

**IMPACT ASSESSMENT OF PRADHAN  
MANTRI GRAM SADAK YOJANA (PMGSY)  
ANDHRA PRADESH**

*Submitted to*  
**Ministry of Rural Development  
Govt. of India  
New Delhi**

*Conducted by*  
**Centre for Rural Management (CRM)  
Kottayam  
Kerala**

**December 2011**

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## **PREFACE**

*Centre for Rural Management (CRM), Kottayam, Kerala has been assigned to conduct an Impact Assessment of Predhan Mantri Gram Sadak Yojana (PMGSY) for the State of Andra Pradesh by the Ministry of Rural Development, Government of India, New Delhi. CRM has constituted a team for this assignment under the leadership of Dr. Jos Chathukulam, the Director. The members of the team consist of Mr.C.V.Balamurali, Mr. Anish Mathew, Mr. T.V.Thilakan, Ms. Shamla Beevi, Ms.Rekha. V, Ms. Divya. T, Ms.Siji.K V, Ms. Shylaja Perl, Mr.Riyas P.K, Ms. Sajeena Nizar,, Ms. Renjini Chellappan and Ms.Pretheesh S. We would like to record our special thanks and indebtedness to Prof. M.Johnson Samual (Late), Development Consultant for his valuable contribution in the preparation of the report.*

*During the field visits in the State, interactions are made with people's representatives, officials, senior citizens, local community leaders and women SHG leaders. During the interviews, focus group discussions (FGDs) and participatory rural appraisal (PRA), the team has received excellent support from different stakeholders of PMGSY in the State of Andhra Pradesh.*

*We are extremely thankful to the District Administration, District Panchayat, District Rural Development Agency (DRDA) and all the Gram Panchayats functionaries of both sample and control habitations in the Districts of Cuddapah and Vizianagram for extending all possible help in carrying out this assignment and their wholehearted support during the field visits. We are also grateful to the local community for providing their valuable responses and suggestions.*

*We extremely indebted for the excellent support and cooperation we have received from Dr. N.K.Sahu, Director (Monitoring), Ministry of Rural Development, Government of India and the entire team in the E & M Wing in the Ministry .We also appreciate the all affects of Mr.Manish Ahluwalia, Managing Director of CMI Social Research Centre (The Nodal Agency of the Study).*

*December 2011.*

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# **IMPACT ASSESSMENT OF PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)- ANDHRA PRADESH**

## **Executive Summary**

### **Introduction**

Pradhan Mantri Gram Sadak Yojana (PMGSY), a centrally sponsored scheme seeks to provide villages with 'all weather roads' and connectivity with outside world. Eliminating the isolation of populated areas with limited accessibility can provide the population greater access to critical goods as well as essential social services. PMGSY was launched on 25<sup>th</sup> December, 2000. It's primarily aim is to provide all weather road connectivity to over 1.60 lakh eligible unconnected habitations. The works are executed by the State Governments and monitored by the Ministry of Rural Development through the National Rural Roads Development Agency (NRRDA). *Refer Chapter 1: Introduction.*

### **Objectives of the Study**

Objectives of the Impact Assessment Study are to assess the impact of PMGSY roads on the local areas and on economic factors in general and in particular on:

1. Agricultural growth particularly in increasing market access for agricultural produce;
2. Direct and indirect employment and income in the short run as well as in the long run;
3. Access to healthcare, education and other facilities and the resultant outcomes;
4. Gender empowerment and lifting up of socially and economically disadvantaged sections of the population; and
5. Poverty reduction.

### **Methodology**

In Andhra Pradesh, two districts are selected for an Impact Assessment Study of PMGSY. They are Cuddapah and Vizianagram. From each district 15 sample habitations and 5 control habitations are taken. A total of 750 households from sample habitations and 250 households from control habitations are covered. *Refer Table 2.1.* Four types of schedules are

applied and they are (1) Sample habitation level schedule (2) Control habitation schedule (3) Sample household schedule and (4) Control household schedule. 'Before and After' & 'With and Without' (Sample & Control groups) approaches commonly used in impact assessment studies have been applied. There has been a specific reference period for the study. The average of three years before the actual year since when the PMGSY road was operative and the period till the current year from the year of operation was taken for the purpose of comparison of before and after the PMGSY road was operative. *Refer Chapter 2: Impact Assessment of PMGSY.*

### **Profile of Habitations and Households Covered**

The location of habitations for PMGSY implementation is found justifiable. The justifiable selection of habitations for the implementation of PMGSY has made an overall impact in local economic development in the sample habitations. All weather connectivity has improved and no village remains closed traffic for even a single day, after the completion of the PMGSY roads. There are adequate a presentation of marginalized communities of scheduled castes , scheduled tribes and population living below poverty line in the sample house holds. Basic information on profile of the household was collected at the time of the household survey. *Refer Chapter 3: Profile of Habitations and Households Covered.*

- Out of the 30 habitations covered under the study 20 habitations were connected by new constructions and 10 habitations were connected by upgraded roads.
- More than three fifth of the habitations (70 %) have less than 35 percent of SC/ST households, 26.67 percent of the habitations have more than 50 percent of SC/ST households and 3.33 percent of habitations have 35-50 percent of SC/ST households.
- Out of the 750 households covered, 96.93 percent are BPL families and 3.07 percent are APL families.
- The percentage of SC households is 14, the percentage of ST households is 21.2 and the percentage of other households is 64.8.

