sq.ft whereas it is lowest for Eden Lavender, Eden Erotica and Sunrise Junction.

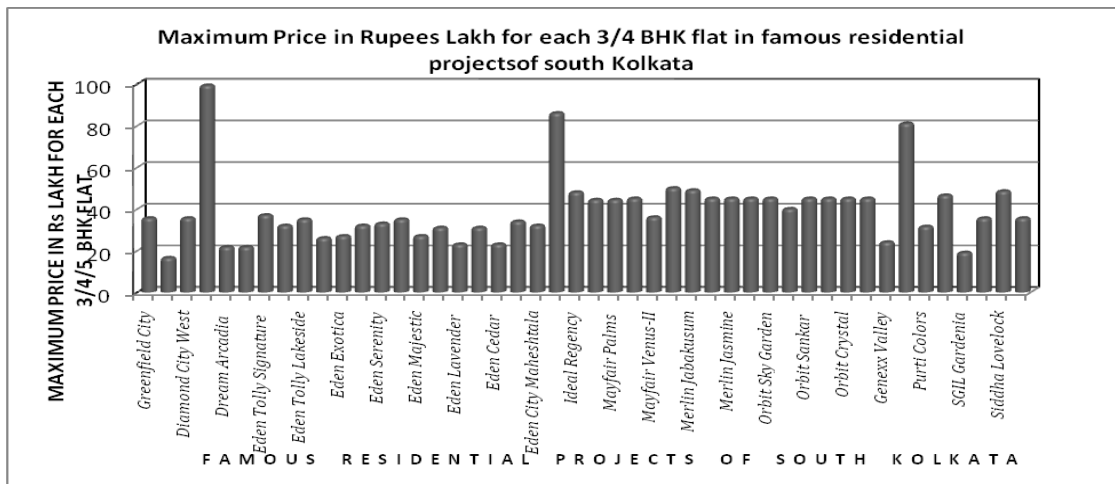
### Price-Limits per Flat for the Projects

The accompanying diagram is showing maximum price in lakh rupees for each 3/4 BHK flat in the renowned housing projects of south Kolkata. From the cartogram, it is depicted that the highest price is for the flats belonging to the housing projects like Diamond City West, Roopkatha and Ideal Lake View whereas the lowest price limit is for the flats belonging to the housing projects like Sunrise Project, Dream Arcadia, and Eden Flora –II etc.

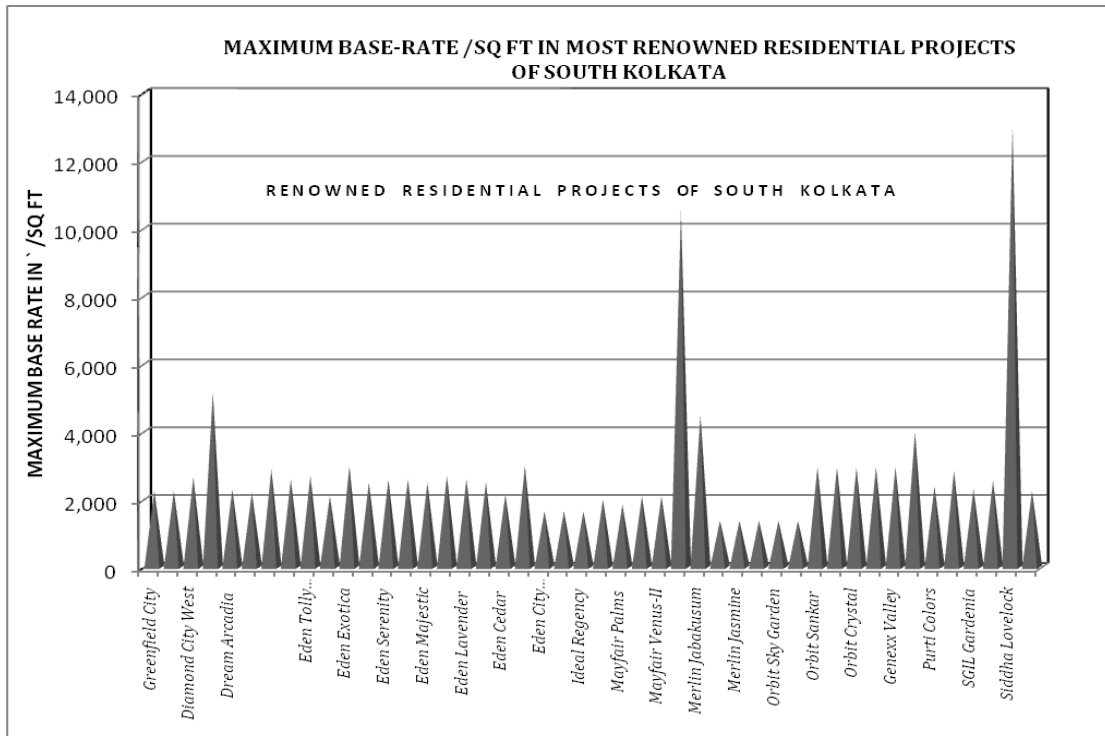
Base-rate denotes the maximum amount of price payable for each square feet in various housing projects and here the maximum base-rate is to be payable for the projects like Merlin Cambridge and Siddha Lovelock whereas it is lowest for Merlin Vasundhara, Merlin Jasmine, Marlin Garden etc.



**Fig. 1**  
Data Source: - KMDA

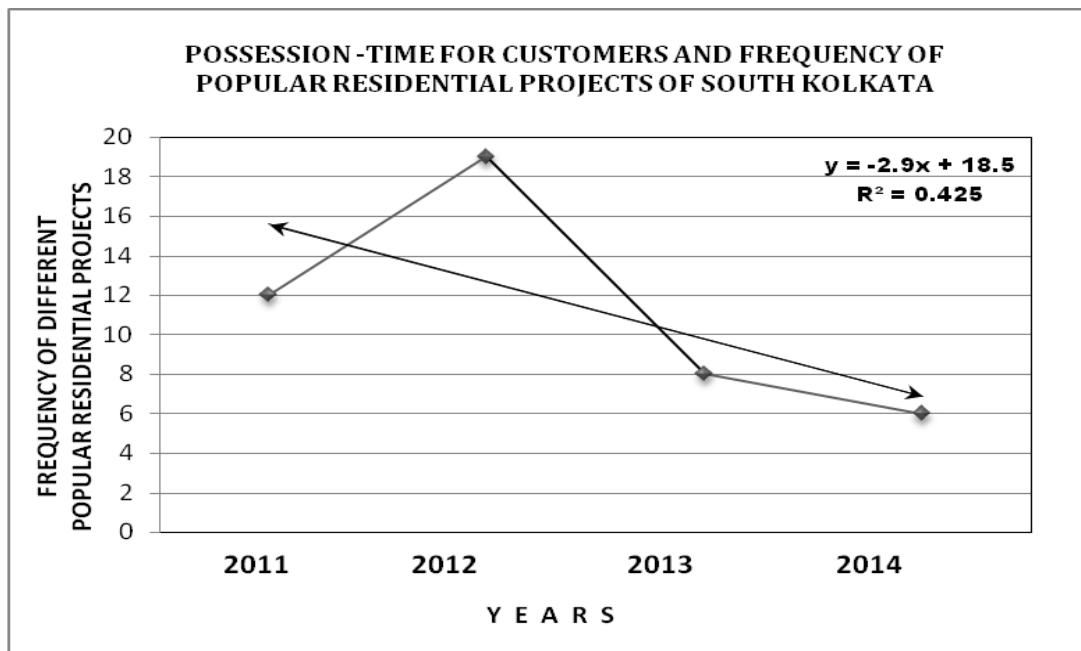


**Fig. 2**  
Data Source: - KMDA



**Fig. 3**

Data Source:-KMDA



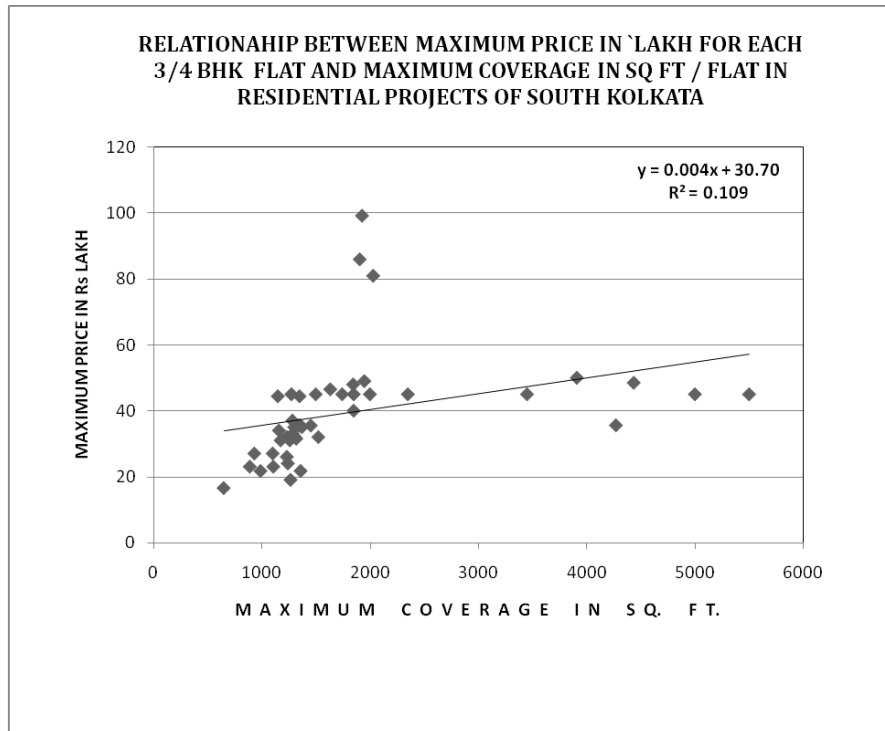
**Fig. 4**

Data Source: KMDA

**Possession-time for Customers**

From the linear diagram, it is quite clear that maximum number of flat-customers has got possession in new residential projects of South Kolkata in the year of 2012 whereas the least numbers of customers have got their possession-letter in 2014. Therefore the trend is negative here. Actually in 2014, a huge number of residential projects have been completed but most of the customers like to have possession into their flats after issuing of completion-certificate (CC) from the municipality and as the issuing of CC is a very time-consuming matter (and can take more than ten months for each housing project), therefore the extrapolated figure is that much low.

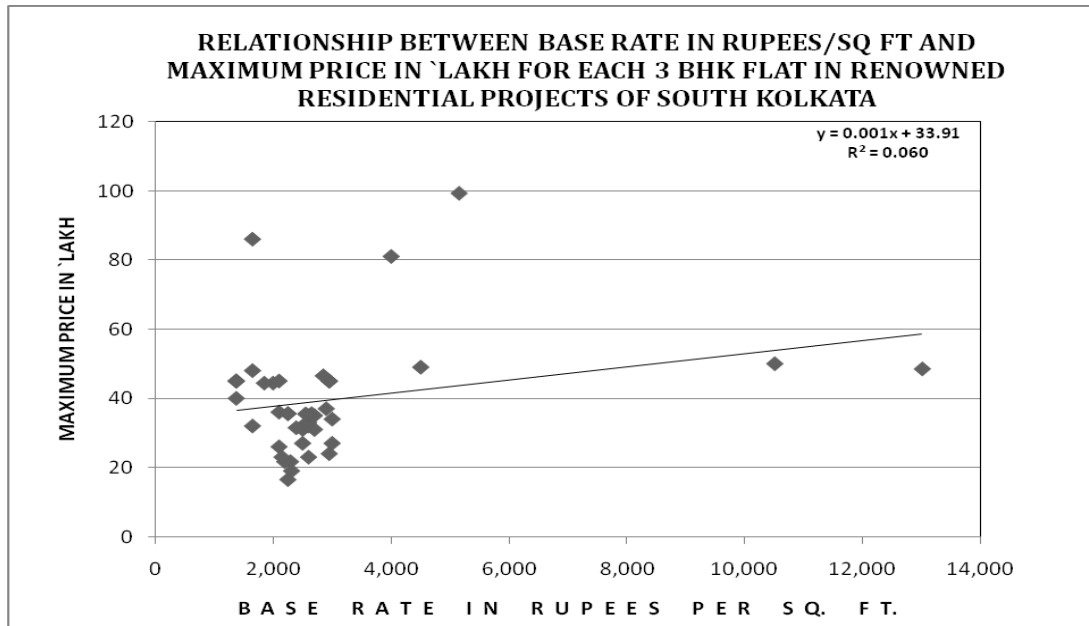
**Analyses of relationship amongst base-rate, maximum ground coverage and maximum price-limit**



**Fig. 5**

Data Source:-KMDA

The relationship between maximum prices for each 3/4 BHK (Bedroom-Hall-Kitchen) flat and maximum coverage in square feet has been studied and here the relationship has come to be strongly positive. On the other hand, when the relationship between base rates in rupees per square feet and maximum price for each 3 /4 BHK flat has been analyzed, the inference has come again to be sharply positive.



*Data Source:-KMDA*

### Big-shot Housing Projects of North Kolkata

North Kolkata is very congested by nature and is therefore characterized by narrow roads and lanes along with old-fashioned ancestral high-rises. Though the scope for residential renewal is so limited there still a good number of developers have launched some praiseworthy housing projects there by obliterating dilapidated and severely broken old buildings (Das, 2006).

**Table 2: Big-Shot Housing Projects of North Kolkata**

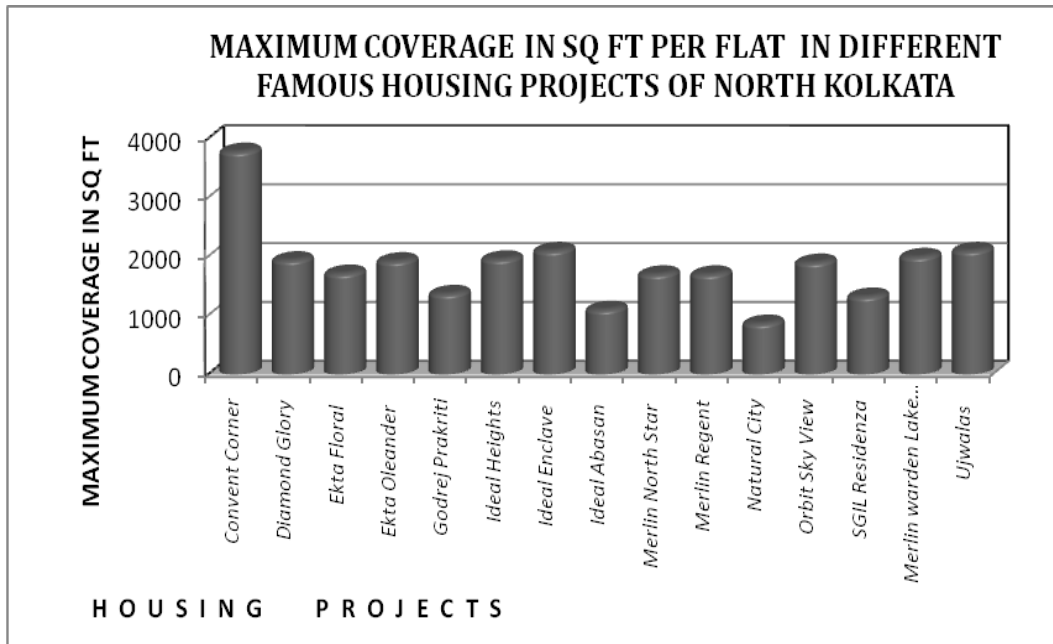
Developers	Projects	Location
Ambuja Realty	Ujwalas	Lake Town
Belani Group	Convent Corner	Convent Road, Near Moulali
Diamond Group	Diamond Glory	Near VIP Road
Ekta Group	Ekta Floral	Christopher Road
Ekta Group	Ekta Oleander	Radha Nath Chowdhury Road.
Godrej Properties Ltd phase 2 – Dec 2013	Godrej Prakriti	CIT Road, Kolkata
Ideal Group	Ideal Heights	Sealdah
Ideal Group Phase (2013)	Ideal Enclave	Near VIP Road
Ideal Group	Ideal Abasan	Near VIP Road
Merlin Group	Merlin warden Lake View	Kankurgachhi

Merlin Projects	Merlin North Star	Lake Town
Merlin Projects	Merlin Regent	CIT Road (Phillips More)
Natural Group	Natural City	Shyambazar Road
Orbit Group	Orbit Sky View	Northern Avenue
SGIL	SGIL Residenza	Near VIP Road

Source:-KMDA

**Coverage in Sq.ft for each Flat**

Belani Group, Ekta Group, Merlin Group and Diamond Group have constructed most of the big-shot housing projects in north Kolkata and the projects are basically concentrated in Kankurgachhi, Lake Town, CIT Road, Shyambazar Road and Northern Avenue. On the basis of total coverage in Sq.ft per flat in these big-shot housings, the following cartogram has been drawn digitally. For the project like Convent Corner, the coverage is very high and amounts near about 4000 Sq.ft whereas it is lowest for Natural City (below 1000Sq.Ft).

