

## **Economics Extended Essay**

Topic – Microcredit

**RQ** - To what extent has the microcredit provided by Arth Finance impacted the incomes and living standards of women living in Kathputli Nagar, Jaipur, Rajasthan, India?

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## INTRODUCTION

Microcredit refers to the provision of financial services like saving accounts and small loans to the poor people without collateral and hence no access to formal financial institutions as a means to enable them to start a small-scale business or expand an existing business.<sup>1</sup> Microcredit theoretically gives families the means to start new businesses, help them with regular incomes, build assets and finally escape poverty. They also provide them with protection against unexpected future problems or seasonal unemployment. As a result, microfinance is considered an important measure of poverty alleviation. Moreover, it also goes hand-in-hand with women empowerment as microcredit is considered a factor that can help to uplift women by giving them decision-making power, making them financially independent and breaking the gender stereotypes in the LEDCs. The concept of microfinancing became known on a large scale in the 1970s but the core-concept was introduced by Muhammad Yunus in Bangladesh in 1976 with Grameen Bank.<sup>2</sup> The venture aimed to uplift the country's poor women by giving them loans at zero interest rates to help them start their business.

Currently, there are hundreds of microfinance institutions working to uplift the living standards of the unprivileged and poor people across India. One such area is the slum in Kathputli Nagar in central Jaipur, capital of Rajasthan. It is a home of over 5,000 residents with poor housing and sanitation facilities and little or no access to banking institutions.<sup>3</sup> Arth Finance was established to provide microcredit services in slum across India to help poor women to start small businesses, gain income and improve their standard of living. One such slum is Kathputli Nagar where Arth Finance operating since 2017. This paper will investigate the impact of microcredit on women who have taken loan under their schemes and hence answer the RQ - **To what extent has the microcredit provided by Arth Finance impacted the incomes and living standards of women living in Kathputli Nagar, Jaipur, Rajasthan, India?**

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<sup>1</sup> Blink, Jocelyn, and Ian Dorton. *Economics Course Companion*. Second ed. Oxford, 2012. Print.

<sup>2</sup> Kagan, Julia. "Microfinance Definition." *Investopedia*. Investopedia, 28 Aug. 2020. Web. 2 Dec. 2020. <<https://www.investopedia.com/terms/m/microfinance.asp#:~:text=History%20of%20Microfinance,-Microfinance%20is%20not&text=In%20its%20modern%20form%2C%20microfinancing,by%20Muhammad%20Yunus%20in%20Bangladesh>>.

<sup>3</sup> Appendix 1; Interview with Manager

Even though microcredit institutions were established for a good cause, but their impact has always been a controversial topic. On one hand, studies like '*A Contemporary study of microfinance: A study for India's underprivileged*' by Prof Asha Bhatia, Dr S.N.V. Sivakumar and Ankit Agarwal<sup>4</sup> proved that microfinance is an effective measure in lowering poverty and pulling economically backward people out of poverty cycle. On the other hand, papers like '*Cons of Microfinance: A Case Study of Andhra Pradesh*' by Yousuf Daas<sup>5</sup> proved microfinance to be ineffective as it only causes a huge burden on the poor borrowers and hence, they cannot escape the poverty cycle.

These conflicting views on the effectiveness of microcredit by numerous studies makes it worthy of investigation to understand its impact at the ground level. Since women tend to be the main beneficiaries of microcredit and in the improvement of the status of women, an indicator of economic development, the impact of microcredit provided by Arth Finance to the slums of the Kathputli Nagar could provide new insights on its effectiveness in poverty elevation and women empowerment makes the study academically useful.

## Hypothesis

Microcredit offered by Arth Finance had a positive impact on the living standards of women living in slum area Kathputli Nagar, Jaipur, Rajasthan, India as with the aid of microcredit they were able to invest in business activities.

## Research Methodology

This essay will assess the impact of microcredit on the living standard of women. The living standard being a qualitative concept, to measure the change, the paper will use parameters based on the concept of HDI

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<sup>4</sup> Bhatia, Asha, and S. N. V. Sivakumar, Dr. "A Contemporary Study of Microfinance: A Study for India's Underprivileged." *IOSR Journal of Economics and Finance (IOSR-JEF)*. IOSR Journals, 2016. Web. 2 Dec. 2020. <<https://www.iosrjournals.org/iosr-jef/papers/SIFICO/Version-2/3.23-31.pdf>>.

<sup>5</sup> Daas, Yousuf. "Cons of Microfinance: A Case Study of Andhra Pradesh." *ResearchGate*. ResearchGate, July 2018. Web. Dec. 2020. <[https://www.researchgate.net/publication/333034871\\_Cons\\_of\\_Microfinance\\_A\\_Case\\_Study\\_of\\_Andhra\\_Pradesh#:~:text=The%20major%20cons%20that%20will,decline%20in%20the%20community%20cohesiveness](https://www.researchgate.net/publication/333034871_Cons_of_Microfinance_A_Case_Study_of_Andhra_Pradesh#:~:text=The%20major%20cons%20that%20will,decline%20in%20the%20community%20cohesiveness)>.

along with assets creation. These parameters include income, access to healthcare, access to education, access to necessities like toilet and safe drinking water and asset creation

The study is focused on a micro level and looks at the impact of microcredit on the lives of Kathputli Nagar residents and hence relies on primary data. Kathputli Nagar is selected for the study as it is residence to over 5,000 people who do not have access to basic facilities like safe drinking water, toilets, electricity, etc. largely lives in temporary structures made of plastic tents, and make their living from low-income activities like daily wage worker, puppet-making, or domestic help, thus suffering from poverty and insecurity. To understand the actual impact of microcredit, the change in the living standard of the beneficiaries (women who opted for microcredit) is compared with the change in the living standard of non-beneficiaries (referred to as the control group). 20 beneficiaries and 20 non-beneficiaries were selected through simple random sampling, as representative of the population and all relevant information were collected through a survey using a pre-designed questionnaire. Since Arth Finance started providing microcredit in the area in the year 2017,<sup>6</sup> thus data was collected for the years 2016-2017, 2017-2018, 2018-2019 and 2019-2020 to understand the trend. The information collected was compiled and the results of the two groups were compared to each other to conclude. Furthermore, an interview with the manager of Arth Finance was recorded which majorly contributed to knowing the basic information about loan procedures and operations of the company. In addition to this, the local counsellor was interviewed to understand the economic and social changes that have taken place lately in the area due to the provision of microcredit. Several government sites, journals and research papers were referred to for analysis and evaluation. Theories like economic development, growth, etc., have been used to aid the explanation.

## About Arth Finance

Arth Finance is a Private Limited company that was established on 14 March 1996.<sup>7</sup> It provides microcredit facilities in the villages/districts of Rajasthan, Madhya Pradesh, Punjab, and Haryana. Arth Finance

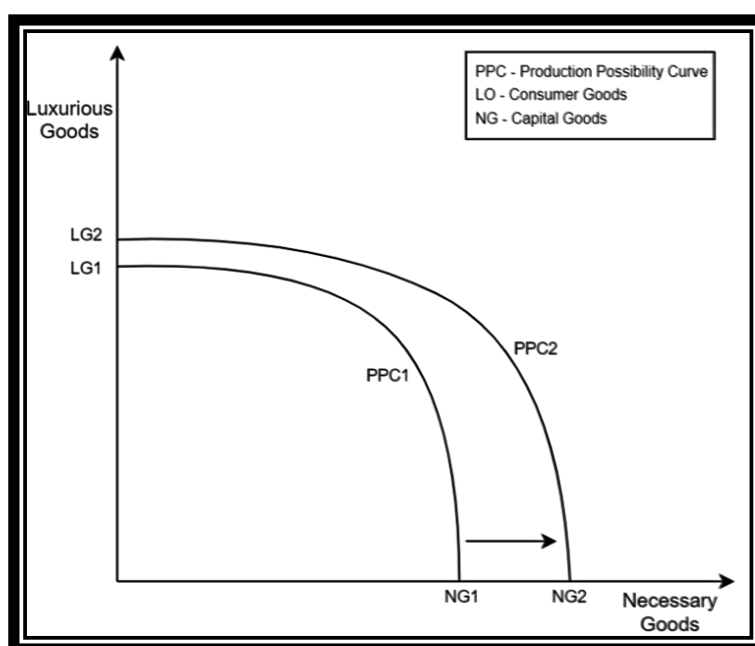
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<sup>6</sup> Appendix 1; Interview with Manager

