



**A SOCIO – ECONOMIC STUDY  
ON THE SEX WORKERS OF  
KOLKATA AND THEIR CHILDREN**

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## **ABSTRACT**

Prostitution is legal in India. Yet prostitutes are stigmatized and they fail to live a normal life. Most of the times, the children of the sex-workers are forced to carry the stigma which makes their lives harder.

The objective of this project is to look deeper into the lives of the sex-workers, see them as mothers and know about the life of their children. This study concentrates on the lives of sex workers as well as those of their children. Financial inclusion of sex workers, educational inclusion of their children, aspirations of these children and of their mothers, deprivation faced by the children, are all various aspects of this survey project.

This survey provides an overview of the situation of sex workers and their children across four red-light areas in Kolkata and helps us dig deeper into their lives, thus helping us provide some policy prescriptions, so as to bring about an improvement in their lives.



## *INTRODUCTION*

## 1.1 A Brief Introduction to Our Study

Prostitution, an age old practice, is the business of engaging in sexual activities in exchange for payment. A person involved in this profession is termed as a prostitute or sex worker. It is an illegal activity in many countries, but still, it can be found in almost all countries of the world.

Prostitution in India, a legal practice, has currently flourished into an 8.4 billion dollar industry<sup>1</sup> with around 3 million commercial sex workers engaged in this profession across different red light districts of the country<sup>2</sup>. Kolkata, in fact, is home to India's largest red light district, Sonagachi. The total number of sex workers working in Kolkata is unknown, though estimates suggest that the number runs in thousands.

The major reason for women in India to join the sex trade is poverty and unavailability of other suitable employment opportunities. It is due to poverty, the number of dependants, the inability to find job in other informal sectors and the meagre amount earned in any other job in the informal sector that women are compelled to choose this profession, because of the inability to find a job with adequate income to feed their families. Other reasons include illegal trafficking, inability of the government to provide rehabilitation facilities to sex workers and age old traditional practices by some communities like "Nat", "Bedia", etc.

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<sup>1</sup> Prostitution: Prices and Statistics of the Global Sex Trade, P. Salud (2015)

<sup>2</sup> India Country Report- 2008- Ministry of Women and Child Development and United Nations Office on Drugs and Crime

Prostitution is an ancient profession, but it has always been stigmatised and sex workers have been marginalised in the society. The Constitution of India provides all citizens with the right to a life of dignity and education. However, such rights have not reached all echelons of the society, and sex workers, due to their stigmatised nature of work, especially have had to face the worst brunt. Their children are also, in general, deprived of the fundamental rights, as guaranteed by our Constitution.

In general, not much is known about the socio-economic condition of sex workers and their children. The first major survey on sex work in India<sup>3</sup> was conducted in 2011 by the Centre for Advocacy on Stigma and Marginalisation (CASAM), which is a part of Sangram, a major NGO working with sex workers, through which some light has been shed on the lives of sex workers in India. Several other researches about sex workers have also been conducted, including ones about their children. These researches include reasons for entry and continuation of sex work, health problems faced by these sex workers, situation and vulnerabilities of the children of these women and career aspirations of these children. However, several factors are still unknown, including socio-economic status of these women, financial inclusion for them, experiences as they fulfil the role of being a parent, financial problems faced during raising their children, their perspective on their children's education and future, their children's educational status or job profile across India and the degree to which these children are deprived. Such detailed analysis is also not available for the sex workers and their children across the seven red light districts in Kolkata.

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<sup>3</sup> The First Pan-India Survey of Sex Workers, Sahni and Shankar (2011)



The results obtained from this field are not only important in understanding the lives of sex workers and those of their children, but also to understand what policies might be undertaken in order to prevent these children from being marginalised due to their mothers' profession in schools and workplaces, and in order to ensure that the stigma involved with sex work does not lead to the violation of rights of these children. Results may have policy implications so that daughters of sex workers no longer join sex work or are not married off before adulthood in order to prevent them from staying under the unhealthy atmosphere in brothels, and their sons are not forced to take up jobs in the informal sector, before completing their education. It is through these steps that we can lead to developing an inclusive society, thus increasing the overall welfare of our economy.

The inspiration for our project is derived from the fact that an inclusive society is crucial to a nation's development. Sex workers and their children are generally not included in the mainstream society. However, an inclusive development policy must improve the conditions of population belonging to all strata and minority groups. Further, development of economy requires suitable policies for improvement in financial conditions, financial inclusion and provision of education for the children of sex workers so that they have better employment opportunities in future. However, in order to bring the issues and concerns of this marginalised group in front of the mainstream society, it is of vital importance that we know and understand the life, the needs and the aspirations of these women and their children, as well as the barriers they face in their day to day lives. It is only by studying their lives and their concerns that we can fully understand how deprived they are, and try to find out policies to bring them under the mainstream society.

To this end the present dissertation will present the findings of a survey conducted among sex workers from different red-light areas of Kolkata including Sonagachi. We were able to conduct this survey with the help of the NGO Durbar. Our objective is to know about the financial condition, provision and facilities if any enjoyed by the children and the level of financial inclusion of the women in this trade.

Rest of the dissertation is presented as follows: In section 1.2, we have presented a brief survey on existing literature on sex workers and their children. Section 2 presents the methodology of this project. Section 3 contains an exploration of the entire dataset, along with a descriptive analysis of the data. Section 4 contains statistical analysis of the data as well as deprivation index of the children of sex workers. Finally, section 5 concludes and presents possible policy prescriptions for this project.

## 1.2 Literature Review

Prostitution is one of the oldest professions of the world prevalent since the birth of organized society. Prostitution is practiced in almost all the countries and every type of society. In India, the practice of prostitution has been practiced since ancient times and it is one of the biggest markets for prostitution in Asia. In spite of prostitution being a legal activity in India, sex workers have always been subjected to marginalisation and stigmatisation due to the nature of their work. They have also been subjected to lack of inclusion in terms of labour laws of the unorganised sector, violence from customers as well as family members and hostility from the State itself (Gariaband and Davis, 2009).

According to a study by Sahni and Shankar (2011) violence against sex-workers in India is linked to the perception that sex workers are criminals and not citizens. This has led to systematic and large scale violation of human and fundamental rights such as the right to life, dignity, equality, equal protection and due processes under the law. Stigma attached to sex work exposes them to violence in personal spaces from family members as well as from intimate partners. 31.9% sex workers responded affirmative to domestic violence; 55.9% experience physical violence from clients; 8.5% from employers; 14.1% from third party agents; 5.9% from brothel owners; 24.7% from shopkeepers, auto drivers, goons; 16.2% from neighbours; 0.2% from lovers and partners and 36.3 % from husbands (Sahni and Shankar, 2011).

Sex workers experience debilitating stigma and discrimination that erodes their ability to protect their health and well-being. Accessing health care is a major concern for women in sex work. While the 'immoral whore' image makes it difficult to get good medical

treatment, illiteracy, ignorance and fear of the medical establishment renders them open to exploitation and extortion of money and resources (National Commission for Women, India). For sex workers, the State is an instrument of violence; feared, rather than seen as protectors of rights. In a pan Indian survey of 3000 sex workers to evaluate their experience of police violence, it was found that 50% sex workers experience abusive language; 35% are beaten, hairpulled, beaten with belts; 37% are threatened and 20% are forced to bribe. Lack of social security and safe working environment are also major problems faced by sex workers. (Sahni and Shankar, 2011)

Women engaged in commercial sex work have been stigmatised for life. They face wrath and humiliation in carrying out the daily activities of life. A large number of women were actually forced into this profession. These women are sometimes denied the basic rights accounting to a citizen. They are neglected and socio-economic condition of this abandoned portion of the society is very poor. A pioneering piece of work on this aspect has been done by Gadekar (2015). The objective of study was to delve deep into the social and economic status of the female sex worker from the Miraj City and to know the health challenges faced by them in their regular life. The paper suggests that the government and non-governmental organizations should contribute in the rehabilitation and providing minimum need of the female sex workers. It came to conclusion that social and economic conditions are interrelated to each other. Poor economic status reason is for the poor social status and vice-versa. Social and economic condition is responsible for the poor health status of women in commercial sex work. There is a dire need to have a comprehensive plan of rehabilitation of women in this stigmatised profession.

In a qualitative examination of women involved in prostitution in Mumbai, India by Karandikar, Gezinski, and Meshelemiah (2013), it was found that 68 percent of the women enter prostitution due to poverty, 24 percent were found to have been trafficked and 8 percent were forced to join by a relative. Besides, other reasons like marital abuse, sexual abuse, death of a parent or husband, illiteracy, lack of awareness about risks and dysfunctional home environment are factors responsible for entry into prostitution. A majority of them are sold into prostitution by family members or acquaintances and most of them are from the rural areas. This literature provides policy recommendations, practice and research in the area of sex trafficking.

Life, as it is, is difficult for female sex workers. This difficulty continues through pregnancy and parenthood of these women. Being a mother is a traditional and central role for women. However, due to criminalization, social stigma and marginalized lifestyles, female sex workers often encounter disadvantages and social inequality. They often face several barriers to pregnancy and parenthood (Duff, Shoveller, Chettiar, Feng and Shannon, 2014). Sex workers face a range of barriers in their roles as mothers, underlining a critical need for shifts in policy and programming to better support their needs as mothers. The lack of finances remains a major hurdle with the workers. Given the undeniable link between poverty and homelessness, it is found that absolute homelessness increase barriers as a pregnant/parenting woman by almost twofold. Lower level of education, leading to low level of health literacy among sex workers is also another such barrier. The qualitative studies show that sex workers avoided accessing services for fear of having their children taken away (apprehended) by children protection services. These high rates of child apprehension may be owing to the multiple vulnerabilities faced by sex workers (e.g.,

poverty, homelessness, addiction), as well as child protection workers enforcing laws and regulations that associate parental sex work with placing their children at harm for sexual abuse or exploitation. The stigmatized and criminalized nature of sex work in Canada largely contributes to the high prevalence of sexual and physical violence against sex workers, including from police, clients, pimps, and intimate partners.

Motherhood is central to the lives of most female sex workers, even if motherhood poses an additional challenge for this vulnerable and disadvantaged population (Polly Ma and Alice Yuen Loke, 2018). Motherhood was an important identity for these women and influenced their lives, self-esteem and decisions. Some sex workers chose this profession in order to provide for their children, thus giving priority to their children's needs above their own.

The practice of prostitution often leads to pregnancy and giving birth to a baby, but there are few studies that have taken into account the maternity variable related to this practice. One such study by Ana-Maria Mandiuc(2014) aims to identify and describe the life circumstances of children having prostitute mothers living in Iași and Bacău, two counties of Romania. The results obtained point out the negative effects of prostitution on carrying out the parenting responsibilities, such as: the long absence of mothers, the risk of separating children from the family as a consequence of their mothers being imprisoned, the children being put into child care institutions and hence the attention for their educational needs is reduced. The results obtained so far bring into focus the complexity of this issue, urging new directions for research on the evolution of children who are born and raised in a family where the mother practices street prostitution.

In a study about the childcare challenges of sex workers in Ethiopia (Kelbisow, 2009) it was found out that as sex workers, women experience pregnancy and parenting while working. Majority of such pregnancies are unplanned as the women have very limited knowledge about their body, sexuality and reproductive health. Even with pregnancy, these women continue working as they need the income for survival despite the risks to the unborn babies and themselves. These women found combining motherhood while doing sex work to be challenging even though for some women it is the main reason for their engagement in sex work and for staying in it as well as coping with it. For women, juggling childcare with sex work is very challenging because as breadwinners, they have to bring income through trading with their bodies and as mothers, they are expected to maintain their household and give care to their children. They also have to deal with the stigma of their work on themselves and on their children as they combine socially acceptable role of motherhood and morally condemned role as sex workers. Meanwhile, they have to struggle to minimize the negative effect of their work environment on the lives of their children. Another childcare challenge is the unhealthy living arrangement, not conducive for their children as most of them use the same room for their business and residence. Children living in this condition seeing their mothers' activities will be affected negatively and might step in the same activity. The mothers also worry that their children will be affected negatively by observing their activities. To earn income is a daily struggle to cover the cost of living given the irregular nature of their income, high house rentals expenses which put considerable constraint on their income eventually affecting the quality of their childcare.

Adhikari (2013) did a survey in Bowbazar of Kolkata and found that the children of sex workers, either adopted or of their own, grew up without proper parenting or care and lived

solely on their mothers' earnings. Only about 36% of the children were attending schools and it depended on factors like economic status, mother's education and mother's relationship with her male partner. Children, who could complete their education till tenth grade, usually find a vocational job such as sales person with local merchants, whereas children who drop out of school at a very young age, are found to be playing on the streets or running errands for clubs formed by elder ones in the same locality (Sircar and Dutta, 2011).

Pardeshi and Bhattacharya (2006) tried to analyse the child rearing practices amongst brothel based commercial sex workers. They conducted a survey in Pune, India with sixty brothel based commercial sex workers, out of whom seventeen were Devdasis- women dedicated to the service of God as a custom. It was found out that the responsibility of providing financial support for raising the children laid with the sex workers. However, the families of Devdasis looked after their children. But in other cases, the women had no family to support them and thus, due to their long working hours at night, they remained tired during the day and so, they faced hardships in raising their children. These women also had difficulties in getting their children admitted to schools, due to non-availability of birth certificate, residential address proof, father's name etc. However, most of the women dreamt of a bright future for their children. It was noted that day care centres and night shelters, along with residential schools and special rehabilitation centres, need to be made available to these children, in order to integrate them with the mainstream society. The role of non-governmental organisations was also found to be crucial for this purpose.

Among the children of sex workers in Pune and Delhi, the factors which drew the children towards school included friendly school atmosphere, friendly classmates, supportive and



caring teachers who taught the subject well, and opportunity to participate in extra-curricular activities and sports (Janardhana, 2017). They liked science and mathematics better than humanities, as they felt that science and mathematics would provide them with better career opportunities in future. Career aspirations included health service or medicine (31%), becoming a teacher (19%), joining police or armed services (15%), performing arts (14%), self-employment (11%), engineering (7%) and social work (3%). Highest percentage of male children preferred to join the police or armed services, while the highest percentage of female children preferred to join health service or medicine, followed by wanting to become a teacher. He also noted that these children, who live in underprivileged environment, marginalised or stigmatised due to their mothers' profession, tend to overcome these difficulties when the NGOs provide their help. Thus setting up of educational institutions where accessing education is easier could help them to get into the mainstream society without being stigmatised and marginalised.

Although in the previous two literature, it was found that most children and their mothers are enthusiastic about a bright future, with the help of the non-governmental organisations, away from the marginalisation and stigmatisation that they are subjected to, this has not been the case for the children of traditional sex workers in India.

In the report on Educational Status of Children of Traditional Sex Workers in India (2018) by the National Commission for Protection of Child Rights, it was found out, through a survey on the children of five communities of traditional sex workers 'Nat', 'Bedia', 'Banchhada', 'Saraniya' and 'Perna', that 85% of the total number of children were admitted to schools, but the dropout rate was high. 81% of the drop outs were from the age group 6 to 14 years while the rest were from the age group 15 to 18 years. Their parents were mostly illiterate,

and wanted their children to join their traditional profession. Reasons for drop outs were included as non-cooperation from family, having to earn for family, non-cooperative teachers in school, abusive and non-cooperative classmates, discrimination, sibling care and Eve teasing (in case of girls). However, 85% of the drop outs wanted to join school again. 38% of the children going to school wanted to continue their education at least up to class 12 or so, but they were fearful that their aspirations may not be fulfilled. Parents were found to be unenthusiastic about their children's education as they do not have any aspirations for their children's future and hence, the children mostly did not receive any support from their parents for their education. Most of the children did not have much hope that they would be allowed to study according to their own will, and would finally have to join the sex trade.

In a study conducted in Bangladesh (Shohel and M. Mahruf C., 2013), it was found that although the children of sex workers do not face any problem in admission in schools, they do face discrimination from other children due to their mothers' occupation and sometimes, teachers are also prejudiced and biased against these children. Mothers consider education to be crucial for their children as only education can help these children to improve their own conditions as well as provide rehabilitation facilities for their mothers in future. These mothers are concerned about their children's future. They expect their children to be educated and have high aspirations for their future.

Given the existing literature, we try to find the condition of sex-worker and their children in Kolkata. We focussed on the level of deprivation of these children. Our objective is to gauge the extent of financial inclusion among these women.



## *METHODOLOGY*

## 2.1 Survey Design

Our project aims to determine the socio-economic status of sex workers and also of their children. Further we try to determine the living conditions of the sex workers and whether the social and economic factors directly or indirectly affect the education and well-being of their children or not.

To achieve this, we initially started by studying various projects and surveys that have been done till date to understand the situation and the protocols that should be taken while doing this particular study. This project required a primary sample survey. The questionnaire was prepared accordingly and then we approached Durbar Mahila Samanwaya Committee. Durbar functions as an exclusive forum of female, male and transgender sex workers in West Bengal, India. Dr. Smarajit Jana (Principal SRTI) helped us with the questionnaire further, checking it so that it suits the sensitive issue at hand and then gave us the permission for conducting the survey.

The distribution of sex workers in different red light districts of the metropolitan part of Kolkata, excluding the suburbs, is as follows (as specified by Durbar):

AREA		NUMBER OF SEX WORKERS
1. Sonagachi	Palatak	1494
	Abinash	1577
	Rambagan	403
	Sethbagan	141
	Jorabagan	10
	RabindraSarani	768
2. Bowbazar		1073
3. Kalighat		423
4. Chetla		364
5. Khidderpore		299
6. Ultadanga		275
7. Dum Dum		70
<b>TOTAL</b>		<b>6897</b>

Source: Durbar Mahila Samanwaya Committee

Initially, a pilot survey was conducted, comprising of a sample size of 20 sex workers during the time period of October to November, 2018. It was conducted to gauge the different sorts of questions and also to check whether the questions were properly understood by the respondents. Information was collected through personal interviews with the respondents in presence of a member of Durbar.

We faced certain predicaments during the pilot surveys. The first and foremost problem was to get the respondents who matched all the criteria for our survey. There was also a lack of willingness to participate in the survey, which we encountered with many respondents. The age bar was another such problem, that is, initially, we had set no age bar, but after the pilot survey was conducted, we realized that we needed to set an age bar so that we could survey the respondents who are mothers of school or college-going children. Presence of such respondents was in limited numbers in each area and their daily routine was also a huge problem since their free time hardly collided with the time we visited them. Many inclusions were made in the questionnaire which was related to child marriage, loans, rent, Aadhar card etc.

Although there are seven red light districts in Kolkata, we were able to carry out the survey only in four areas, namely - Sonagachi, Kalighat, Chetla and Khidderpore. This was due to the fact that the survey was carried out for a period of four months only and within such a short period it was difficult to carry out a survey which required frequent visits and covered seven areas.