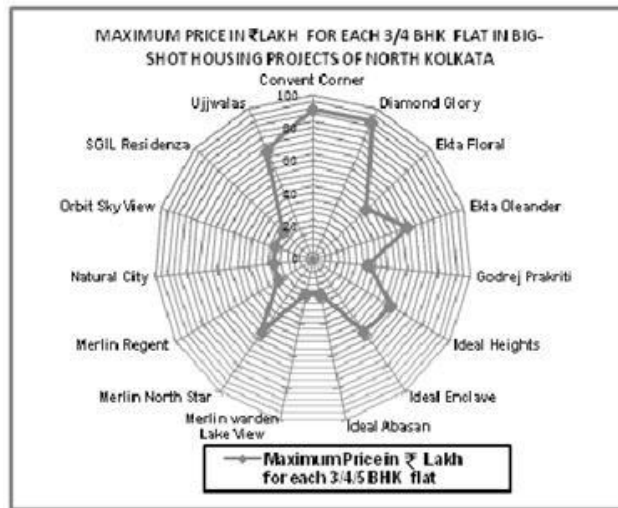


**Fig. 7**

Data Source:-KMDA

**Price-Limits per Flat for the Projects**

The accompanying radar diagram below is showing maximum price in lakh rupees for each 3/4 BHK flat in the renowned housing projects of north Kolkata. From the diagram, it is evident that the highest price is for the flats belonging to the housing projects like Diamond Glory and convent corner where as the lowest price limit is for the flats belonging to the housing projects like Ideal Abasan and Merlin Warden Lake View.



**Fig. 8**

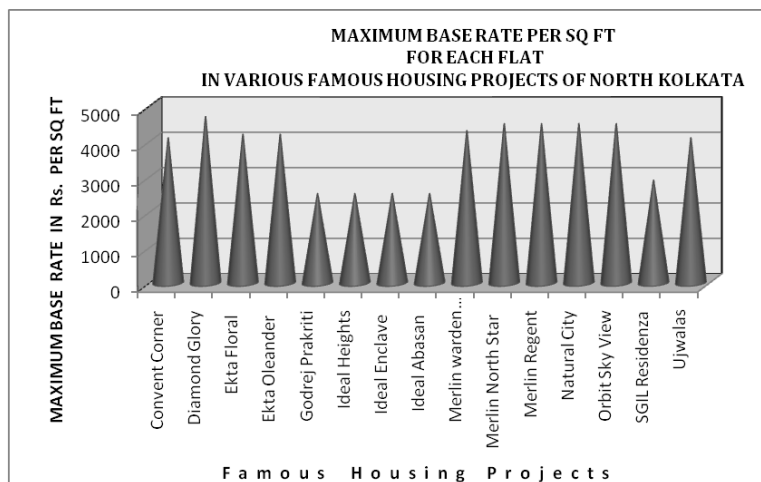
Data Source:-KMDA

**Maximum base-rate for the Projects**

Base-rate that is the maximum amount payable for each square feet in various housing projects in North Kolkata is highest for the project Diamond Glory whereas it is lowest for Ideal Heights, Ideal Enclave and Godrej Prakriti.

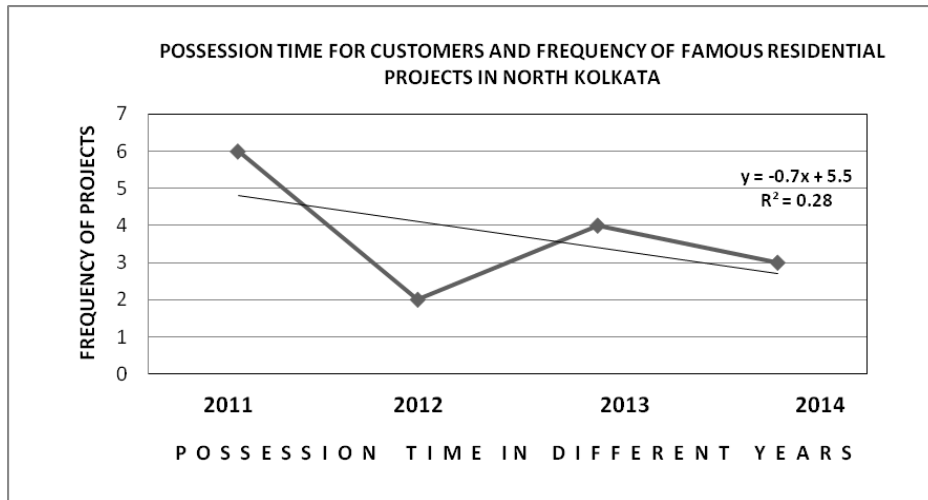
**Possession-time for Customers**

From the linear diagram below, it is quite prominent that maximum number of flat-customers of big-shot housing projects of north Kolkata has got possession in new housings in the year of 2011 whereas the least numbers of customers have got their possession-letter in 2012.



**Fig. 9**

Data Source:-KMDA

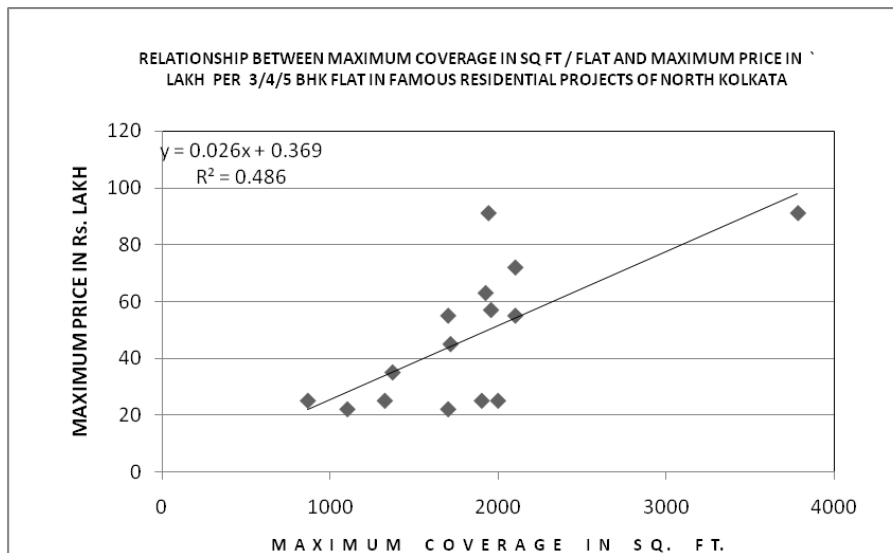


**Fig. 10**

Data Source: KMDA

**Analyses of Relationship amongst base-rate, Maximum Ground Coverage and Maximum Price-Limit**

The relationship between maximum prices for each 3 /4 BHK (Bedroom-Hall-Kitchen) flat and maximum coverage in square feet have been studied first and the relationship has come to be strongly positive here. On the other hand, when the relationship between base rates in rupees per square feet and maximum price for each 3 /4 BHK flat has been analyzed, the result has come to be again sharply positive.



**Fig. 11**

Data Source: KMDA



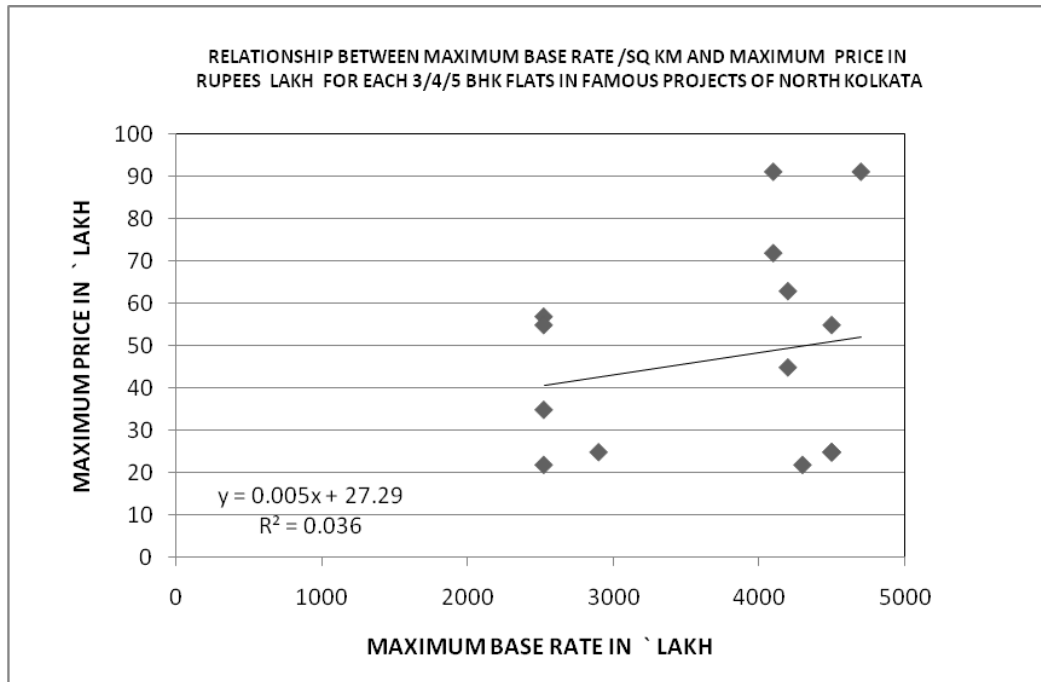


Fig. 12

Data Source:-KMDA

### Big-shot Housing Projects of East Kolkata

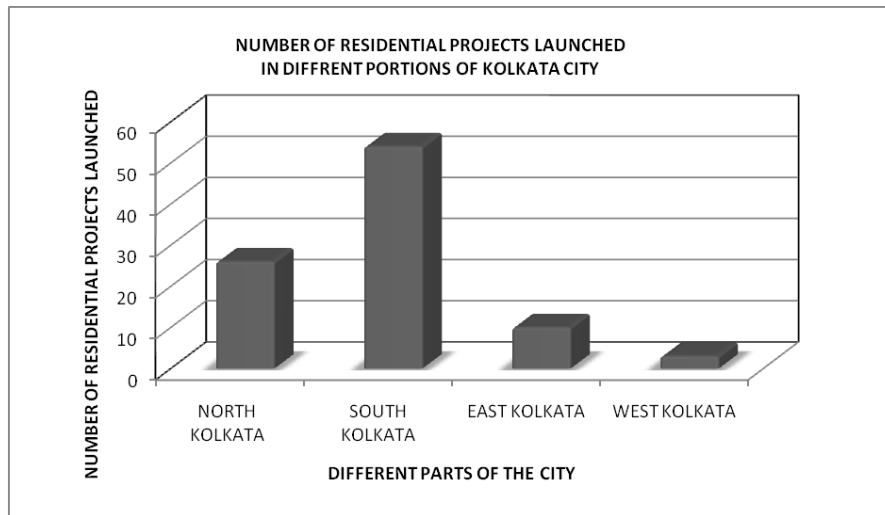
**Table 3: Big-shot Residential Projects of East and South East Kolkata**

Developers	Projects	Location
Ambuja Realty	Upohar Luxury Gold	EM Bypass, Near Peerless Hospital
Bengal NRI Complex Ltd.	Urbana	Behind Ruby Hospital, EM Bypass
Bengal NRI Complex Ltd	Dream Palazzo	Narayanpur, bypass
Ideal Group	Ideal Niketan	Behind ITC Sonar Bangla Hotel
Merlin Projects	Merlin Regency	Suresh Sarkar Road
PS Group	PS Magnum	VIP Road, near to Haldirams
Ruchi Realty Holdings Ltd.	Active Acres	EM Bypass
Reside Group	Aponaloy	near Airport
Salarpuria & Simplex	Siddha Group	Siddha Pines, Near Ruby
Salarpuria & Simplex	Siddha fifth Avenue	Near ruby General Hospital, Kasba

Source:- KMDA

East Kolkata refers to the eastern areas of the city of Kolkata. It encompasses some portions of the localities like VIP Nagar, Metropolitan Township, East Calcutta Township, Ajaynagar, Santoshpur, Mukundapur and certain parts of Garia like

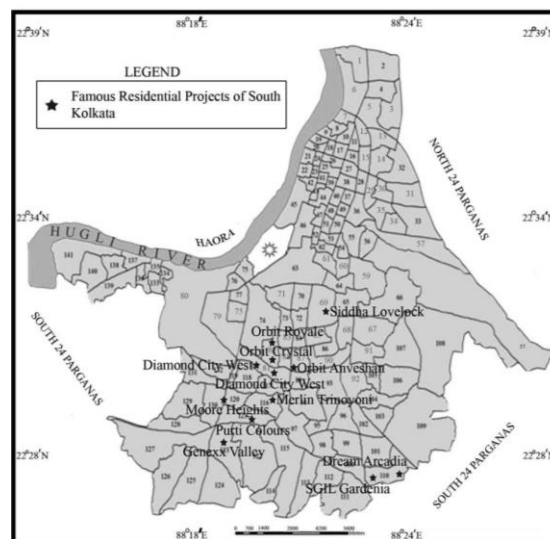
Baishnabghata-Patuli Township, Chawk Garia and New Garia. The northern part of East Kolkata is dominated by the townships of Salt Lake City and New Town but that is falling outside of the KMC boundary. Ambuja Group, Merlin Group, Salarpuria and Simplex Group, Ideal Group etc. have been involved in the construction of big-shot housing projects in east Kolkata and in overall analysis, it can be said that the price-level for purchasing these types of flats is exorbitant. Near ITC Sonar Bangla and Ruby Hospital a good number of housing projects of East Kolkata have emerged.