<sup>7</sup> Appendix 1; Interview with Manager

believes that the nation's development is only possible when the marginalized sections of the society (women, poor, rural deprival, etc.) are addressed with equal opportunities and services.<sup>8</sup> Hence, they focus on inculcating saving and investing habits and providing easy micro-credit/micro-lending options to make them self-reliant and self-sustainable so that they can start their own business which ultimately pulls them out of the vicious cycle of poverty and also allow them to have access to better healthcare and education.<sup>9</sup> As of the year 2020, Arth Finance has distributed INR 1.18+ lac loans and has impacted 1.68+ lac lives.<sup>10</sup>

## How can microcredit Affect Development?



**Figure 1 – Increase in Real GDP**

Economic Development refers to the increase in real GDP/GNI (Gross National Income) per capita along with a decrease in unemployment, decrease in poverty, increase in the provision of education, healthcare facilities, infrastructure and other qualitative factors which overall leads to the increase in the living standard of people.<sup>11</sup> Poor people, with a lack of government support in LEDCs, rely on the sale of human labour for income. Since poor people tend to have low skills their income earning potential is low and tend to remain stuck in the poverty trap. With the help of microcredit, the economically backward people get

<sup>8</sup> Appendix 1; Interview with Manager

<sup>9</sup> Appendix 1; Interview with Manager

<sup>10</sup> Appendix 1; Interview with Manager

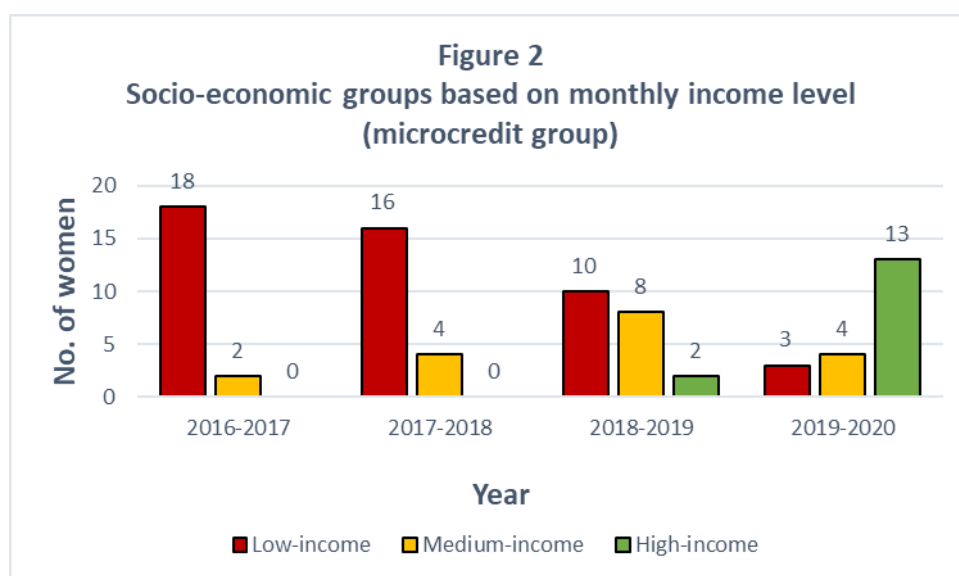
<sup>11</sup> Blink, Jocelyn, and Ian Dorton. Economics Course Companion. Second ed. Oxford, 2012. Print.

small loans without collateral (which bank institutions refuse to provide) and thus, can start new economic activities like productions and selling of goods/services, which can help them generate income and build assets. This would raise both employment and capital and help economic growth can be seen as NG increases from NG1 to NG2 in Diagram 1. Rising incomes will also help them escape the poverty trap, raise living standards and lead to economic development.

## Data Analysis

### Impact on Household Income

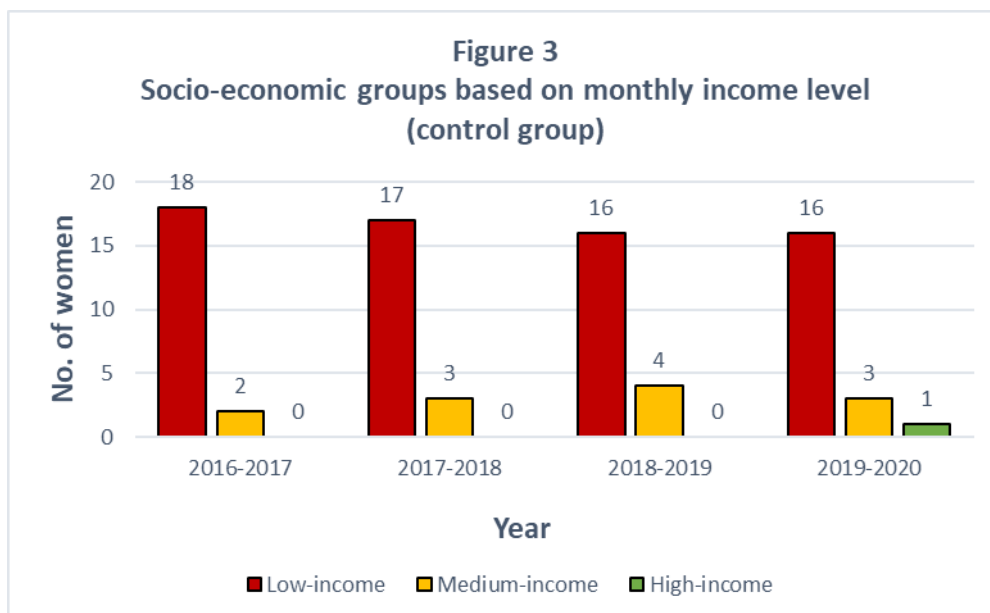
It was found from the survey that the average amount of loan taken from Arth Finance was INR 17475.<sup>12</sup> The recipients have used this money to invest in business activities like vegetable/fruit vending, tea vending, etc. which started generating regular income.<sup>13</sup> Based on the data collected, the respondents from both groups (beneficiaries and control) were divided into three sections as per their monthly income levels: low income (less than INR 5000), medium-income (INR 5,000-10,000), and relatively high income (INR 10,000-above). Figure 2 and 3 demonstrate the findings:



<sup>12</sup> Appendix 4

<sup>13</sup> Appendix 6





It was observed that, in 2019-20, 65% people from the beneficiary group were in the relatively high-income bracket, while on the other hand, only 5% people from the control group reached the high-income bracket. Similarly, while only 15% of the beneficiary respondents belonged to the low-income group, it was 80% for the control group. This indicates that people in the beneficiary group were financially better off and could have greater access to necessities. This was due to the new business ventures (that were opened after receiving the microcredit) that became successful. However, the 15% people from the beneficiary group that were in the low-income group saw a fall in income as their businesses turned out to be unsuccessful possibly due to lack of entrepreneur skills or knowledge which show they couldn't escape the poverty cycle.

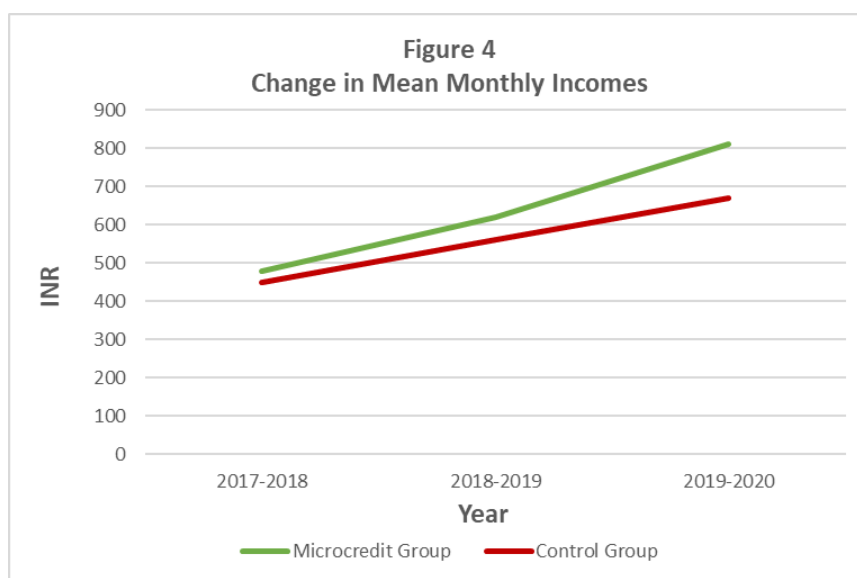
The average monthly change in total income for the above data was calculated by the formula given below:

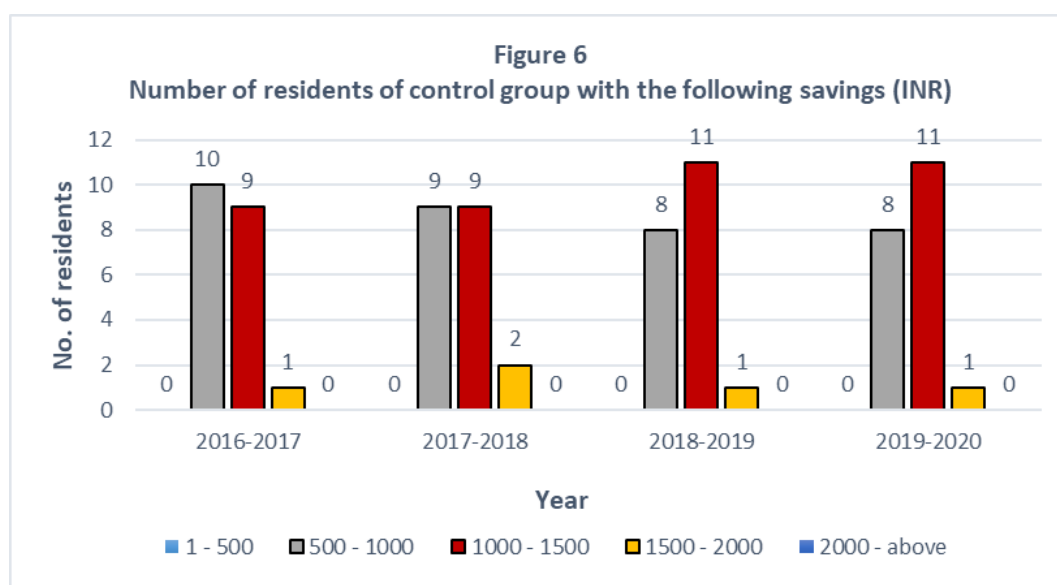
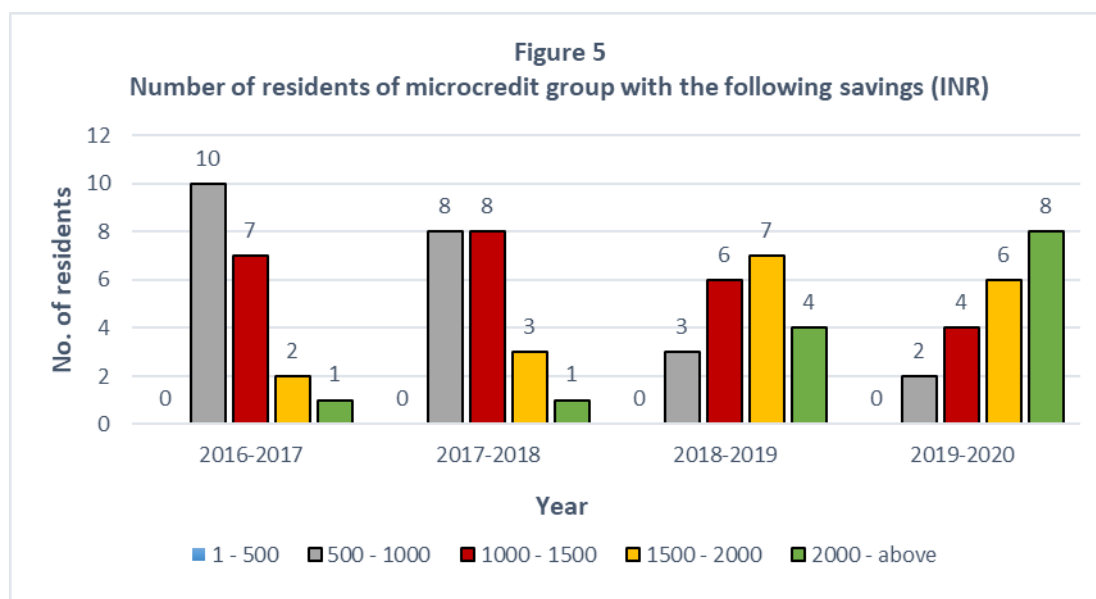
$$\text{Mean Change in Income} = \frac{\sum \text{Changes in the individual's income}}{\text{Number of People}}$$

Table 1		
Mean Change in Monthly Income for the Microcredit Beneficiaries		
Year 2017 – 2018	Year 2018 – 2019	Year 2019 – 2020
$\frac{9600}{20} = 480 \text{ INR}$	$\frac{12400}{20} = 620 \text{ INR}$	$\frac{16200}{20} = 810 \text{ INR}$

Table 2		
Mean Change in Monthly Income for the Control Group		
Year 2017 – 2018	Year 2018 – 2019	Year 2019 – 2020
$\frac{9000}{20} = 450 \text{ INR}$	$\frac{11200}{20} = 560 \text{ INR}$	$\frac{13400}{20} = 670 \text{ INR}$

By the year 2019-2020, it can be seen that the monthly income of the microcredit group has been increased significantly compared to previous years. 2018-2019 had an increase by 29.1% and 2019-2020 had an increase of 30.6%. The new income of women may be low in terms of value, but when compared to the control group, it is relatively higher. This implies that women beneficiaries could now cater better to their individual needs and also to the needs of their families. It will increase their expenditure on necessities and savings, make them economically more self-reliant, improve their social status and help them meet the needs of their children in terms of education, nutritional diet and health care. The change in income of the control group is low in relative terms. 2018-2019 had an increase by 24.4% and 2019-2020 had an increase by 19.6%. The trend of the change in monthly income can be seen in the diagram below (Figure 4)





With the increase in income, it is natural and was expected that their (microcredit group) savings would also increase. From the graphs above, the pattern can be observed where more and more people are able to save more. From the graphs above, it can be observed that by the year 2019-2020, 40% of people from beneficiaries group save more than 2000 INR and 30% save around 1500-2000 INR. While on the other hand, 0% of the people from the control group were saving more 2000 INR and only 5% of the people were had savings of around 1500-2000 INR.

The average monthly change in total savings for the above data was calculated by the formula given below:

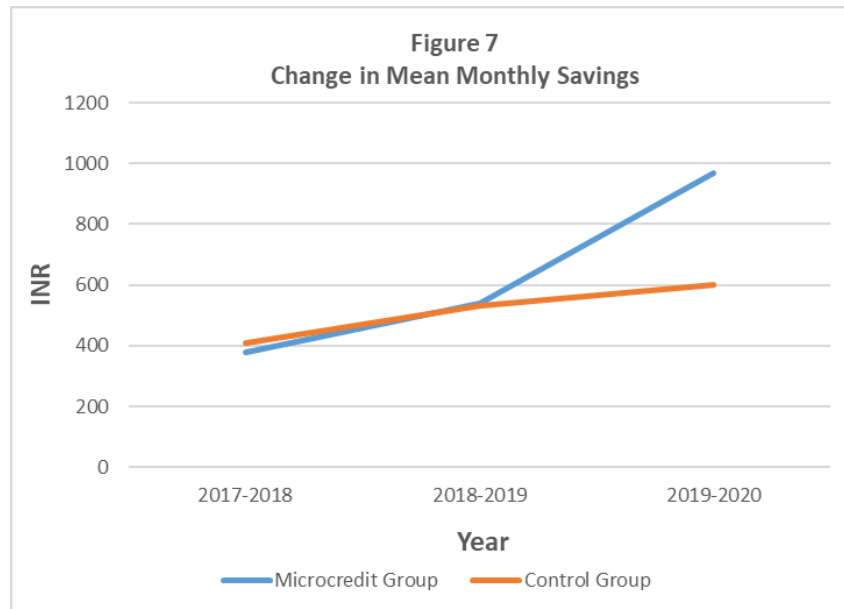
$$\text{Mean Change in Saving} = \frac{\sum \text{Changes in the individual's saving}}{\text{Number of People}}$$

<b>Table 3</b>		
<b>Mean Change in Monthly Saving for the Microcredit Beneficiaries</b>		
<b>Year 2017 – 2018</b>	<b>Year 2018 – 2019</b>	<b>Year 2019 – 2020</b>
$\frac{7600}{20} = 380 \text{ INR}$	$\frac{10800}{20} = 540 \text{ INR}$	$\frac{19400}{20} = 970 \text{ INR}$

<b>Table 4</b>		
<b>Mean Change in Monthly Saving for the Control Group</b>		
<b>Year 2017 – 2018</b>	<b>Year 2018 – 2019</b>	<b>Year 2019 – 2020</b>
$\frac{8200}{20} = 410 \text{ INR}$	$\frac{10600}{20} = 530 \text{ INR}$	$\frac{12000}{20} = 600 \text{ INR}$

By the year 2019-2020, it can be seen that the savings of the microcredit group have been increased significantly compared to previous years. 2018-2019 had an increase by 42.1% and 2019-2020 had an increase by 79.6%. The new income of women may be low in terms of value, but when compared to the control group, it is relatively higher. This implies that women could financially secure their families. With the increase in savings, the microcredit group can make investments in future and, in a way, make themselves financially secure for the future by making plans with the saving, which the control group cannot do due to very low savings.