## 2.2 Collection of Data

Our main focus was on the women from the various red light districts in Kolkata. The sample was based on the respondents who are mothers or have experienced motherhood.

We adopted the questionnaire method for the collection of the requisite information for the samples in consideration. The overall sample size stands at 227, which was collected by primary survey. In the final survey, we surveyed only mothers.

We personally visited the locations, and with the assistance of the Durbar representatives, we got to interact with the respondents properly. We interacted with them in an informal speech which helped them to relax and also enabled us to understand their situation better.

The final survey was carried out from November, 2018 to February, 2019.

We collected data from women of various ages and also from four red light regions in Kolkata. The regions are namely:

- Sonagachi
- Kalighat
- Khidderpore
- Chetla

The sample size is largest for Sonagachi, which has the highest number of respondents as the number of sex workers working in this area is the highest among the four areas that we conducted our survey in, followed by Kalighat and Chetla which has a stark decline in the number of respondents, because of being smaller regions. Khidderpore has the lowest number of respondents because Durbar did not allow us to conduct any more surveys and many sex workers had gone to their hometown during the period of our survey.

## 2.3 Designing the Questionnaire

The questionnaire is divided into three segments.

### 1. BASIC INFORMATION OF THE RESPONDENTS

It comprises of the respondent's age, basic level of education, experience in the job, education level and profession of parents, whether they have kids and how many sons and daughters they have.

Some questions have options and some of them have a blank space to be filled in by the respondent.

### 2. INFORMATION OF THEIR CHILDREN

This section mainly comprises of the education level of their children, the level of their education, their age, and expenditure of the mother on their tuitions and education, drop outs and marriage of their children. We also included questions about future plans for further studies or any profession, whether they are already engaged in some profession or not, extracurricular activities (if any) and bad addictions.

Similar to the first segment, this segment also has the similar pattern of questions comprising of options and blanks and also a table on the education level to be filled in by the respondent.

### 3. FINANCIAL BACKGROUND OF THE RESPONDENT

This segment was designed at the far end of our questionnaire because it is a personal issue and judging by the nature of our respondents, we estimated beforehand that they would feel reluctant to answer such questions. Given the reluctant nature of our respondents in revealing their incomes, we provided five income groups:

- A. Less than 5000
- B. 5000-10000
- C. 10000-15000
- D. 15000-20000
- E. Above 20000

The applicable option has to be selected.

This segment comprises of the monthly income of the respondents, their savings, bankbalance, whether they have a bank account or not, savings for their children's health, education, and whether they send their income to anyone in particular. Questions related to owning an asset, its valuation and nature, taking of loans or any insurance, amount of rent paid, owning an Aadhar card are also included.

Questions are mainly in the form of blanks but there are also questions which follow the 'yes' or 'no' format.

The questionnaire is attached in the appendix provided at the end of the project. Keeping in mind the ease and comfort of the sex workers, we had drafted the questionnaire in Bengali.



## 2.4 Deprivation Index for Children

The responses received from the questions in each of the segments of the questionnaire are assigned values or a dummy variable for each response.

We have calculated a deprivation score for the children of each sex worker. It is a measure of the level of deprivation the children of that sex worker experience. Deprivation indicators are taken into account and accordingly each indicator is assigned values. We collected information on various socio economic characteristics of the respondents: whether the child lives with her mother in the red light areas, whether she harbours any bad addiction, whether she has dropped out of school, whether she takes part in any co-curricular activities, whether she participates in the labour force and whether her mother has planned any future endowments for her health and education. The mathematical format has been explained and calculations have been done in Section 5.

## 2.5 Exploratory Analysis

In statistical analysis, the objective is to make significant inferences on the population based on the available (sample) observations, i.e. sample data. Therefore we need to run significance tests or do analysis of variance to make inferences and conclude with a claim on the population.

We majorly discuss the association between monthly income, savings, age, education received by the sex workers, education received by the children of these sex workers, school dropout rate, child labour, assets owned by the sex workers, rent paid by the sex workers, gender of their children, extra co-curricular activities of these children etc.

The difference in mean monthly income across area has been tested using z-test in Section 4.2. The difference in mean valuation of assets across different areas has also been tested using a z-test in Section 4.4.



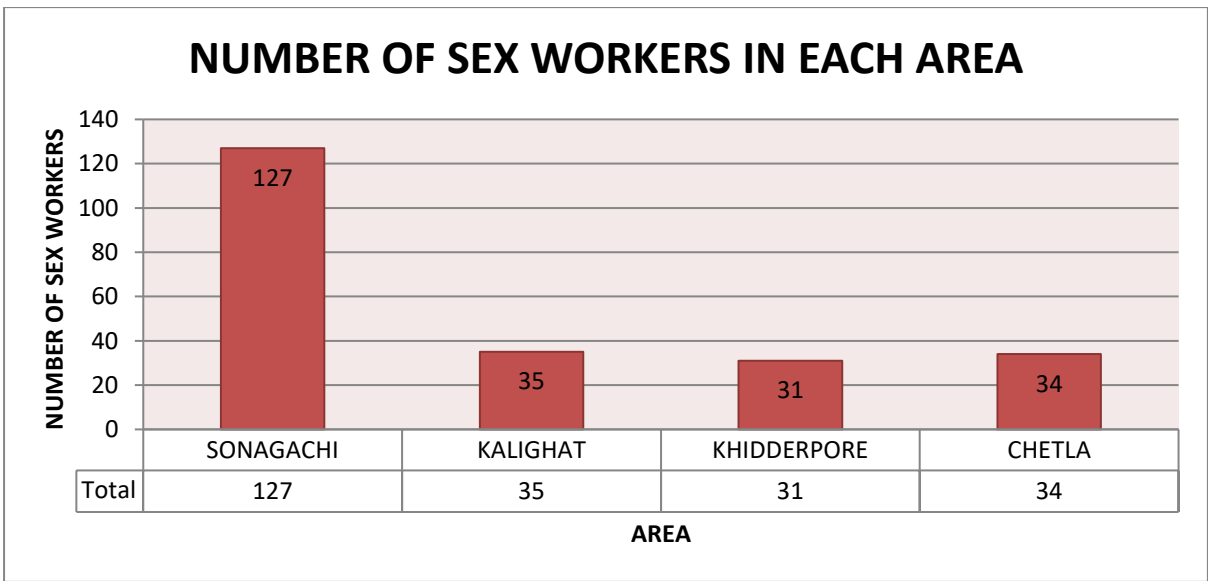
## *DESCRIPTIVE ANALYSIS*

In this section, we have explored the data set in order to observe the trends and patterns of the data.

### 3.1 Distribution of the sample across areas

A total of 227 observations were collected from four different red light districts across Kolkata, namely Sonagachi, Kalighat, Khidderpore and Chetla. The highest number of observations were obtained from Sonagachi, which is the largest red light district of Kolkata, followed by Kalighat, Chetla and Khidderpore, which are relatively much smaller red light districts. 127 data points were collected from Sonagachi, 35 from Kalighat, 34 from Chetla and 31 from Khidderpore.

Fig 3.1. Graph showing the number of sex workers across areas



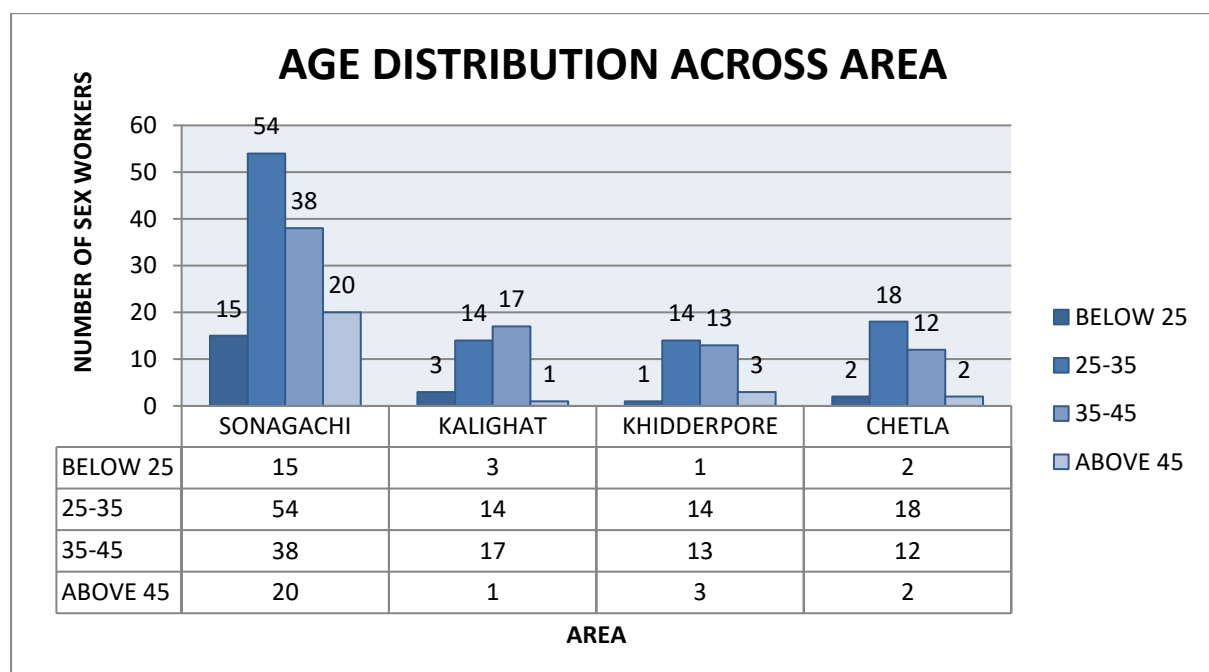
Source: Primary Survey

### 3.2 Distribution of age of the sample across areas

The majority of the respondents belonged to the age group 25-35 in all the four districts. 100 respondents, out of the total of 227, across the four different districts, belong to this age group. It has been closely followed by the age group of 35-45, with 80 sex workers belonging to this age group. The least number of observations have age of less than 25.

This, however, does not imply that the majority of the sex workers across the four areas belong to the age groups 25-35 and 35-45. This simply implies that majority of the sex workers with school or college going children belong to these two age groups, as we have tried to restrict our observations to women who have school or college going children.

Fig 3.2. Graph Showing Age Distribution of the Observations across Areas

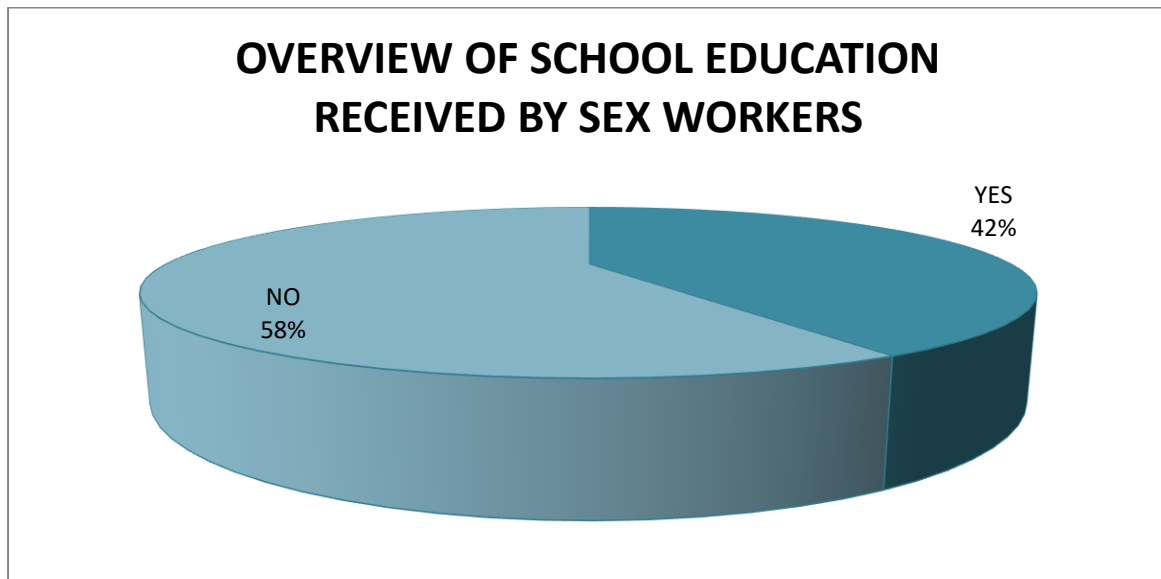


Source: Primary Survey

### 3.3 Overview of school education received by the sex workers

Out of the total observations, only 42% of the respondents reported that they have received school education. The other 58% reported that they have never been to school.

Fig 3.3. Graph Showing Overview of School Education Received by Sex Workers

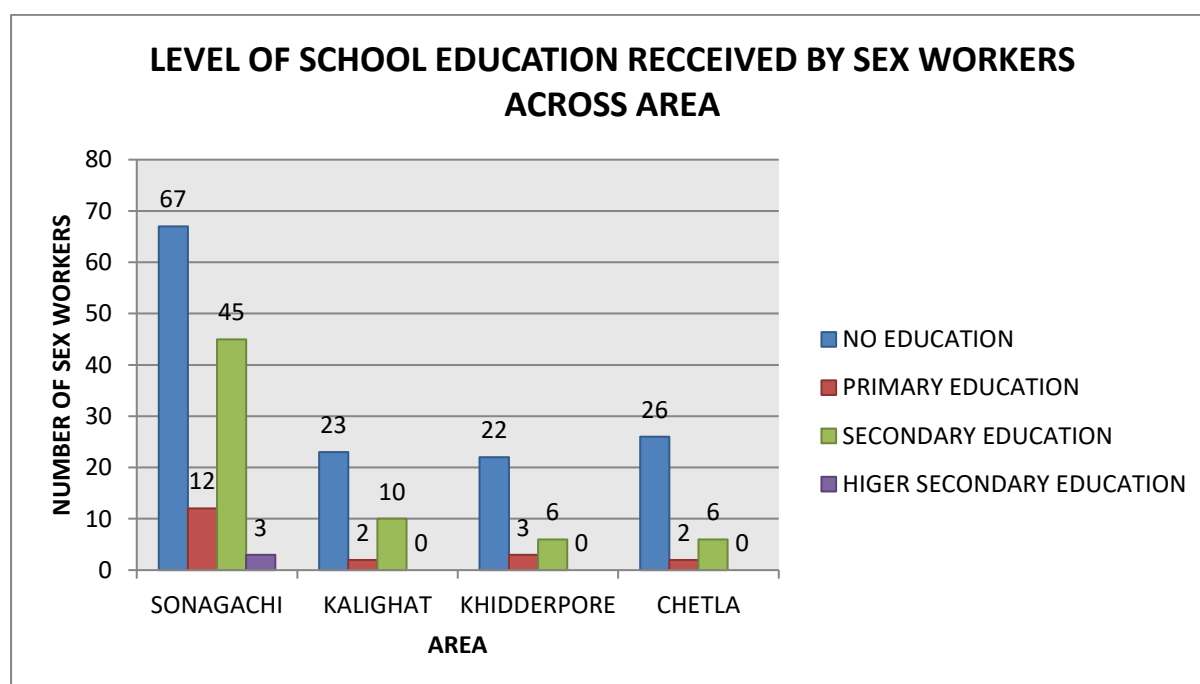


Source: Primary Survey

### 3.4 Distribution of the level of school education received by sex workers across areas

Most of the respondents were reported to have received no education at all. Out of 227 observations, 138 did not receive any education. Among those respondents who reported having received school education, that is 89 respondents, majority reported to have received secondary level of education. 67 of the respondents received secondary education. Only 3 respondents reported to having completed the higher secondary level of education and all of them were from Sonagachi.

Fig 3.4. Graph Showing the Level of School Education Received by Sex Workers across Areas

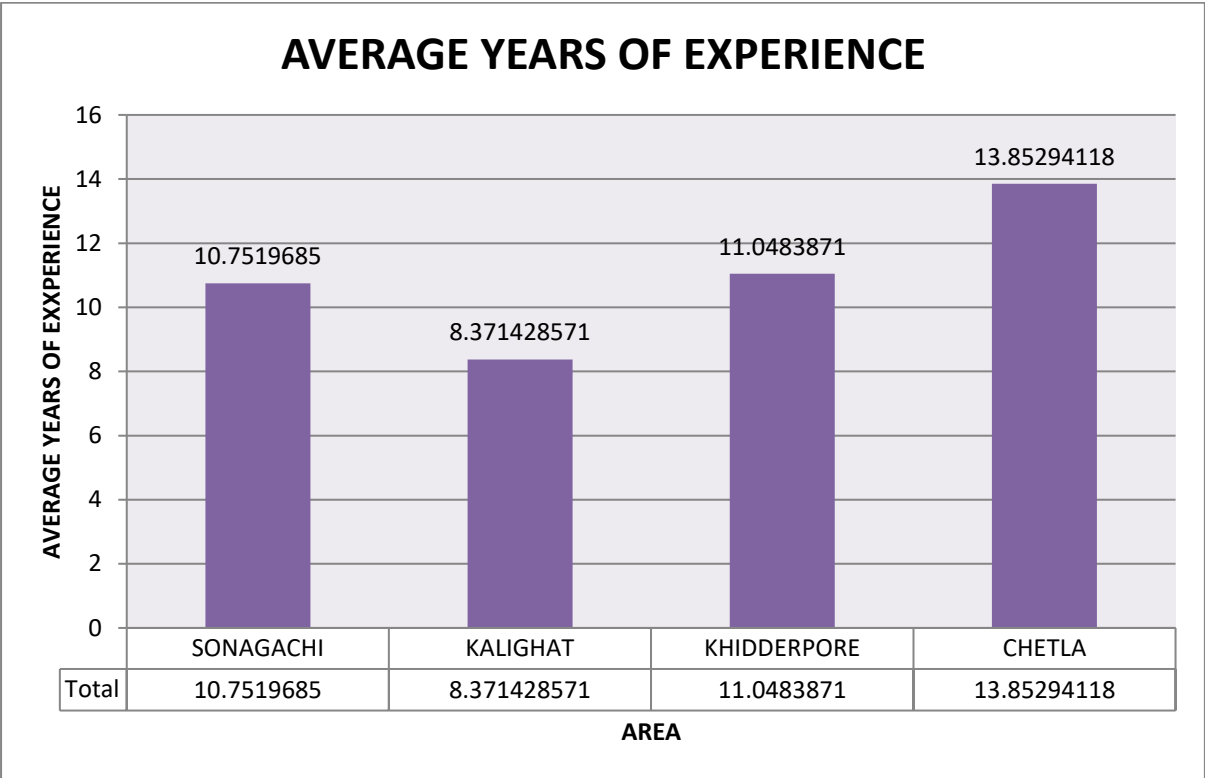


Source: Primary Survey

### 3.5 Average years of experience across areas

The average years of experience has been observed to be highest in Chetla, with the average being around 14 years. It has been recorded to be lowest in Kalighat, with the average years of experience being around 8 years.