**Fig. 13**

Data Source: - KMDA

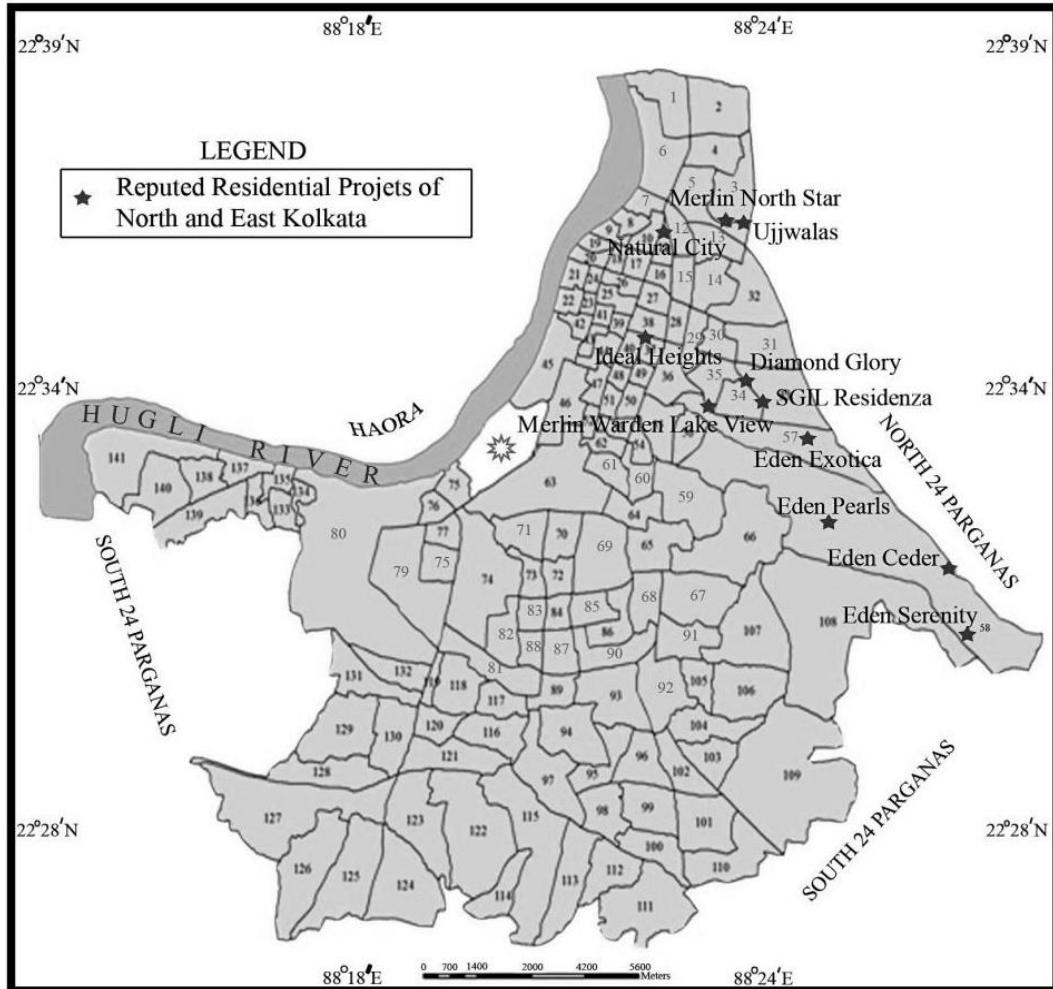
LOCATION OF FAMOUS RESIDENTIAL PROJECTS IN SOUTH KOLKATA



**Map 1**

Source:-KMC

### LOCATION OF BIG-SHOT RESIDENTIAL PROJECTS OF NORTH AND EAST KOLKATA

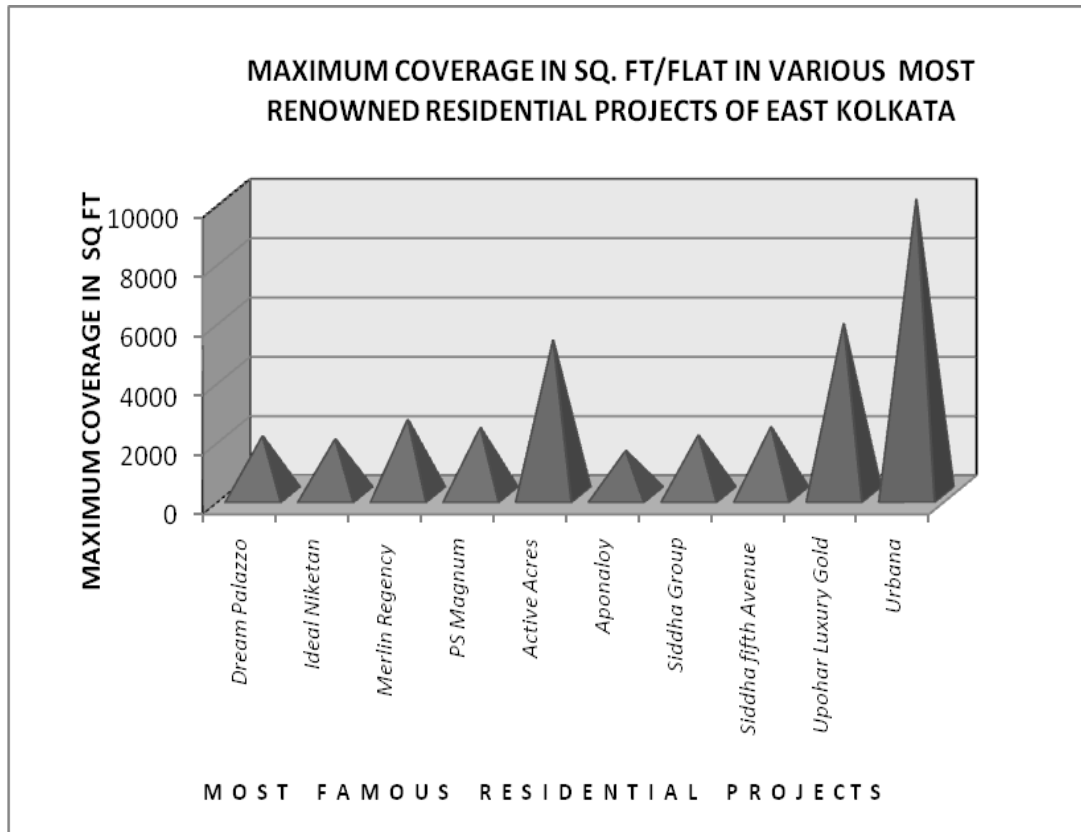


**Map 2**

Source:-KMC

#### Coverage in Sq.ft for Each Flat

P.S Group, Bengal NRI Complex, Ruchi Reality Holding and some other high-profile groups of developers have constructed most of the big-shot housing projects in east Kolkata and the projects are basically concentrated in Eastern Metropolitan Bypass. On the basis of total coverage in Sq.ft per flat in these big-shot housings, the following cartogram has been constructed. For the project “Urbana”, the coverage is highest and amounts near about 10,000 Sq.ft whereas the value is lowest for “Aponaloy” (near about 2000Sq.ft).



**Fig. 14**

Data Source:-KMDA

**Price-Limits Per Flat for the Projects**

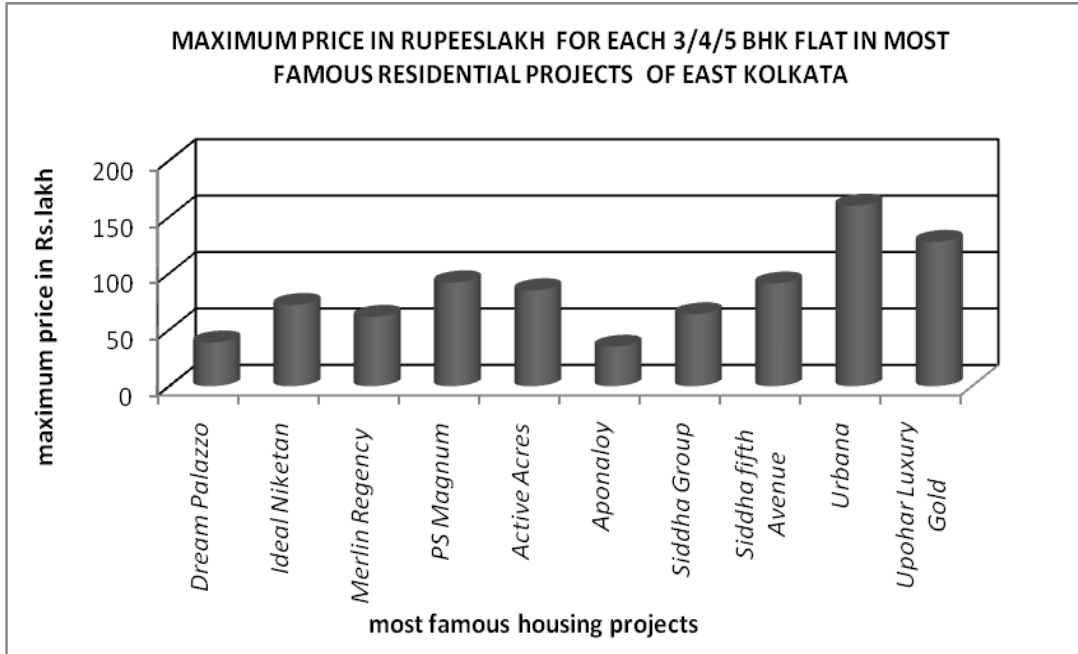
The accompanying cylinder diagram below is portraying maximum price in lakhrupes for each 3/4 BHK flat in the renowned housing projects of east Kolkata. From the diagram, it is manifested that the highest price is for the flats belonging to the housing project “Urbana” and whereas the lowest price limit is for the flats belonging to the housing project ‘Aponaloy’.

**Maximum base-Rate for the Projects**

Base-rate is in maximum amount for each square feet in housing project ‘Urbana’, whereas it is lowest for “Dream Palazzo”.

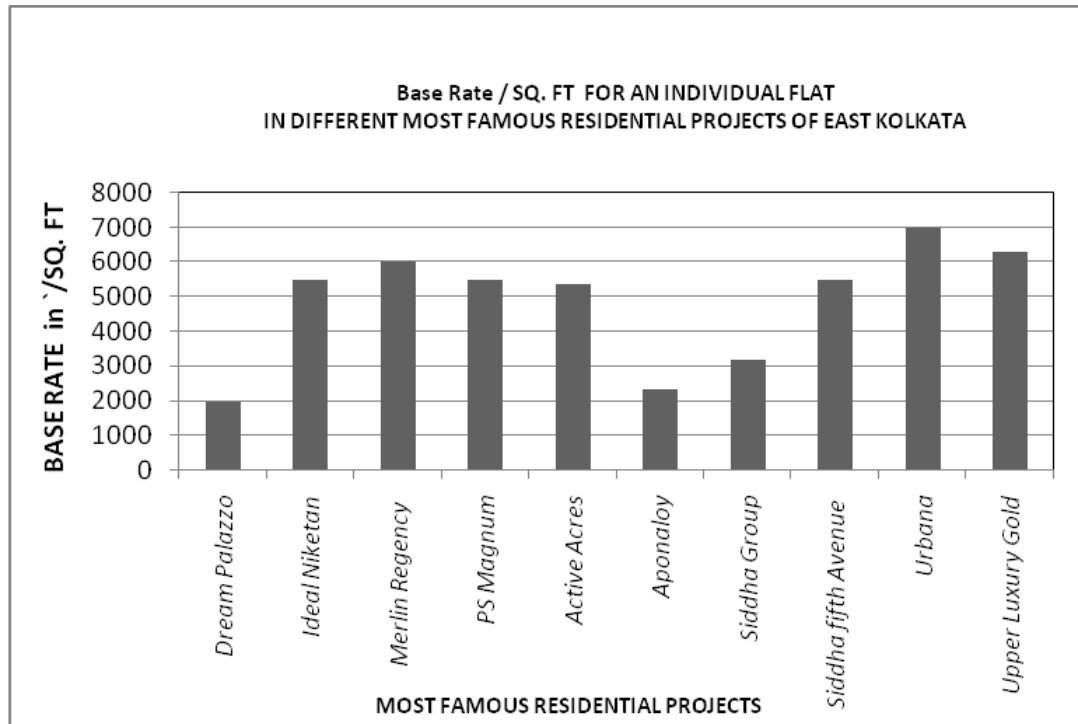
**Possession-time for Customers**

From the linear trend below, it is quite clear that maximum number of flat-customers of big-shot housing projects of East Kolkata has got possession in new housings in the year of 2013 whereas the least numbers of customers have got their Possession-letter in 2012. So here the trend is little bit positive.



**Fig. 15**

Data Source:-KMDA

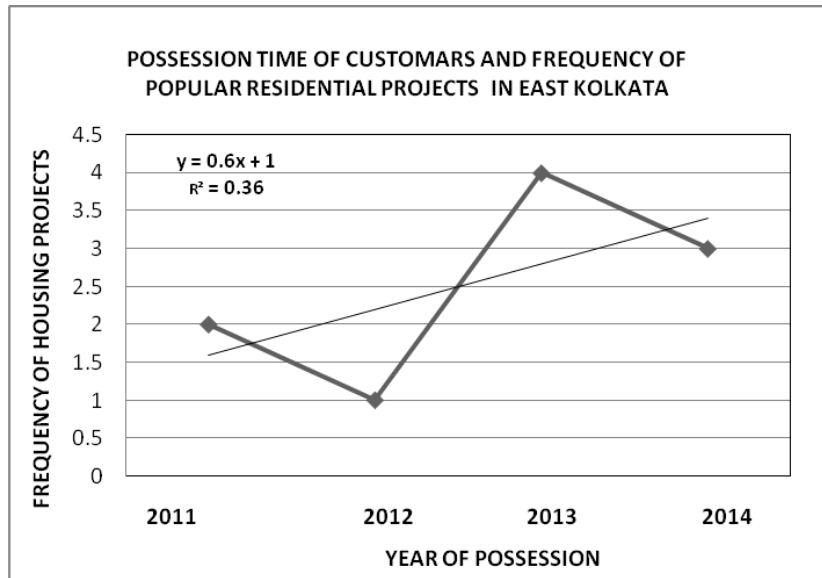


**Fig. 16**

Data Source:-KMDA

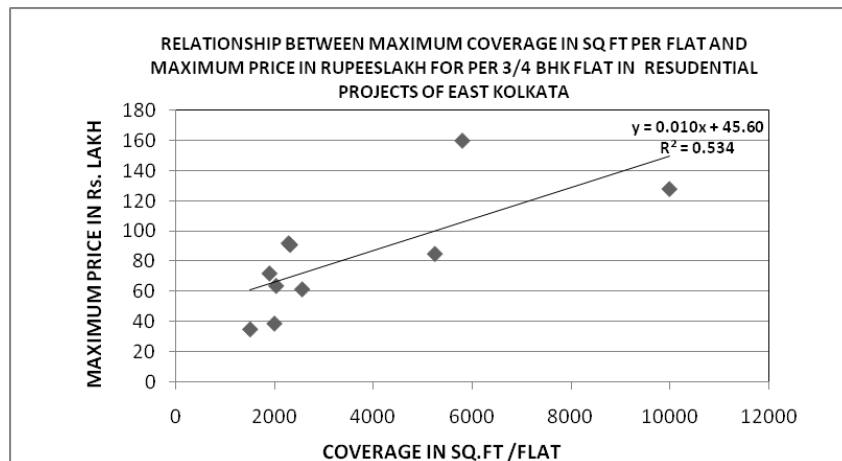
**Analyses of relationship amongst base-rate, maximum ground coverage and maximum price-limit**

The relationship between maximum prices for each 3 /4 BHK (Bedroom-Hall-Kitchen) flat and maximum coverage in square feet has been analyzed first and here the relationship has come to be positive. On the other hand, when the relationship between base rates in rupees per square feet and maximum price for each 3 /4 BHK flat has been drawn, the result has come to be sharply positive again.



**Fig. 17**

Data Source:-KMDA



**Fig. 18**

Data Source:-KMDA

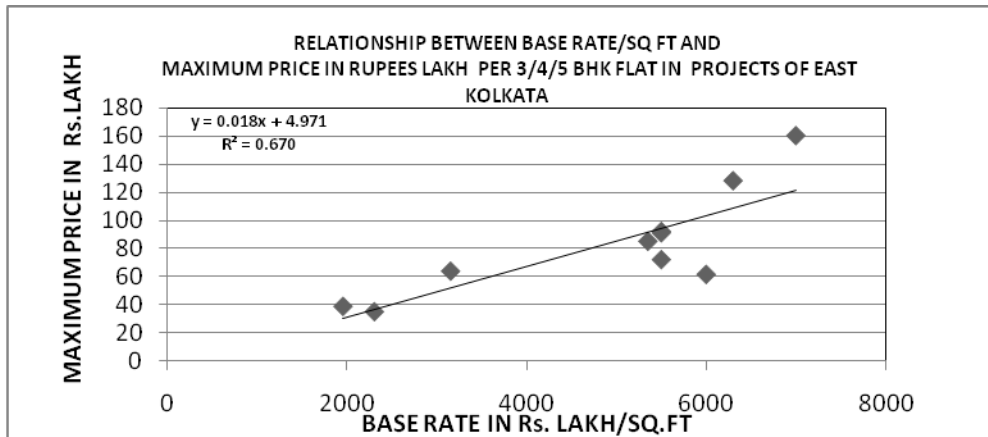


Fig. 19

Data Source:-KMDA

### Tallest Apartments all over the City

Kolkata has numerous high-rise buildings, both residential and commercial. South City Towers are currently the tallest buildings in the city and Eastern India with a height of 117 metres (384 ft). More than 600 high-rises are already constructed in the city and many more are under construction, some of them are even supposed to be exceeding the height of 130 metres (427 ft). Kolkata has numerous high-rises in Chowringhee which is the Central Business District Area of the city.

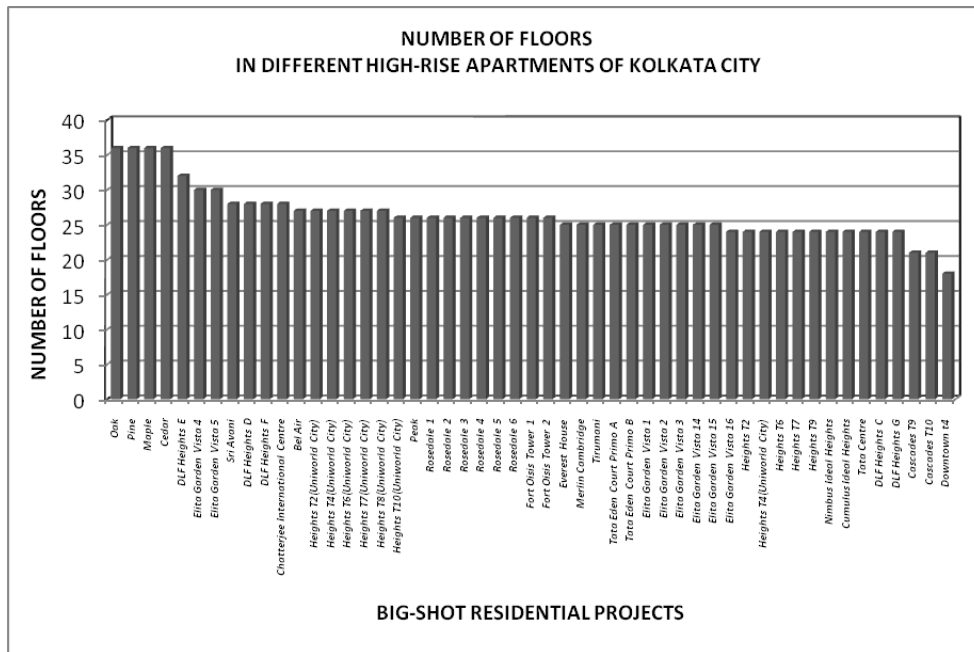
Chatterjee International Center (24 floors) is the tallest office building in the city and also the tallest of its type in entire Eastern India with a height of 91 metres (299 ft). It was opened in 1976 in Chowringhee, thus making it one of the oldest high-rises in the city. Several other high-rises such as Tata Centre (18 floors, 79.2 metres, and 260 ft) and Everest House (21 floors, 84 metres, 276 ft) are also located in Chowringhee. Apart from CBD, the region of B.B.D Bag and Babughat areas also have several high-rises. The region Salt Lake City and Rajarhat (which already have several high-rises) is undergoing a massive construction boom, with hundreds of high-rises under construction but they are outside the limit of Kolkata city.