- 47.87 percent of the households surveyed have pucca houses, 13.33 percent have semi pucca houses, 36.8 percent have kutcha houses and 2 percent does not have a house.
- 91.07 percent of houses have less than or equal to five members and the remaining 8.93 percent of houses have six to ten members.
- The gender ratio is 989.

### **Connectivity Provided by PMGSY**

It is reported that after the laying of PMGSY roads all weather roads has improved. *Refer Chapter 4: Connectivity Provided by PMGSY.*

- Before the implementation of PMGSY only 10 percent of sample habitations covered in Andhra Pradesh had all weather pucca roads, 16.67 percent have gravel/water bound macadam layer road, 6.67 percent have earth work (motorable) road and 66.67 percent have earth work (not motorable) road.
- Out of the 30 habitations covered, the percentage of habitations enjoying all weather road connectivity rose from 23.33 percent to 96.67 percent after the implementation of PMGSY.
- Improvements happened in the public transport facilities. In 30 percent of habitations the number of buses plying in and out of habitations has increased from none to one, in 70 percent of habitations the number of auto rickshaws plying has increased from none to one and in 76.67 percent of habitations the number of jeep/car plying in and out of habitations has increased from none to one.

### **Impact on Agriculture**

Better connectivity resulting in easier access to markets, improvement in agricultural production and incomes of farmers in the area. *Refer Chapter 5: Impact on Agriculture.*

- Improved connectivity can change the cropping patterns. The percentage of change in cropped area after PMGSY for cereals is 8.9, for pulses are -6.17 and for vegetables and fruits is -4.76.
- In the case of cereals 4.4 percent of households reported increase in use of fertilizers and 3.11 percent of households reported increase in

use of improved seeds, 16 percent of households reported increase in production. In the case of vegetables increase in fertilizer usage is reported by 3.33 percent of households, increase in planting high yielding seeds is reported by 3.07 percent of households and increase in production is reported by 8.4 percent of households.

- Increase in the quantity sold is reported by 49.55 percent of households growing cereals, 20 percent of households growing pulses and 37.27 percent of households growing vegetables. Increase in average realized price is reported by 2.23 percent of households for cereals and 14.29 percent of households for vegetables
- Households reported increase in the number of assets is 80 percent for tractor, 84.62 percent for water lifting pump set and 60 percent for other farm machinery.

### **Impact on Employment Generation**

There has been tremendous change on the employment front. Employment opportunities have been increase in main and subsidiary occupations. *Refer Chapter 6: Impact on Employment Generation.*

- 53.33 percent of the households reported improved employment opportunities in their main occupations.
- Households reported increase in total days of employment is 54.27 percent. Out of that 22 percent of households reported increase in the number of days of employment up to 50 days, 23.2 percent of households reported 51-100 days, 4.93 percent of households reported 101-150 days, 2.53 percent of households reported 151-200 days and 1.6 percent of households reported above 200 days.
- 2.8 percent of households shifted place of employment.
- After PMGSY road become operative 1.07 percent of households change their occupations.

### **Impact on Income and Poverty Alleviation**

Road networks are also best tool to alleviate poverty. PMGSY roads helped to improve income and to alleviate poverty. Households have better dwelling unit, access to better sanitation facilities, and an increase in ownership of consumer durables. PMGSY road encouraged people to migrate to other

places in search of better employment opportunities. *Refer Chapter 7: Impact on Income and Poverty Alleviation.*

- Number of sample households engaged in agricultural activities is 331 and after laying PMGSY road 9.97 percent of the households reported increase in income from agricultural activities.
- Increase in average annual income due to principal occupation is reported by 71.73 percent of households.
- Increase in total average annual income in all occupations is reported by 72.53 percent of households.
- Income level of the people is increased in 96.67 percent of habitations after PMGSY road become operative.
- Out of the 750 households surveyed in Andhra Pradesh, 727 are BPL households. BPL households reported improvement in their economic status is 78.13 percent.
- 22.27 percent of households have better dwelling unit, 19.07 percent of households have access to better sanitation facilities, 36.4 percent of households reported increase in ownership of consumer durables and 1.87 percent of households reported reduction in the migration.
- New enterprise/industry is set up in 6.67 percent of the habitations.
- PMGSY road encouraged people in 26.67 percent of the habitations to migrate to other places in search of better employment opportunities.

### **Impact on Health**

In most of the habitations, all weather pucca roads to health institutions are available. Reduction in travel time is reported in many cases. PMGSY roads became an instrumental in changing in health scenario in general and female health status in the sample habitations. *Refer Chapter 8: Impact on Health.*

- All weather pucca roads are available to Public Health Centre (PHC) in 86.67 percent of habitations, to govt. hospital in 80 percent of habitations and to private hospital/nursing home in 76.67 percent of habitations.
- In the case of maternity emergencies there is reduction in travel time to reach the nearest health facility in 80 percent of habitations.

- In the case of serious physical injuries or accidents there is reduction in travel time to reach the nearest health facility in 76.67 percent of habitations.
- In the case of other medical emergencies reduction in travel time to reach the nearest health facility is reported in 80 percent of habitations.
- 89.19 percent of the women have received pre-natal care before PMGSY road and cent percent after PMGSY road.
- 36.11 percent of the child birth took place in home before PMGSY road and after PMGSY road it is reduced to 30.23 percent.