Fig 3.5. Graph Showing Average Years of Experience across Areas



Source: Primary Survey



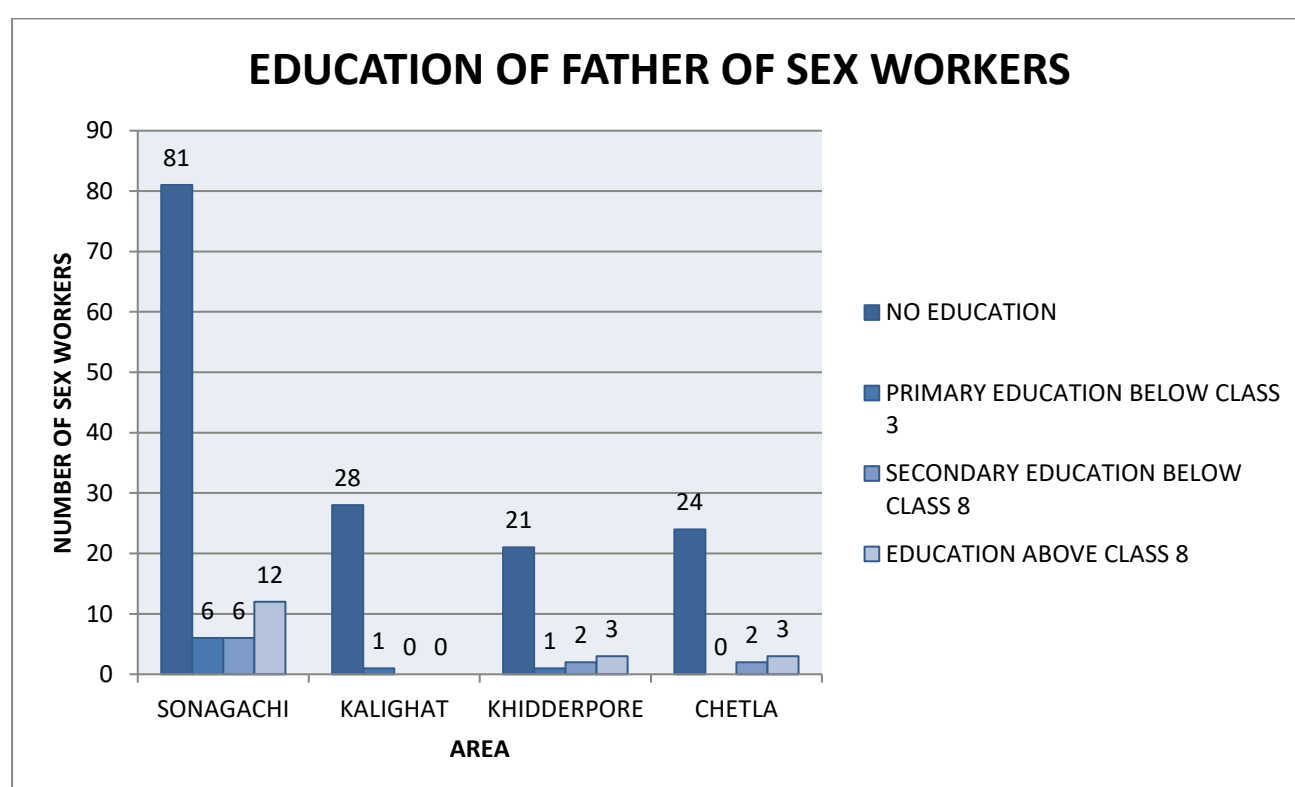
### 3.6 Educational qualification of parents of respondents across areas

Majority of the mothers of the respondents reported to have never received any education across all of the four red light districts.

The same trend was noticed among the fathers of the respondents as well.

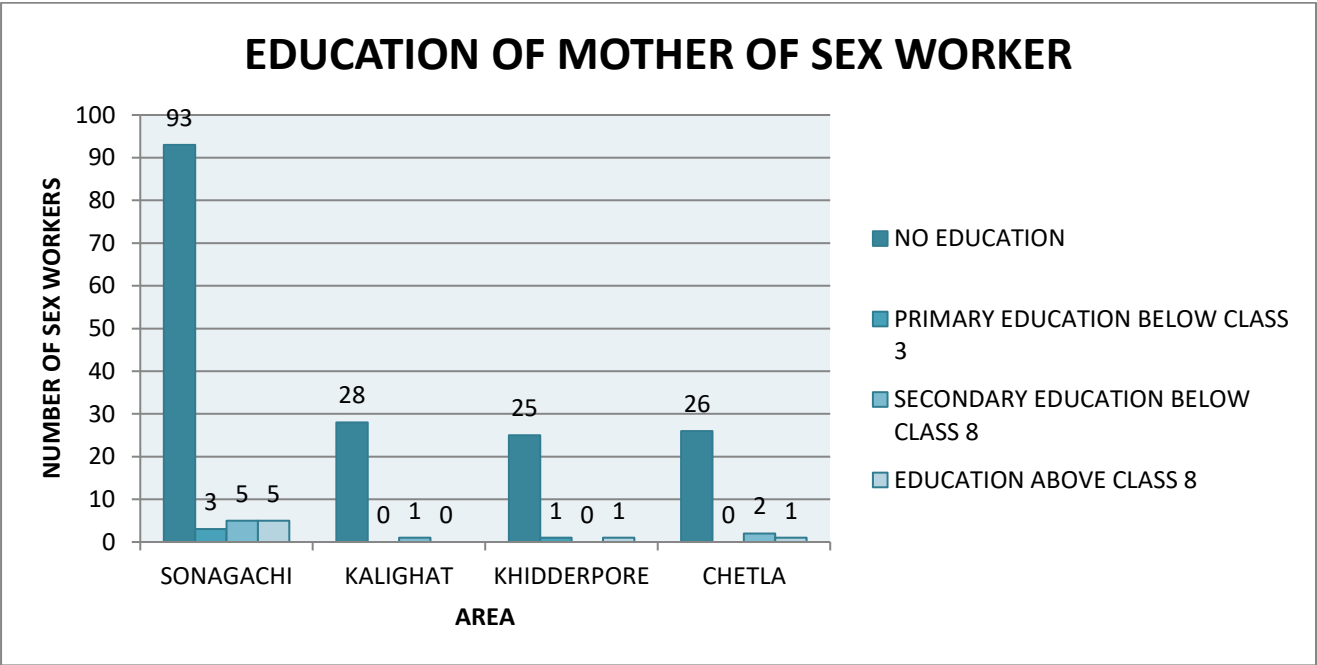
However, the proportion of mothers without having received any education was observed to be slightly higher than that of fathers. The proportion of fathers with any level of education, primary, secondary or beyond secondary, was seen to be higher than that of mothers.

Fig 3.6.1. Graph Showing Fathers' Education of the Respondents



Source: Primary Survey

Fig 3.6.2. Graph Showing Mothers' Education of the Respondents



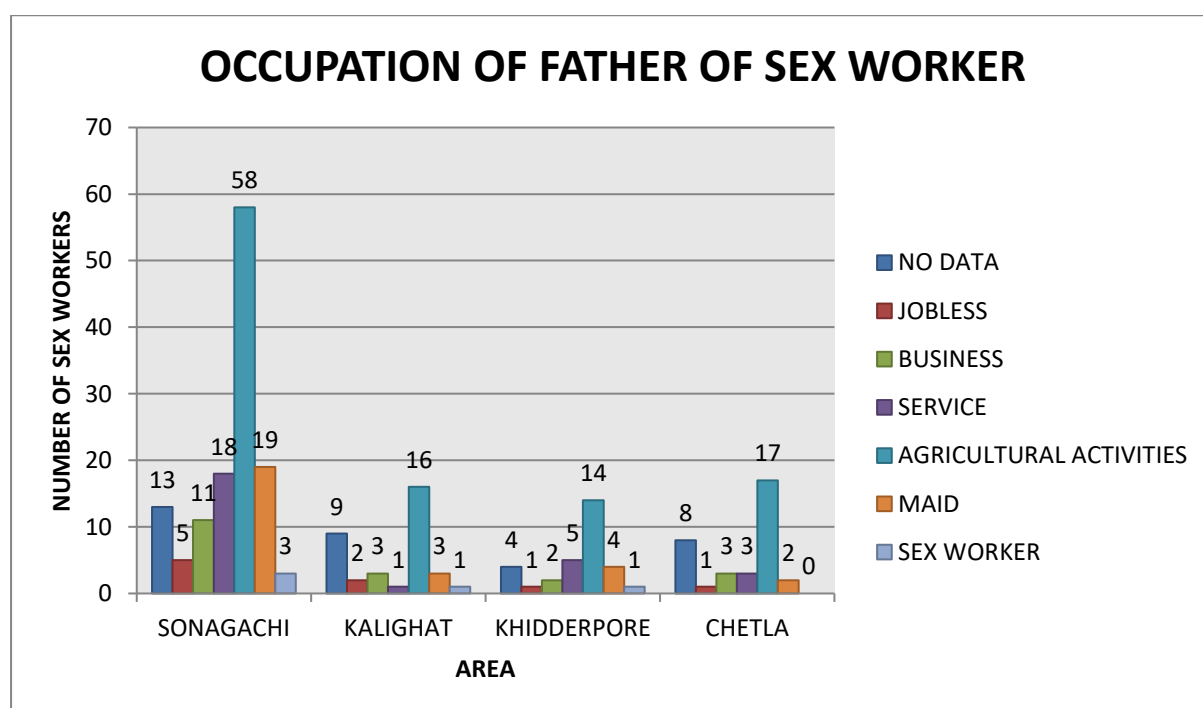
Source: Primary Survey

### 3.7 Occupation of parents of the respondents across areas

Majority of the respondents' fathers were reported to being involved in agricultural activities across all the four areas. However, data about the profession of some respondents' fathers could not be collected as they were either reluctant to answer this question or their fathers had died when they were very young and so, they knew nothing about their fathers.

Data could be obtained for this question from 193 of the 227 respondents. Of these 193 observations, 54% were observed to be involved in agricultural activities, 14% involved in services, 14% worked in other people's houses, 10% involved in business, 3% involved in jobs in the sex trade and 5% of them jobless.

Fig 3.7.1. Graph Showing the Distribution of Occupation of the Respondents' Fathers across Areas

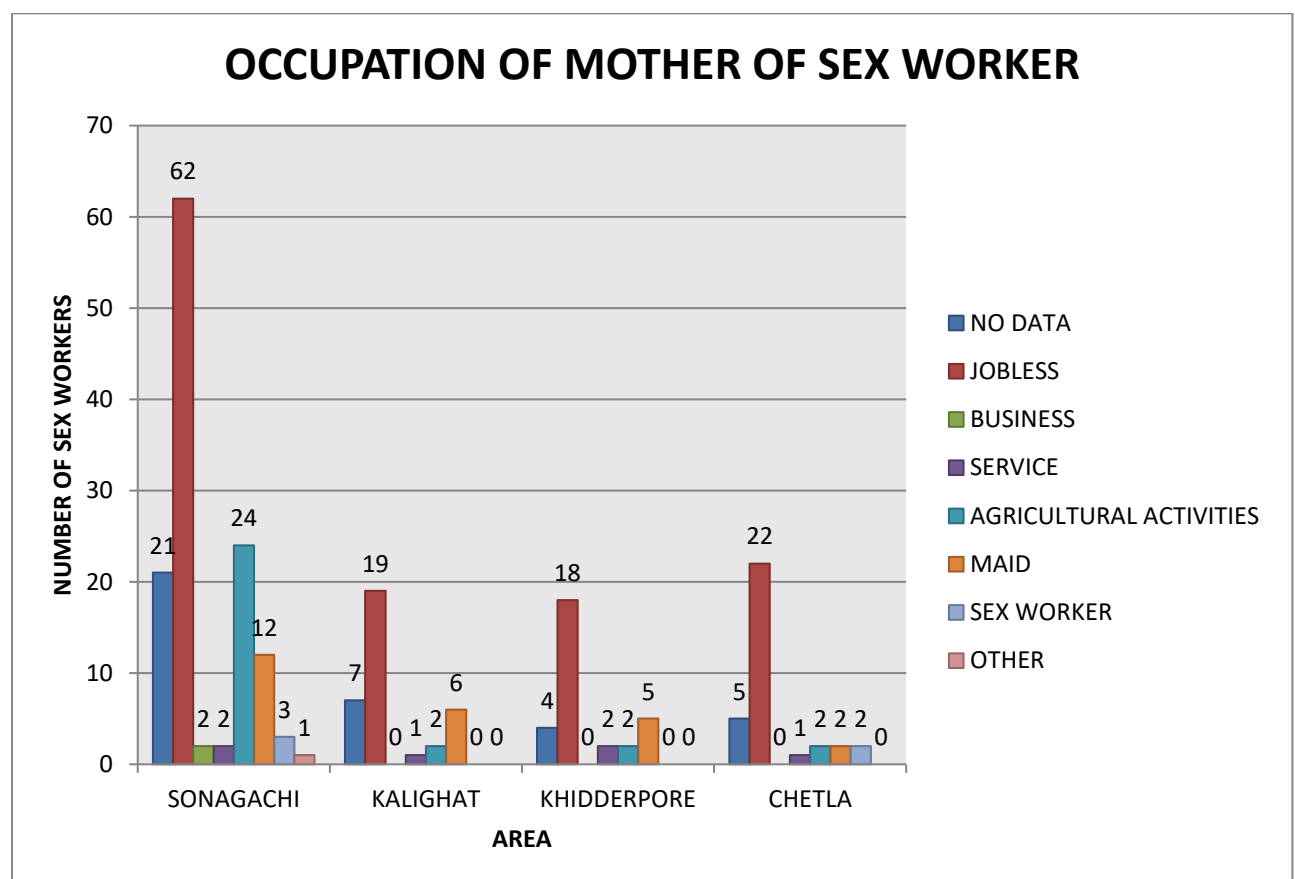


Source: Primary Survey

Majority of the respondents' mothers were observed to be not involved in any income generating activities across the four areas. Here, data from all respondents could not be collected, because of the same reasons stated in the previous case.

Data could be obtained from 190 of the 227 respondents. Out of 190 observations, 64% of the respondents' mothers were not involved in any income generating activities, 16% in agricultural activities, 13% as maid, 3% in services, 2.5% in the sex trade, 1% in business and 0.5% in other professions.

Fig 3.7.2. Graph Showing the Occupation of the Respondents' Mothers across Areas



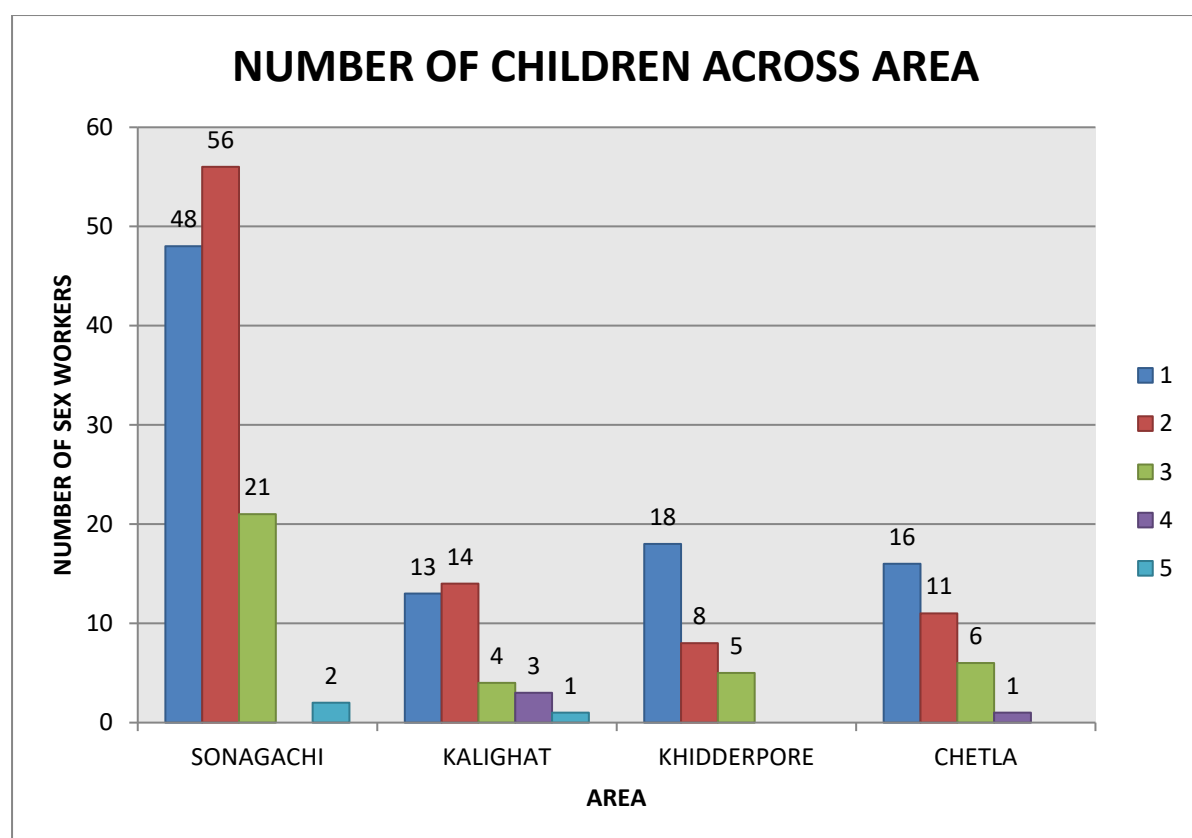
Source: Primary Survey

### 3.8 Number of children of each sex worker across areas

We collected the highest number of samples from Sonagachi. Accordingly, number of sex workers with children is also the highest for this area.

We see that the majority of the sex workers have one or two children across the four red light districts. Sex workers with four or five children is few in number, all across the four areas.