The change in income of the control group is low in both – relative and absolute terms. 2018-2019 had an increase by 29.2% and 2019-2020 had an increase by 13.2%. Comparatively, it can be observed that microcredit beneficiaries had a relatively higher increase in their savings which means what the microcredit residents can do, the control group cannot which is securing themselves for future investments. The trend of this change in monthly savings on yearly basis can be seen in the diagram below (Figure 7)



### Standard of living

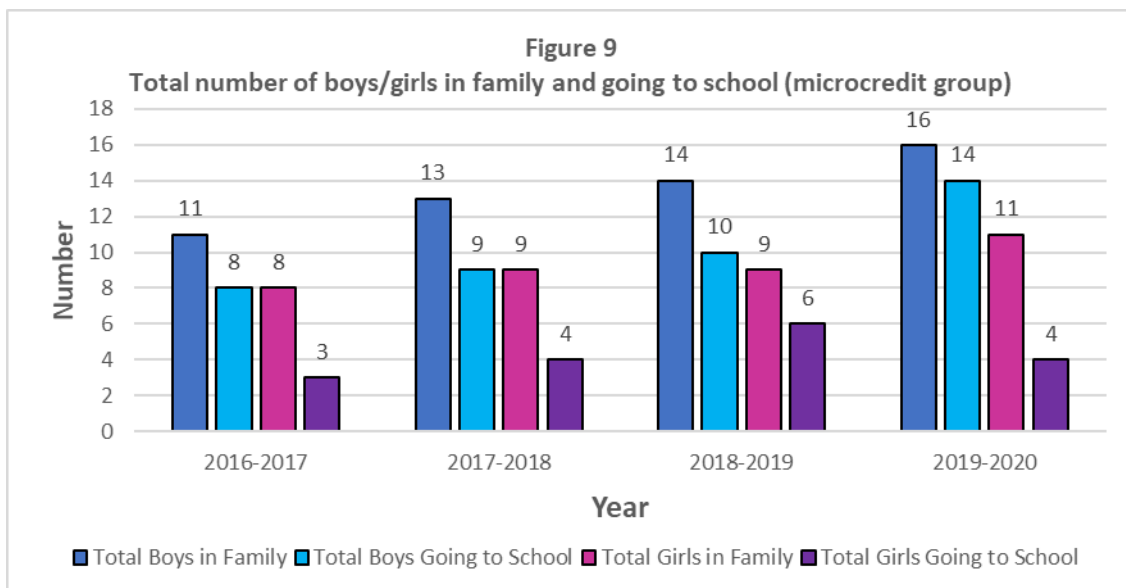
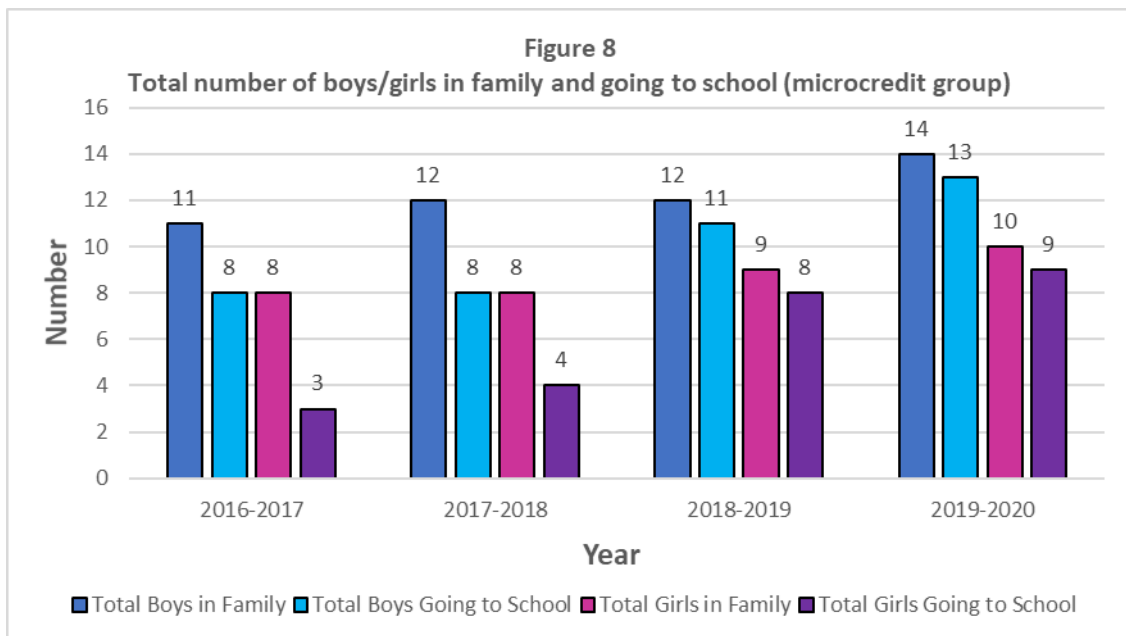
Standard of living refers to the level of wealth, comfort, material goods and necessities available to a certain socioeconomic class or geographic area.<sup>14</sup> Improvement in the educational/medical facilities, safety along with the increase in the number of families that have access to these facilities will improve living standards in general.

### Children Education

Education is an important indicator of economic development. It makes people more employable and productive as they develop skills through education. This, hence, improves the possibility of them earning even higher incomes in the future. It was found that in Kathputli Nagar most female kids drop out of school early on because they are then trained for household duties like cooking and cleaning and they married at a young age.<sup>15</sup>

<sup>14</sup> Fontinelle, Amy. "Standard of Living vs. Quality of Life: What's the Difference?" *Investopedia*. Investopedia, 28 Aug. 2020. Web. 5 Dec. 2020. <<https://www.investopedia.com/articles/financial-theory/08/standard-of-living-quality-of-life.asp>>.

<sup>15</sup> Appendix 1; Interview with Manager

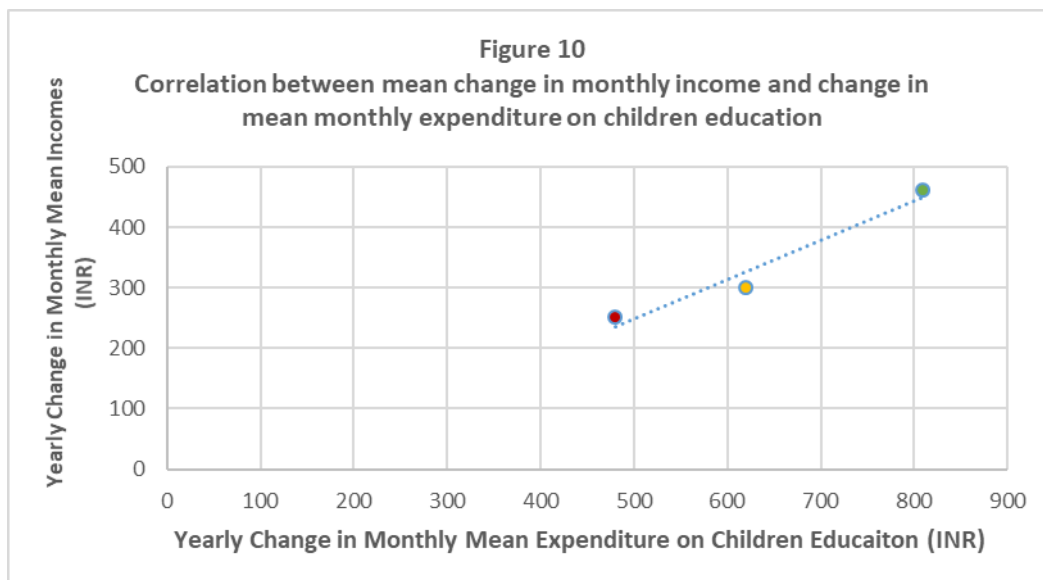


From the graphs above, it can be inferred that the number of boys/girls going to school has increased significantly in both groups but compared to the control group, the microcredit group has an increased number of children going to school. In 2016-2017, 73% of boys and 38% of girls were going to school from both microcredit and control families. In 2017-2018, 67% of boys and 50% girls from microcredit and 69% boys and 44% of girls from control families were going to school. In 2018-2019, 92% of boys and 89% of girls from microcredit and 71% boys and 67% of girls from control families were going to school. In, 2019-2020 93% boys and 90% girls from microcredit and 88% boys and 36% of girls from the control group were going to school.

$$\text{Correlation} = \frac{\sum xy - n\bar{x}\bar{y}}{\sqrt{\sum x^2 - n\bar{x}^2} \sqrt{\sum y^2 - n\bar{y}^2}}$$

Table 5		
Mean Change in Monthly Expenditure on Children Education for Microcredit Beneficiaries		
Year 2017 – 2018	Year 2018 – 2019	Year 2019 – 2020
$\frac{5000}{20} = 250 \text{ INR}$	$\frac{6000}{20} = 300 \text{ INR}$	$\frac{9200}{20} = 460 \text{ INR}$

$$r = 0.979$$



The correlation between the monthly income change and monthly expenditure of the microcredit group is calculated to be moderately strong and positive which depicts that with an increase in the income, there was a somewhat increase in the number of children going to school. By getting a better education, the children in the microcredit group (when they will grow up) would become more skilled and productive and hence would be more employable. This would increase the productive potential of the economy.