### **Impact on Education**

After the laying of PMGSY road children can go to even distant educational institution for better academic facilities. The road networks have brought down the distance and time to reach a school for children who wish to academic persuade. The PMGSY roads have boosted school enrolment for both male and female students. Literacy among people has increased by leaps and bounds. Schools and teachers have multiplied. *Refer Chapter 9 Impact on Education.*

- 23.33 percent of the habitations reported increase in number of anganwadi centers.
- 6.67 percent of habitations reported increase in number of schools.
- 10 percent of habitations reported sufficient number of teachers in the schools.
- 13.33 percent of habitations reported regular provision of mid-day meals for the students.
- Enrollment in secondary school after PMGSY road is cent percent for boys & 97.44 percent for girls.
- In 96.67 percent of habitations there is an increase in number of children going to school, increase in number of girls going to school and improvement in attendance of students in the nearby schools during all seasons.

**Impact on Other Aspects**

The delivery of services and governance has been improved due to be PMGSY roads. House building sector is blooming with sanitation, water supply and electricity. Habitations with well lit streets have become usual. There is a growing interest in building sanitary toilets and it reduced open defecation to certain extent. The roads have made it easy to go to Gram Panchayat office, Block office, police stations or any one of the administrative offices. The roads have strengthened Public Distribution System (PDS). Materials (food grains, sugar, kerosene and other ration items) have come within the reach of local people. Rural electrification has increased and it has made an impact on agriculture and other self employment enterprises.

- Families constructed pucca houses in cent percent of habitations.
- In 76.67 percent of habitations more families constructed sanitary latrines.
- Better connectivity is reported by 73.33 percent of habitations to gram panchayat, 76.67 percent of habitations to block panchayat, 80 percent of habitations to district head quarters and to local police station.
- 10 percent of habitations reported increases in number of ration shops and 13.33 percent of habitations reported increase in the accessing of ration shops outside the habitation.
- Increase in the number of electricity connection is reported by 80 percent of habitations for household purpose, 63.33 percent of habitations for agricultural purposes, 16.67 percent of habitations for industrial/ commercial purposes and 80 percent of habitations for street lights.

**Summing up**

PMGSY has ushered in all round development in rural areas of Andhra Pradesh.

# **Chapter 1**

## **Introduction**

### **1.1. Rural roads and Development**

No village is an island. About three fourths of India's one billion people live in villages. While some villages are connected by roads others are served by footpaths or cart tracks only. Roads are indispensable for economic progress of the villages. It is a disturbing fact that this infrastructure is inadequate and in deplorable condition. The existing road network has many gaps. These gaps need to be plugged in. Absence of well knit rural road network causes lack of basic facilities such as education, health facilities, banking and employment.

### **1.2. The Pradhan Mantri Gram Sadak Yojana**

Aware of the situation, the Government of India has chalked out an ambitious programme to enhance rural connectivity. It is christened as Pradhan Mantri Gram Sadak Yojana (PMGSY). PMGSY was launched on 25<sup>th</sup> December, 2000. Its primary aim is to provide all weather road connectivity to over 1.60 lakh eligible unconnected habitations. The works are executed by the State Governments and monitored by the Ministry of Rural Development through the National Rural Roads Development Agency (NRRDA). The primary objective of the PMGSY is to provide connectivity, by way of an 'All Weather Road' with necessary culverts and cross drainage structures which is operable throughout the year to the habitations which remain unconnected by any road.

The unit for the programme is a habitation<sup>1</sup> and not a revenue village. A survey has revealed that about 40 percent of the habitations in the country are not yet connected by all weather roads<sup>2</sup>. There are fair weather roads<sup>3</sup> too. They are fordable during the dry season only. The PMGSY has two components. One is termed as 'new connectivity' which involves construction of road from the earth work stage to the prescribed specifications. The other component 'upgradation' involves conversion from

gravel or water bound Macadam stage to the desired specification or widening of the road. The rural roads constructed under PMGSY must meet the technical specifications and geometric design standards given in the Rural Roads Manual of the IRC.

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<sup>1</sup>A habitation is a cluster of population, living in an area, the location of which does not change over time. .

<sup>2</sup>. All weather road is one negotiable during all weathers

<sup>3</sup>. They are fordable only during the dry season

## **Chapter 2**

### **Methodology**

#### **2.1. Objectives of the Study**

The broad objectives of the study is to assess the overall socio-economic impact on the lives of the rural population as a result of enhanced rural connectivity provided through the PMGSY and the improvements or the changes brought about by the PMGSY roads in the lives of the rural poor. In other words, the objectives of the Impact Assessment Study are to assess the impact of PMGSY roads on the local areas and on economic factors in general and in particular on:

1. Agricultural growth particularly in increasing market access for agricultural produce;
2. Direct and indirect employment and income in the short run as well as in the long run;
3. Access to healthcare, education and other facilities and the resultant outcomes;
4. Gender empowerment and lifting up of socially and economically disadvantaged sections of the population; and
5. Poverty reduction.

#### **2.2. Methodology, Sampling and Scope of the Study**

In Andhra Pradesh, two districts are selected for an Impact Assessment. They are Cuddapah and Vizianagram. From each district 10 habitations provide connectivity through newly laid PMGSY roads and 5 habitations provide connectivity through upgraded preexisting roads. In all, 15 habitations are taken up for study in either district.