Fig 3.8. Graph Showing the Number of Children of Each Sex Worker across Areas

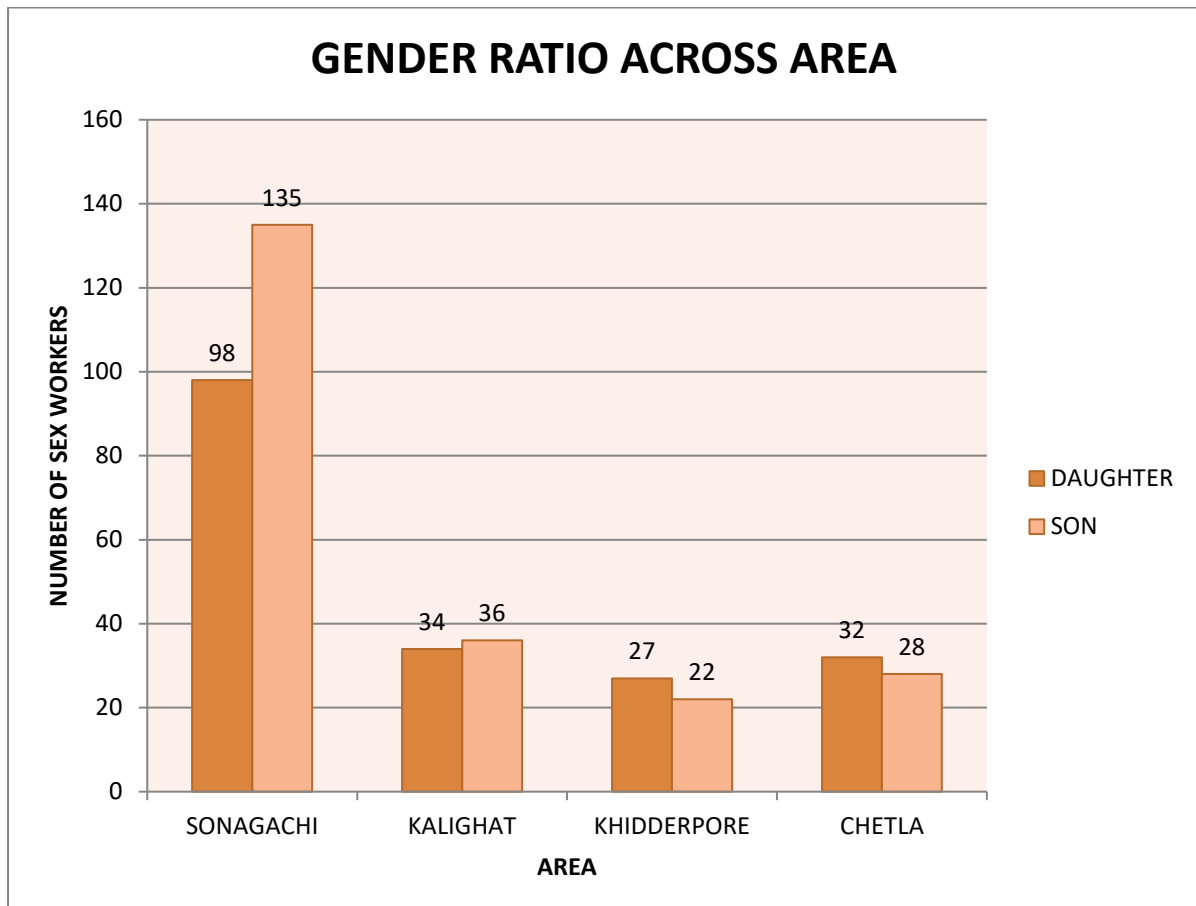


Source: Primary Survey

### 3.9 Gender ratio across areas

Overall, results show that the representation of female children is slightly higher than that of male children.

Fig 3.9. Graph Showing the Gender Ratio across Areas



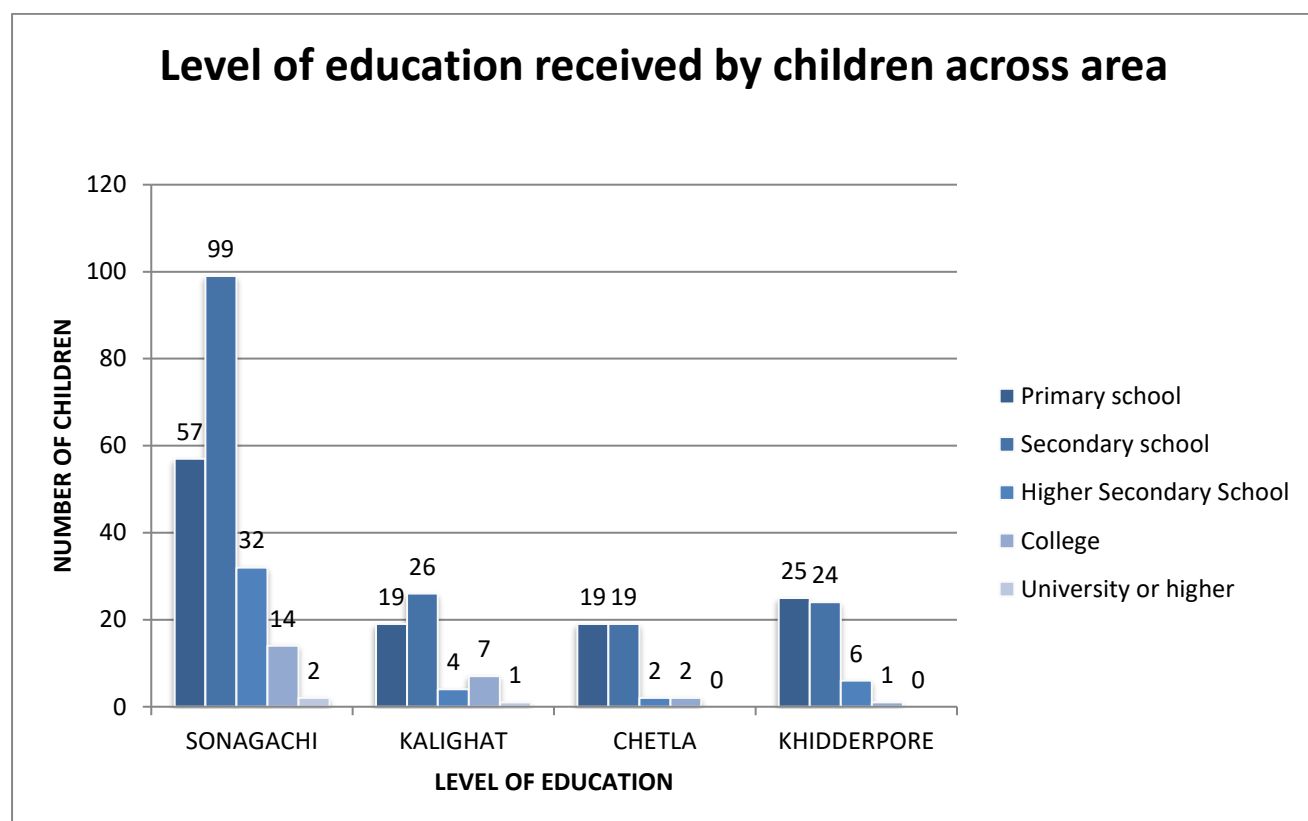
Source: Primary Survey

### 3.10 Educational qualification of children across areas

Here, majority of the children of the respondents have obtained education till secondary level in both Sonagachi and Kalighat, whereas the number of children receiving primary and secondary education in Chetla and Khidderpore are similar.

Sonagachi has the most number of children who have or had received higher secondary education, whereas there were only a handful who got college or university education.

Fig. 3.10 Graph showing the education received by the children of the respondents across area

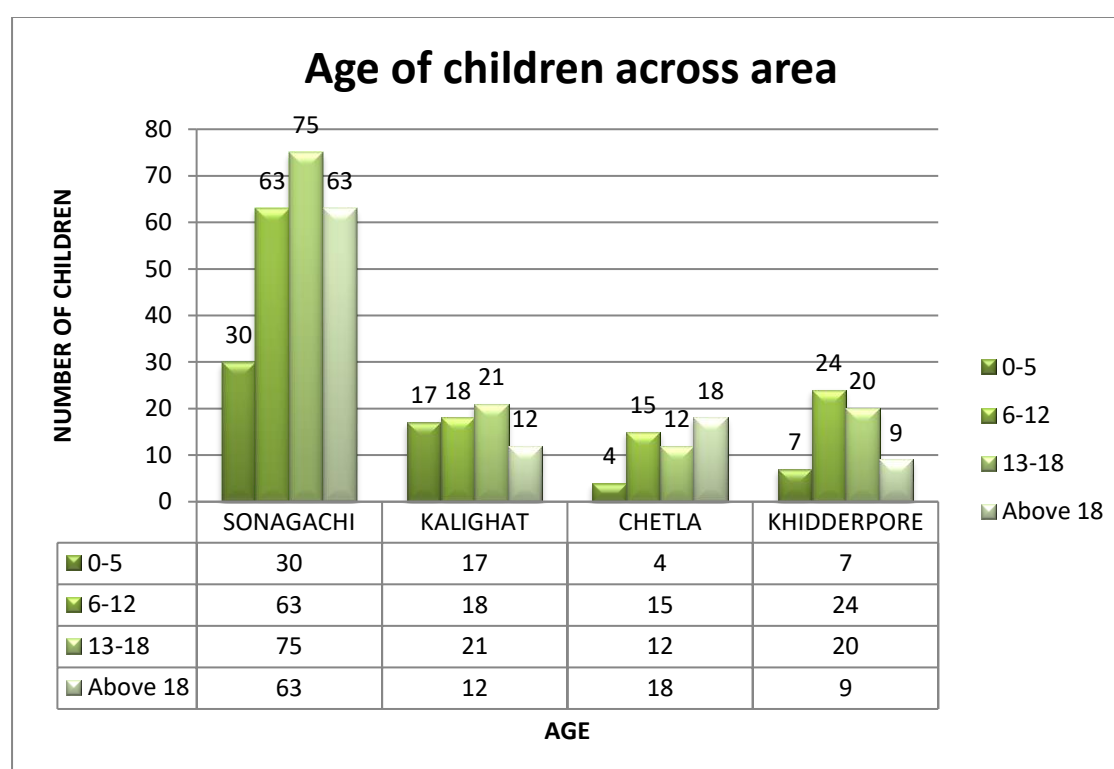


Source: Primary Survey

### 3.11 Age of the children of the respondents across area

According to our data, the highest number of children belong to the age group '13-18' years of age, followed by the group '6-12' years of age and the group 'above 18' years of age and the lowest was from the group '0-5' years of age, taking all the 4 areas together. However, considering the areas separately, we get different number of children in different age groups (no pattern).

Fig. 3.11. Graph showing the age of children across area



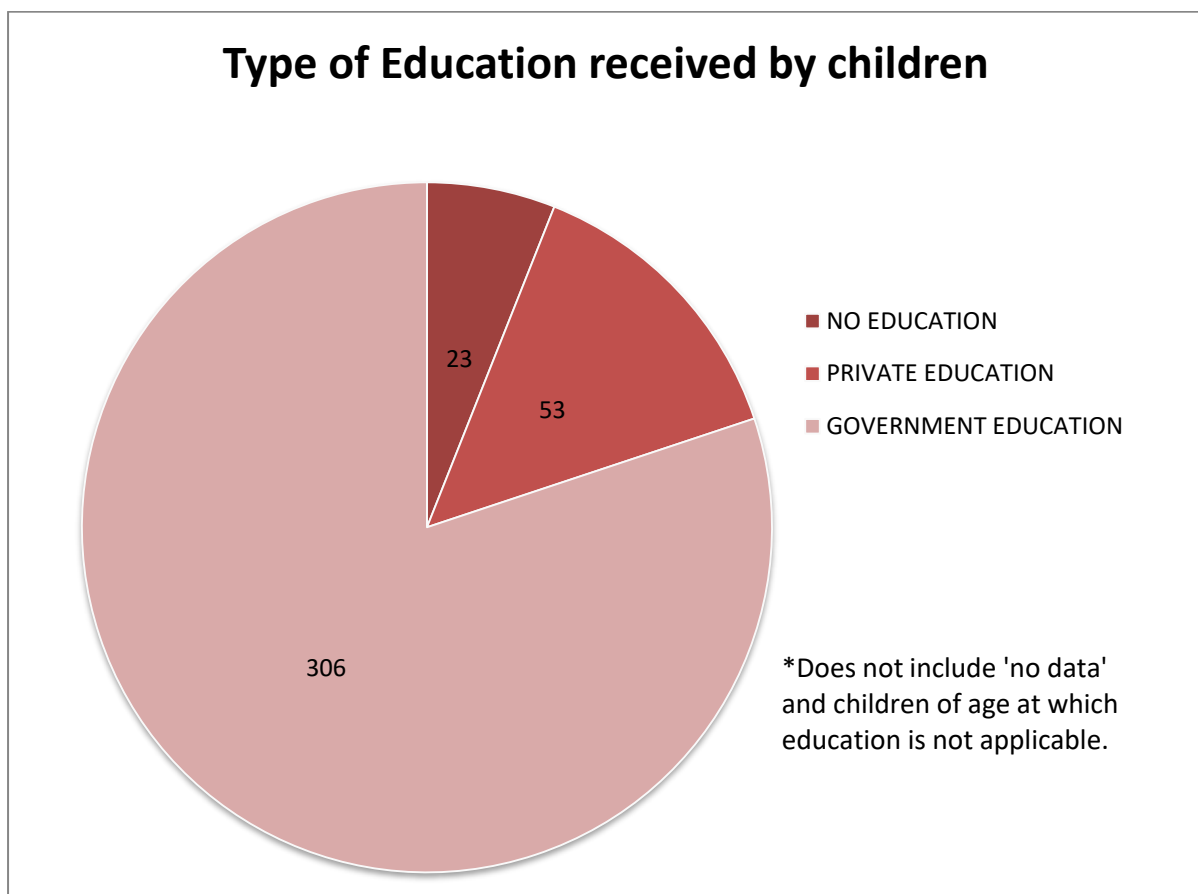
Source: Primary Survey



### 3.12 Type of educational institution the children availed to

We see a clear majority in the government education sector. While 23 of the total children (who are of the age to receive education) do not receive any form of education, 306 avail government education and only 53 go or went for a private educational institution.

Fig. 3.12 Graph showing the type of education received by the children

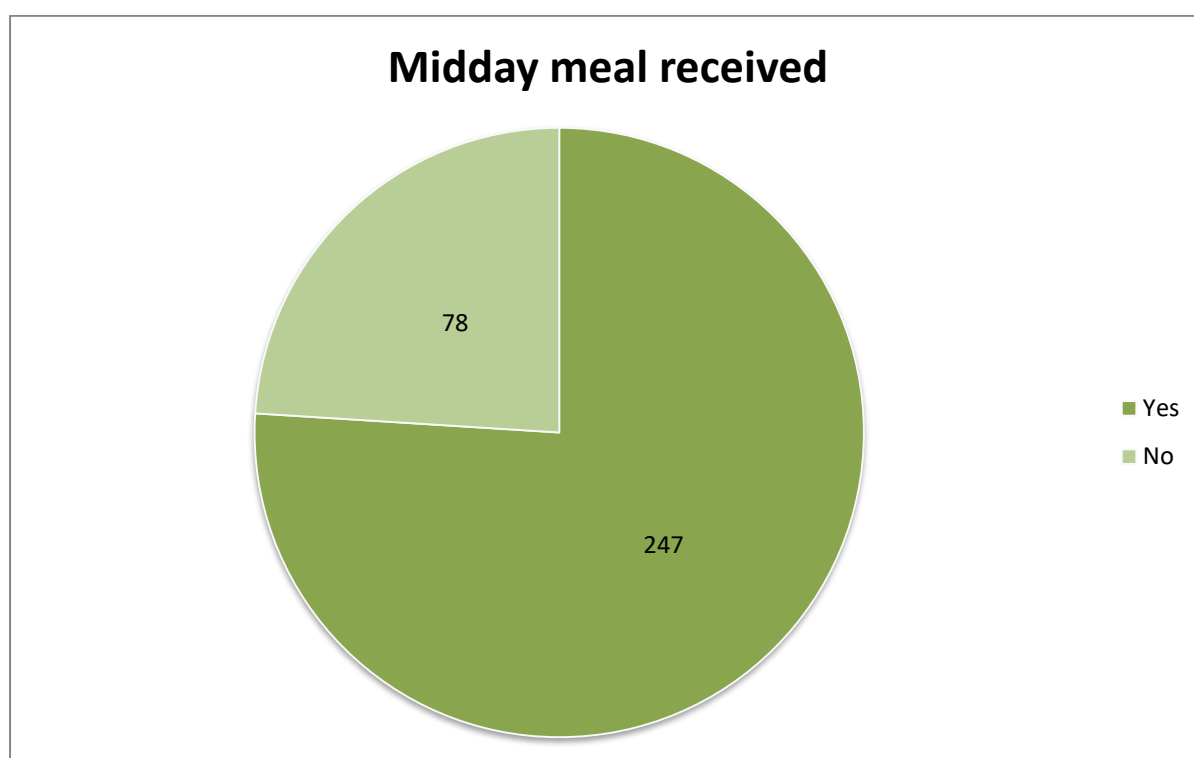


Source: Primary Survey

### 3.13 Whether the children received mid-day meal or not

Out of the 325 children who have or had attended schools, 247 children have or had been provided with mid-day meals. (This does not include the children who never attended any educational institution.) 78 of the 325 children reported to have not received mid-day meals at school.

Fig. 3.13 Graph showing the number of children receiving mid-day meal

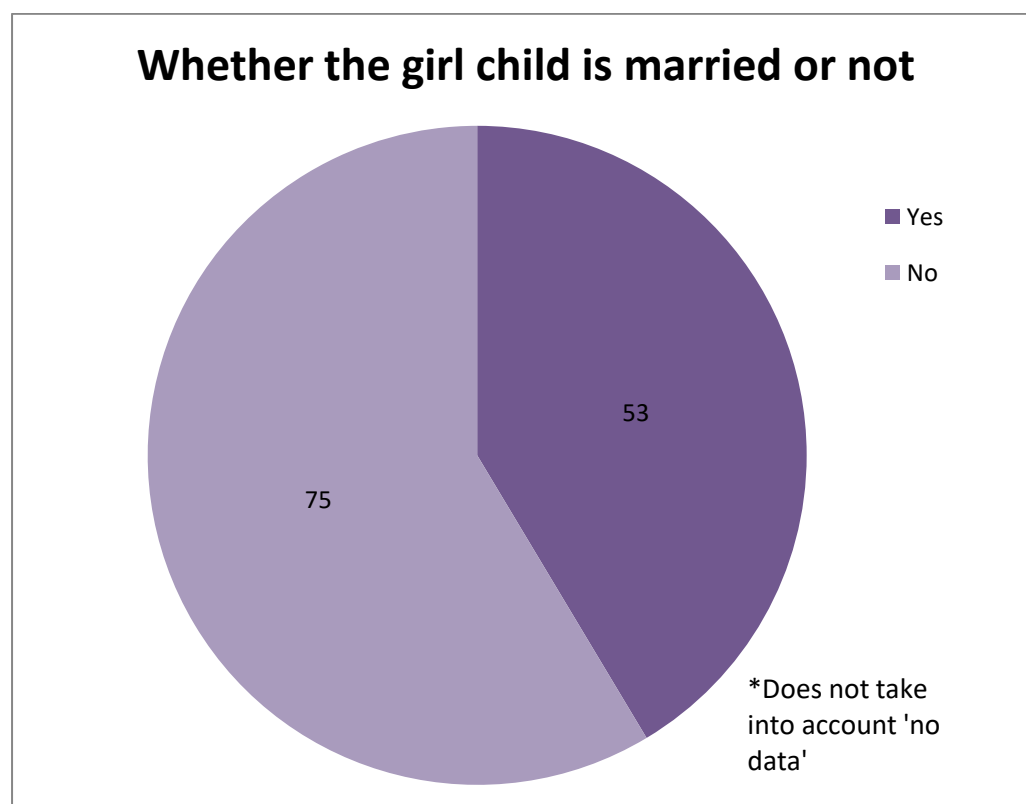


Source: Primary Survey

### 3.14 Whether the girl child is married or not

Below we can see that out of the 128 girl children (not including the response 'no-data'), 75 were not married while 53 reported to be married. Some of the respondent's daughters were married off even before they reached adulthood while some were still pursuing their education up to college level. This is further explained in the next graph.