The city got its first residential high-rise in 2004 when block 'Peak' was opened in Hiland Park. It had 28 floors with a height of 86 metres (282 ft). This created a new idea of constructing residential high-rises too other than office buildings or commercial buildings. In 2008, South City Towers (36 floors, 117 metres, 384 ft) were completed in Jodhpur Park of South Kolkata which became the tallest buildings in the city till then. All these developments have changed the skyline of this city and have added colourful feather to the crown of Kolkata. Some figures have been cited below that portray several features of the tallest buildings of the city standing at least 72 metres (236 ft), based on standard height measurement. This includes spires and architectural details but does not include antenna masts. Only the features of tallest

completed buildings and under-construction buildings that have been topped out are included hereby. The most famous tallest apartment of the city is undoubtedly the South City Mall and all its four towers namely Oak, Maple, Cedar and Pine are 117 metres high with thirty six floors in each. The other renowned tallest apartments include Sri Avani, Rosedale, Elita Garden, Tata Centre, Tirumani and so on and so forth. All the tallest apartments are first arranged here in descending order depending on their floor-height and number of floors and also ranks have been assigned to them on the basis of the aforesaid yardsticks. Lastly figures have been drawn with special reference to some of their special features.

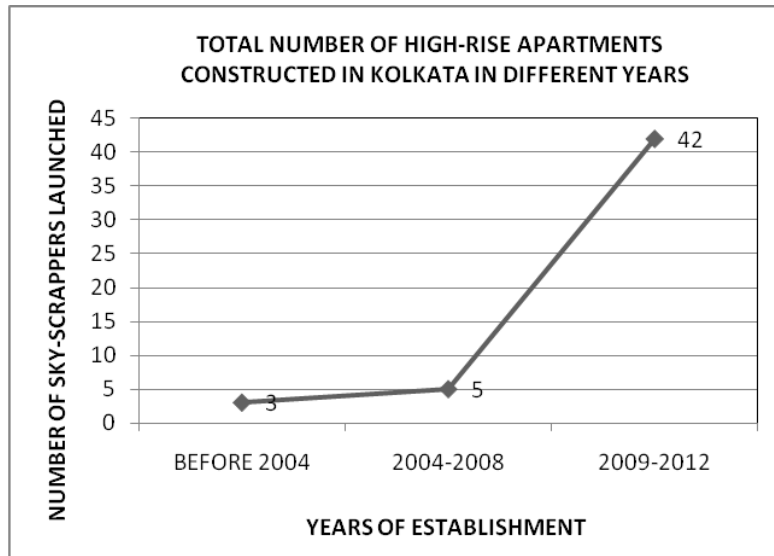
**Number of Floors and Heights in Metres in the Tallest Apartments**

From the point of view of number of floors in the tallest apartments of the city, the south city is placed at the zenith whereas Downtown T4 is situated at the nadir-point with only eighteen floors. On the other side, so far their heights in metre are concerned, as usually the south city mall occupies the apex-position and Downtown T-4,Cascades T-10,Cascades T-9,DLF Heights ‘C’ and DLF Heights ‘G’ are remaining in the last row with total height of 78 metres only. The diagram below shows the total number of sky-scrapers launched in different years and from the portrayal, it is proved that the highest number of tallest apartments was constructed by gigantic developers between 2009 and 2012. Here the trend line is sharply upward-moving. After 2012 also so many projects have been launched and amongst them the buildings constructed by Mani Group are of paramount significances at Kolkata.

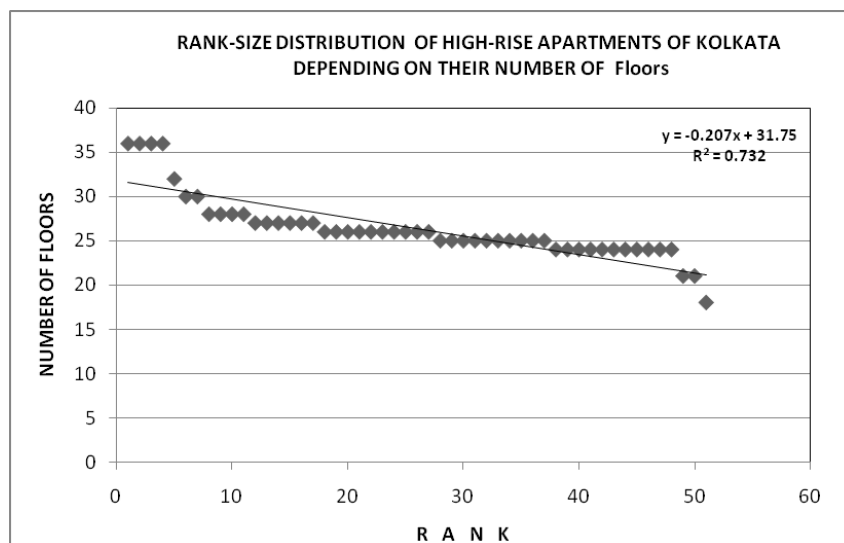


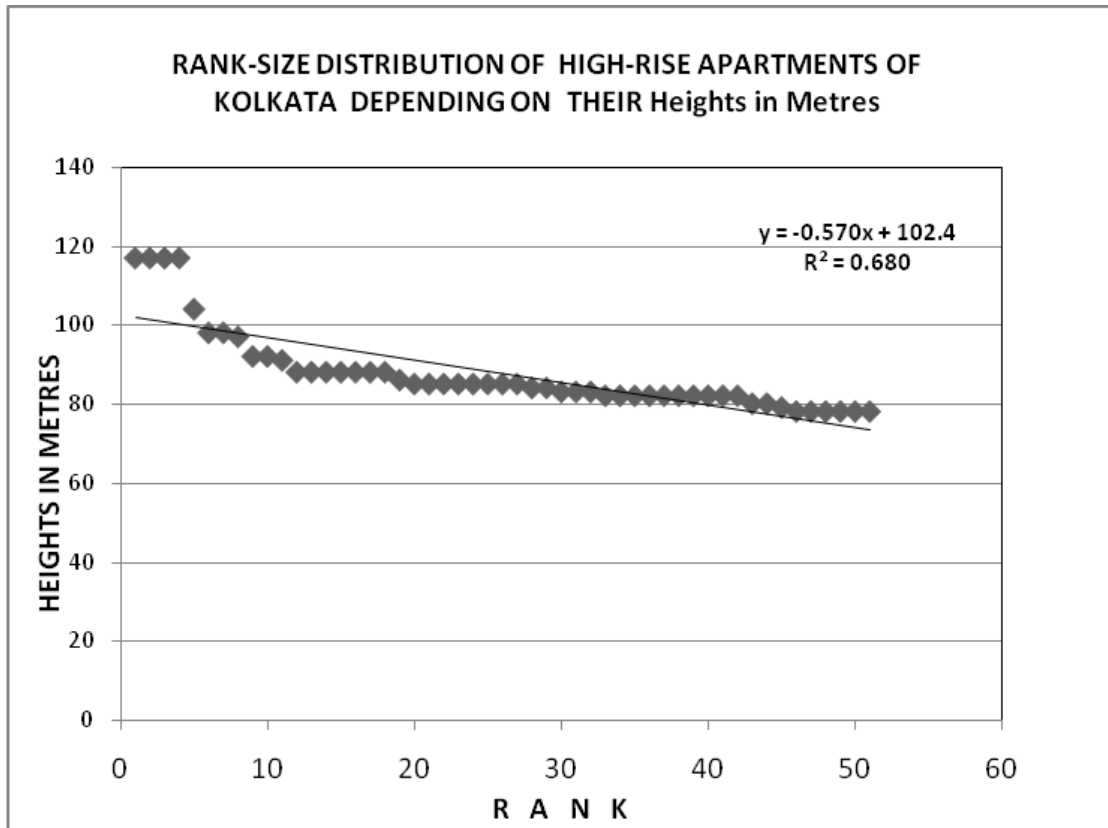
**Fig. 20**  
Data Source:-KMDA



**Fig. 21***Data Source:-KMDA***Rank-size Distribution**

Depending on the rank-size distribution of tallest buildings of KMC, the following regression analyses are done. The first one was calculated depending on the number of floors involved in the respective apartments whereas the next one is structured with reference to their total heights. In both the cases, the relationships have come to be strongly negative meaning that with increasing rank, the number of floors and the total heights of the buildings are decreasing and vice-versa.

**Fig. 22***Data Source:-KMDA*



**Fig. 23**

*Data Source:-KMDA*

**Tallest Apartments under Construction in KMC**

There are near about more than fifty tallest apartment in Kolkata that are still under construction and it is believed that after their completion, the urban-profile of Kolkata will face a sea-change as those buildings will be at par with the sky-scrappers of western countries from the perspective of their floor-heights and various amenities provided to the boarders. The following list shows their details.

**Table 4: Rank-Wise High-rise Apartments of KMC under Construction**

Rank	Name	Floors	Height in Metres
1	The 42	62	245
2	Urbana 2	46	168
3	Urbana 3	46	168
4	Urbana 4	49	168
5	Urbana 5	49	168
6	Urbana 6	49	168
7	Atmosphere 1 (Atmosphere)	48	152
8	Atmosphere 2 (Atmosphere)	48	152
9	The Westin (Westin Kolkata)	48	150

10	The V (Westin Kolkata)	46	150
11	Urbana 1	45	149
12	Urbana 7	45	149
13	Air (Uniworld City)	43	134
14	ITC Sonar II (ITC Sonar)	43	134
15	Ideal Unique Centre	42	134
16	J W Marriott "Tower 1"	40	134
17	J W Marriott "Tower 2"	40	134
18	ITC Apartments	40	134
19	Martin Burn Business Park	39	120
20	The Unimark Asian	37	106
21	Elita Garden Vista 12 (Elita Garden Vista)	30	97
22	Elita Garden Vista 13 (Elita Garden Vista)	30	97
23	Princep 1 (Calcutta Riverside)	27	89
24	Princep 2 (Calcutta Riverside)	27	89
25	Sankalpa 1 (Sankalpa)	25	81
26	Sankalpa 2 (Sankalpa)	25	81
27	Elita Garden Vista 7 (Elita Garden Vista)	25	81
28	Elita Garden Vista 8 (Elita Garden Vista)	25	81
29	Elita Garden Vista 9 (Elita Garden Vista)	25	81
30	Elita Garden Vista 10 (Elita Garden Vista)	25	81
31	Elita Garden Vista 11 (Elita Garden Vista)	25	81
32	PS Srijan Corporate Park 'IT Block'	25	81
33	Fresco T7 (Uniworld City)	25	81
34	Fresco T8 (Uniworld City)	25	81
35	Fresco T9 (Uniworld City)	25	81
36	Fresco T10 (Uniworld City)	25	81
37	Altius	25	81
38	Harmony T8 (Uniworld City)	24	77
39	Swarna Mani 1 (Swarna Mani)	24	77
40	Swarna Mani 2 (Swarna Mani)	24	77
41	Swarna Mani 3 (Swarna Mani)	24	77
42	Videocon E-Habitat	24	77
43	Ramsnehi Unimark Tower	24	77
44	Harmony T1 (Uniworld City)	23	73
45	Harmony T6 (Uniworld City)	23	73
46	Harmony T7 (Uniworld City)	23	73
47	The Ideal Exotica 1 (Ideal Exotica)	22	69
48	The Ideal Exotica 2 (Ideal Exotica)	22	69
49	The Ideal Exotica 3 (Ideal Exotica)	22	69
50	The Ideal Exotica 4 (Ideal Exotica)	22	69
51	The Ideal Exotica 5 (Ideal Exotica)	22	69

Source: KMDA

### **Number of floors and heights in metres in the High-rise apartments under construction**

From the perspective of number of floors in the under-construction tallest apartments of the city, the 42 is placed at the top whereas Ideal Exotica is situated at the lowermost datum with only twenty-two floors. On the other hand, so far their heights in metre are concerned, as usually the 42 preoccupies the highest position and the Ideal Exotica one, two, three, four and five are remaining in the lowermost stratum with total height 69 metres only.

But Kolkata may soon join the list of cities with awe-inspiring skyscrapers. A real estate group has recently submitted a plan to Kolkata Municipal Corporation authorities to sanction its plan for a 65-storey building. The structure, which will nearly be double to the height of the 35-storey towers adjoining South City Mall on Prince Anwar Shah Road now regarded as city's tallest buildings that has come up on Chowringhee. According to plans submitted to the KMC building department, the 65 storey building will be used for residential purposes. Sources in the KMC building department said that the civic body could earn Rs 20 crore by sanctioning the plan for the building.

With the roof of the 65th floor, 42 Chowringhee (JN Road) has become the tallest building in India, defeating the Imperial in South Mumbai's Tardeo. The 42 has reshaped the skyline of Kolkata, overlooking the Maidan and the Hooghly River beyond, dwarfing Tata Centre, Chatterjee International and Everest House that had dominated the skyline for over five decades. "The construction of The 42 has been completed. At 268 metres, it is now the tallest building in India. It would have been the second-tallest had the additional four floors that were later sanctioned not been constructed," said AN Shroff of Alcove Realty, one among the three companies that formed a consortium to develop the ultra-premium residential project at 167.6 metres, the second-tallest building in Kolkata at Urbana. It is almost 100 metres shorter than 'The 42'. With Forum Atmosphere at 152 metres and Westin at 150 metres respectively, make up the list of buildings that are over 150 metres.

With a cluster of three high profile projects-- two residential and one commercial-- in various stages of development, the skyline behind Science City off EM Bypass is also changing dramatically. The Atmosphere, the 140 metres high-rise with a hanging deck between the twin towers that has the clubhouse, has already received the completion certificate from Kolkata Municipal Corporation (KMC).