In order to serve as a bench mark 5 habitations from each district are selected as control sample. The five habitations are not yet connected by PMGSY road. Care is taken that these habitations are of similar size (population) as those in the experimental group and at least 5 Kms away from any PMGSY road.

### **2.3. Survey Parameters and Approach**

From every habitation 25 households are selected for canvassing household schedules. This makes it 375 households for each district in the experimental group. The control group has 125 households in each district. *Refer Table 2.1.* Primary data was collected using four categories of schedules. They are

1. Habitation level schedule: - FGD should be conducted in the habitation comprising members of PRIs, school teachers, ANW/ health workers, members of NGOs, SHG members, farmers, shop keepers, opinion leaders.
2. Control habitation level schedule: - FGD should be conducted in the habitation comprising members of PRIs, school teachers, ANW/ health workers, members of NGOs, SHG members, farmers, shop keepers, opinion leaders.
3. Sample household schedule:- 25 household per habitation covering landless, small, medium & big farmers, BPL, SC/ST etc.
4. Control household schedule:- 25 household per habitation covering landless, small, medium & big farmers, BPL, SC/ST etc.

‘Before and After’ & ‘With and Without’ (Sample & Control groups) approaches commonly used in impact assessment studies have been applied.

### **2.4. Reference Period**

The averages of 3 years before the actual year since when the PMGSY road was operative and the period till the current year from the year of operation was taken for the purpose of comparison before and after the PMGSY road was operative. In case of roads completed recently, the averages of whatever period since completed till date was taken.

In the case of five control habitations in a district, the reference year taken was the year having the maximum number of roads completed in the 15 sample roads of the same district. The averages of three years pre and post that year where the questions pertain to the comparison of previous and

current status were taken. In case the reference year was recent, the averages of whatever period since completed till date was taken.

## 2.5. Coverage under the Study

A total of two districts, 30 sample habitations were covered under the study. From these habitations 750 households were interviewed. Five habitations from each of the selected district were to be covered as control unit. A total of 10 control habitations and 250 households in these habitations were covered.

**Table 2.1. Sample Covered under the Study**

S.No.	District	(Nos.)			
		Sample Habitations Covered	Sample Households Covered	Control Habitations Covered	Control Households Covered
1	Cuddapah	15	375	5	125
2	Vizianagram	15	375	5	125
<b>Andhra Pradesh</b>		<b>30</b>	<b>750</b>	<b>10</b>	<b>250</b>

Source : Field Survey

## **Chapter 3**

### **Profile of Habitations and Households Covered**

Out of the 30 habitations covered under the study 20 habitations were connected by new constructions and 10 habitations were connected by upgraded roads. Majority of the roads are completed in the year 2005(9), 2006 (11) and 2007(8) (*Refer table A.1 in Appendix*).

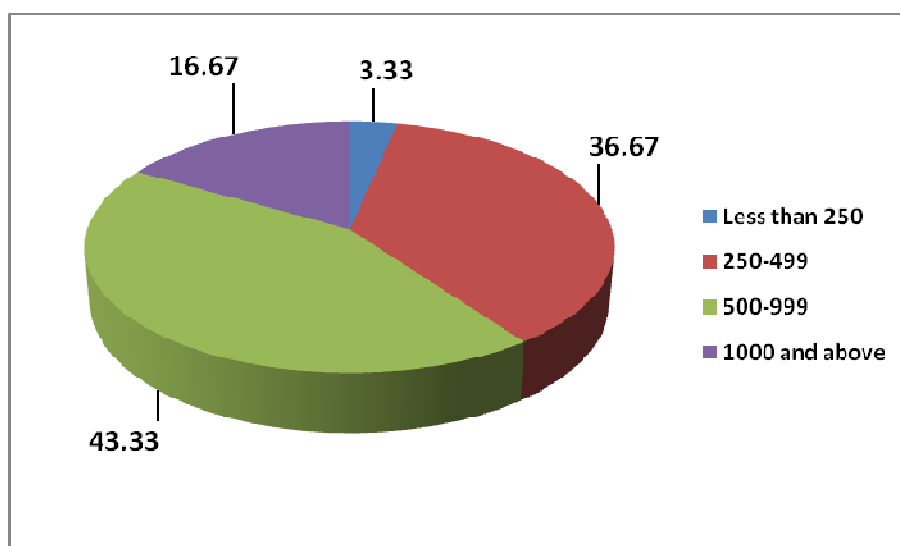
#### **3.1. Profile of Habitations Covered Under the Study**

This part gives an idea about the population size, social groups and economic status of habitations.

##### **3.1.1. Population Size of Habitations**

Out of the 30 habitations covered in Andhra Pradesh state, 43.33 percent of the habitations have a population size of 500-999, 36.67 percent of the habitations have a population size of 250-499, 16.67 percent of the habitations have a population size of 1000 and above and 3.33 percent of the habitations have a population size of less than 250. In all India level 5.35 percent of the habitations have a population size of less than 250, 13.64 percent of the habitations have a population size of 250-499, 26.74 percent of the habitations have a population size of 500-999 and 54.28 percent of the habitations have a population size of 1000 and above. In Cuddapah district out of the total surveyed habitations, 73.33 percent of the habitations have a population size of 500-999, 13.33 percent of the habitations have a population size of 1000 and above and another 13.33 percent of the habitations have a population size of 250-499. In Vizianagram district three fifth (60 %) of the habitations surveyed have a population size of 250-499, 20 percent of the habitations have a population size of 1000 and above, 13.33 percent of the habitations have a population size of 500-999 and 6.67 percent of the habitations have a population size of less than 250. *The distribution of habitations covered under the study as per population size is given in figure 3.1.*