Fig. 3.14 Graph showing number of married girl child

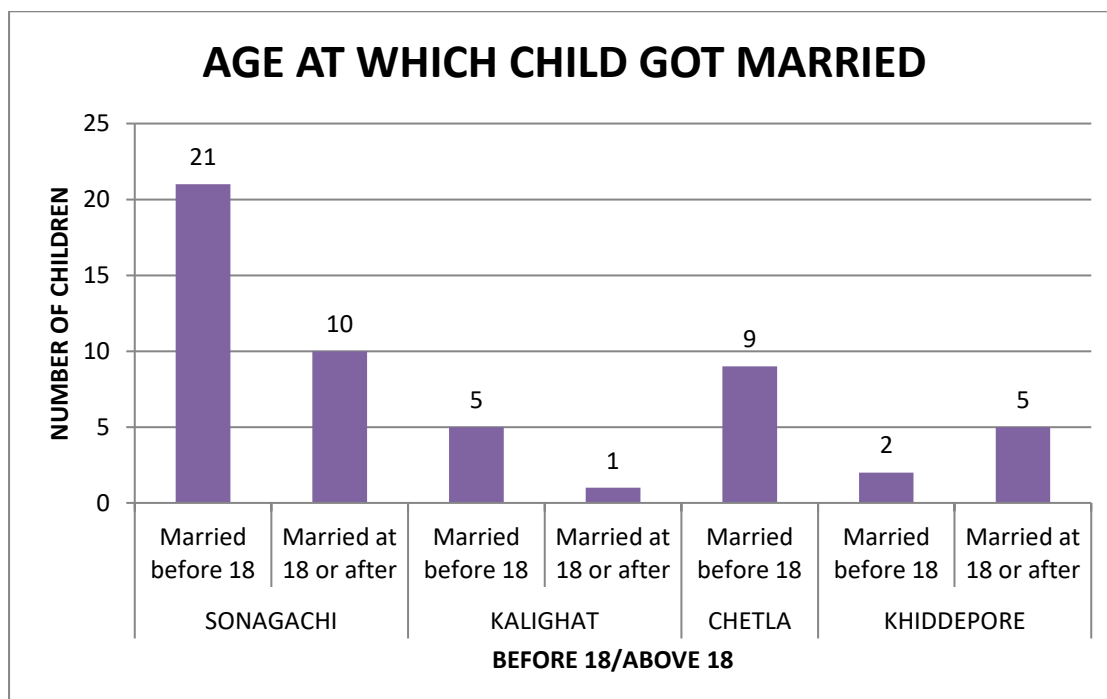


Source: Primary Survey

### 3.15 Age at which child got married across areas

The following graph shows the age at which the girl child got married across the four areas. Each area is divided into two sections representing the children getting married before 18 years of age and those who got married after the age of 18. As per the graph, Sonagachi and Kalighat both have higher number of children married before the age of 18 whereas Chetla has no children who is married after the age of 18 from the sample set. Only Khidderpore is the exception where the number of children married after 18 years of age is higher than married before the age of 18.

Fig 3.15 Graph showing age at which child got married across areas



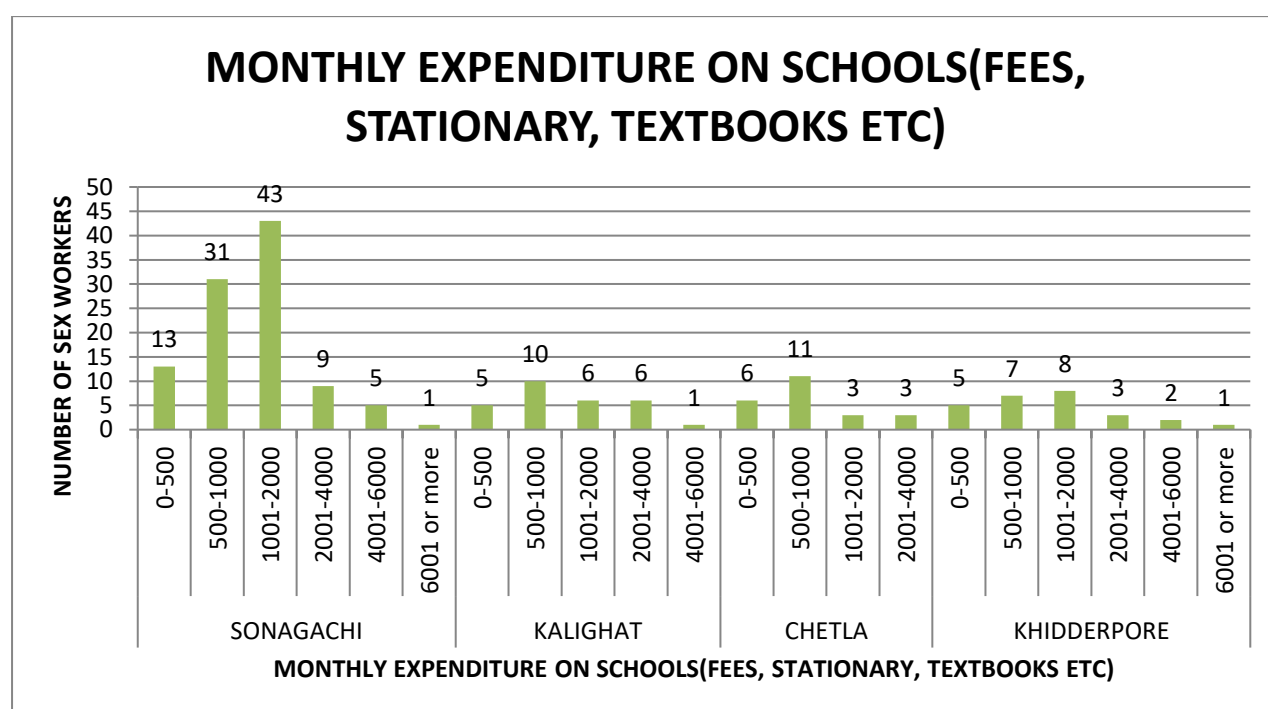
Source: Primary Survey

### 3.16 Monthly expenditure on education on education across areas

The graph is divided into 2 parts. One for the monthly expenditure on schools ( fees, stationary, textbooks etc.) and the other for tuitions.

Here, the expenditures have been divided into different ranges because the respondents were reluctant to provide information on this topic and their responses were estimates and not the exact values. From the graph we can see that in Sonagachi and Khidderpore the highest response was for '1001-2000' where as in Kalighat and Chetla the highest response was for '500-1000'.

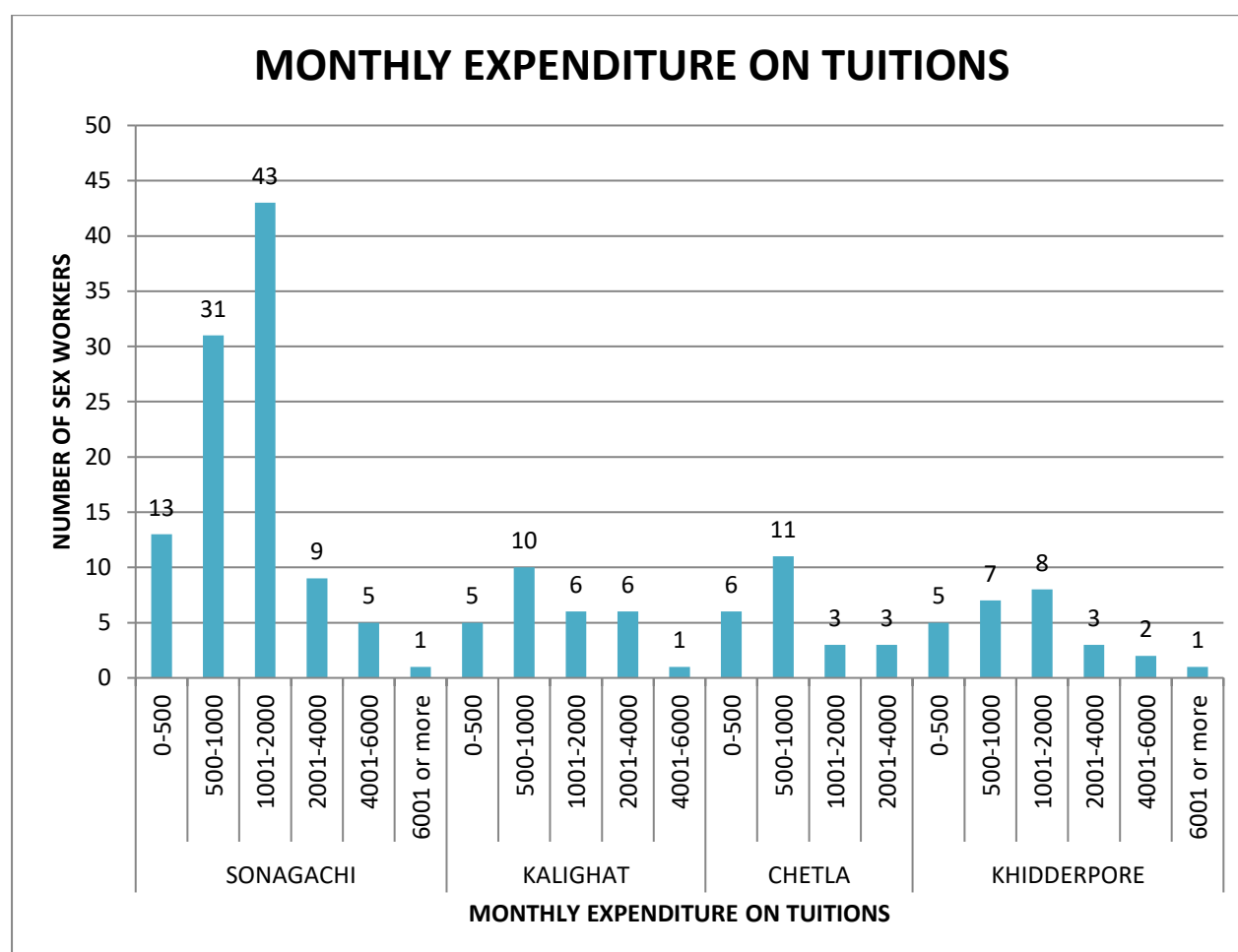
Fig 3.16.1 Graph showing monthly expenditure on schools (fees, stationary, textbooks etc.) across areas



Source: Primary Survey

Here we are representing the monthly expenses on the tuition fees of the children that the mother has to spend. We can see that in Sonagachi and Khidderpore the highest response is for '1001-2000' where as in Kalighat and Chetla the highest is for '500-1000', which is very much similar to the responses for the graph showing monthly expenses on schools.

Fig 3.16.2 Graph showing monthly expenditure on tuitions across areas

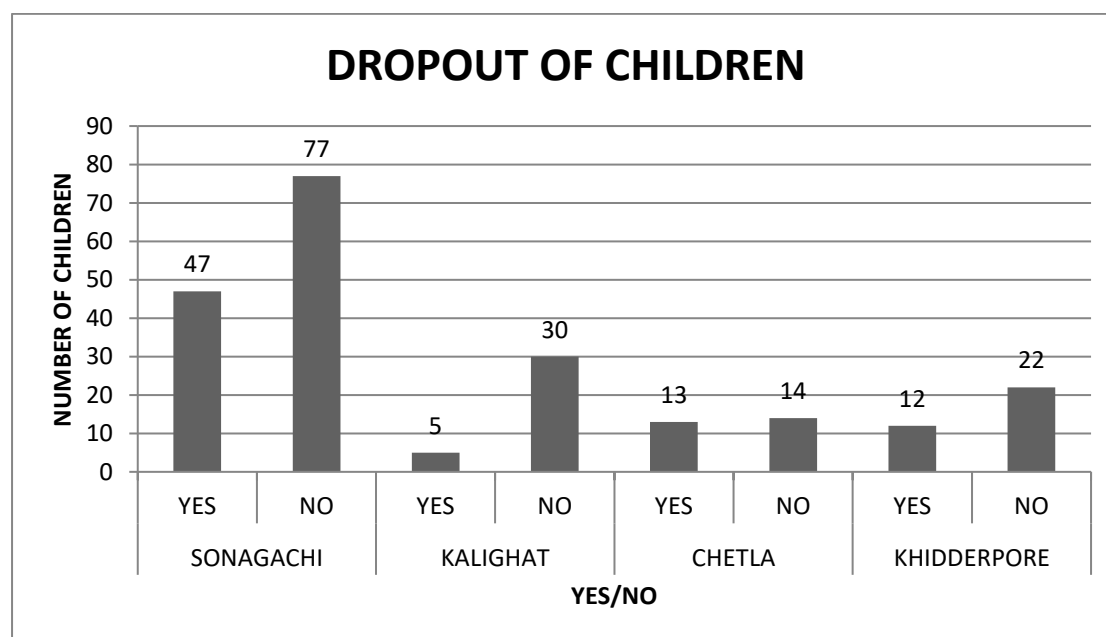


Source: Primary Survey

### 3.17 Dropout of children across areas

The dropout number was highest in Sonagachi, that is, out of the 227 samples collected, approximately 50 children had dropped out. But there were around 80 children who did not dropout and are still continuing their education. The dropout number is lowest for Kalighat, that is, less than 10. Chetla and Khidderpore has almost similar dropout numbers, in between 10 and 15.

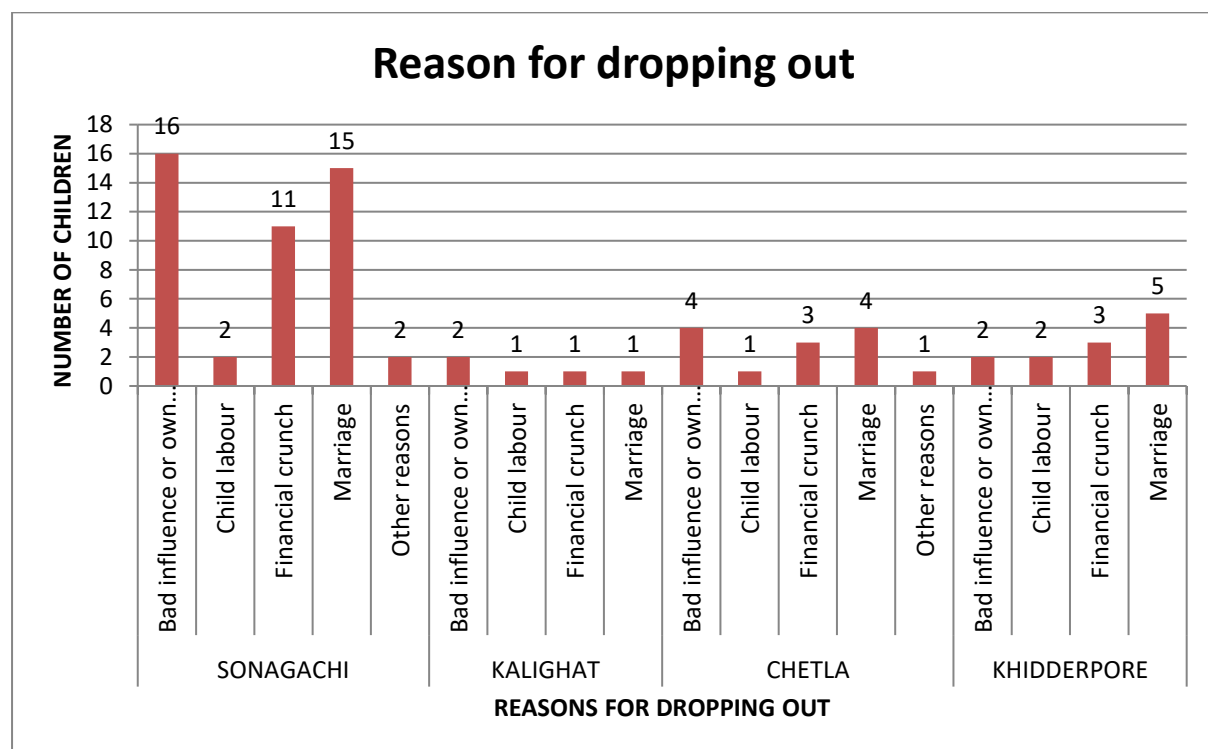
Fig. 3.17.1 Graph showing dropout of children across areas



Source: Primary Survey

In all the areas, the main reason for dropout was due to a bad influence or due to the children's own decision to dropout. Marriage was also a potential reason for dropouts of the children, specially of those of the girl children. Sonagachi had the highest cases of dropouts due bad influence that is around 16 cases and also due to marriage which is around 15 cases. Cases of financial crunch or child labour were very few in numbers.

Fig. 3.17.2 Graph Showing reason for dropping out across area



Source: Primary Survey

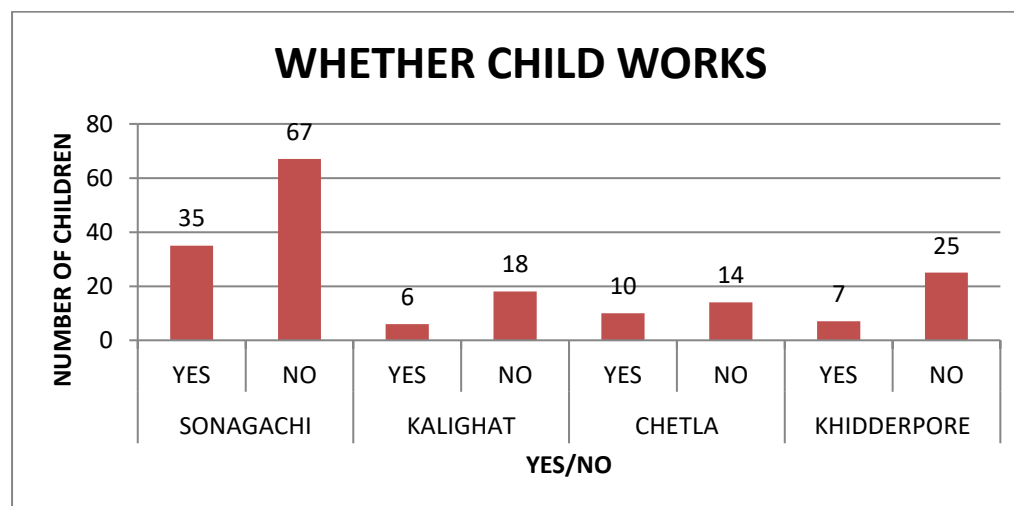


### 3.18 Whether the child is working or not

Here we are representing the data of the working status of those children who discontinued his or her education. We can see that in all the four areas the number of children not working (after dropping out) is more than the children who are working.