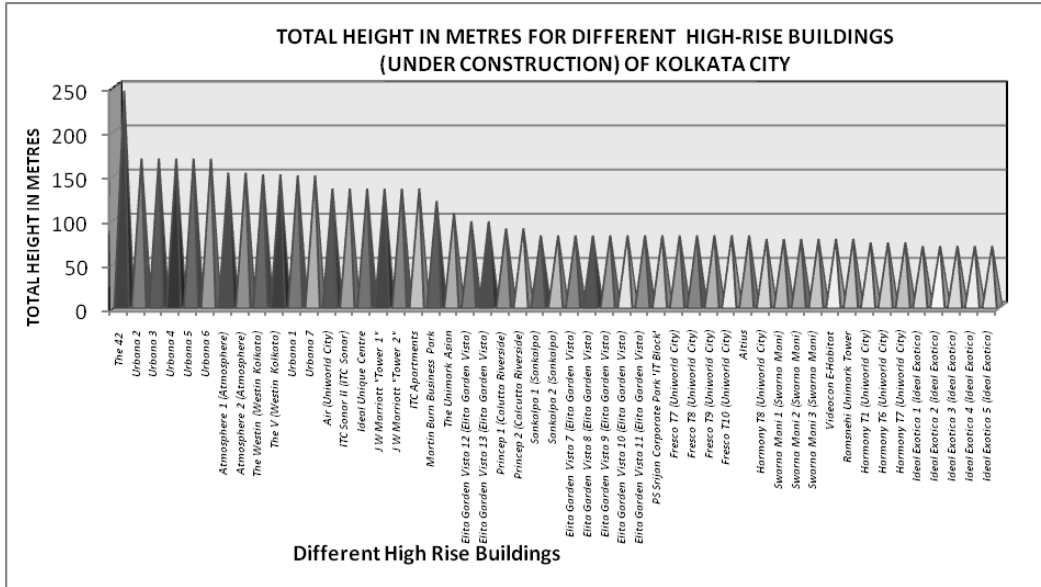


Fig. 24

Data Source: -KMDA

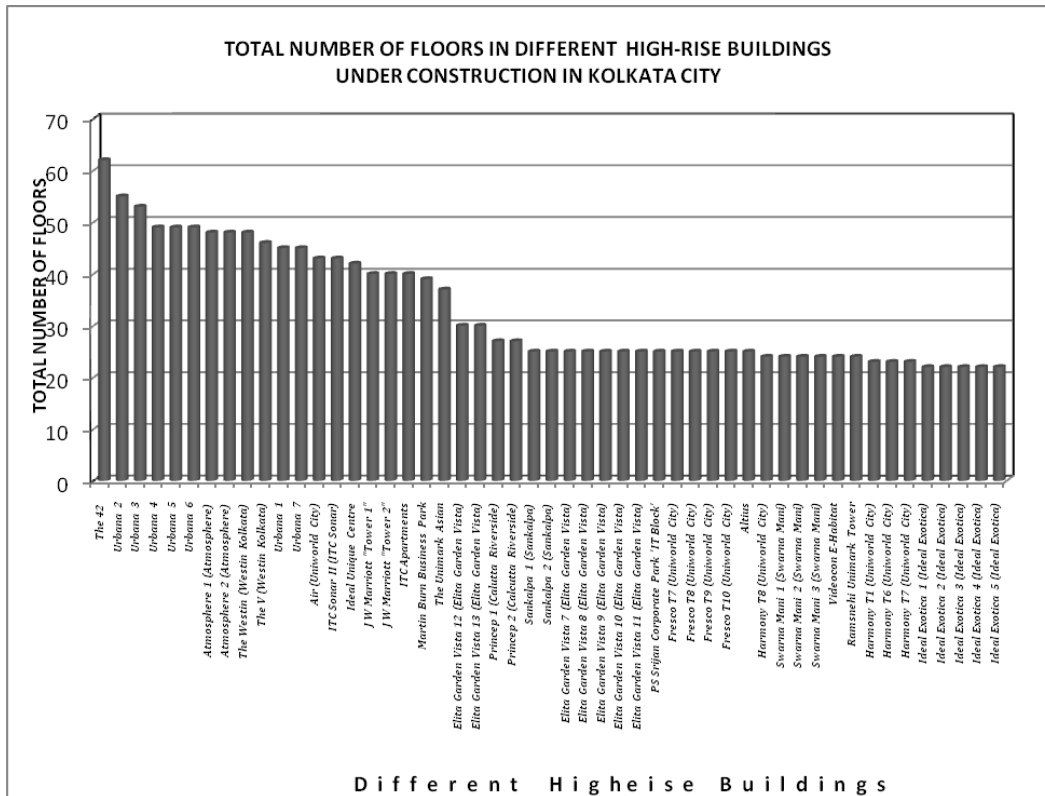
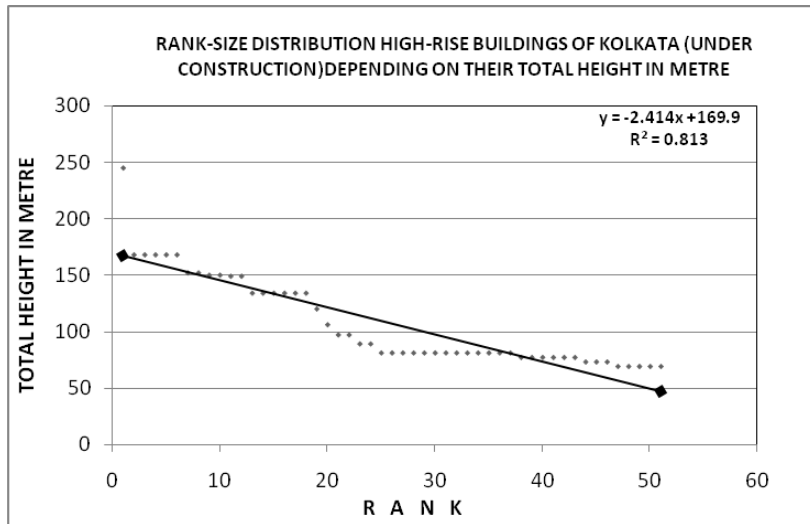


Fig. 25

Data Source: -KMDA

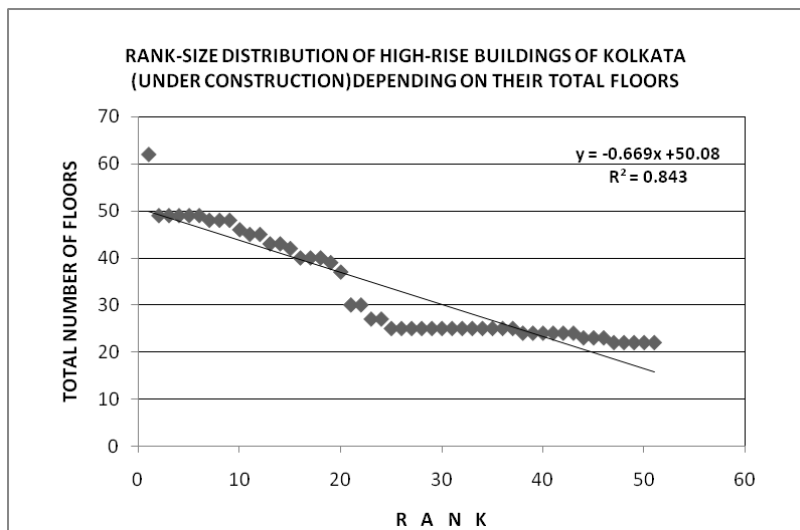
**Rank-size Distribution**



**Fig. 26**

Data Source:-KMDA

On the basis of the rank-size distribution of under-construction tallest buildings of KMC, the following bi-variate regression analyses are accomplished. The first one was done depending with reference to the number of floors in the respective under-construction apartments whereas the next is framed with special reference to their total heights in metres. In two cases, the relationships have come to be sharply negative corroborating that with increasing rank, the number of floors and the total heights of the buildings are decreasing and vice-versa.



**Fig. 27**

Data Source:-KMDA

**Approved, Proposed and On-Hold Apartments in Kolkata****Table 5: Approved, Proposed and On-Hold Apartments**

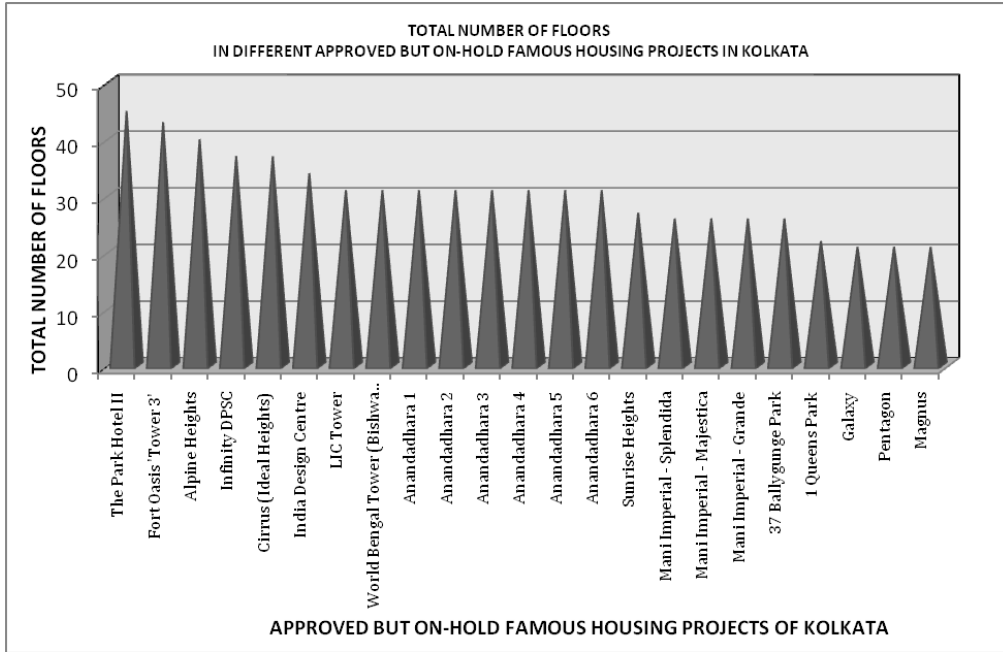
Ranking	Name	Floors	Height in Metres
1	The Park Hotel II	45	210
2	Fort Oasis 'Tower 3'	43	142
3	Alpine Heights	40	138
4	Infinity DPSC	31	124
5	Cirrus (Ideal Heights)	37	121
6	India Design Centre	24	102
7	LIC Tower	50	100
8	World Bengal Tower (Bishwa Banga Shikhar)	31	90
9	Anandadhara 1	31	90
10	Anandadhara 2	31	90
11	Anandadhara 3	31	90
12	Anandadhara 4	31	90
13	Anandadhara 5	31	90
14	Anandadhara 6	31	90
15	Sunrise Heights	27	75
16	Mani Imperial - Splendida	26	74
17	Mani Imperial - Majestica	26	74
18	Mani Imperial - Grande	26	72
19	37 Ballygunge Park	26	72
20	1 Queens Park	22	71
21	Galaxy	21	70
22	Pentagon	21	70
23	Magnus	21	70

Source: KMC

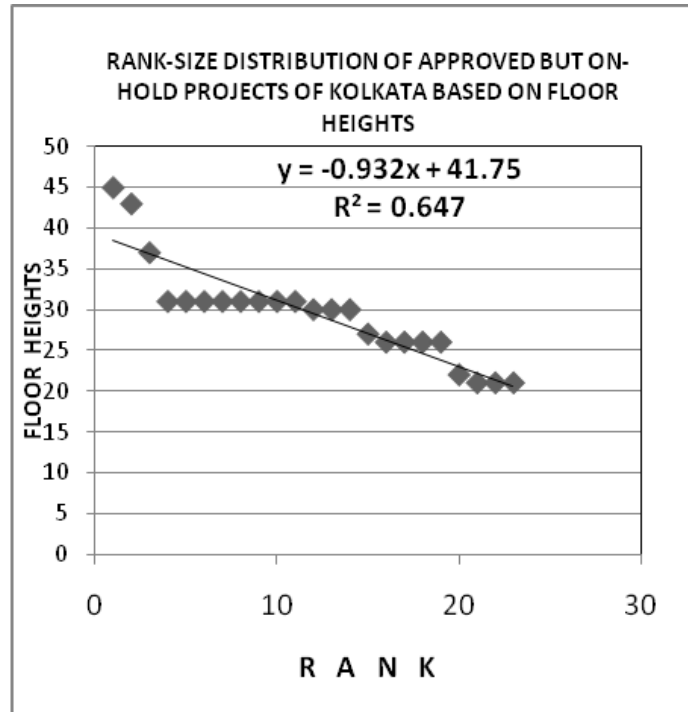
The list below reveals the buildings which are approved and proposed but kept on-hold within the city. All the buildings listed below are stated to rise at least 70-72 metres.

**Number of Floors and Heights in Metres in the on-hold Tallest Apartments**

From the view-point of number of floors in the approved but on-hold tallest apartments of the city, the Park Hotel-II is placed at the meridian whereas Galaxy, Pentagon and Magnus are situated at the nadir with only twenty-one floors. On the other side, so far their heights in metre are concerned, as usually the Park Hotel-II is supposed to preoccupy the most prestigious position and the Galaxy, Pentagon and Magnus are remaining in the lowermost staircase with total height 70 metres only.



**Fig. 28**  
Data Source:-KMDA



**Fig. 29**  
Data Source:-KMDA



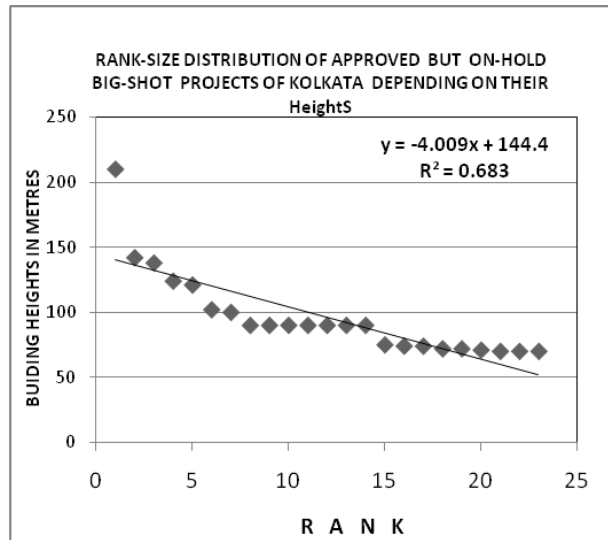


Fig. 30

Data Source: -KMDA

**Rank-size Distribution**

On the basis of the rank-size distribution of approved but on-hold tallest buildings of KMC, the bi-variate scatter analyses are done. The foremost one is done depending with the number of floors in the respective yet-to-be-completed apartments whereas the next is structured with special reference to their total heights in metres. In both the cases, the relationships have come to be steadily negative corroborating that with escalated ranking, the number of floors and the total heights of the buildings are decreased and vice-versa.

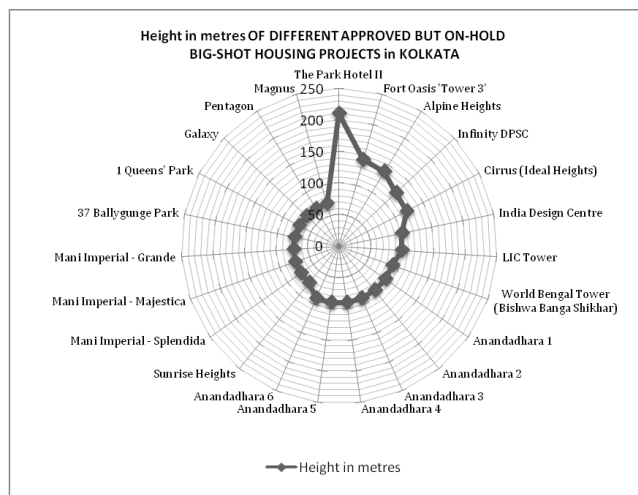


Fig. 31

Data Source:-KMDA

### **South City - the Pride of Kolkata still now**

South City is the name given to a 31.14-acre (126,000 m<sup>2</sup>) micro-township in Kolkata, India in the year of 2004 and from then its construction was initiated. It is situated in Prince Anwar Shah Road very near to the Jadavpur and Tollygunge areas of the city. Most of the recent real estate developments in Kolkata have taken place in the E.M. Bypass area, New Town and Greater Kolkata. However, the South City micro-township is located in the heart of the city. The micro township features a Residential Complex, which includes a number of recreational and amusement facilities, School, Shopping Mall and a Social Club. The Residential complex is a condominium and has 5 building towers - out of which the first 4 have been fully constructed and the 5th tower (15 Storey) is under construction. As of 2011, these residential structures are the tallest buildings in whole eastern India and also one of the tallest in the country. They head up to a mammoth height. The first four towers have been designed to withstand high level earthquakes (Seismic resistance), which is of paramount importance from the point of view of the structural safety of any high rise and more so, when Kolkata is situated close to the edge of the Indian Plate (Tectonic Plate). There is also a rain water harvesting system in the complex. There will be around 1500-1800 families residing ultimately in the complex-area and the strength was calculated after the complex was fully constructed (completion of the fifth tower). "South City" has become quite a jubilant as well as robust landmark in Kolkata. The Shopping Mall in it, as of 2011, is the largest in Eastern India. The South City School is affiliated to the Board of Indian School Certificate Examinations and as well as an International Board. The South City Club is supposed to have the largest swimming pool in Kolkata. The club membership has been extended strictly to the flat owners only of South City.

### **Urbana and the 42-the two Pride and Glory of Kolkata**

Urbana is a diamond-profile residential project in entire Indian metropolis of Kolkata. It is located in Anandapur. Urbana is going to be the tallest residential complex ever built in Kolkata since the city's inception and in the entire Eastern India. It will have two towers of 46 storeys and five towers of 41 storeys. The 46 storey towers will rise up to a height of 167.7 metres (550 ft) which is 50.7 metres (166 ft) higher than South City, the current tallest buildings in the city. The 41 storey towers will rise up to a height of 149 metres (489 ft) which is 32 metres (105 ft) higher than South City. Fifty bungalows are also the part of this project. Altogether when the project will be completed, Urbana will house more than 8,000 people. The entire project will be spread on 66-acre (270,000 m<sup>2</sup>) with 33-acre (130,000 m<sup>2</sup>) of greenery. So it will promote and flourish the concept urban-green and Eco-friendliness will be a key feature of the complex, making it the city's first green residential area. With its own sewage pumping station and sewage treatment plant, waste water from all the buildings will be treated and recycled for gardening and washing purposes. Rainwater

harvesting will be a salient feature of the complex. A car parking zone wide enough for 5,000 cars and a commercial zone will be the other features. Besides, a centralized refuse container will collect and dispose of the 4,652 kg waste generated by residents, who are expected to consume 12.53 lakh litre of water every day. This project will also have 100,000 square feet (9,290 m) of residential club with all modern amenities, 10 acres of Central Park, Olympic length swimming pool, Temperature controlled indoor pool, Deluxe spa, Guest room accommodations, Servants and chauffeurs quarter provisions with every flat, Garbage Chutes, VFR Air conditioning, Video-door phone, Air conditioned and designed lobby and four high-speed elevators in each tower. A total of 2000 crore rupees are being spent for building this huge project.

The 42 is another residential skyscraper for the Indian metropolis of Kolkata. The project is located in New Market-Chowringhee area, the central business district of the city. It will stand between Tata Centre and Jeevan Sudha. It was first proposed in the year of 2008 but was stalled for nearly two years. Again in 2010, it got some response. Currently (As of 2012), the project is under full construction. The project was expected to be completed by 2016 to 2018. The 42 has risen to a height of 245 metres (804 ft) and will comprise of 62 floors. Once completed, it will be ever tallest high-rise in the city. The project was first designed to be a commercial skyscraper. But as of latest information, the original design is completely altered and the project is going to be a residential building. Design Cell of KMC was the architect of the original project but now Hafeez Contractor is the chief architect. A total of five designs have been drawn and one of them has been selected ultimately for this prestigious project. A rooftop helipad was planned in the first concept but there is almost no possibility of such helipad in the new design. The building is named 'The 42' because it is situated on 42B Jawaharlal Nehru Road. The project is being built by four major developers, the city based Mani Group, Diamond Group, Alcove Realty and Bangalore based Sattva Group.