**Figure 3.1: Population Size of Habitations Covered (% of Habitations)**

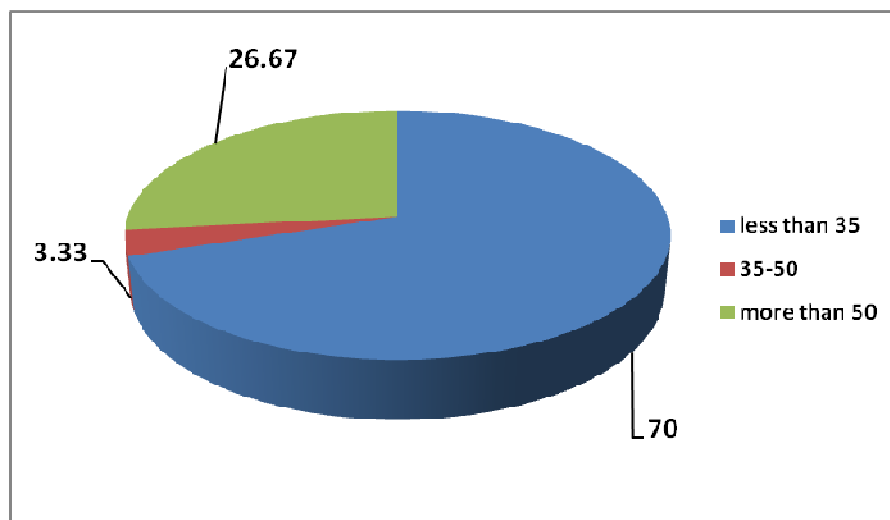


Source: Figure generated from Table 3.1

### **3.1.2. Social Groups of Habitations**

In Andhra Pradesh state out of the total surveyed habitations, more than three fifth of the habitations (70 %) have less than 35 percent of SC/ST households, 26.67 percent of the habitations have more than 50 percent of SC/ST households and 3.33 percent of habitations have 35-50 percent of SC/ST households. In all India level, 56.15 percent of habitations have less than 35 percent of SC/ST households, 12.97 percent of the habitations have 35-50 percent of SC/ST households and 30.88 percent of habitations have more than 50 percent of SC/ST households. In Cuddapah district cent percent of the habitations surveyed has less than 35 percent of the SC/ST households. In Vizianagram district more than half of the habitations surveyed (53.33 %) have more than 50 percent SC/ST households, 40 percent have less than 35 percent of SC/ST households and only 6.67 percent have 35-50 percent of SC/ST households. *Distribution of sample habitations as per percentage of SC/ST households is given in figure 3.2.*

**Figure 3.2: Distribution of Sample Habitations as per Percentage of SC/ST Households**

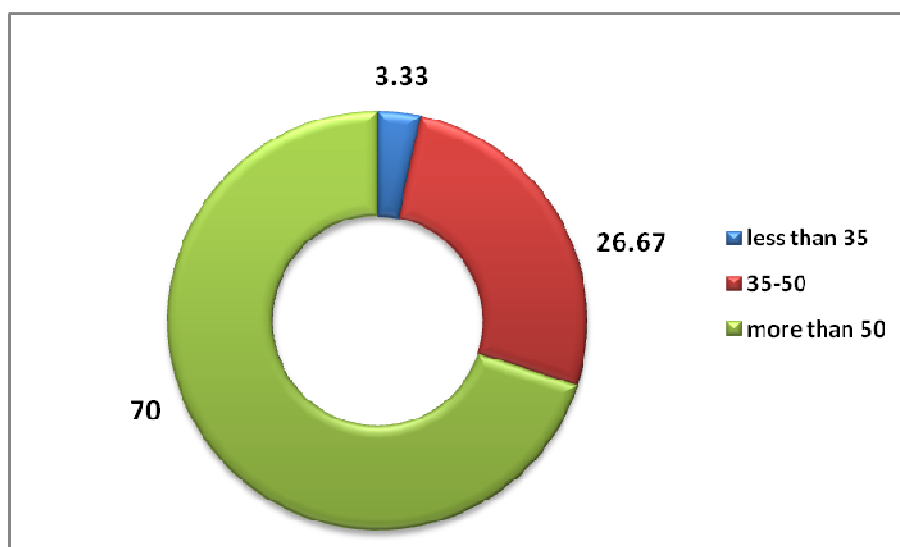


Source: Figure generated from Table 3.1

### **3.1.3. Economic Status of Habitations**

In Andhra Pradesh out of the total surveyed habitations, more than three fifth of the habitations (70 %) have more than 50 percent of BPL households, 26.67 percent of the habitations have 35-50 percent of BPL households and 3.33 percent of habitations have less than 35 percent of BPL households. In national level, 35.29 percent of habitations have less than 35 percent of BPL households, 17.91 percent of the habitations have 35-50 percent of BPL households and 46.79 percent of the habitations have more than 50 percent of BPL households. In Cuddapah district 80 percent of the habitations covered have more than 50 percent of the BPL households and 20 percent of the habitations covered have 35-50 percent of BPL households. In Vizianagram district three fifth of the habitations covered (60 %) have more than 50 percent of BPL households, 33.33 percent of the habitations covered have 35-50 percent of BPL households and 6.67 percent of the habitations have less than 35 percent of BPL households. Distribution of sample habitations as per percentage of BPL households is given in figure 3.3.