Though there were various reasons for not continuing the education, the children were either doing various odd jobs at unorganized sector or were at home.

Fig. 3.18 Graph showing the working status of the children

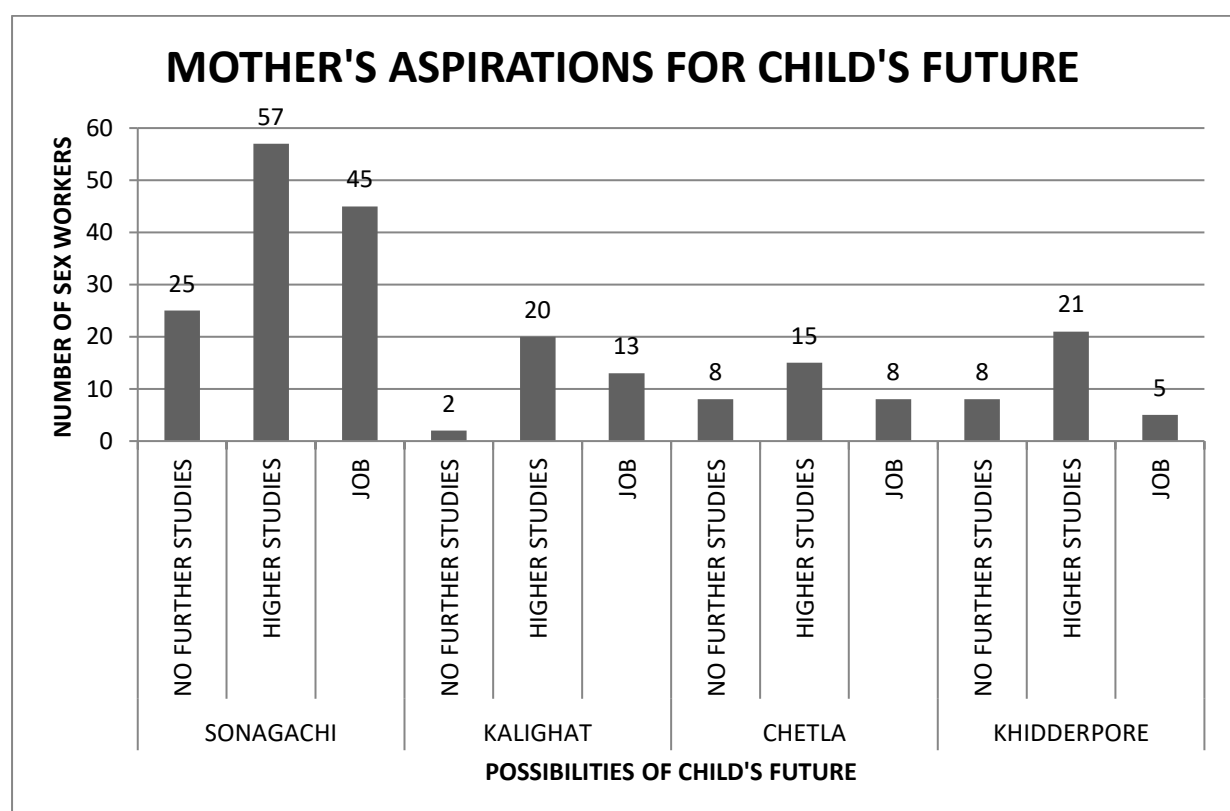


Source: Primary Survey

### 3.19 The mother's aspirations for her child's future

From this graph we can see that across all the four areas the response for higher studies is the highest followed by the responses for doing a job. The responses for 'no further studies' were mainly since the children had discontinued their education on their own accord which was not what their mothers aspired for them.

Fig.3.19 Graph showing a mother's aspiration for child's future



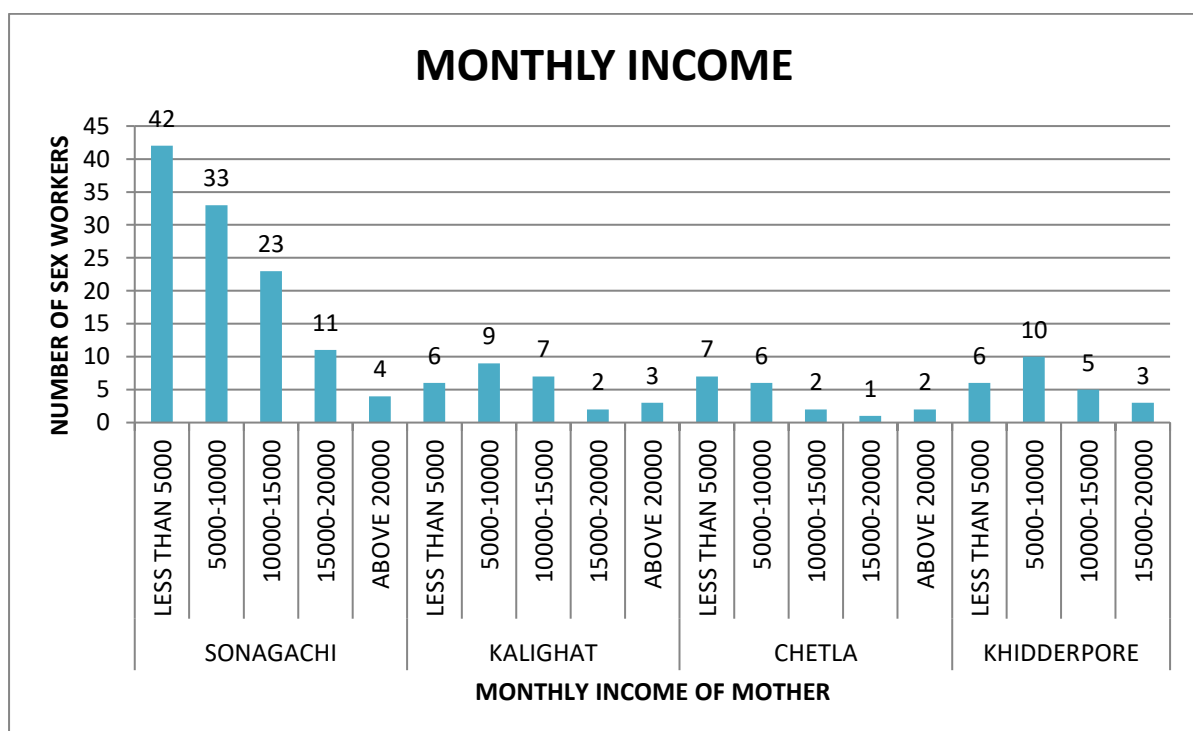
Source: Primary Survey

### 3.20 The monthly income of the mother (The respondent)

We can see that in Sonagachi and Chetla, the response for 'Less than 5000' is the highest where as in Kalighat and Khidderpore, the highest response was for '5000-10000' income group.

The income of the mothers mainly depends on their age and since they have no fixed salary as such, this response had a lot of variations across the areas. To sum up, the responses for 'less than 5000' and '5000-10000' were the highest for all the areas.

Fig. 3.20 Graph for the monthly income of the mother



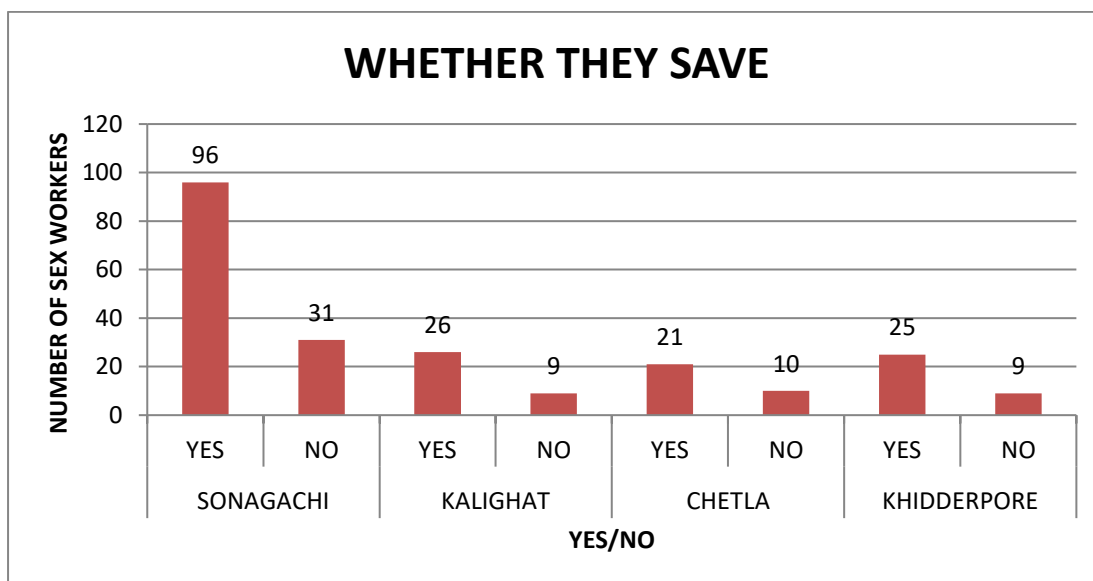
Source: Primary Survey

### 3.21 Whether the mother saves or not

No matter how much the mother earned, most of them tried to save a little portion of their earning. Across all the areas, there was a higher positive response for saving than the negative.

The negative responses were mainly from the mothers who earn very little compared to their expenses or mothers, whose children are settled themselves, that is, their savings are no longer required.

Fig. 3.21 Graph for the mother's response towards saving

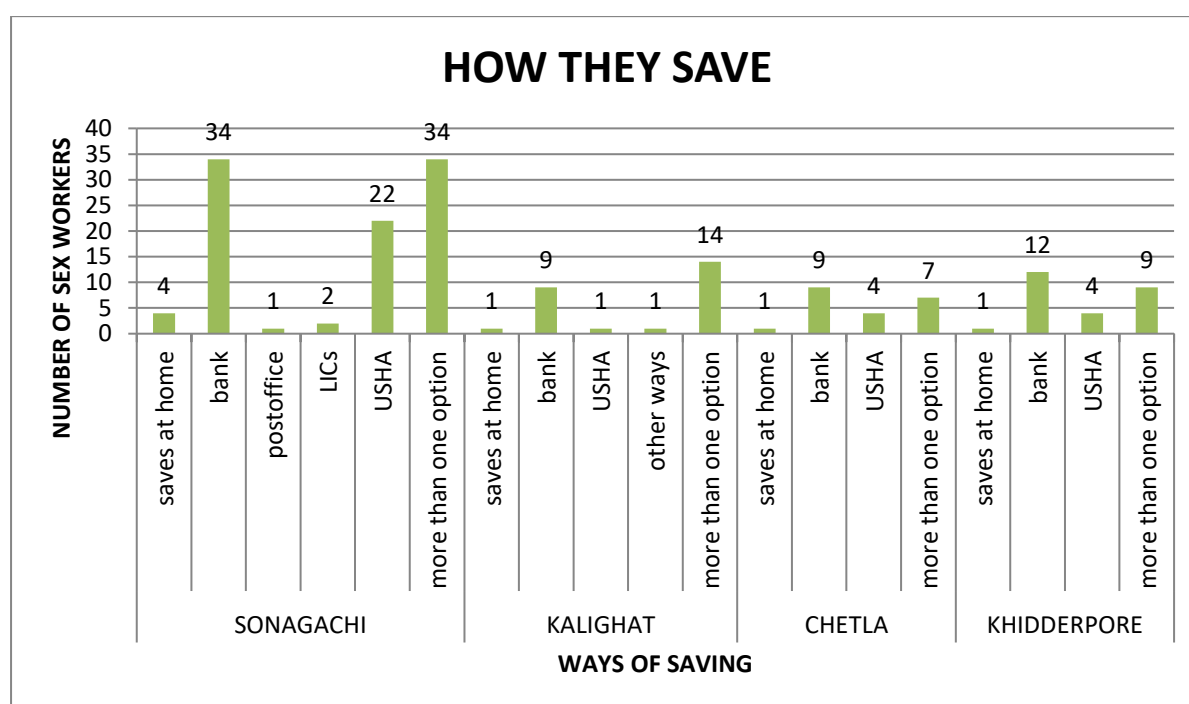


Source: Primary Survey

### 3.22 How they save across areas

Majority of the respondents save in banks and also in other financial institutions. They have more than one option when it comes to the methods by which they save. Though USHA is a financial institution specially established for the sex workers, majority of them do not opt for USHA when it comes to keeping their savings there. Around 35 of the respondents save in banks in Sonagachi which is the highest number recorded so far. An average of 1% of the respondents save at homes or in other ways.

Fig 3.22 Graph showing how the sex workers save across areas

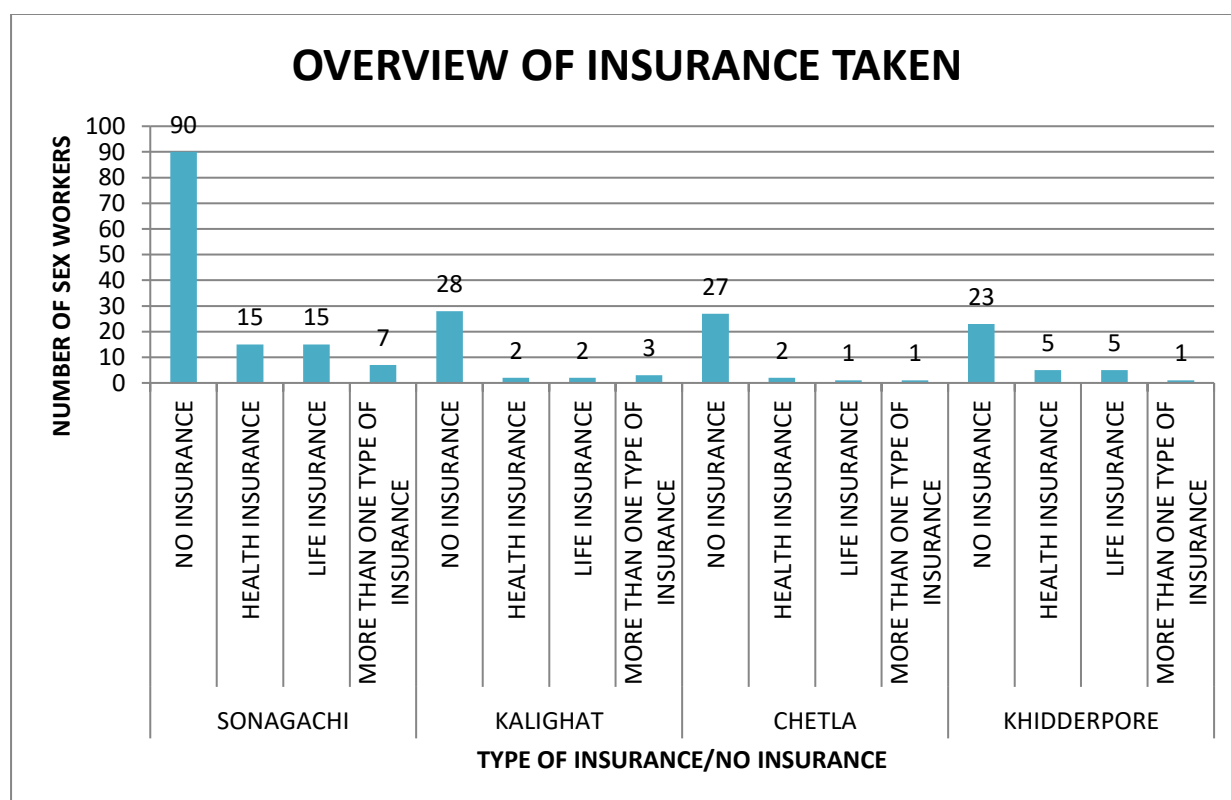


Source: Primary Survey

### 3.23 Overview of insurance taken across areas

Majority of the respondents did not take insurance in any of the areas. Approximately 90 respondents did not opt for any sort of insurance in Sonagachi and it is the highest number compared to the remaining three areas. Even if some did opt for insurance, it was mainly life insurance and health insurance. But they were just a minority of the respondents that is hardly around 10.

Fig 3.23 Graph showing an overview of insurance taken across areas

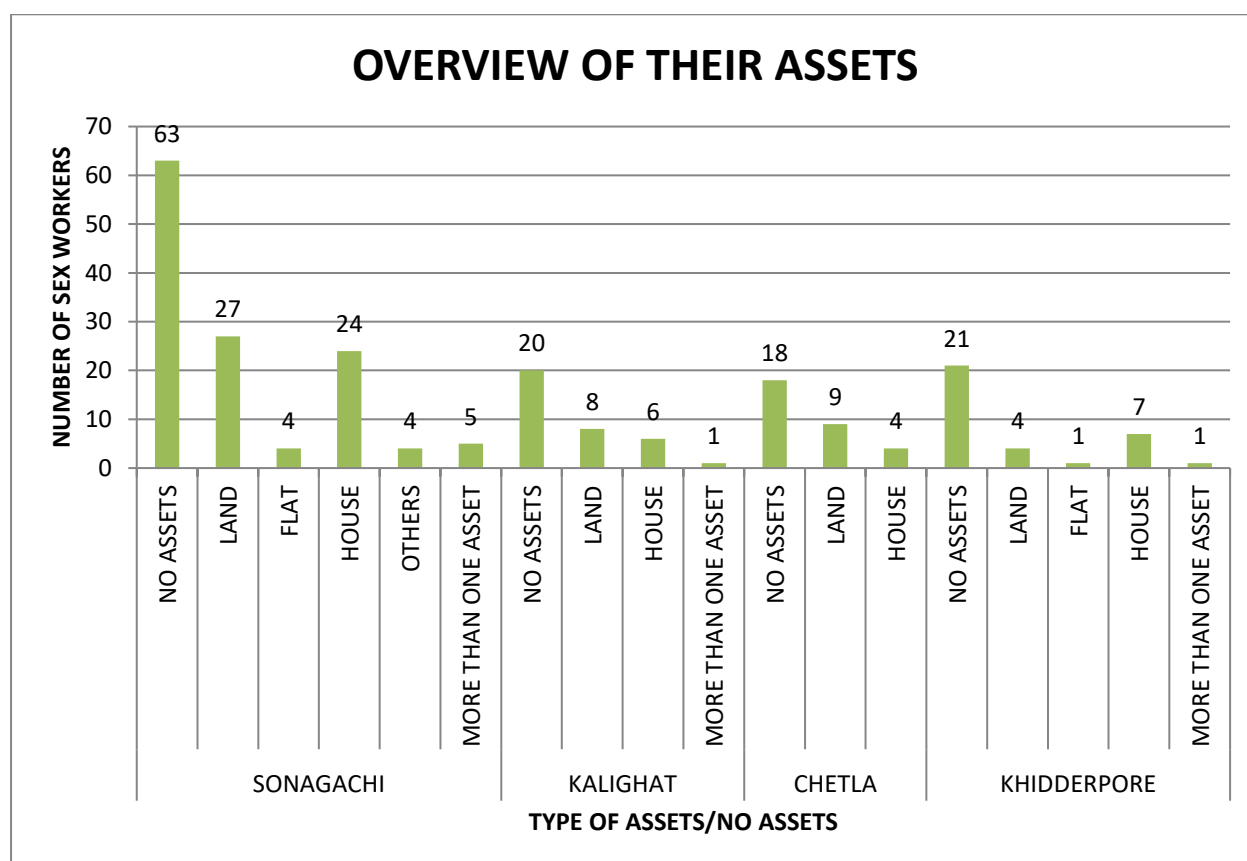


Source: Primary Survey

### 3.24 Overview of assets of the sex workers across areas

Majority of the respondents reported that they do not possess any assets in all the four areas. Sonagachi portrayed the highest response in terms of not possessing any assets that is around 65 of the respondents reported that they do not have any asset. The ones who possessed any assets mainly had them in the form of land or a house. Sonagachi portrayed the highest number of respondents who possessed assets in the form of land or a house and Khidderpore showed the lowest. A negligible number of respondents reported that they possessed any other kind of asset.