### **Housing Cooperatives in Kolkata**

A housing cooperative is a legal entity, usually a corporation, renting own real estate, consisting of one or more residential buildings; it is one type of housing tenure. Housing cooperatives are distinctive forms of home ownership that has many characteristics which make it different than other residential arrangements such as single family ownership, condominiums and renting (Bose, 1968). The corporation is membership based, with membership granted by way of a share purchase in the cooperative. Each shareholder in the legal entity is granted the right to occupy one housing unit. A primary advantage of the housing cooperative is the pooling of the members' resources so that their buying power is leveraged, thus lowering the cost per member in all the services and products associated with home ownership (Chakrabarty, 1984). Another key element is that the members, through their elected representatives, screen and select who may live in the cooperative, unlike any other

form of home ownership. Housing cooperatives fall into two general tenure categories: non-ownership (referred to as non-equity or continuing) and ownership (referred to as equity or strata). In non-equity cooperatives, occupancy rights are sometimes granted subject to an occupancy agreement, which is similar to a lease. In equity cooperatives, occupancy rights are sometimes granted by way of the purchase agreements and legal instruments registered on the title. The corporation's articles of incorporation and bylaws as well as occupancy agreement specify the cooperative's rules. Golpark Cooperative Housing Society, Park-street Progressive cooperative housing society limited, Vandana Housing Cooperative of Alipore Road, Samiran Cooperative Society of Ballygunge, Maniktola Cooperative Housing Society, Nijaneer Housing Cooperative of Kasba, Manjulika Cooperative Society of Rajdanga, Parijat Cooperative Housing society of Jodhpur Park, Woodland Syndicate Housing Cooperative of Survey Park, Ideal Cooperative Housing society of Kankurgachhi are the most famous big-shot housing cooperative societies of Kolkata and high-profile personalities of the city are the adorable members of these housing societies.

### **Affordable Housing**

An affordable housing is that which is deemed affordable to those with a median household income (Chandrasekhara, 1978). The National Affordable Housing Summit Group (AHSG) has developed their definition of affordable housing as housing which is

*".....reasonably adequate in standard and location for lower or middle income households and does not cost so much that a household is unlikely to be able to meet other basic needs on a sustainable basis. Affordable housing includes social rented and intermediate housing, provided to specified eligible households whose needs are not met by the market."*

In Kasba, Behala, Jadavpur, Regent Park of South Kolkata and Chitpore, Shyampukur, Maniktola and Cossipore of North Kolkata these types of affordable housings are to be found in a considerable number.

### **Cohousing Community**

This is a type of intentional community housing composed of low-cost flats supplemented by shared facilities. The community is planned, owned and managed by the residents – who also share activities which may include cooking, dining, child care, gardening, and governance of the community. Common facilities may include a kitchen, dining room, laundry, care facilities, offices, internet access, guest rooms, and recreational features. Cohousing facilitates interaction among neighbors for social and practical benefits, economic and environmental benefits. This is not so popular so far the case of our city is concerned but still in Maniktola, Burtola, Posta and Narkeldanga, some cohousing communities are found and they share and avail some of the aforementioned activities and common facilities.

### **Subsidized Housing or Social Housing**

This is a government supported accommodation for people belonging to low and moderate incomes. Forms of subsidies include direct housing subsidies, non-profit housing, public housing, rent supplements and some forms of co-operative and private sector housing.

### **Conclusion**

India's metropolitan cities are the experimental grounds for novel policies on areas as wide-reaching as economic and infrastructural development, land-use and land-cover planning, provision of civic facilities and constructional activities. Indeed, cities are considered to be extremely dynamic and economically as well as culturally vibrant, attracting further investments and contributing to economic growth or profit maximization. However, recent spatial and demographic growth behaviors of India's metro cities are posing challenges to nurturing their sustainability and inclusivity. This special report corroborates the challenges faced by Kolkata—India's oldest metropolitan city and administrative capital of West Bengal—vis-à-vis the cynosure of Country's Smart Cities Mission. The essay discusses issues pertaining to Kolkata's random urban expansion in terms of apartments and sky-touching residencies and the various measures taken by the Government of West Bengal and the city authority to maintain its live ability and futuristic benefits.

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## Types and Concepts Relating to Research Design

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Dr. Anil Kumar\*

### Introduction

Research is an attempt for discovery of truth through inquiry, investigation, analysis and ultimately the academic speculation. Research means an act of searching into matter closely and carefully. It requires de discovery of the truth. Particular it is the trend of scientific investigation of principle and facts of any subject. The precise nature of the research design in a methodical manner is referred to as research design. It includes details regarding the research project, such as the study's structure, the availability of various data, observations, analysis, and sampling, among other things. The framework of research design is referred to as research work. Sampling Design, Observational Design, Statistical Design, and Operational Design are the four types of research designs. The study design may aid the researcher in organising his thoughts into a certain format. The researcher must be able to gather the information needed to solve the problem. It is also vital to have a skilled workforce. Good study design is influenced by time and financial constraints.

### Definition: - “Research” and “Research Design”

The name "research" is made up of two words: "RE" and "SEARCH," where re means "again" and search means "exactly and precisely analyse." So, research is a methodical investigation, inquiry, and analysis in a certain field of knowledge, with the goal of establishing facts. Research is a methodical process for discovering the truth. The process of research is gathering data, analysing it, and determining the truth. Research depends upon the scientific procedure. There are various types of research methods.

The Research means:

- Pursuing systematically a particular topic.
- Applied scientific methods.
- Find out some truth or reality.
- Uses of various ways and mean for investigation.

The scientific invention, business innovations and geographical discoveries, investigation and systematic inquiry are the output of research. It further developed and enriches human knowledge to sort out the problems and away ahead.

Actual objects of the Research are:

- Research is a tool that allows you to taste the differences between two factors.
- To arrive at a specific conclusion.
- To determine the exact characteristics of a specific group or scenario.
- To establish new patterns in the phenomenon.

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### Definition of Research Design

Research design has been defined by various social scientists in distinct terms.

**Vimal Shah:** "The design is the plan of study and as such it is planned every study uncontrolled as well as controlled and subjective as well as objective".

**P. V. Young:** "The design results from controlling general scientific mod into varied research procedure".

**According to Miller:** "Research Designed" as "the planned sequence of the entire process involved in conducting a research study".

A research design provides the foundation for drawing conclusions from data because it specifies the logical approach in which persons or other units are compared and examined." It is the investigation's design, structure, and method devised to gain answers to research questions while controlling variation". A research design's difficulty is to turn a generic scientific concept into a realistic research activity.

### Important Concepts Relating to Research Design

- **Dependent and Independent variables:** When one variable is reliant on another, it is referred to as a dependent variable, while the variable that precedes the dependent variable is referred to as an independent variable.
- **Extraneous variable:** Extraneous variables are independent variables that have an effect on the dependent variable but are unrelated to the subject matter.
- **Control:** The control over extraneous variable is essential.
- **Hypothesis:** Hypothesis contained independent and one dependent variable.
- **Continued relationship:** When extraneous variable and Dependent variable come together then it is called confounded relationship.
- **Experimental and non-experimental hypothesis testing research:** The term "experimental hypothesis testing" refers to studies in which the independent variable is changed, whereas "non experimental hypothesis testing" refers to studies in which the independent variable is not changed.
- **Experimental and control groups:** The term "control group" refers to a group that is subjected to typical conditions.
- **Treatments:** When experimental and control groups are situate in different conditions it is known as 'treatments'.
- **Experiment:** An experiment is a process for testing the validity of a statistical hypothesis related to a research problem. The experimental units must be carefully chosen.

There are two groups of research designs know as Exploratory design and Descriptive type design. In those two categories, again there are sub-sections as follows:

#### Exploratory Design

- i. Sampling Design
- ii. Statistical Design
- iii. Observational Design
- iv. Operational Design.
- v. Advanced decisions design

#### Descriptive Design

- i. Rigid design
- ii. Probability sampling design
- iii. Pre-planned design for analysis.
- iv. Structured design

- **Research Design in case of hypothesis testing research studies:** It is identified as experimental studies. It is useful for agricultural studies.

- **Features of Experimental Designs:** There are two parts of experimental designs,

#### **Informal Experiment Designs**

- **Before and After without control design:** Before the analysis is introduced, one of the test groups is chosen, and the dependent variable is calculated..
- **After only with control design:** Two groups are chosen, and the treatment is specifically applied to the test area.
- **Before and after with control design:** The dependent variable is measured in both locations after two areas are chosen.

#### **Formal Experimental Designs**

- **Completely randomized design:** It is based on only two doctrine: the replication principle and the randomization of experimental designs. This type of design is commonly used in experimental areas.
- **Randomized design:** e.g. it yields two groups as representatives of the population. This type of design is useful in behavioral sciences.
- **Randomized block design:** In this subjects are divided into groups, and they are relatively homogeneous in respect to some selected variable.
- **Latin squares design:** In this, each row and each column represents equally but there considerable difference between row and column.
- **Factorial design:** It is of two types,
  - **Simple factorial designs:** In this the effects of varying two factors on the dependent variables are considered.
  - **Complex factorial designs:** A design which considers more than three variables simultaneously is called Complex factorial designs.
- **Research Design:** Following the identification of research challenges, the development of a study plan followed. The research design is concerned with the mechanism through which the research will be carried out. It is a method for gathering and analysing data pertinent to research activity using an acceptable and cost-effective method.

The term "research design" refers to a method through which a researcher may comprehend the structure of a study and the numerous stages that must be followed during the research process. The researcher should be aware of the types of data required for the study. The subject of the research and the time range in which it must be accomplished as a result, construct a rough overview of the research and its practical implementation. Classification of Research Design: The other important factors will naturally be related to sample which will be needed in research work and method to select such samples is related to the collection and analysis of the data. Taking in to consideration the above referred decisions the research design can be classified as under:

- **Sampling design:** It relates to the method of selecting items for the purpose of study.
- **Observational design:** This relates to the conditions under which observation are made.
- **Statistical design:** This relates to the information and data which is to be collected and is further required to be analyzed.
- **Operational design:** This deals with research.

#### **Types of Research Design**

The types of research study different according to the nature of the study to be conducted. Therefore different type's research design is used case of exploratory descriptive or testing of hypothesis research studies concerned.



**Types of Research Designs**

Exploratory	Descriptive	Diagnostic	Hypothesis-Testing	Experimental
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**Exploratory Research Design**

The primary goal of exploratory research projects is to get new knowledge in order to formulate a research challenge or to establish hypotheses for future study. These studies are more important in case where very little information is available.

The following methods are used in context of this research design.

- The review of relevant literature in the field.
- The survey of the people who have knowledge of the concerned problem.
- The insight stimulating examples linked to the study are analyzed.
- **Design for Exploratory:** The fundamental goal of exploratory investigations is to formulate an issue for more specific and structured inquiry or to develop hypotheses. However, an exploratory study might serve other purposes, such as enhancing the investigator's familiarity with the phenomena he wants to explore in a subsequent, more structured investigation or with the context in which he wants to conduct one. An exploratory study can also be used to clarify concepts, create research priorities, and obtain information regarding practical possibilities for doing research in certain real-world settings, and so on. "Exploratory studies," says Katz, "represent the earlier stage of science." Its findings may provide knowledge that aids the researcher in establishing a study challenge or developing hypotheses to be investigated later
- **Descriptive Research Design:** Descriptive research aims at protecting accurate character of particular individual of a group as it describes their characteristics. This study can be conducted in factory for the workers like cart group and educational level or age and income group etc.

This study is primarily conducted with an object to know their attitude towards a The research design for this study involves forming of an objective, selecting collection and analysing of data and the result.

- **Diagnostic Research Design:** The diagnostic research studies decide the frequency of occurrence in association with something else. Cause-effect relationships are described in such studies. Its a fact finding exercise. This includes screening, classification, description and prediction act of problem reported.

It is the discovery of significant factors that are connected to it in some way. It's a common problem-solving technique. Observation and formal testing can provide the necessary information for the investigation. This includes actions such as using statistical computations.

- **Experimental Pre research (Hypothesis testing research design):** Experimental research is related to laboratory processing. By this method examiner is in a situation to observe the effects of manipulation of independent variable to dependent variable.

This study is more useful for testing of causal hypothesis. The main goal of this research is to see if there is a causal link between variables. The validity of experimental studies depends on equivalence between control group and experimental group. These groups should not differ in significant respect except by chance.

Then only they can be compared in terms of assumed effect by comparing and randomization in which we can have better estimation of experimental error.

The main purpose of the research design is to set up research project which must end to logical conclusion for which following stages are adopted.

**Experimental Research Design**

- **Essential Experimental Design Principles**

Randomization, replication, and local control are the three main concepts of experimental design. These principles make a legal test of importance possible. In the subsections that follow, each one is briefly detailed.

- **Essential Experimental Design Principles**

Randomization	Replication	Local Control
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- **Randomization:** Randomization is the 1<sup>st</sup> principle of an experimental design. It is a random process of handing over treatments to the experimental units. As a result of the random process, every conceivable treatment allocation has the same probability. A treatment is an experimental condition whose impact is to be assessed and compared, and an experimental unit is the smallest division of the experimental material. The goal of randomization is to eliminate prejudice and other uncontrollable causes of unnecessary variance. As a result, the treatments must be assigned to the experimental units at random. Randomization is commonly accomplished by pulling numbered cards from a well-shuffled pack of cards, or by shaking a container with numbered balls, or by employing random number tables.
- **Replication:** Replication is the 2<sup>nd</sup> principle of an experimental design. It is a duplication of the fundamental experimentation. Because the experimental units, such as persons or plots of land in agricultural trials, cannot be literally identical, some variation is incorporated into all experiments. Using a large number of experimental units, this sort of variance may be eliminated. As a result, we do the experiment several times, i.e., we repeat the fundamental experiment. A replicate is an individual repeat. The nature of the experimental material determines the number, shape, and size of replicates.
- **Local Control:** Randomization and replication have not been found to remove all unnecessary causes of variance. This takes some experimentation technique refining. To put it another way, we need to adopt a design that allows us to regulate all external sources of variation. We employ local control for this, which refers to the degree of balancing, blocking, and grouping of the experimental units. Balancing entails assigning treatments to experimental units in such a way that the results are pooled together to produce a naturally homogenous group. A replication is the same as a block. The basic goal of the local control concept is to make an experimental design more efficient by lowering the experimental error.

**Casual Experimental Design**

- Before-and-after without control design
- After-only with control design:
- Before-and-after with control design

**Formal Experimental Designs**

- Completely Randomized design.
- Randomized block design.
- Latin Square design.
- Factorial design

**The Research Design Process:** The following key steps are frequently included in a Research Design:

- Formulation of the aim of the study (why the study is conducted and means to indentify the problem and problem area).
- Designing the technique of data collection (what should be the technique of data collection).

- Selecting Sample.
- Collecting data- availability and its time period to find out
- Examining the literature
- Hypothesis selection
- Designing of the experiment.
- Data analysing process.
- Report on the study's findings.

Good research design features and criteria include: The good research design should have the following considerations.

- It be required to minimum bias and must have maximum reliability.
- The research design must have flexibility. It should contain discovery of ideas and insight as required in case of examining studies.
- In case of descriptive studies there should be accurate description of the situation.
- The reliability of the evidence collected is considered a good research design.
- It should involve testing of hypothesis.
- The good design should permit inferences about the causality.

A strong study design will undoubtedly aid in reaching the highest levels of impartiality, reliability, validity, and generalization.

### **Conclusion**

Research is an attempt for discovery of truth through inquiry, investigation, analysis and ultimately the academic adventure. The research design's principal purpose is to it provides the answers to various questions while conducting the study, what is object of the study? What data is needed for the study? How will these crucial data for the study be gathered? What will the study's schedule, location, and sample size be? What methods will be used to examine and interpret the data? What will the study's cost, duration, and labour requirements be, and so on?. Research design acts as a standard and guidepost and helps in carrying out research objectively, accurately and economically. It acts also insurance against future failure.