**Figure 3.3: Distribution of Sample Habitations as per Percentage of BPL Households**



Source: Figure generated from Table 3.1

**Table 3.1. Profile of Sample Habitations covered under the study**  
(% of habitations)

District	Habitations Covered	Population size (persons)				% of SC/ST households			% of BPL households		
		Less than 250	250-499	500-999	1000 and above	less than 35	35-50	more than 50	less than 35	35-50	more than 50
Cuddapah	15	0	13.33	73.33	13.33	100	0	0	0	20	80
Vizianagram	15	6.67	60	13.33	20	40	6.67	53.33	6.67	33.33	60
Andhra Pradesh	30	3.33	36.67	43.33	16.67	70	3.33	26.67	3.33	26.67	70

Source: Field Survey

### 3.2. Profile of Households Covered Under the Study

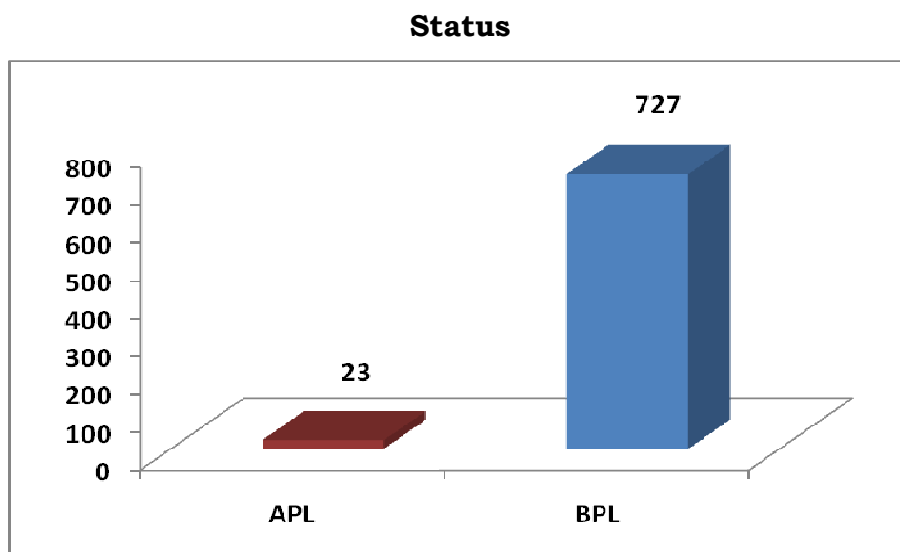
This part gives an idea about the BPL status, caste, ownership of house, size of household and gender ratio of the households. *Refer Table 3.2.*

#### 3.2.1. BPL and APL Households

In Andhra Pradesh out of the 750 households covered, 96.93 percent are BPL families and 3.07 percent are APL families. In all India level, out of the 18655 households covered 67.79 percent are BPL families and 32.21 percent are APL families. Out of the 375 households surveyed in each

district Cuddapah district have 97.33 percent of BPL families and Vizianagram district have 96.53 percent of BPL families. *Figure 3.4 gives distribution of sample households as per their poverty status.*

**Figure 3.4: Distribution of Sample Households as per their Poverty**



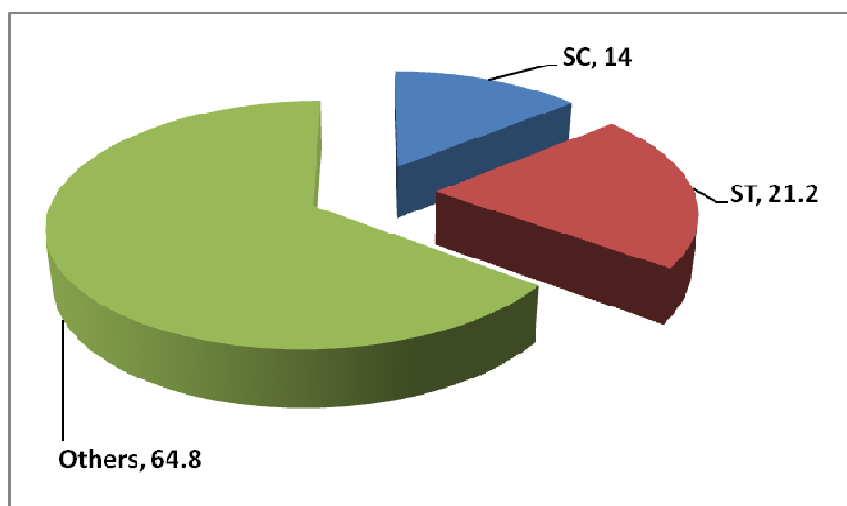
Source: Figure generated from Table 3.2

### **3.2.2. Social Groups of the Households**

Out of the surveyed households in Andhra Pradesh, the percentage of SC households is 14, the percentage of ST households is 21.2 and the percentage of other households is 64.8. In all India level the percentage of SC households is 21.85, the percentage of ST households is 24.33 and the percentage of other households is 53.82. The percentage of SC households is highest in Vizianagram

district and it is 18.4 percent and in Cuddapah district it is only 9.6 percent. ST families are 41.33 percent in Vizianagram district and 1.07 percent in Cuddapah district. Percentage of other household is 89.33 in Cuddapah and 40.27 in Vizianagram. *Distribution of sample households as per caste status is given in figure 3.5*