Fig 3.24 Graph showing overview of assets of sex workers across areas



Source: Primary Survey



# *EXPLORATORY ANALYSIS*



## 4.1 Degree of Association

In the previous part, graphical methods were used to analyse the data collected. Here, we shall try our hands at establishing the patterns observed earlier using more formal statistical tools.

We begin our statistical analysis by looking at the degree of association between the following categories:

- Education received by the sex workers and the education received by their first born child.
- Level of education received by the children of the sex workers and their gender.
- Work participation of the children of sex workers and the dropout of children from education.
- Monthly income of the sex worker and participation of the children of the sex worker in co-curricular activities.
- Monthly income of the sex worker and the amount that they save.
- Monthly income of the sex worker and their age.
- Whether the sex worker pays rent and owns any kind of asset.
- Whether the sex worker has a bank account and her propensity to borrow money.

Here we use STATA to obtain Chi2 ( $\chi^2$ ) test and Cramer's V for measuring Degree of Association.

#### 4.1.1 Statistical analysis related to children of the sex workers

**Table 1**

Edu_School	School/College_1				Total
	0	1	2	3	
0	0	2	2	11	15
1	5	4	19	60	88
2	6	6	13	99	124
Total	11	12	34	170	227
Pearson chi2(6) = 8.0372 Pr = 0.235					
Cramér's V = 0.1331					
For Edu_school, 0: no data; 1: yes; 2: no					
For School/College_1. 0: no data; 1: no education received; 2: private education;					
3: government education					

Source: Primary Survey

Here we obtain the standard two-way table between the education received by the sex workers and the education received by their first child born. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 6 degrees of freedom and the value is 8.0372.

Here,  $H_0$  (null hypothesis): There is no association between the education received by the sex workers and their children's education level.

From the p-value (Pr= 0.235), we comment that the test statistic can lie in the acceptance region of null hypothesis even at 99.99+% confidence level. We fail to reject the null hypothesis at 1% level of significance and conclude that there is no significant association between the education level of the sex workers and their children's education level.

**Table 2**

Gender_1	Class/Year_1						Total
	0	1	2	3	4	5	
1	15	26	39	16	5	1	102
2	8	37	57	12	11	0	125
Total	23	63	96	28	16	1	227
Pearson chi2(5) = 9.0096 Pr = 0.109 Cramér's V = 0.1992							
For Gender_1, 1 : female ; 2 : male For Class/Year_1, 0 : no data ; 1 : primary school ; 2 : secondary school ; 3 : higher secondary school ; 4 : college ; 5 : university or higher							

Source: Primary Survey

Here we obtain the standard two-way table between the level of education received by the children of the sex workers and their gender. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 5 degrees of freedom and the value is 9.0096.

Here,  $H_0$  (null hypothesis): There is no association between the level of education received by the children of the sex workers and their gender.

From the p-value (Pr= 0.109), we comment that the test statistic can lie in the acceptance region of null hypothesis even at 99.99+% confidence level. We fail to reject the null hypothesis at 1% level of significance and conclude that there is no significant association between the level of education received by the children of the sex workers and their gender. Thus, the sex workers do not discriminate between their sons and daughters while providing education.

**Table 3**

Do they work?	Dropouts of Children			Total
	0	1	2	
0	6	1	38	45
1	0	55	3	58
2	1	21	102	124
Total	7	77	143	227
Pearson chi2(4) = 147.8843      Pr = 0.000				
Cramér's V = 0.5707				
For Do they work, 0 : no data ; 1 : yes ; 2 : No				
For Dropout of children, 0 : no data ; 1 : Yes ; 2 : No				

Source: Primary Survey

Here we obtain the standard two way table between the work participation of the children of sex workers and the dropouts of children. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 4 degrees of freedom and the value is 147.8843.

Here,  $H_0$  (null hypothesis): There is no association between the work participation of the children of sex workers and the dropouts of children.

From the p-value (Pr=0.000) we comment that the test statistic lies in the critical region of null hypothesis even at 99.99+% confidence levels. We reject the null hypothesis at 1% level of significance and conclude that there is statistically significant association between the work participation of the children of sex workers and the dropouts of their children. Most children dropout of school in order to join the labour force. Sometimes circumstances force them to do so and sometimes it is out of free will.

**Table 4**

Monthly Income	Extra co-curricular activities			Total
	0	1	2	
0	6	17	22	45
1	1	40	20	61
2	3	35	20	58
3	1	24	12	37
4	0	11	6	17
5	0	5	4	9
Total	11	132	84	227
Pearson chi2(10) = 16.3358      Pr = 0.090				
Cramér's V = 0.1897				
Here, for Monthly Income, 0: no data; 1: less than 5000; 2: 5000 – 10000; 3: 10001 -15000; 4: 15001 – 20000; 5: more than 20000.				
For extra co-curricular activities, 1: Yes; 2: No				

Source: Primary Survey

Here we obtain the standard two-way table between whether the children of the sex worker take part in co-curricular activities and her monthly income. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 6 degrees of freedom and the value is 16.3358.

Here,  $H_0$  (null hypothesis): There is no association between whether the sex worker has a bank account and their propensity to borrow money.

From the p-value (Pr= 0.090), we comment that the test statistic can lie in the critical region of null hypothesis at 90% confidence level. We fail to reject the null hypothesis at 10% level of significance and conclude that there is some significant association between whether the children of the sex worker takes part in co-curricular activities and her monthly income.

#### 4.1.2 Statistical analysis related to financial inclusion of sex worker

**Table 5**

Monthly Income	if yes, how much do they save?						Total
	0	1	2	3	4	5	
0	28	4	3	4	3	1	45
1	21	3	6	17	9	1	61
2	13	0	3	8	20	7	58
3	8	0	2	6	11	6	37
4	0	0	0	0	11	5	17
5	0	0	0	0	3	5	9
Total	70	7	14	35	57	25	227

Pearson chi2(30) = 103.7155    Pr = 0.000  
Cramér's V = 0.3023

Here, for Monthly Income, 0 : no data ; 1 : less than 5000 ; 2 : 5000 – 10000 ; 3 : 10001 - 15000 ; 4 : 15001 – 20000 ; 5 – more than 20000.

For How much do they save, 0 : no data ; 1 : less than 500 ; 2 : 501 – 1000 ; 3 : 1001 – 2000 ; 4 : 2001 – 5000 ; 5 : 5001 – 10000 ; 6 : greater than 10001

Source: Primary Survey

We obtain the standard two way table between the monthly income of the sex worker and the amount that they save. At the bottom a summary of the Pearson's  $\chi^2$  test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 30 degrees of freedom and the value is 103.7155.

Here,  $H_0$ (null hypothesis): There is no association between the monthly income of the sex worker and the amount that they save.

From the p-value (Pr=0.000) we comment that the test statistic lies in the critical region of null hypothesis even at 99.99+% confidence levels. We reject the null hypothesis at 1% level of significance and conclude that there is statistically significant association between monthly income of the sex workers and the amount they save.

**Table 6**

Monthly Income	AGE				Total
	1	2	3	4	
0	2	13	20	10	45
1	6	28	21	6	61
2	5	23	24	6	58
3	7	19	8	3	37
4	0	13	4	0	17
5	1	4	3	1	9
Total	21	100	80	26	227
Pearson chi2 (15) = 25.0685 Pr = 0.049					
Cramér's V = 0.1919					
Here, for Monthly Income, 0: no data; 1: less than 5000; 2: 5000 – 10000; 3: 10001 -15000; 4: 15001 – 20000; 5: more than 20000.					
For Age, 0: no data; 1: if below 25; 2: if 25 – 35; 3: if 35 – 45; 4: if above 45					

Source: Primary Survey

Here we obtain the standard two-way table between Monthly Income and Age. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 15 degrees of freedom and the value is 25.0685.

Here,  $H_0$  (null hypothesis): There is no association between the Monthly Income of the sex workers and their Age.

From the p-value (Pr= 0.049), we comment that the test statistic can lie in the critical region of null hypothesis at 95% and 90% level of confidence. We reject the null hypothesis and conclude that there is statistically significant association between monthly income of the sex workers and their age at 5% level of significance. We observe that income is highest for age groups 2 and 3.

**Table 7**

Do you pay rent?	Do you have any kind of asset?			Total
	0	1	2	
1	1	70	113	184
2	0	34	9	43
Total	1	104	122	227
Pearson chi2 (2) = 23.6670 Pr = 0.000				
Cramér's V = 0.3229				
For Do you pay rent, 1: yes; 2: No				
For Do you have any kind of asset, 0: no data; 1: Yes; 2: No				

Source: Primary Survey

Here we obtain the standard two way table between whether the sex workers pay rent and the whether they own any kind of asset. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 2 degrees of freedom and the value is 23.6670.

Here,  $H_0$  (null hypothesis): There is no association between whether the sex workers pay rent and the whether they own any kind of asset.

From the p-value (Pr=0.000) we comment that the test statistic lies in the critical region of null hypothesis even at 99.99+% confidence levels. We reject the null hypothesis at 1% level of significance and conclude that there is statistically significant association whether the sex workers pay rent and the whether they own any kind of asset.

The sex workers have to rent a room in the brothels that they work in. But, when they buy any asset like land or house, it is mostly in their hometown or village far away from their workplace.



**Table 8**

Bank account of the mother	Do you give any loan or EMI ?		Total
	1	2	
0	2	16	18
1	30	144	174
2	8	27	35
Total	40	187	227
Pearson chi2 (2) = 1.2038 Pr = 0.548			
Cramér's V = 0.0728			
For Bank account of mother, 0: no data; 1: yes; 2: No			
For Do they give any loan or EMI, 1: Yes; 2: No			

Source: Primary Survey

Here we obtain the standard two-way table between whether the sex worker has a bank account and their propensity to borrow money or opt for EMI corresponding to borrowing from formal institutions. At the bottom a summary of the Pearson's chi2 ( $\chi^2$ ) test and Cramer's V are obtained. It is reported that Pearson chi2 associated with this table has 2 degrees of freedom and the value is 1.2038.

Here,  $H_0$  (null hypothesis): There is no association between whether the sex worker has a bank account and their propensity to borrow money.

From the p-value (Pr= 0.548), we comment that the test statistic can lie in the acceptance region of null hypothesis even at 95% confidence level. We fail to reject the null hypothesis at 5% level of significance and conclude that there is no significant association between whether the sex worker has a bank account and their propensity to borrow money. This result follows from the fact that the sex workers borrow credit from unorganised sector or private individuals. They rarely borrow money from organised sector banking institutions.

The following two tables (Table 9 and Table 10) gives us ANOVA results which we have obtained from Stata.

## 4.2 Monthly income of sex workers across different areas

**Table 9**

Number of obs = 227      R-squared = 0.0252 Root MSE = 6102.42      Adj R-squared = 0.0121					
Source	Partial SS	df	MS	F	Prob>F
Model	2.150e+08	3	71671848	1.92	0.1264
AREA	2.150e+08	3	71671848	1.92	0.1264
Residual	8.304e+09	223	37239525		
Total	8.519e+09	226	37696591		
AREA	Summary of Monthly Income_c				
	Mean	Std. Dev.	Freq.		
1	11110.236	5672.2358	127		
2	11014.286	7007.8587	35		
3	8645.1613	6785.0246	31		
4	9264.7059	6029.2661	34		
Total	10482.379	6139.7549	227		
Analysis of Variance					
Source	SS	df	MS	F	Prob > F
Between groups	215015544	3	71671848	1.92	0.1264
Within groups	8.3044e+09	223	37239524.5		
Total	8.5194e+09	226	37696590.8		
Bartlett's test for equal variances: chi2(3) = 3.4115      Prob>chi2 = 0.332					

Here, for Area 1: Sonagachi; 2: Kalighat; 3: Chetla; 4: Khidderpur

Source: Primary Survey

We observe that the Prob> F for the model is 0.1264 and comment that there is no significant differences among the monthly income of the sex workers in the four different areas.

$$R^2 = \frac{SS_{model}}{SS_{total}} = \frac{215000000}{8519000000} = 0.02523, \text{Where } SS_{model} \text{ is the Explained Sum of Squares. The}$$

interpretation of the coefficient of determination ( $R^2$ ) is that the 2.5% variation in monthly income is explained by the variation in area. The adjusted R-squared adjusts for the number of terms in the model. Importantly, its value increases only when the new term improves the model fit more than expected by chance alone. The adjusted R-squared value actually decreases when the new term doesn't improve the model fit by a sufficient amount.

$$Adjusted R^2 = 1 - \frac{SS_{residual}/df_{residual}}{SS_{total}/df_{total}} = 0.0122 \text{ Where SS are Partial Sum of Squares in}$$

the ANOVA model.

### 4.3 Valuation of Assets owned by the sex workers across different areas

**Table 10**

Number of obs =		227	R-squared =		0.0174
Root MSE =		703825	Adj R-squared =		0.0042
Source	Partial SS	df	MS	F	Prob>F
Model	1.955e+12	3	6.517e+11	1.32	0.2701
AREA	1.955e+12	3	6.517e+11	1.32	0.2701
Residual	1.105e+14	223	4.954e+11		
Total	1.124e+14	226	4.974e+11		
Summary of Valuation of the assets_c					
AREA	Mean	Std. Dev.	Freq.		
1	589763.78	787686.45	127		
2	422857.14	604437.37	35		
3	367741.94	477065.4	31		
4	423529.41	628639.14	34		
Total	508810.57	705297.21	227		
Analysis of Variance					
Source	SS	df	MS	F	Prob > F
Between groups	1.9551e+12	3	6.5168e+11	1.32	0.2701
Within groups	1.1047e+14	223	4.9537e+11		
Total	1.1242e+14	226	4.9744e+11		
Bartlett's test for equal variances: chi2(3) = 12.6371 Prob>chi2 = 0.005					

Source: Primary Survey

We observe that the Prob> F for the model is 0.2701 and comment that there is no significant differences among the valuation of assets owned by the sex workers in the four different areas.

$$R^2 = \frac{SS_{model}}{SS_{total}} = \frac{1.955e^{12}}{1.124e^{14}} = 0.0173, \text{ where } SS_{model} \text{ is the explained sum of squares. The}$$

interpretation of the coefficient of determination ( $R^2$ ) is that the 1.7% variation in valuation of asset is explained by the variation in area. The adjusted R-squared adjusts for the number of terms in the model. Importantly, its value increases only when the new term improves the model fit more than expected by chance alone. The adjusted R-squared value actually decreases when the new term doesn't improve the model fit by a sufficient amount.

$$AdjustedR^2 = 1 - \frac{SS_{residual}/df_{residual}}{SS_{total}/df_{total}} = 0.004, \text{ where SS are partial sum of squares in the}$$

ANOVA model.

## DEPRIVATION INDEX FOR THE CHILDREN OF THE SEX WORKERS

Considering Alkire and Foster (2009) methodology, we consider 100 as total deprivation weights divided equally into five dimensions like health, education, standard of living, future endowment and child labour. In education and future endowment there are two indications each but in case of the other three dimensions there is only indicator in each. If the child is deprived, we assign the value '1' and if she is not deprived we assign the value '0'. The maximum total deprivation score ( $d$ ) will be 100. The formula for deprivation score for children of each sex worker is given by:

$$deprivationscore(d) = \sum w_i x_i$$

The multi-dimensionally deprived headcount ratio ( $H$ ) is the proportion of multi-dimensionally deprived children to the total population of children. Thus,

$$H = \frac{q}{n} = HCR$$

where  $q$  stands for the number of multi-dimensionally deprived children and  $n$  is the total population of children of the sex workers. It measures the incidence of deprivation among children.

The intensity of multidimensional poverty ( $A$ ) reflects the proportion of the weighted component indicators, in which, on average, children of the sex workers are deprived.

$$A = \sum_i^q \frac{c_i}{q} = \frac{\text{sum of deprivation score of the children total}}{\text{total number of children}}$$

where the sum of  $c$  denotes the total score of weighted deprivations these children experience. The deprivation score  $c$  of a child can be expressed as the sum of deprivations in each dimension  $j$  ( $j = 1,2,3,4,5$ ), therefore,  $c = c_1 + c_2 + c_3$ .

Finally, the multi-dimensional deprivation index ( $MDI$ ) is the product of the multi-dimensionally deprived headcount ratio ( $H$ ) and the intensity of multi-dimensional poverty ( $A$ ).