However, the increase in the number of children going to school is also dependent on another factor. Like introduction of schemes likes ‘*Beti Padhao Beti Bachao*’ by the Indian government where education is

given for free to girl child<sup>16</sup> and the mid-day meal scheme which provides free mid-day meals in government schools which works as an incentive for the people in rural areas to send their children to school.<sup>17</sup>

But even after the provision of such schemes by the government, it can be seen that there isn't a significant rise in the number of children going to school. This could be due to many reasons such as child labour, buying of uniforms, stationaries, books, etc.

## Healthcare

Healthcare is another factor that leads to the increase in economic growth and development. As more and more people would have access to healthcare services, they would be able to treat themselves and their families from lingering bacteria, diseases and infections. And since overcrowded slum areas are unsanitary, the people living in the slums are more prone to the hazardous diseases like TB, typhoid malaria, dengue etc. As a result, people would get sick more often which would lead to a loss of income due to the leave taken and not working.

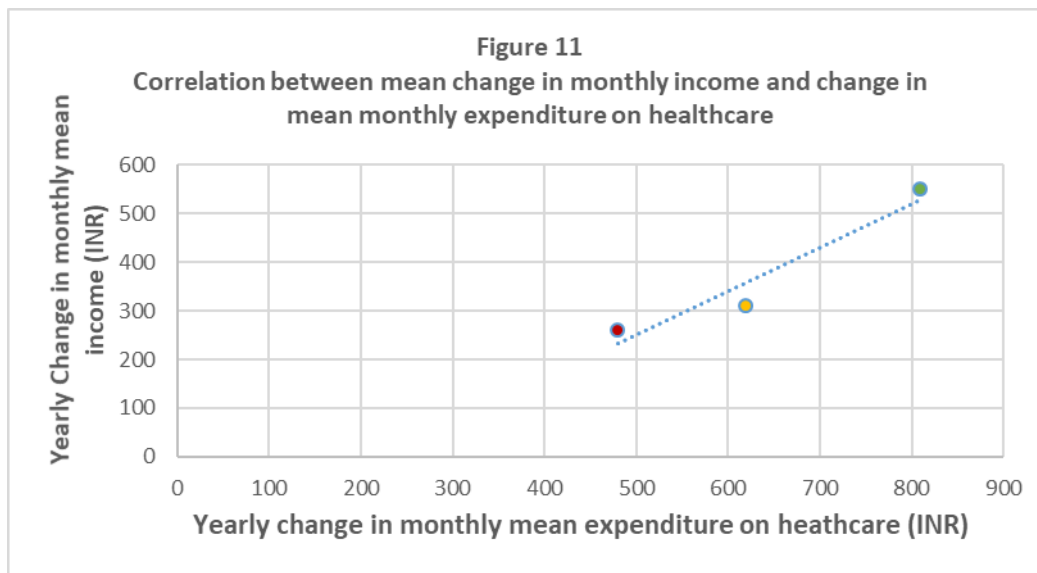
Table 6		
Mean Change in Monthly Expenditure on Children Education for Microcredit Beneficiaries		
Year 2017 – 2018	Year 2018 – 2019	Year 2019 – 2020
$\frac{5600}{20} = 260 \text{ INR}$	$\frac{6200}{20} = 310 \text{ INR}$	$\frac{11000}{20} = 550 \text{ INR}$

$$r = 0.963$$

<sup>16</sup> "PMINDIA." *Beti Bachao, Beti Padhao: Caring for the Girl Child | Prime Minister of India*. PMINDIA. Web. 6 Dec. 2020. <[https://www.pmindia.gov.in/en/government\\_tr\\_rec/beti-bachao-beti-padhao-caring-for-the-girl-child/](https://www.pmindia.gov.in/en/government_tr_rec/beti-bachao-beti-padhao-caring-for-the-girl-child/)>.

<sup>17</sup> "Mid Day Meal in India: Midday Meal Programme - Akshaya Patra." *Akshaya Patra Foundation*. Akshaya Patra. Web. 6 Dec. 2020. <<https://www.akshayapatra.org/indias-mid-day-meal-scheme>>.





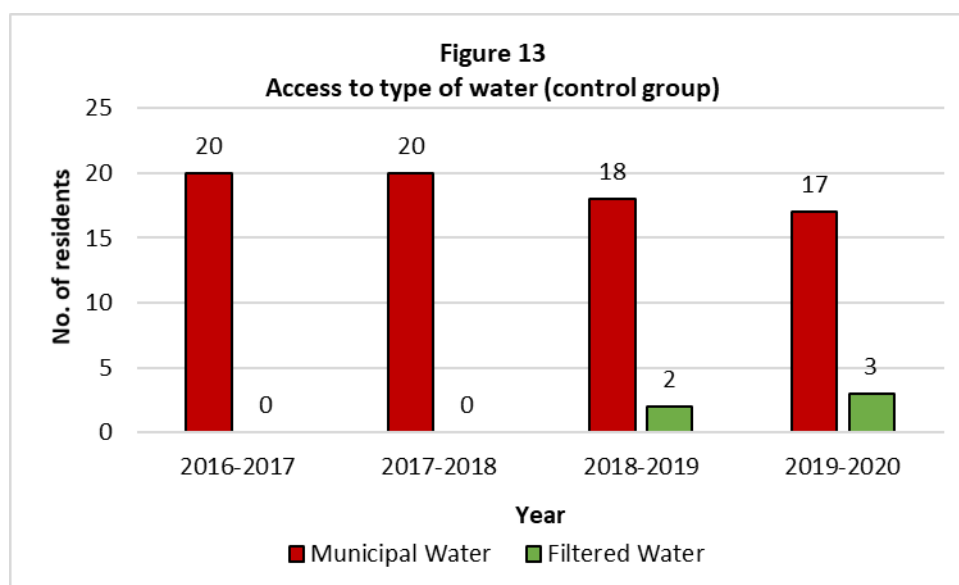
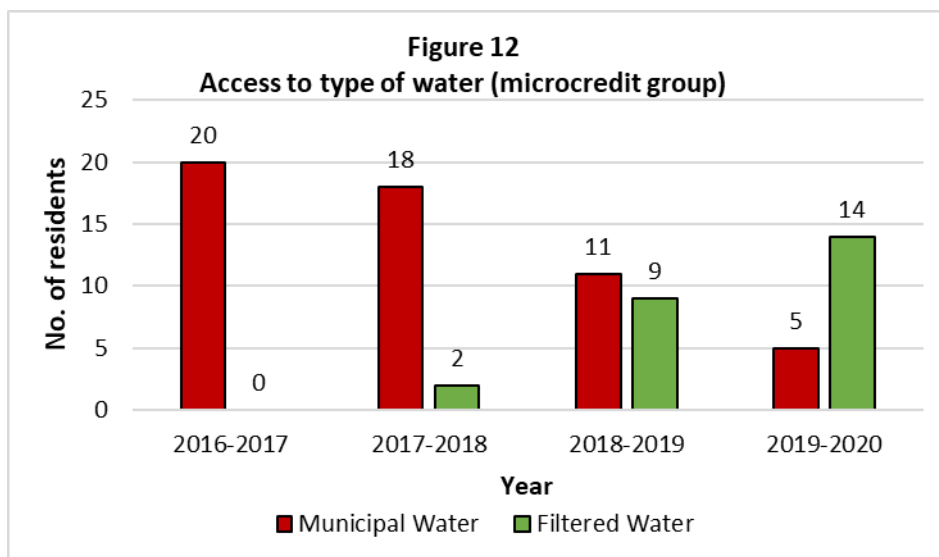
By the graph and the calculation, it can be seen that the correlation between the change in income and the expenditure on healthcare of microcredit group in 2019-2020 is positive and strong which depicts that the women who whose incomes were increased due to microcredit gained access to quality healthcare which was used to treat or protect themselves and their families from diseases. As they now have access to healthcare, their life expectancy can also be increased and fewer days will be lost due to illness which can result in the earning of stable income. Which the control group, however, cannot do due to relatively low income.