**Figure 3.5: Distribution of Sample Households as per Social Groups**

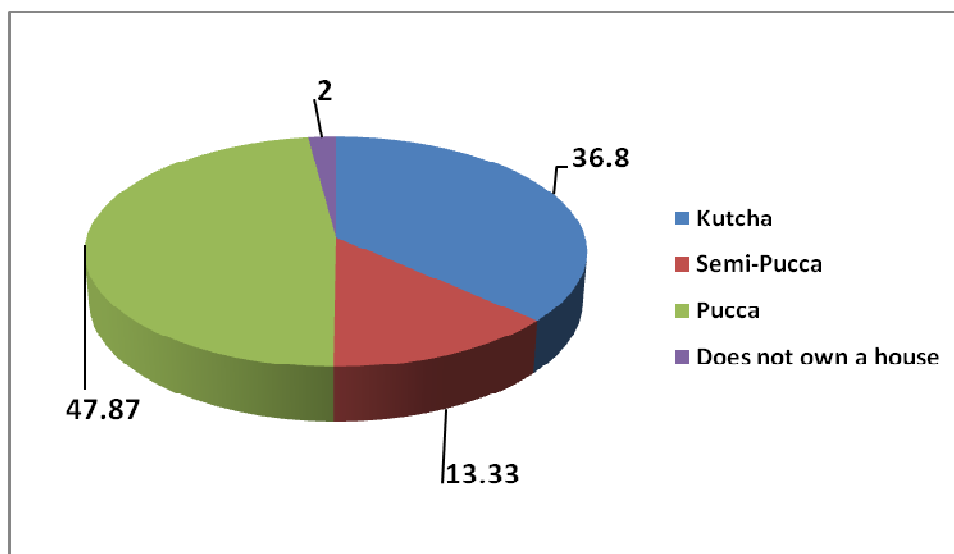


Source: Figure generated from Table 3.2

### **3.2.3. Housing**

In Andhra Pradesh 47.87 percent of the households surveyed have pucca houses, 13.33 percent have semi pucca houses, 36.8 percent have kutcha houses and 2 percent does not have a house. In national level 11.77 percent of the households surveyed have pucca houses, 24.70 percent have semi pucca houses, 63.10 percent have kutcha houses and 0.43 percent does not have a house. In Cuddapah district 68.8 percent have pucca houses, 17.07 percent have semi pucca houses, 10.04 percent have kutcha houses and 3.73 percent does not have own houses. In Vizianagram district 26.93 percent have pucca houses, 9.6 percent have semi pucca houses, 63.2 percent have kutcha houses and 0.27 percent does not have own houses. *Distribution of sample households as per type of house is given in figure 3.6.*

**Figure 3.6: Distribution of Sample Households as per Type of House**

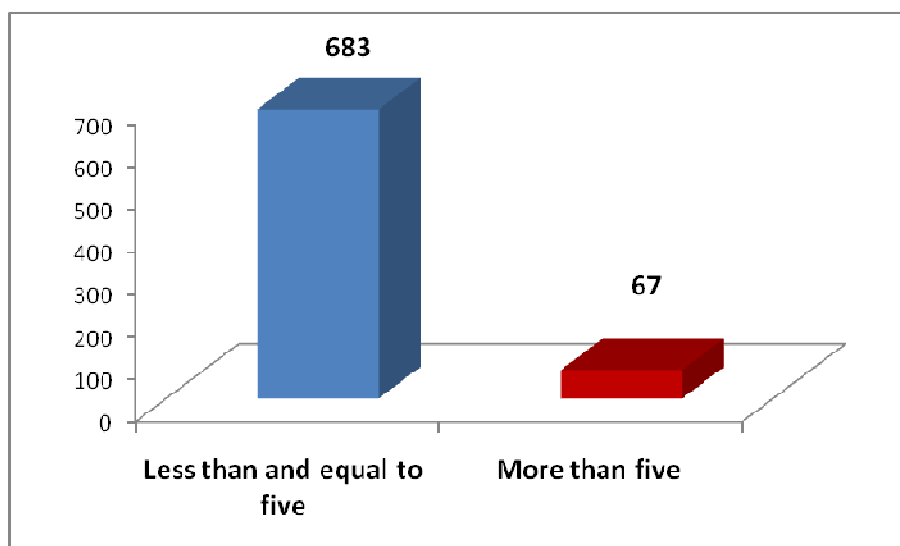


Source: Figure generated from Table 3.2

#### **3.2.4. Size of Households**

Out of the 750 households covered in Andhra Pradesh, 91.07 percent of houses have less than or equal to five members and the remaining 8.93 percent of houses have six to ten members. In national level, out of the 18655 households, 15830 households (84.86 %) have less than or equal to five members and 2824 households (15.14 %) have more than five members. In Cuddapah district 88.53 percent of the houses have less than or equal to five members and the remaining 11.47 percent of houses have six to ten members. In Vizianagram district 93.6 percent of the houses have less than or equal to five members and 6.4 percent of houses have six to ten members. *Distribution of sample households as per size of the household is given in figure 3.7.*

**Figure 3.7: Distribution of Sample Households as per Size of Household**



Source: Figure generated from Table 3.2

### 3.2.5. Gender Ratio

In Andhra Pradesh the number of women for every 1000 men is 989 for the households surveyed and it is higher than the corresponding national figure of 833. The sex ratio is better in Vizianagram district and it is 1051 whereas the sex ratio in Cuddapah district is 933.