Thus,

$$MDI = H * A$$

Dimension (weight)	Indicators	Weight
Health (20)	<b>Bad Addiction</b>	<b>20</b>
Education (20)	<b>1) School dropout</b>	<b>10</b>
	<b>2) Extra co-curricular activities</b>	<b>10</b>
Standard of Living (20)	<b>Stays with mother in the red light area</b>	<b>20</b>
Future endowment (20)	<b>1) Savings for Education</b>	<b>10</b>
	<b>2) Savings for Health</b>	<b>10</b>
Child Labour (20)	<b>Participation in labour force</b>	<b>20</b>

**Table 5.1**Dimensions, indicator, and weights of the multi-dimensional deprivation index (MDI)

To identify multidimensionally deprived children, the deprivation scores for each indicator are summed to obtain the deprivation score of the children of each sex worker. A cut off of 40/100 is used to distinguish between deprived and non-deprived children. The cut off of 40 ensures only children who are deprived in at least two dimensions are deprived. If the deprivation score is 40 or higher, the children of that sex worker are multidimensionally deprived. Children with a deprivation score of 40 or higher but less than 60 are considered to be vulnerable to multidimensional deprivation. Children with a deprivation score of 60 or higher are considered to be in severe multidimensional deprivation.

Fig: Result from Stata showing the distribution of d

. tabulate d			
d	Freq.	Percent	Cum.
0	2	1.22	1.22
10	16	9.76	10.98
20	13	7.93	18.90
30	52	31.71	50.61
40	38	23.17	73.78
50	21	12.80	86.59
60	15	9.15	95.73
70	6	3.66	99.39
90	1	0.61	100.00
Total	164	100.00	

Source: Primary Survey

From the table we can find out that the number of multi dimensionally deprived children (in tandem to our specified cut off) is 81.

Thus,  $q = 81$  and  $n = 164$



Thus,

Result 1:

$$H = \frac{q}{n} = HCR = \frac{81}{164} = 0.493902$$

This result indicates that approximately 50% of the children are multi dimensionally deprived.

Now we shall look into the intensity of deprivation.

Result 2:

$A$

$$\begin{aligned} &= \sum_i^q \frac{c_i}{q} = \frac{\text{sum of deprivation score of the children who are multi dimensionally deprived}}{\text{total number of children who are multi dimensionally deprived}} \\ &= \frac{3980}{81} = 49.13580\% \end{aligned}$$

This result tells us that the average multi dimensionally deprived child is deprived in 49.13580% of the weighted indicators.

$$MDI = H * A = 0.493902 * 0.491358 = 0.242683$$

Now, we can also segregate this multi-dimensional deprivation index among area. There are four areas in which we have worked – Sonagachi, Kalighat, Chetla and Khidderpore.

The same procedure has to be followed as above.

Therefore we compile all the necessary calculation in a table format\*.

Table 5.2 showing the multi dimensional deprived index					
AREA	Q	N	H	A	MDI
Sonagachi	47	90	0.52222222	0.485106	0.25333333
Kalighat	13	28	0.46428571	0.476923	0.22142857
Chetla	8	19	0.42105263	0.5375	0.22631579
Khidderpore	13	27	0.48148148	0.5	0.24074074

Source: Primary Survey

From the above table we can interpret that the multi-dimensional deprivation index is maximum at Sonagachi. Here nearly 52% of the children are deprived and the average multi dimensionally deprived child is deprived in 48.5% of the weighted indicators.

Here we use Radar Chart to understand multi-dimensional deprivation index across areas.

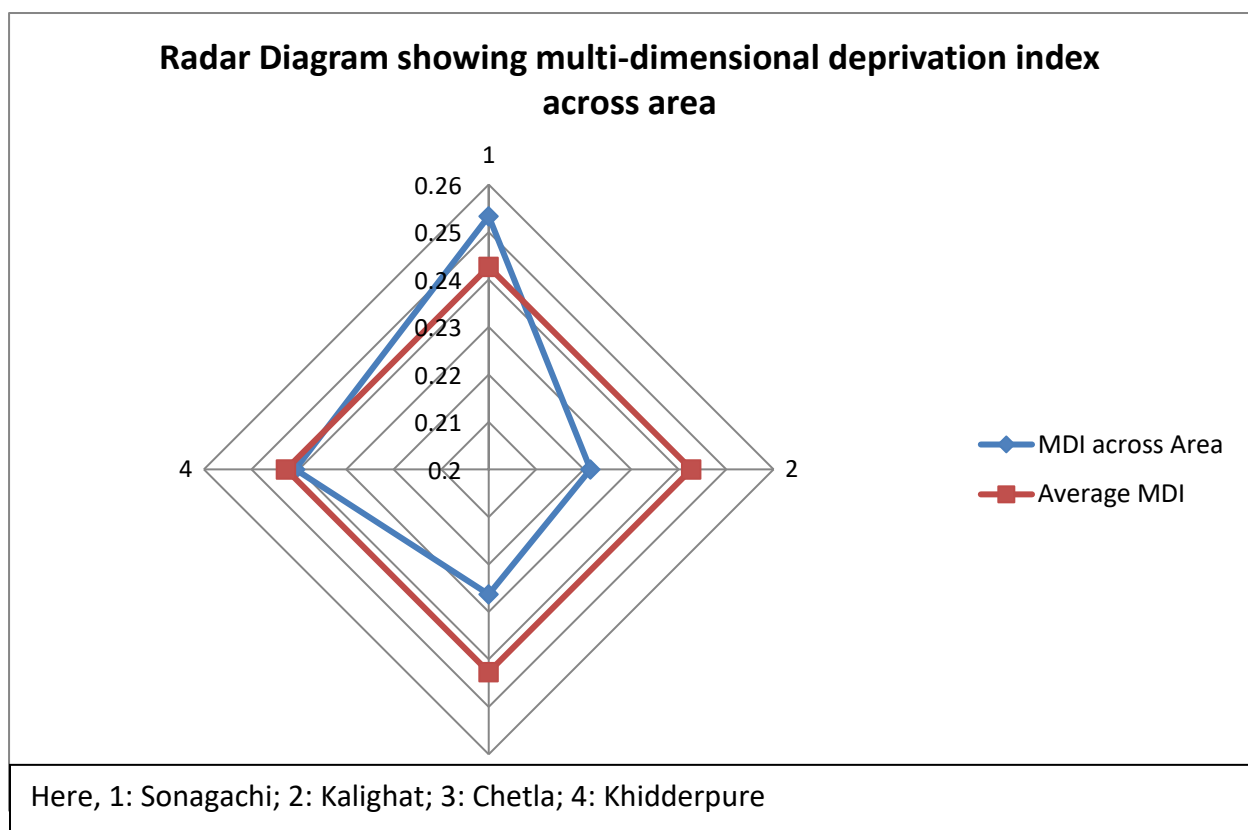
In the radar diagram below, we see the multi dimensional derivation index is highest in Sonagachi. Although the average income is highest in this area, the children of the sex workers are more multi dimensionally deprived in this area compared to the other areas because of the fact that there is inequality of income among the sex workers. Some sex workers earn much more than others. Thus, expenditure and savings for the children of these sex workers with lower income is lesser than the average. Presence of intermediaries in this area also decreases their expenditure for their children. As Sonagachi is a large area,

competition among the sex workers is greater than that in the other areas and so, their personal expenditure is high, which again, reduces the expenditure for their children.

The average number of children is also higher for each sex worker in this area for the respondents of our survey. Thus, expenditure per child is bound to reduce and so, these children are more multi dimensionally deprived than those in the other areas.

For the reasons stated above, multi dimensional deprivation index is highest in case of Sonagachi.

**Fig 5.1: Radar Diagram showing multi-dimensionally deprivation index across area**



Source: Primary Survey

## CONCLUSION

We have come across some interesting results from our study on the socio-economic conditions of sex workers and their children.

While looking into the monthly income of the sex workers across all the four red light areas of Kolkata, we have observed that there is a relationship between monthly income of the sex workers and their age. Younger sex workers have a higher income than comparatively older sex workers. There is also an association between the monthly income of the sex workers and the amount they save. Savings of a sex worker increases, as her income increases.

We have looked into whether there is an association between rent paid and assets owned by the sex workers. There is, again, a positive relationship between owning of assets and rent paid by the sex workers. Those who own assets like land, home, flat etcetera also pay rent for their rooms in brothels. This is because sex workers generally buy assets like land, homes or flats in their hometown, or in areas far away from their workplace. Thus, they have to rent rooms at their workplace and so, they have to pay rent. This explains the positive association between the assets owned and rent paid by the sex workers.

There is, however, no association, in general, between owning bank accounts and propensity to borrow money by the sex workers. Even if most of the sex workers across the four red light districts own bank accounts, they do not borrow money from banks. In spite of efforts being made by NGOs to make banking facilities including borrowing easily available to sex workers, these women find travelling to banks and the paperwork thereafter to be hassles in their daily life, as going to banks prevent them from earning a day's income.

Hence, they borrow from private individuals and money lenders, instead of borrowing from banks. Thus, there is no positive association between owning bank accounts and propensity to borrow of the sex workers. However, in case of savings, it is observed that most of them save in banks.

We have also observed that there is no significant difference between monthly income of the sex workers across the four red light districts of Kolkata. The same holds true for valuation of assets owned by them across the four areas.

In general, it is assumed that parents who have received some level of education understand the importance of education and try to provide the same to their children as well. However in this study, we have observed that sex workers, in spite of mostly being uneducated themselves, want their children to be educated, so that their children can help them get out of their current position in future. These women are willing to do everything in their power to provide their children with the education that they themselves never received. Thus, they are willing to provide their children with financial assistance for as long as their children wish to continue studying. Thus, there is no association between the education level of the sex workers and that received by their children. It has also been observed that generally these women do not discriminate between sons and daughters while providing for their education. However, there are some exceptions when it comes to gender discrimination as some mothers prefer to get their girl child married off early.

We have also observed that there is a relation between the monthly income of the sex workers and their children's extracurricular activities. Sex workers with a higher level of income can provide for the expenditure related to their children's extracurricular activities,

like music, dance, painting etcetera. So, there is a positive association between sex workers' monthly income and their children's participation in extracurricular activities.

Despite the fact that most of the sex workers are willing to do anything in their power to provide their children with proper education, drop outs of their children is high. Sometimes, circumstances like financial barriers, lack of interest on part of those family members with whom the children stay, etcetera force them to drop out, while sometimes, they drop out of their own accord, due to peer pressure, lack of interest in studies on their part, or in order to get married. Most of the male children who have dropped out have been observed to join the work force and work in the informal sector. Most of the female children have dropped out because of marriage.

We have looked into whether the children of sex workers face deprivation across the four red light areas. We have calculated a deprivation score for the children of each sex worker to this effect. This deprivation score is a measure of the level of deprivation that the children of that sex worker experience. This deprivation score is dependent on indicators like whether the child lives with her mother in the red light area, whether she harbours any bad addiction, whether she has dropped out of school, whether she takes part in any extracurricular activities, whether she participates in the labour force and whether her mother has planned any future endowments for her health and education. It has been observed that 50 percent of the children across all the four areas suffer from multidimensional deprivation. In fact, multidimensional deprivation is highest in Sonagachi, where about 52 percent of the children suffer from multidimensional deprivation.

On completion of the survey and assessing the data, we have found certain areas that require improvement. Here, we have listed the problems and the possible policies that can be undertaken to solve the said problems.

1. Some sex workers are reluctant to keep their children with them in the brothels. So, they mostly send them to their grandparents' house or somewhere else which might lead to discontinuation of their education. So, rehabilitation or hostel facilities for these children by the government will be helpful.
2. The income of the sex workers ranges from as low as 1500 rupees to sometimes 25000 rupees a month. A specific minimum wage level should be set such that the basic needs of these women and their families are met.
3. In our study we have found that there are some sex workers who started their profession at the age of 12-13 years old. But, India's age of consent for intercourse is 18 under the Criminal Law (Amendment) Act, 2013. The existing policy needs to be reinforced such that health and security issues from engaging in sexual activities at such a young age can be controlled. Apart from that, even if we consider prostitution as a normal wage earning profession, then we need to take into account the Child Labour(Prohibition and Regulation) Act, 1986 which states that 'No child below the age of fourteen years shall be employed to work in any factory or mine or employed in any hazardous employment.'
4. Going to a bank and coming back isn't a feasible option for them because they lose out on a day's income. Hence they borrow from informal institutions at higher rates and save at home due to risk. There can be convenient ways of saving and borrowing implemented by the government which have low risk specifically for sex workers.

5. The most important problem they face is social exclusion. Their profession is stigmatised which eventually gives way to breach of their fundamental rights such as 'right to equality', 'right against exploitation' and 'cultural and educational right' . Their children shouldn't be identified as a sex worker's child and be alienated from society. Policies should be made treating prostitution as a normal profession and prostitutes as normal human beings such that social inclusion is possible.



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## APPENDIX

### 6.1 Questionnaire

Place of interview:

1. আপনার বয়স কত? \_\_\_\_\_

A. Below 25

B. 25-35

C. 35-45

D. Above 45

2. কত দূর পড়াশোনা করেছেন?

A. School – class \_\_\_\_\_

B. College – year \_\_\_\_\_

3. কত দিন এই কাজ করছেন? \_\_\_\_\_

4. আপনার বাবা/মা কত দূর পড়াশোনা করেছেন?

বাবা - \_\_\_\_\_

মা - \_\_\_\_\_

5. আপনার বা/মা কী কাজ করেন/করতেন?

বাবা - \_\_\_\_\_

মা - \_\_\_\_\_

6. আপনার ছেলে/মেয়ে আছে? – হ্যাঁ / না

7. যদি হ্যাঁ, কটা ছেলে? \_\_\_\_\_, কটা মেয়ে? \_\_\_\_\_

8. মেয়ের বিয়ে হয়ে গেছে? \_\_\_\_\_ কবে? \_\_\_\_\_

	ছেলে/মেয়ে	বয়স	স্কুল/কলেজ	কোনclass / year?	Mid-day meal?
1					

2					
3					
4					
5					

9. স্কুলে কত খরচ হয়? \_\_\_\_\_

10. টিউশনে কত খরচ হয়? \_\_\_\_\_

11. কোনো ছেলে/মেয়ে পড়াশোনা ছেড়ে দিয়েছে? - হ্যাঁ/না

12. যদি হ্যাঁ- (i) কখন? \_\_\_\_\_

(ii) কেন? \_\_\_\_\_

13. ছেলে/মেয়ে কোনো কাজ করে? –হাঁ/না

14. কত বছর বয়স থেকে কাজ শুরু করেছে? \_\_\_\_\_

15. কী কাজ করে? \_\_\_\_\_

16. ছেলে/মেয়ে কি আপনার সাথে থাকে? \_\_\_\_\_

17. এখন যদি পড়াশোনা করে, পরবর্তি কালে আর কী করার ইচ্ছে আছে?

(A) চাকির

(B) উচ্ছশিক্ষা

যদি(A) , কি কাজ?

যদি(B) , কোন বিষয়?

18. (i) পড়াশোনা ছাড়া আর কি করতে ভালোবাসে?

A. নাচ      B. গান      C. আঁকা      D. খেলাধুলা \_\_\_\_\_

19. কোনো কিছুই নেশা আছে? -হ্যাঁ/না

যদি হ্যাঁ, কি? \_\_\_\_\_

20. আপনার মাসিক আয় কত? \_\_\_\_\_

A. Less than 5000

B. 5000-10000

C. 10000-15000

D. 15000-20000

E. Above 20000

21. (i) আপনি কি টাকা জমান? - হ্যাঁ/না

(ii) যদি হ্যাঁ, কত টাকা জমান? \_\_\_\_\_

22. কিভাবে টাকা জমান?

A. ব্যাংক

B. Post office

C. LIC

D. Share, Bond, Mutual Fund

E. USHA

F. Others

23. আপনার ছেলে/মেয়ের শিক্ষার জন্য টাকা জমান? - হ্যাঁ / না

24. আপনার ছেলে/মেয়ের চিকিৎসার জন্য টাকা জমান? – হ্যাঁ / না

25. আপনার নিজের ব্যাংক অ্যাকাউন্ট আছে? – হ্যাঁ / না

26. আপনি বিমার(insurance) ব্যাপারে জানেন? – হ্যাঁ/ না

27. যদি হ্যাঁ, কোন বিমার ব্যাপারে জানেন / আছে?

A. জীবন বিমা (life insurance)

B. স্বাস্থ্য বিমা ( health insurance )

C. অন্যান্য \_\_\_\_\_



28. আপনার কী কোনো সম্পত্তি আছে? – হ্যাঁ / না

29. যদি হ্যাঁ, তাহলে কী ধরনের সম্পত্তি আছে?

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30. সম্পত্তির মূল্য কত? \_\_\_\_\_

31. (i) আপনার আয়ে (income) আপনি কাওকে পাঠান? –হ্যাঁ/না

(ii) যদি হ্যাঁ :

A. বাবা/মাকে

B. পরিবারকে

C. ছেলে/মেয়ের জন্য

D. নিজে রজন্য

E. Installment এর জন্য

Rent \_\_\_\_\_

Loan \_\_\_\_\_

Aadhar Card \_\_\_\_\_

## 6.2 Results used for the formation of the table of multi dimensionally deprived index

. tabulate Sonagacchi

1	Freq.	Percent	Cum.
0	2	2.22	2.22
10	8	8.89	11.11
20	5	5.56	16.67
30	28	31.11	47.78
40	21	23.33	71.11
50	15	16.67	87.78
60	8	8.89	96.67
70	3	3.33	100.00
Total	90	100.00	

. tabulate Kalighat

2	Freq.	Percent	Cum.
10	6	21.43	21.43
20	3	10.71	32.14
30	6	21.43	53.57
40	8	28.57	82.14
50	1	3.57	85.71
60	3	10.71	96.43
70	1	3.57	100.00
Total	28	100.00	

. tabulate Chetla

3	Freq.	Percent	Cum.
20	3	15.79	15.79
30	8	42.11	57.89
40	2	10.53	68.42
50	2	10.53	78.95
60	3	15.79	94.74
70	1	5.26	100.00
Total	19	100.00	

. tabulate Khidderpore

4	Freq.	Percent	Cum.
10	2	7.41	7.41
20	2	7.41	14.81
30	10	37.04	51.85
40	7	25.93	77.78
50	3	11.11	88.89
60	1	3.70	92.59
70	1	3.70	96.30
90	1	3.70	100.00
Total	27	100.00	

### 6.3 Technical Notes

- The **Chi2 ( $\chi^2$ )** test is the widely used non-parametric statistical test that describes the magnitude of discrepancy between the observed data and the data expected to be obtained with a specific hypothesis.
- The **Cramer's V** test is used as post-test to determine the strength of association after chi-square has determined significance.
- **ANOVA** (Analysis of Variance) is a group of statistical models to test if there exists a significant difference between means. It tests whether the means of various groups are equal or not. While we use ANOVA to find out whether the means differ significantly, we actually compare the variances. (Hence the name- Analysis of Variance)
- A **Radar Chart**, also called as Spider chart, star chart, polar chart or Web Chart is a graphical method of displaying multivariate data in the form of a two-dimensional chart of three or more quantitative variables represented on axes starting from the same point. It is equivalent to a parallel coordinates plot, with the axes arranged radially. The relative position and angles of the axes is typically uninformative.

(Source: Wikipedia)