#### Access to basic necessities

##### Access to safe clean drinking water

The only source water supply in Kathputli Nagar is the government/municipal supplied time-bounded tap water which is free to use and consume.<sup>18</sup> Even though the municipal provided water could still be used in household chores, but its quality was deteriorated that its consumption can cause a various life-threatening diseases and infections. The safer option is to install a filter in homes but due to financial constraints, the residents of Kathputli Nagar were bound to the municipal supplied water. To see the impact of microcredit on this factor, it was taken into account that how many residents had the water filter in their homes.

<sup>18</sup> Appendix 1; Interview with Manager

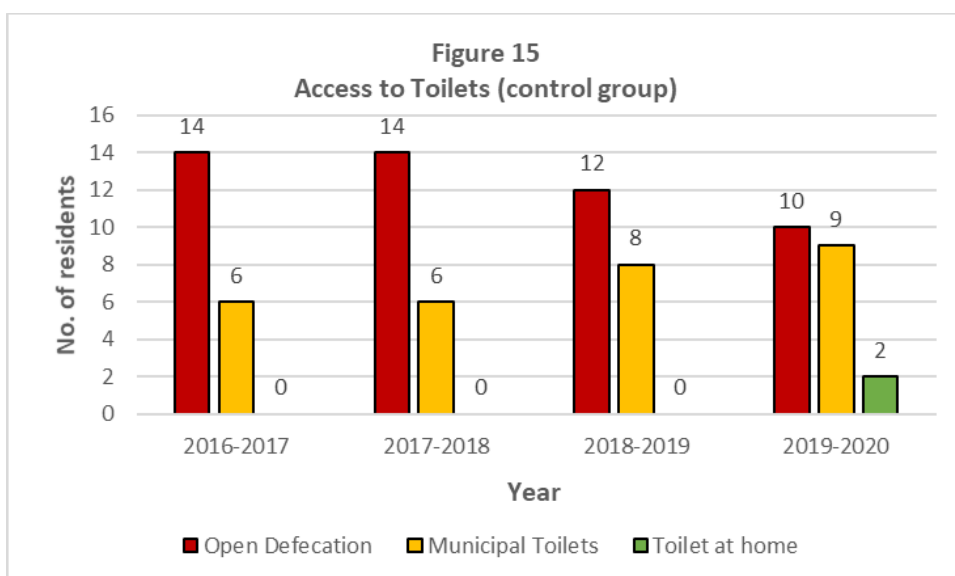
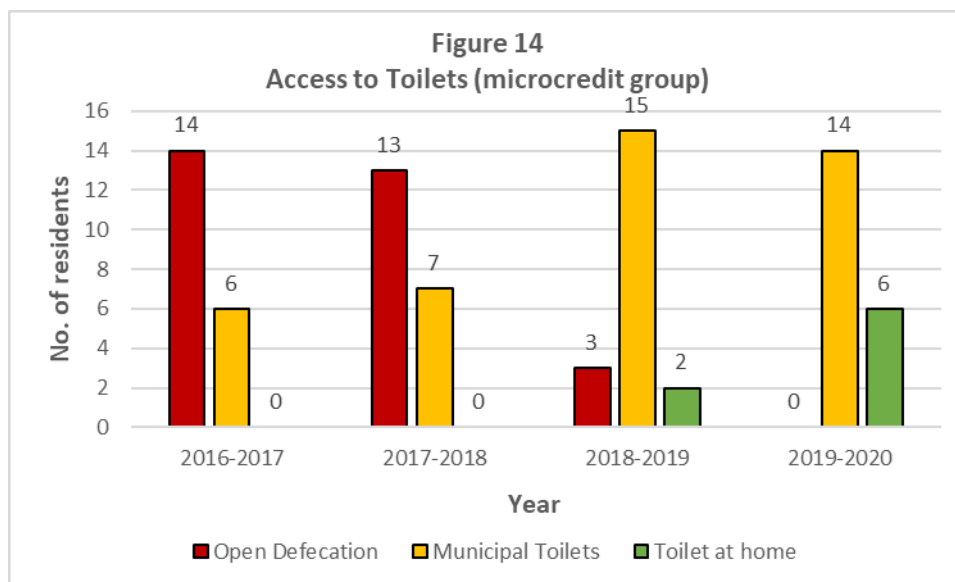


By the year 2019-2020, compared to control group, 70% of microcredit residents had filters in their homes, which is 55% more than the control as control group only had 15% of residents which had filters. This suggests that the microcredit group women were aware of the infections the dirty water can cause and took the decision to get water filters to prevent and save themselves and their families from various diseases. Therefore, an increase in the income affected this particular factor significantly.

#### Toilet availability

In villages and rural areas, the use of toilets is very limited. Villagers mostly use the open fields and farms to defecate which can cause many life-threatening diseases and infections to the person who is defecating

and pollutes the nearby river streams and farms which is harmful for other villagers as well<sup>19</sup> living in or near the Kathputli Nagar. The residents of Kathputli Nagar have 2 more options other than defecating in the open which are - either use the municipal built pay-to-use toilets or build a toilet in your own homes. But the villagers generally believe that using the municipal pay-to-use toilets and building toilets at home are costly options and hence the villagers don't build toilets in their villages or go to municipal toilets.



But after obtaining the microcredit, women became aware of the health risks that can occur due to the lack of toilets or defecating in the open and hence some women took the initiative to increase the awareness

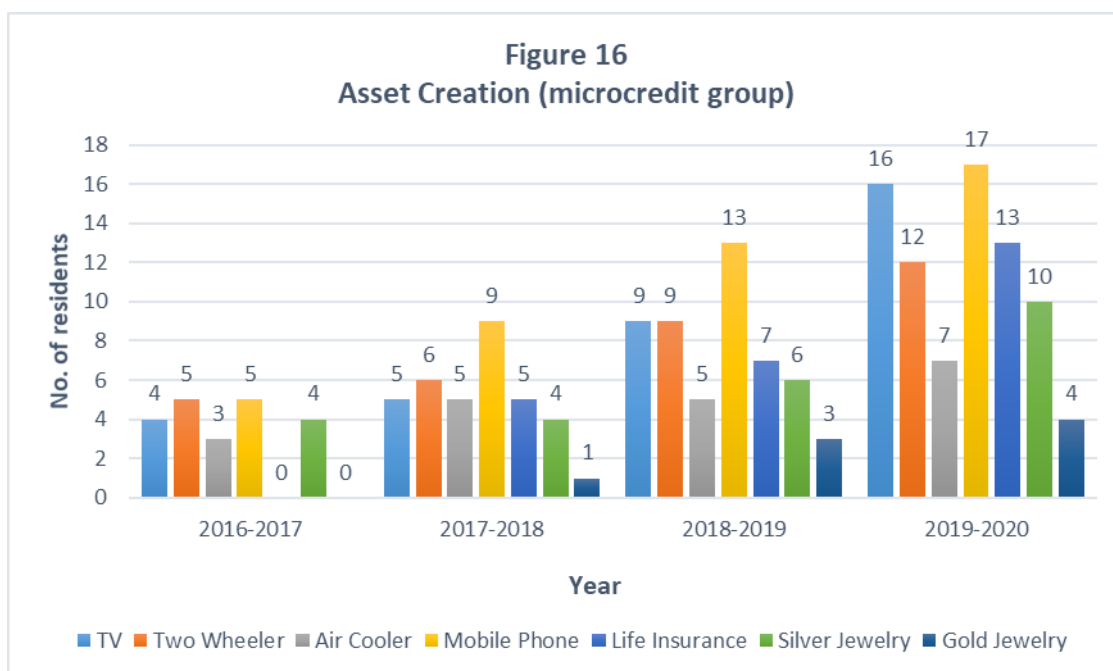
<sup>19</sup> Rinkesh. "How Open Defecation Affects Human Health and Environment and Its Effective Solutions." *Conserve Energy Future*. Conserve Energy Future, 22 Aug. 2020. Web. 7 Dec. 2020. <<https://www.conserve-energy-future.com/how-open-defecation-affect-human-health-environment-and-solutions.php>>.