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## **Analysing the Factors Influencing Z-Generation Consumers in the Selection of Fast Food Outlets in Punjab**

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### **Introduction**

A fast food restaurant, additionally referred to as a quick service restaurant (QSR) in the industry, is a selected kind of eating place that serves rapid meals delicacies and has minimum formal and table service (Mustapha et al., 2014; Shende et al., 2019). During the FY 2016 - FY 2020 duration, the QSR marketplace improved at 17.27% and is anticipated to attain INR ~827.63 billion by FY 2025 (Dar, 2021). Fast food outlets have won recognition because of developing consuming-out habits, growing disposable profits, converting lifestyle, and the web meals transport system's increase (Kearney, 2010). In FY 2020, chain QSRs held the best marketplace share (~54.2%) in India's normal QSR marketplace (Research and Market.com, 2021). A growth in consumers' propensity to consume out and a developing quantity of modern rapid-meals chains are the riding elements for chain QSRs section. Besides, modern payment systems and point of sales systems are the primary elements for the increase of the chain QSRs section within the QSR marketplace. Based on the model, the take-away and home delivery segments are anticipated to expand at a better increase of around ~18.0% and ~17.4%, respectively, between the financial year 2021 and 2025 duration compared to dine-in section (Businesswire, 2021). The growing fashion of consuming out in city towns in India, throughout all of the monetary

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classes, without the want for any unique occasion, has boosted the call for QSRs. People are increasingly opting for consuming out of doors as part of their enjoyment, outings or purchasing experience. This fashion is in particular seen many of the Z-generation consumers of 10 to 25 years (**Sogari et al., 2019**). Moreover, with the developing publicity to global life and subculture, humans have commenced growing their tastes and are consuming out at eating places extra frequently to have distinctive cuisines. Rapid urbanization because of the growth in populace and monetary increase and the upward thrust in disposable profits of people have caused the penetration of consuming out culture within the country. Per-capita monthly income in India is expected to have improved through 6.8% to INR 11,254 in FY 2020 from INR 10,534 in FY 2019 (**Business Standard, 2020**). Besides, increasingly fast food franchises in untapped regions and enlargement of tier II and tier III towns have caused the upward thrust within the quantity of fast service eating places.

India is one of the key markets poised for destiny growth (**World Economic Forum, 2019**). If the Nation maintains to increase at its current growth rate, it turns into the world's fifth biggest economy by the end of 2025 (**The Economic Times, 2019**). The Indian client segment is ruled through a massive city mass, consisting of both graduates and blue collar workers, and India has one of the youngest populations of the world. More than 50% of the client base is much less than 30 years old, along with 440 millennials and 390 million contributors of generation Z (born after 1990) (**IFIS, 2017**). A growing range of those younger people have better disposable earning than their elder counterparts and this generation have more tendency to spend their cash rather than to keep it (**Pew Research Centre, 2019**). Indians spend a excessive share in their earning on meals and groceries, as compared to purchasers in different countries, and food consumption and its demand are predicted to develop appreciably over the following few years. Food is already the biggest retail intake class in India, accounting for about 31% of the Nation's intake basket, as compared to 9% in the USA, 17% in Brazil and 25% in China (**RestaurantIndia.In, 2017**). In price terms, the Indian food market is the sixth biggest market in the world, with 70% of income coming from the retail sector (**IBEF, 2020**). Diners in Generation Z have never visited a fast food outlet without the phone in their hand as this generation is also known as digital generation, which means that generation Z is more relied on technology than their previous generation. When it involves eating out, many Z generation consumers will determine in the event that they need to consume at a eating place entirely primarily based totally on their social media accounts. A lively account with pretty, Instagram-worthy dishes will force Gen Z to a eating place. In order to draw this technology, having a lively social media presence is key. The present research is based on the generation z consumers selection of fast food outlets in Punjab state. The present research is particularly focussing on international fast food brands like McDonald's, Domino's, Pizza Hut, Subway, and Burger King.

## **Review of Literature**

### **Factors Influencing Consumers Selection of Fast Food Outlets**

**Byrne et al. (1996) and Kinsey (1983)** in their study had explored the fast food consumption pattern of consumers and the findings of their study revealed that convenience is one of the most significant feature of fast food outlets which significantly impact consumers selection of fast food outlets. **Park et al. (1999)** in their research paper on fast food consumption by young people found that this age group individuals are regularly consuming fast food and service characteristics, food taste, convenience, and price are most important factors influencing consumers selection of fast food outlets. **Grunert (2005)** in his study concluded that while opting for fast food outlets, customers gives special preference to quality of food and safety and security features related to food serviced by fast food outlets. **Ruth Cynthia Klerk (2008)** in their study focuses on children's tastes for fast food. In analysing these patterns, this study identified the most preferred fast food restaurants for children, and the driving forces, motives, and reasons behind the popularity of certain fast food restaurants. The study concluded that child's background, product type, price, staff service quality, and convenience of purchase are some of the factors influencing consumers fast food outlet selection. The survey also found that advertising of fast food has positive and significant impact on children's tastes for fast food restaurants.

**Kim and Moon (2009)** in their study identified a set of factors including the price of meal, reputation of restaurant, consumers previous experiences with similar types of restaurants, memorable restaurant advertising, easily accessible restaurant location, employee service and attire and appearance of other customers, and all these factors in combination influence a customers choice of fast food outlets and perceptions. **Seo et al. (2011)** in their study on students fast food outlet selection concluded that taste and low cost are the factors influencing elementary and high school students selection of fast food outlets. **Blešić et al. (2018)** in their study revealed that food quality, presentation of the food, variety in menu-items, restaurant cleanliness standards, kitchen cleanliness and hygiene, staff service quality and location are the important factors influencing Z generation students fast food outlet selection. **Shahzadi et al. (2018)** in their study concluded that quality of food, quality of physical environment and staff service quality are the principal factors influencing consumers selection of fast food outlets. **Zhong and Moon (2020)** in the research paper concluded that quality of service, quality of food, physical environment quality, gender and price are some of the factors influencing consumers selection of fast food outlets. Table 1 is indicating various factors influencing consumers selection of fast food outlets:

**Table 1: Factors Influencing Consumers Fast Food Outlet Selection**

<b>Author/s</b>	<b>Sector</b>	<b>Factor</b>
Yoo (2012)	Food and beverage service sector	Cleanliness of outlet
Truong et al. (2017)	Food and beverage service sector	Cleanliness and hygiene of service personnel
Chow et al. (2010)	Food and beverage service sector	Cleanliness of the kitchen
Kwong (2005)	Food and beverage service sector	Variety in dishes in menu
Iglesias and Guillén (2004)	Food and beverage service sector	Pricing of dishes
Jung and Chung (2013)	Food and beverage service sector	Friendliness of service personnel
Andaleeb and Conway (2006)	Food and beverage service sector	Prompt services provided by employees
Bujisic et al. (2014)	Food and beverage service sector	Ambiance of the restaurant
He et al. (2019)	Food and beverage service sector	Location of the outlet
Khan et al. (2013)	Food and beverage service sector	Food taste
Namkung and Jang (2007)	Food and beverage service sector	Food presentation
Condrasky et al. (2007)	Food and beverage service sector	Portion size of the food served

### **Objectives of the Study**

- To identify the factors influencing consumers selection of fast food outlets in Punjab.
- To examine the factors influencing z-generation consumers selection of fast food outlets in Punjab.

### **Research Methodology**

#### **Sampling and Data Collection**

The data for the present research were collected from the consumers of fast food in the state of Punjab. The data was specifically gathered from Z-generation consumers in the month of February, 2022 using Google Forms. Respondents were asked closed-ended questions related to their demographic profile, and factors influencing Z-generation consumers selection of fast food outlets in Punjab. There were two sections in the structured questionnaire. The first section included questions on demographic profile of respondents. The second section consisted closed ended questions on factors influencing consumers selection of fast food outlets on a likert

scale of 1 to 5 where 1 not at all influential, 2 slightly influential, 3 indicates moderately influential, 4 indicates very influential and 5 indicates extremely influential. The primary sources of data collection was structured questionnaire and secondary sources of information were Government reports, national and international journals, published research articles, theses, books, websites, magazines, newspapers, etc.

### Analysis and Findings

- **Demographic Profile of the Respondents**

Questionnaire was distributed to 150 respondents, out of which 90 had filled the form and out 90 filled forms, 76 responses were found valid. Table 2 is indicating demographic profile of Z-generation consumers of Indian State of Punjab in percentage.

**Table 2: Demographic Characteristics of Respondents**

Variables		(%)
<b>Gender</b>	Male	76.3
	Female	23.7
<b>Age</b>	10-14 years	--
	14-18 years	18.4
	18-22 years	78.9
	22-25 years	2.6
<b>Ares of Residence</b>	Rural	18.4
	Urban	81.6
<b>Educational Qualifications</b>	Middle School	--
	High School	52.6
	Graduate	34.2
	Post Graduate	--
	Others	13.2
<b>Occupation</b>	Students	97.4
	Government Job	--
	Private Job	--
	Others	2.6
<b>Annual Income</b>	Not earning	97.4
	Up to 3 Lakhs	2.6
	3-6 Lakhs	--
	6-10 Lakhs	--
	More than 10 Lakhs	--

- **Profile of Respondents Related to their Fast Food Outlets Visit**

7.9% of the respondents prefer to visit McDonald's, 47.4% of the respondents prefers to visit Domino's, 5.3% of the respondents prefers to visit Pizza Hut, 26.3% of the respondents prefers to visit Burger King and 13.2% of the respondents prefers to visit Subway. 76.3% of the respondents visit fast food outlets 1-2 times per week,



21.1% of the respondents visits 3-4 times per week and 2.6% of the respondents mentioned that they visit 7 times or more fast food outlet in a week. 71.1% of the respondents mentioned that they spend up to 1 thousand on fast food per month, 23.7% of the respondents mentioned that they spend 1-3 thousand per week month on fast food, 2.6% mentioned that they spend 3-6 thousand per month and 2.6% of the respondents mentioned that they spend more than 10 thousand per month on fast food.

- **Identification of Factors Influencing Consumers Selection of Fast Food Outlets**

The first objective of the study was to identify the factors influencing consumers selection of fast food outlets. This objective was achieved through review of literature. The summary from table 1 suggests that cleanliness of outlet, cleanliness and hygiene of service personnel, cleanliness of the kitchen, variety in the dishes of the menu, pricing of the dishes, friendliness of the service personnel, prompt services provided by the employees, ambiance of the restaurant, location of the restaurant, food taste, food presentation and portion size of the dishes are some of the factors influencing consumers selection of fast food outlets.

- **Analysis of the Factors Influencing Z-Generation Consumers Selection of Fast Food Outlets**

The second objective of the study was to analyse the factors influencing Z-generation consumers selection of fast food outlets in Indian state of Punjab. Central tendency technique was used to analyse the various factors of fast food outlet selection. Ranking was given based on the weighted mean score. Factor with highest weighted mean score was considered as most influential factor for Z-generation consumers selection of fast food outlet in Punjab. From table no. 3, it has been revealed that food taste has the highest weighted mean score, thus it can be concluded that food taste is the most important factor for fast food outlet selection. Second rank has been given to friendliness of service personnel, food presentation has got the third rank and location of the hotel has got the fourth rank. Ambiance of the restaurant has got fifth rank, prompt services got 6<sup>th</sup> rank, cleanliness and hygiene of service personnel got 7<sup>th</sup> rank, cleanliness of the kitchen and portion size of the food served jointly received 8<sup>th</sup> rank. Variety in the dishes of menu and pricing of the dishes jointly received 9<sup>th</sup> rank and cleanliness of the outlet has scored 10<sup>th</sup> rank.

**Table 3: Ranking of the Factors Influencing Z-generation Consumers Selection of Fast Food Outlets**

Factors	Not at all Influential (1)	Slightly Influential (2)	Moderately Influential (3)	Very Influential (4)	Extremely Influential (5)	Total	Weighted Total	Weighted Mean	Rank
Cleanliness of outlet	12	14	10	12	28	76	258	3.3947368	10
Cleanliness and hygiene of service personnel	4	16	16	12	28	76	272	3.5789474	7
Cleanliness of the kitchen	2	16	20	14	24	76	270	3.5526316	8
Variety in dishes in menu	6	10	22	14	24	76	268	3.5263158	9

Pricing of dishes	4	16	12	24	20	76	268	3.5263158	9
Friendliness of service personnel	2	10	18	14	32	76	292	3.8421053	2
Prompt services provided by employees	4	14	10	24	24	76	278	3.6578947	6
Ambiance of the restaurant	2	18	14	8	34	76	282	3.7105263	5
Location of the outlet	2	10	16	26	22	76	284	3.7368421	4
Food taste	2	12	14	6	42	76	302	3.9736842	1
Food presentation	2	10	18	20	26	76	286	3.7631579	3
Portion size of the food served	2	18	14	20	22	76	270	3.5526316	8

## Conclusion

The first objective of the study was to identify the factors influencing consumers selection of fast food outlets. After reviewing the previous literature, it has been found that cleanliness of outlet, cleanliness and hygiene of service personnel, cleanliness of the kitchen, variety in the dishes of the menu, pricing of the dishes, friendliness of the service personnel, prompt services provided by the employees, ambiance of the restaurant, location of the restaurant, food taste, food presentation and portion size of the dishes are some of the factors influencing consumers selection of fast food outlets. The second objective of the study was to analyse the factors influencing Z-generation consumers selection of fast food outlets in Indian state of Punjab. The findings of the study revealed that food taste, friendliness of service personnel, food presentation and location of the fast food outlet are the most important factors for Z-generation consumers fast food outlet selection whereas pricing of the dishes, variety in menu and cleanliness of the outlet has least influence on Z-generation consumers fast food outlet selection in the state of Punjab.

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## **Money E-Transfer: A Survey in Rajasthan**

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Nidhi Jain\*

### **Introduction**

According to the United States Electronic Fund Transfer Act of 1978, e-transfers are defined as, "A funds transfer initiated through an electronic terminal, telephone, computer (including online banking) or magnetic tape to order, instruct, or authorizing a financial institution to debit or credit a consumer's account."

Electronic fund transfers (sometimes known as 'e-transfers') are called different names around the world.

### **Online Money Transfer**

Advances in technology have enabled colorful fiscal institutions to give a high position of service across the banking and fiscal sectors. While ultramodern technology helps banks and other businesses to simplify their operations, it's no longer necessary for guests to visit their banks and branches to make further banking services available. Online plutocrat transfers are the ultramodern fellow of wiring plutocrats. You can incontinently shoot someone's finances by transferring plutocrat (or the data that represents that plutocrat) from you to another person.

A typical transaction substantially involves contact information — similar as a phone number or a dispatch address — for the sending and receiving parties, tied to a bank account. Usually, for a small figure, Online money transfers can be done from secure, web-based services.

The process is straightforward and often works like this:

The sender opens an online banking session and specifies the philanthropist, quantum to shoot, and a security question and answer. The finances are debited incontinently, usually. The sender sends the security answer independently to the philanthropist, generally via another medium, for security purposes.

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A dispatch or textbook communication is also transferred to the philanthropist, with instructions on recouping the finances and answering the question. The philanthropist must answer the security question correctly. However, the finances can be returned to the sender, If the philanthropist fails to answer the question rightly within a set number of times. sender. Still, it'll not go through, if any -transfer has not been accepted after a certain period. The transfer duration depends on the bank and the person's settings. In some cases, you don't need to have a bank account to shoot plutocrat online or indeed to admit an online transfer. A credit card or cash can be used rather, which may dodge advanced freights.

Automated Clearing House (ACH)- In the US, all online banking transactions, including online money transfer services, are processed by the Automated Clearing House. An independent agency that offers secure financial data transmission. Various services offer varying protection levels, such as confirmation phone calls to both parties (who have to verify private information) confirmation emails, and even insurance policies that guarantee your money will be sent. Some providers limit how little or how much money can be sent, and how much can be transferred in a period. The industry is regulated with several authorities providing licenses to companies specializing in money transfers. So, it is important to go through reliable, reputable, licensed money transfer companies.

### **IMPS**

IMPS allows Indian citizens to instantly transfer money through banks across the country. This service is available 24 × 7, even on bank holidays.

"IMPS is an easy way to send money, providing fast home transfers day and night. Increasing the IMPS limit will not only increase customer experience but will also solve complex issues such as credit and payment risks caused by RTGS infrastructure," said Nitin Mathur, -CEO, i-Search Advisory Services. Businesses wishing to participate in IMPS require banks to have a valid banking license or prepaid instrument from the Reserve Bank of India. The user needs to register on mobile to use this service. IMPS uses IFSC Code or Aadhar code to make smooth transactions.

Previously, the maximum performance limit was Rs 2 lakh for IMPS but the RBI reviewed its guidelines. Now, the user can transfer up to Rs 5 lakh using this payment method. "These proposed changes reflect the adoption of digital infrastructure across the country. The announcement also highlights the government's commitment to embracing the inevitable digital revolution shortly," Mater said in a statement.

### **NEFT**

The National Electronic Funds Transfer or NEFT program is owned and operated by the Reserve Bank of India itself. NEFT is a nationwide payment system that operates nationwide. It has pan-India installation and includes a large branch network of all types of banks.

The RBI did not limit the NEFT campaign. However, the user must verify that his bank is part of the NEFT system before making payments. The revenue generated by this forum is transferred in batches. These were then resolved in 48 half-hour locations.

The user must log in to his or her banking portfolio and add a recipient as a beneficiary. After that, the beneficiary details must be entered after which the money can be transferred to his or her account.

### **RTGS**

In this system, transfers are resolved continuously and in real-time. This is done individually on a per-shop basis, without netting. Payments made by RTGS firms are irrevocable and final as payments are made on the books of the Reserve Bank of India.

- **Digital Wallets:** After the demonetization of high-value currency towards the end of 2016, many digital wallets have been introduced to the Indian market to facilitate digital transactions.