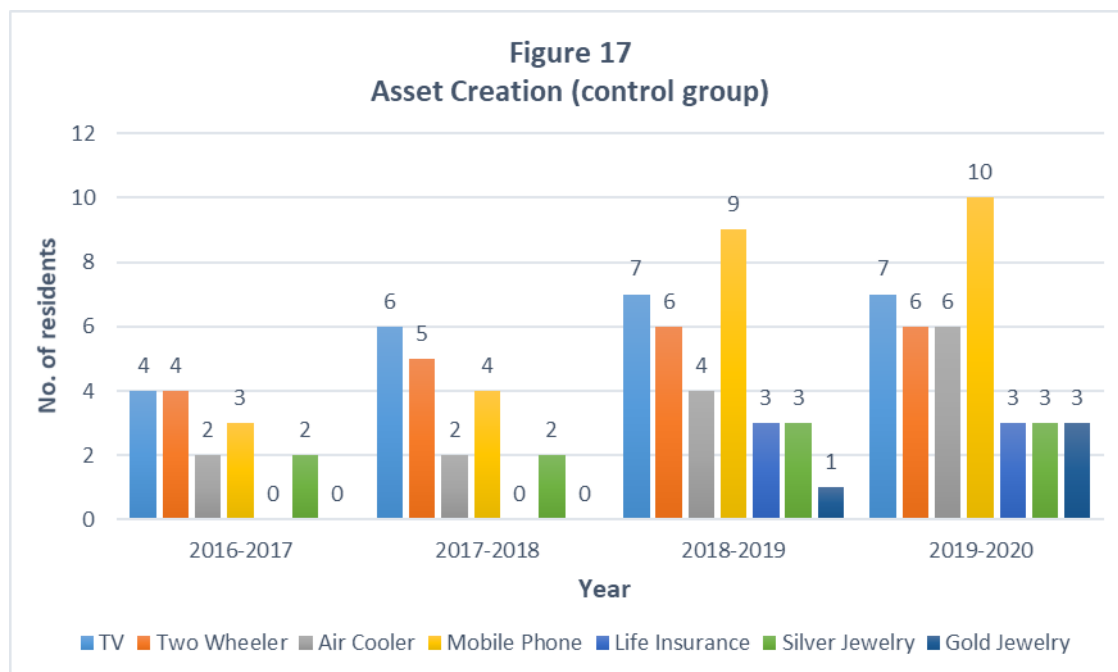
amongst their family members to either use the municipal toilets or build toilets at home. As a result, by the year 2019-2020, the number of microcredit group residents using the municipal toilets and having toilets at home were 25% and 20% respectively more than the control group.

Hence it could be inferred that women in Kathputli Nagar learnt about the possible health risks and dangers from the improper sanitation.

### Asset Creation

Assets are bought to either upgrade the standard of living or to make an investment for future. The most common assets bought were - TV, two-wheeler, air cooler, mobile phone, life insurance, silver jewelry and gold jewelry.





From the graphs above, it can be observed that the control group relatively bought fewer assets compared to microcredit group because they were very close or under the poverty line which implies that they were not able to afford the assets that the microcredit group could. The microcredit group could buy TV, two-wheeler, air cooler and mobile phone which can be used by the people for recreation and communication purposes. Silver and gold jewelry can be used as a source of investment in the future and a source of liquid cash as they can be pawned during emergencies for cash to invest in and grow their businesses. Life insurance would ensure financial security as it provides financial support in an event of a demise of the person who took the insurance.

## Conclusion

After detailed analysis of the collected data, the essay reaches the conclusion that the microcredit provided by Arth Finance has improved the incomes and living standards of women living in Kathputli Nagar, Jaipur, Rajasthan, India. It was found out that there has been an increase in the number of women that reached the high-income group and middle-income group. By the year 2019-2020, there were 60% more high-incomed and 5% medium-income people and 65% less low-income compared to the control group. It was also noticed that microcredit has overall helped in improving living standard (of microcredit group compared to control group) in terms of healthcare, children education, access to safe drinking water/toilets and asset creation which can be observed through increased expenditure on all these mentioned parameters and positive correlations. However, it was also noticed that 15% of women were still stuck in the poverty cycle even after receiving microcredit.

However, the investigation has certain limitations. The research is based on the assumption that the impact of other government schemes and facilities has helped both groups equally. Moreover, since the investigation relies on primary data based on sample populations of the 2 groups, the result may not be equally applicable to entire population. In addition to this, there may be some element of bias in the interviews which might provide some skewed data and hence impact the accuracy of investigation.

There remains further scope of investigation like the impact of micro credit facilities on other social indicators such as safety, crime rates, mortality rate, birth rate, leisure etc. The impact of other government schemes on the living standards of the people in Kathputli Nagar may also be taken up for further study.

# Appendices

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## Appendix 1 - Questions for Arth Finance Manager (Interview)

Q1 – When was Arth Finance established and why was it established?

A1 – Arth Finance was established in the year 1996 with the aim of lifting poor people living under the poverty line out of the poverty cycle because we believe that these people can only help in our nation's development if we help them. We teach them the basics of micro-business and how to earn money. Currently Arth Finance operates in villages of Rajasthan, MP, Punjab, and Haryana and as of 2020, we have provided 1.18+ lac of microcredit and have changed more than 1.68+ lac lives.

Q2 – When did Arth Finance start providing microcredit in Kathputli Nagar and why?

A2 – We started providing microcredit in the year 2017. We observed that the slum Kathputli Nagar was in a really bad condition. In the population of over 5000, mostly all of the people were living under the poverty line. People had houses made up of plastic tents and the colony had very poor sanitation. Barely anyone had toilets at and very few people used to use the municipal built toilets. Moreover, children weren't going to school and the girls were married at a very young age. In addition to this, the colony had zero banking facilities nearby. Therefore, we had to step in to make a change. Even if the change would be small or slow, it would still make an impact on their lives and standard living.

## Appendix 2 - Questionnaire questions for microcredit beneficiaries

**The following responses will only be assessed for academic purposes and will not be shared to external sources**

Age:

Marital status:

Amount of loan taken:



Profession for the past 4 years:

Monthly income for the past 4 years (<5000/5000-10000/>10000):

Monthly savings for the past 4 years:

Access to type of water in the past 4 years (Filtered/Municipal):

Access to toilets in the past 4 years (At home/Municipal/Open defecation):

Number of boy and girl children in the family in the past 4 years:

Number of boy and girl children going to school in the past 4 years:

Monthly Expenditure done on Children Education in the past 4 years:

Monthly Expenditure done on Healthcare Facilities in the past 4 years:

Access to assets (TV, Two-Wheeler, Air Cooler, Mobile Phone, Life Insurance, Silver Jewellery and Gold Jewellery) in the past 4 years:

### Appendix 3 - Questionnaire questions for control group

**The following responses will only be assessed for academic purposes and will not be shared to external sources**

Age:

Marital status:

Profession for the past 4 years:

Monthly income for the past 4 years (<5000/5000-10000/>10000):

Monthly savings for the past 4 years:

Access to type of water in the past 4 years (Filtered/Municipal):

Access to toilets in the past 4 years (At home/Municipal/Open defecation):

Number of boy and girl children in the family in the past 4 years:

Number of boy and girl children going to school in the past 4 years:

Monthly Expenditure done on Children Education in the past 4 years:

Monthly Expenditure done on Healthcare Facilities in the past 4 years:

Access to assets (TV, Two-Wheeler, Air Cooler, Mobile Phone, Life Insurance, Silver Jewellery and Gold Jewellery) in the past 4 years:

#### Appendix 4 – Age, Marital status and Amount of Microcredit taken (Microcredit Group)

Residents	Age	Marital Status	Amount of Microcredit taken (INR)
Resident 1	25	Married	15000
Resident 2	36	Single	14200
Resident 3	45	Married	17500
Resident 4	28	Married	15400
Resident 5	42	Divorced	17700
Resident 6	24	Married	15000
Resident 7	45	Married	27800
Resident 8	34	Married	17200
Resident 9	46	Married	17000
Resident 10	37	Single	14300
Resident 11	23	Married	17500
Resident 12	45	Widow	18300
Resident 13	35	Single	13400
Resident 14	37	Single	16500
Resident 15	23	Single	15700
Resident 16	44	Married	19200
Resident 17	34	Single	18800
Resident 18	47	Divorced	16000
Resident 19	26	Single	20000
Resident 20	42	Married	23000

#### Appendix 5 – Age and Marital status (Control Group)

Residents	Age	Marital Status
Resident 1	41	Single
Resident 2	51	Single
Resident 3	50	Married
Resident 4	48	Widow
Resident 5	40	Married
Resident 6	26	Married
Resident 7	24	Married
Resident 8	25	Married
Resident 9	31	Married
Resident 10	52	Married
Resident 11	53	Married
Resident 12	32	Widow