After the demonetization of high-value currency towards the end of 2016, many digital wallets have been introduced to India after the demonetization of high-value currency towards the end of 2016, many digital wallets were introduced the Indian market to facilitate digital transactions. Digital wallets are not only popular and useful for being an optional method for online transactions but also for the ease and convenience of transferring money to another user or bank account. Post demonetization, many banks have introduced their digital wallets to cater to the increasing demand.

- **Unified Payment Interface:** The unified payment interface from the National Payments Corporation of India is a new concept of digital transaction that is introduced by the Government of India. Based on the mobile platform, UPI allows users to transfer money from one bank to another without the need for bank details. To send and receive funds, UPI uses a Virtual Payment Address (VPA) which is created during the registration process with bank account details as the pre-requisites. Once the registration is completed any UPI user can use the VPA to transfer funds.

As banks regularly develop their services on social media, customers can use the bank via the internet or mobile phones to meet their banking needs. While there are many aspects to the safety of online banking platforms, the dramatic increase in the use of online services has proven to be useful and convenient. Customers can now access many online wallets transfer options from National Electronic Funds Transfer (NEFT), Real-time Gross Settlement (RTGS), Instant Payment Service (IMPS), digital wallets, UPI-based options, etc. Following the introduction of high-value currency in India, online transfer options have provided flexibility and convenience across the country.



Most banks have online many selections when it comes to transferring cash online. Although cash switch choices have their execs and cons, it lets humans be in a position to pick one over the different relying on their needs. The Reserve Bank of India or RBI lately elevated the Immediate Payment Service (IMPS) restriction from Rs two lakh to Rs 5 lakh per service. This step was once introduced to make the switch of giant ticket luggage effortlessly accessible. "Immediate Payment Service (IMPS) affords a 24 x 7 immediate domestic switch providers by using a variety of channels. Due to the significance of the IMPS devise and expanded patron convenience, it is proposed to make bigger the buy restrict from Rs two lakh to Rs 5 lakh," RBI Governor Shakti Kanta Das stated on October eight this year. Immediate Payment Service (IMPS) is managed with the aid of the National Payments Corporation of India (NPCI). It is a price approach that affords a rapid money switch website online 24 x 7. IMPS can be accessed via more than a few channels such as online banking, cellular banking applications, financial institution branches, ATMs, SMS, and IVRS by citizens, and do no longer involve. However, IMPS is no longer the sole way to right away switch cash thru banks throughout the country. National Electronic Funds Transfer (NEFT) and Real-Time Gross Settlement (RTGS) are some of the structures that can be used to do comparable work in India. These transactional processes can be used at any time the switch of cash using bank employees.

#### **Factors to Consider for Online Money Transfer**

- **Information of the Beneficiary:** In purchase to move cash online, the beneficiary's information such as account number, branch, and so on. play an important function. As the private efforts the on-line money move, you will have to ensure that the information is precise which will identify the efficient money negotiation time. Furthermore, it will be an essential requirement to take the required charge for online transactions.
- **Danger Factors:** Regardless of which checking account you hold, if you are among the web or mobile financial individuals, your financial institution should be sending do's and don'ts of risk-free online financial methods. However, they may seem like fundamental standards, it's necessary to comply with them so you do not autumn victim to any one of the online financial frauds.

#### **Hypotheses**

**H<sub>0</sub>:** Online banking does not affect the risk factors.

**H<sub>1</sub>:** Online banking affects the risk factors.

#### **Data Analysis**

This survey is designed to understand Internet users' perspectives on Internet banking, their experience with Internet banking, and their expectations of Internet banking services. Only summary measures and conclusions from this survey will be reported. Your participation in this survey is greatly appreciated.

Respondent = 50

**Table Showing Personal Information**

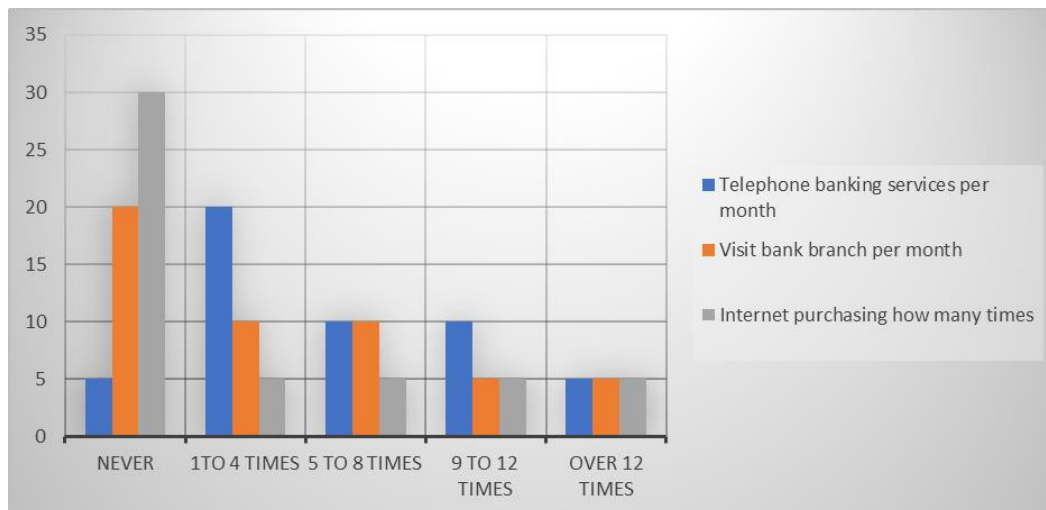
1	<b>Gender</b>	<b>Male</b>	<b>Female</b>		
	Respondent	30	20		
2	<b>Level of education</b>	<b>High school</b>	<b>Bachelor</b>	<b>Masters</b>	<b>Ph.D.</b>
	Respondent	5	20	15	10
3	<b>Currently employed</b>	<b>Yes</b>	<b>No</b>		
	Respondent	40	10		

The table shows that 60 percent are male and 40 percent are female in the survey process. The education level of the respondent is a bachelor’s degree more means all are educated and know about internet banking. Currently, all are employed means male or females they all are doing jobs.

**Table Showing some Factors of Internet Banking**

	<b>Factors</b>	<b>Never</b>	<b>1 to 4 times</b>	<b>5 to 8 times</b>	<b>9 to 12 times</b>	<b>Over 12 times</b>
1	Telephone banking services per month	5	20	10	10	5
2	Visit bank branch per month	20	10	10	5	5
3	Internet purchasing how many times	30	5	5	5	5

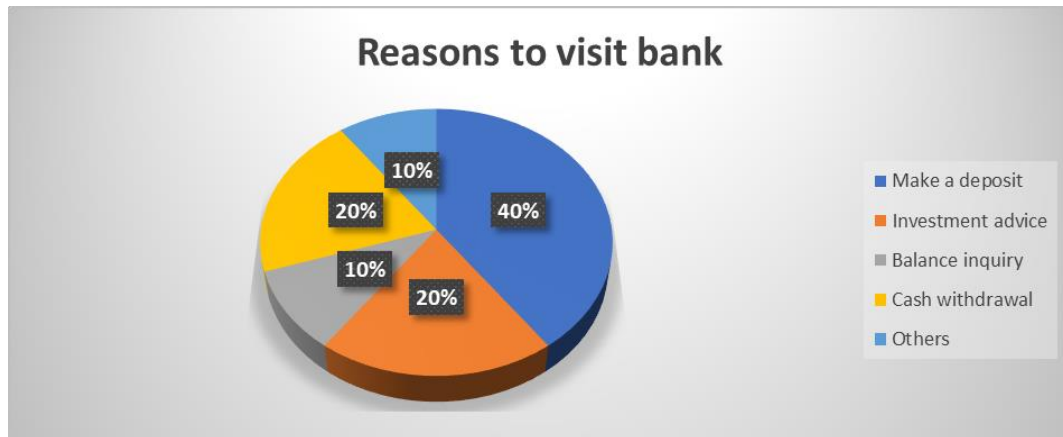
This table shows how internet banking is used by the customers and how much they are depending on internet banking.



In the figure, it has been seen that internet purchasing is not done by the respondent. In the next option, telephone banking services per month are used 1 to 4 times per month. 5 to 8 times telephone services and branch bank visit is similar. According to the analysis, it is clear that internet banking is used only on an average basis the respondent not use internet banking mostly.

**Table Showing Reasons to Visit the Banks**

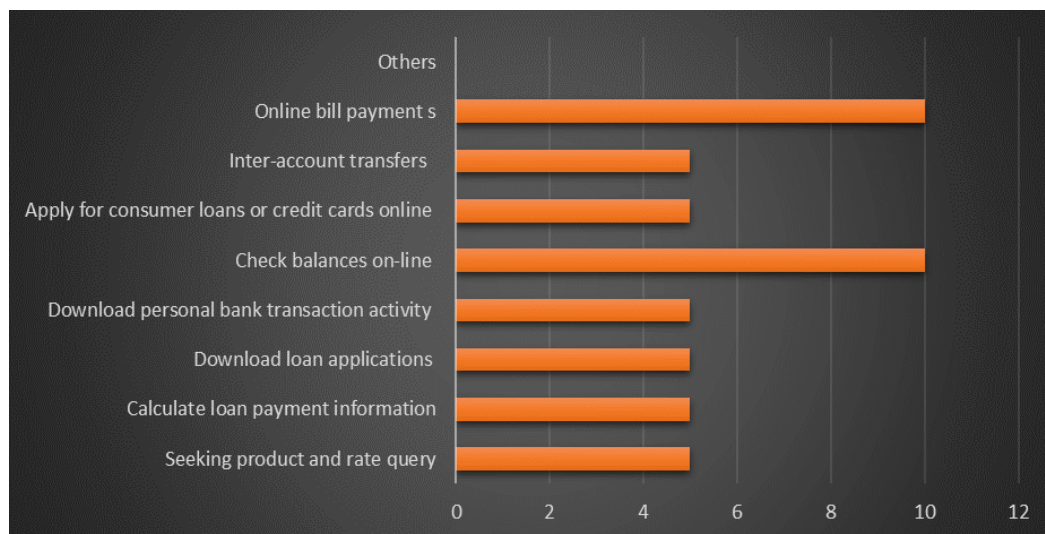
Reasons to visit a bank branch	Make a deposit	Investment advice	Balance inquiry	Cash withdrawal	Others
Respondent	20	10	5	10	5



According to the table and analysis, 40% of respondents visit the bank to deposit the money. 20% visit for investment advice and cash withdrawal. Other reasons include cheque inquiries, loan inquiries, EMI, etc. This indicates that respondents mostly visit banks to deposit cash.

**Table Showing Banking Services which your Internet Bank Offers**

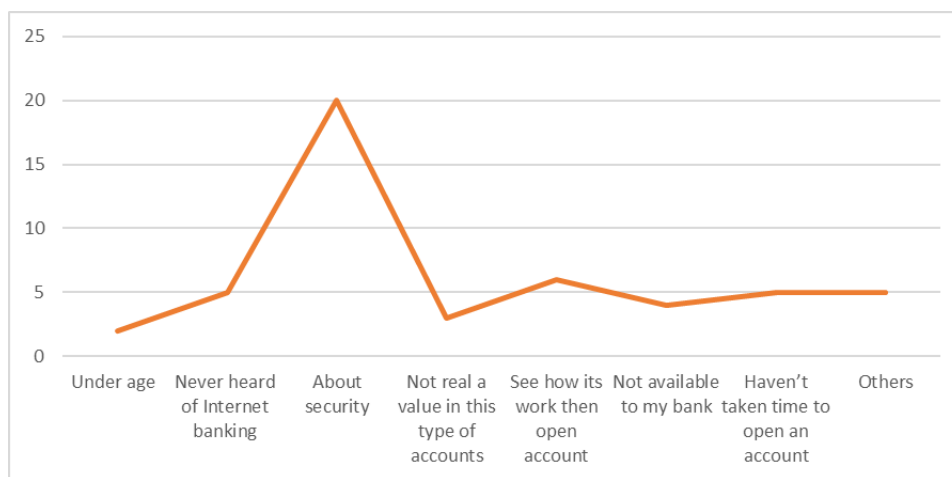
	Seeking product and rate query	Calculate loan payment information	Download loan applications	Download personal bank transaction activity	Check balances on-line	Apply for consumer loans or credit cards online	Inter-account transfers	Online bill payments	Others
Respondent	5	5	5	5	10	5	5	10	



According to the table and the chart it is clear that the respondent uses internet banking for online bill payment and checking online balance all other facilities are used by a small number of respondents.

**Table showing the main Reasons that you have not Opened an Internet Bank Account Yet**

Underage	Never heard of Internet banking	About security	No really a value in this type of account	See how it works then open an account	Not available to my bank	Haven't taken the time to open an account	Others
2	5	20	3	6	4	5	5



According to the table and the figure, it is concerned about security means that the respondent is very much effect by the frauds and not risk-taker. They are very much concerned that internet banking is not much easy.

For your option of a Web financial institution, please suggest just what does it cost? each of the complying with elements is/are essential to you: (Please focus on the complying with listing in the purchase of significance. 1: one of the most essential 9: the very least essential) Please utilize each number just when.

Priority	Ranking
Better rate and lower service charge	7 <sup>th</sup>
Bank familiarity	6 <sup>th</sup>
Bank location	2 <sup>nd</sup>
The size of the bank	8 <sup>th</sup>
Security of transaction	3 <sup>rd</sup>
Convenience	4 <sup>th</sup>
Variety of features and services	1 <sup>st</sup>
Integrated value-added services using other online services and resources (for example other brokerage account summary	5 <sup>th</sup>

In this table, it is shown according to the respondent that the most important factor in a variety of features and services of the bank is internet banking. And the least important is the size of the bank in internet banking. The ranking method is used in the table for the analysis.

### **Conclusion**

The common reason to utilize e-transfers consist of: Sent by mail checks take days to be provided and could obtain shed in the mail or taken. If cash has been sent out globally, there's the concern of money conversion charges, which are usually more expensive than money transfer charges. Online money transfers are near-instantaneous without any physical problems anywhere on the planet.

- **Is E-Transfers Safe?**

E-transfer fraud occurs when a 3rd party intercepts a move by hacking into a person's e-mail account and properly thinking or discovering the response to the safety and safety concern. They after that down payment the money themselves, and it never gets to the meant recipient.

E- move frauds are typically people requesting cash (either on their own or for you to purchase an item/solution) or people asking you to contribute to a reason. Coronavirus frauds are an outstanding instance of this. Lots of people asked to e-transfer money to money vaccines, PPE, and screening sets that were never obtained provided. While no resettlement or collection system is 100% risk-free, there are comprehensive precautions to guarantee that e-transfers are safeguarded, including- Several layers of information file security. This implies that information is coded several times to ensure that, if it's taken or hacked on its method to the recipient, it can't be read by others. Scams prevention- Reliable e-transfer businesses need you to respond to safety and safety concerns, provide a distinct code or confirm your identification. This is to guarantee the security of your cash transfers. Sending out funds to a questionable receiver or utilizing a brand-new gadget to visit can set off the incident of scams. Determine verification- If the service company needs a protected password or logs you out immediately after a particular quantity of time, after that it can be a great indicator that they comply with safety measures to guarantee your cash is risk-free throughout the procedure.

- **What are the Different ways to Transfer Money Online?**

Ans: You can opt for several different ways to transfer your money online. You can opt for online bank transfer methods through net banking such as NEFT, RTFS, and IMPS. Apart from this, you can also make use of the bank's telephone transfer option where you can call the customer care of the bank and make a request to transfer a certain amount of money to another bank account. If you do not have access to the internet or your phone, you can visit the branch of the bank and transfer money from one account to the other.

- **How Long does an Online Money Transfer Take?**

Ans. The time taken to transfer money from one account to the other depends on the mode of transfer. If you are transferring money through IMPS, the transfer happens almost immediately. However, you cannot track your money if you sent it through IMPS. NEFT and RTGS on the other hand, take up to 24 hours to transfer the money from one bank account to the other. However, the advantage of NEFT and RTGS mode of online money transfer is that it is trackable.

- **Are Digital Wallets Safe to Transfer Money Online?**

Ans. After demonetization, the appeal and use of electronic purses were enhanced and were endorsed by the federal government also. With BHIM, electronic purses such as Google Pay and Paytm have ended up being among the most utilized electronic purses in the nation. The move of cash occurs instantly and is risk-free since they are controlled by the federal government also.

- **Are there Risks to Online Money Transfers?**

Ans. There can be dangers to online cash moves. You should ensure that everything about exact while moving cash from one record to the next. The record number and IFSC code should be the right one or the cash can go to someone else and you probably won't get it back. Aside from this, different dangers imply the bank frameworks. Be that as it may, you can in any case get the cashback assuming there is a specialized error by the bank.

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## About the editors



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Dr. Shравan Raj did his graduation(with gold medal), post graduation(with gold medal) and Ph.d from department of economics, Jai Narain Vyas University, Jodhpur (Rajasthan). He has qualified UGC NET and has fourteen years teaching experience of UG and PG classes. Recently he has supervising four research scholars. He has also participated and presented many research papers in various national and international conferences and seminar. He has published research papers in referred and peer reviewed journals. Presently he is working as assistant professor, department of economics, Jai Narain Vyas University, Jodhpur, Rajasthan since 2013.



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