Resident 13	33	Single
Resident 14	34	Divorced
Resident 15	47	Widow
Resident 16	36	Married
Resident 17	35	Single
Resident 18	38	Married
Resident 19	39	Married
Resident 20	54	Married

#### Appendix 6 - Professions of microcredit group before and after receiving microcredit

Residents	Professions of microcredit group before and after receiving microcredit			
	2016-2017	2017-2018	2018-2019	2019-2020
Resident 1	Homemaker	Homemaker	Fruit Vendor	Fruit Vendor
Resident 2	Homemaker	Homemaker	Homemaker	Vegetable Vendor
Resident 3	Cook	Cook	Vegetable Vendor	Vegetable Vendor
Resident 4	Maid	Seamstress	Seamstress	Seamstress
Resident 5	Homemaker	Homemaker	Vegetable Vendor	Vegetable Vendor
Resident 6	Maid	Maid	Maid	Maid
Resident 7	Soap maker	Soap maker	Soap maker	Soap maker
Resident 8	Maid	Maid	Maid	Tailor
Resident 9	Homemaker	Homemaker	Bamboo Weaver	Bamboo Weaver
Resident 10	Homemaker	Homemaker	Homemaker	Homemaker
Resident 11	Maid	Maid	Maid	Embroiderer
Resident 12	Maid	Maid	Tea Vendor	Tea Vendor
Resident 13	Homemaker	Homemaker	Tea Vendor	Tea Vendor
Resident 14	Cook	Cook	Cook	Tailor
Resident 15	Maid	Maid	Embroiderer	Embroiderer
Resident 16	Homemaker	Homemaker	Homemaker	Homemaker
Resident 17	Homemaker	Homemaker	Fruit Vendor	Fruit Vendor
Resident 18	Homemaker	Homemaker	Bamboo Weaver	Bamboo Weaver
Resident 19	Maid	Maid	Maid	Seamstress
Resident 20	Maid	Maid	Maid	Maid

#### Appendix 7 - Professions of the control group for 4 years

Residents	Professions of control receiving group			
	2016-2017	2017-2018	2018-2019	2019-2020
Resident 1	Homemaker	Homemaker	Homemaker	Homemaker
Resident 2	Maid	Bamboo Weaver	Bamboo Weaver	Bamboo Weaver
Resident 3	Maid	Maid	Maid	Maid
Resident 4	Homemaker	Homemaker	Maid	Maid
Resident 5	Homemaker	Homemaker	Maid	Maid
Resident 6	Maid	Maid	Maid	Maid
Resident 7	Maid	Maid	Maid	Maid

Resident 8	Maid	Maid	Maid	Maid
Resident 9	Homemaker	Seamstress	Cook	Cook
Resident 10	Housekeeper	Housekeeper	Housekeeper	Housekeeper
Resident 11	Maid	Maid	Maid	Maid
Resident 12	Maid	Maid	Maid	Tea Vendor
Resident 13	Housekeeper	Housekeeper	Housekeeper	Housekeeper
Resident 14	Maid	Cook	Cook	Cook
Resident 15	Maid	Maid	Maid	Maid
Resident 16	Homemaker	Homemaker	Homemaker	Homemaker
Resident 17	Homemaker	Homemaker	Embroiderer	Embroiderer
Resident 18	Homemaker	Homemaker	Homemaker	Homemaker
Resident 19	Homemaker	Homemaker	Homemaker	Maid
Resident 20	Maid	Maid	Maid	Maid

#### Appendix 8 - Monthly Income Levels (Microcredit Group)

Income Group	2016-2017	2017-2018	2018-2019	2019-2020
Low-income	18	16	10	3
Medium-income	2	4	8	4
High-income	0	0	2	13

#### Appendix 9 - Monthly Income Levels (Control Group)

Income Group	2016-2017	2017-2018	2018-2019	2019-2020
Low-income	18	17	16	16
Medium-income	2	3	4	3
High-income	0	0	0	1

#### Appendix 10 - Monthly Savings (Microcredit Group)

INR Range	2016-2017	2017-2018	2018-2019	2019-2020
1 - 500	0	0	0	0
500 - 1000	10	8	3	2
1000 - 1500	7	8	6	4
1500 - 2000	2	3	7	6
2000 - above	1	1	4	8

#### Appendix 11 - Monthly Savings (Control Group)

INR Range	2016-2017	2017-2018	2018-2019	2019-2020
1 - 500	0	0	0	0
500 - 1000	10	9	8	8
1000 - 1500	9	9	11	11

<b>1500 - 2000</b>	1	2	1	1
<b>2000 - above</b>	0	0	0	0

#### Appendix 12 - Monthly Expenditure on Children Education (Microcredit Group)

<b>INR Range</b>	<b>2016-2017</b>	<b>2017-2018</b>	<b>2018-2019</b>	<b>2019-2020</b>
<b>1-600</b>	7	6	5	3
<b>600-1200</b>	11	11	8	6
<b>&gt;1200</b>	2	3	7	11

#### Appendix 13 - Monthly Expenditure on Children Education (Control Group)

<b>INR Range</b>	<b>2016-2017</b>	<b>2017-2018</b>	<b>2018-2019</b>	<b>2019-2020</b>
<b>1-600</b>	8	6	6	9
<b>600-1200</b>	10	11	11	7
<b>&gt;1200</b>	2	3	3	4

#### Appendix 14 - Monthly Expenditure on Healthcare facilities (Microcredit Group)

<b>INR Range</b>	<b>2016-2017</b>	<b>2017-2018</b>	<b>2018-2019</b>	<b>2019-2020</b>
<b>1-600</b>	7	4	3	3
<b>600-1200</b>	9	8	7	3
<b>&gt;1200</b>	4	8	10	14

#### Appendix 15 - Monthly Expenditure on Healthcare facilities (Control Group)

<b>INR Range</b>	<b>2016-2017</b>	<b>2017-2018</b>	<b>2018-2019</b>	<b>2019-2020</b>
<b>1-600</b>	12	11	9	10
<b>600-1200</b>	7	7	9	6
<b>&gt;1200</b>	1	2	2	4

#### Appendix 16 - Access to type of water (Microcredit Group)

<b>Year</b>	<b>Municipal Water</b>	<b>Filtered Water</b>
<b>2016-2017</b>	20	0
<b>2017-2018</b>	18	2
<b>2018-2019</b>	11	9
<b>2019-2020</b>	5	14

#### Appendix 17 - Access to type of water (Control Group)

Year	Municipal Water	Filtered Water
2016-2017	20	0
2017-2018	20	0
2018-2019	18	2
2019-2020	17	3

#### Appendix 18 - Total no. of boy/girl children in the family and going to school (Microcredit Group)

Year	Total Boys in Family	Total Boys Going to School	Total Girls in Family	Total Girls Going to School
2016-2017	11	8	8	3
2017-2018	12	8	8	4
2018-2019	12	11	9	8
2019-2020	14	13	10	9

#### Appendix 19 - Total no. of boy/girl children in the family and going to school (Control Group)

Year	Total Boys in Family	Total Boys Going to School	Total Girls in Family	Total Girls Going to School
2016-2017	11	8	8	3
2017-2018	13	9	9	4
2018-2019	14	10	9	6
2019-2020	16	14	11	4

#### Appendix 20 - Access to toilets (Microcredit Group)

Year	Open Defecation	Municipal Toilets	Toilet at home
2016-2017	14	6	0
2017-2018	13	7	0
2018-2019	3	15	2
2019-2020	0	14	6

#### Appendix 21 - Access to toilets (Control Group)

Year	Open Defecation	Municipal Toilets	Toilet at home
2016-2017	14	6	0
2017-2018	14	6	0
2018-2019	12	8	0
2019-2020	10	9	2

## Appendix 22 - Asset Creation (Microcredit Group)

Year	TV	Two-Wheeler	Air Cooler	Mobile Phone	Life Insurance	Silver Jewellery	Gold Jewellery
2016-2017	4	5	3	5	0	4	0
2017-2018	5	6	5	9	5	4	1
2018-2019	9	9	5	13	7	6	3
2019-2020	16	12	7	17	13	10	4

## Appendix 23 - Asset Creation (Control Group)

Year	TV	Two-Wheeler	Air Cooler	Mobile Phone	Life Insurance	Silver Jewellery	Gold Jewellery
2016-2017	4	4	2	3	0	2	0
2017-2018	6	5	2	4	0	2	0
2018-2019	7	6	4	9	3	3	1
2019-2020	7	6	6	10	3	3	3