**Table 3.2. Profile of households covered under the study**

District	No. of households covered	BPL Status		Caste			Ownership of house				Size of households (no. of members)		Gender Ratio (female per 1000 male)
		APL	BPL	SC	ST	Others	Kutcha	Semi-Pucca	Pucca	Does not own a house	≤ 5	6 to 10	
Cuddapah	375	2.67	97.33	9.6	1.07	89.33	10.4	17.07	68.8	3.73	88.53	11.47	933
Vizianagram	375	3.47	96.53	18.4	41.33	40.27	63.2	9.6	26.93	0.27	93.6	6.4	1051
Andhra Pradesh	750	3.07	96.93	14	21.2	64.8	36.8	13.33	47.87	2	91.07	8.93	989

Source: Field Survey

### 3.2.6. Agricultural Land Details of Households

In Andhra Pradesh 55.87 percent of the surveyed households does not have agricultural land. Out of that 20.54 percent have less than one hectares of

land, 48.04 percent have 1-2 hectares of land and 31.42 percent have more than two hectares of land. The percentage of households having more than half of their agricultural land irrigated is 49.24. In all India level 33.90 percent of the surveyed households do not have agricultural land. Out of that 44.95 percent have less than one hectares of land, 40.37 percent have 1-2 hectares of land and 13.68 percent have more than two hectares of land.

In Cuddapah district 50.67 percent of the household surveyed have own agricultural land. Out of that 14.21 percent have less than one hectares of land, 40 percent have 1-2 hectares of land and 45.79 percent have more than two hectares of land. The percentage of households having more than half of their agricultural land irrigated is 27.89 in Cuddapah district. In Vizianagram district 37.6 percent of the household surveyed have own agricultural land. Out of that 29.08 percent have less than one hectares of land, 58.87 percent have 1-2 hectares of land and 12.06 percent have more than two hectares of land. The percentage of households having more than half of their agricultural land irrigated is 78.01.

**Table 3.3. Profile of Land owning households**

District	No. of households covered	(% of households)						
		Owning Land		If "Yes", size of land holding			% irrigated area	
		Yes	No	Less than 1 ha	1-2 ha	More than 2 ha	Less than 50	50 & More
Cuddapah	375	50.67	49.33	14.21	40	45.79	72.11	27.89
Vizianagram	375	37.6	62.4	29.08	58.87	12.06	21.99	78.01
<b>Andhra Pradesh</b>	<b>750</b>	<b>44.13</b>	<b>55.87</b>	<b>20.54</b>	<b>48.04</b>	<b>31.42</b>	<b>50.76</b>	<b>49.24</b>

Source: Field Survey

### **3.3. Profile of Control Habitations and Households Covered**

This part describes the population size, social groups and economic status of control habitations. It also gives an idea about BPL status, caste, ownership of house, size of household and gender ratio of the control households

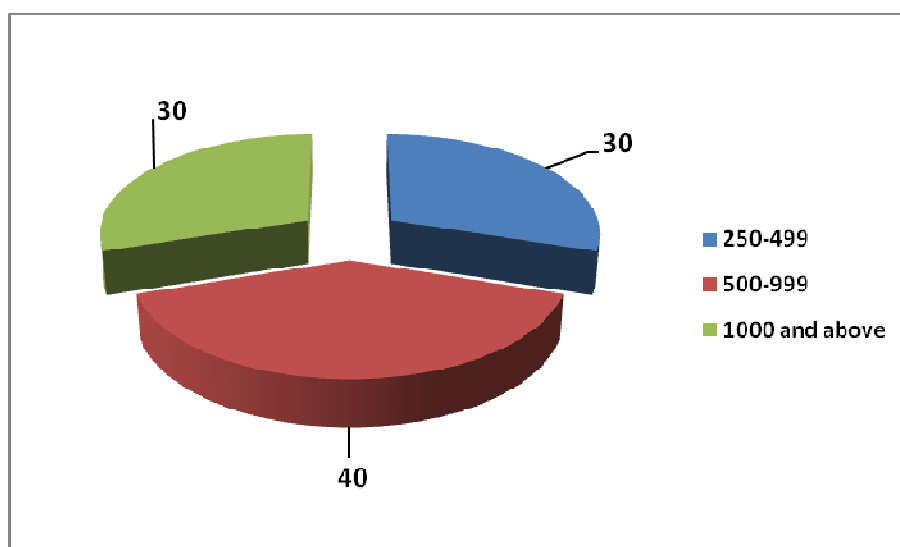
### **3.3.1. Profile of Control Habitations**

Out of the 10 control habitations covered in Andhra Pradesh 40 percent of habitations have 500-999 inhabitants, 30 percent of habitations have 250-499 inhabitants and another 30 percent of the habitations have 1000 and above inhabitants. It is noticed that 80 percent of the habitations have less than 35 percent of SC/ST households and 20 percent of the habitations have more than 50 percent of SC/ST households. In the surveyed control habitations 30 percent have more than half of the households live below poverty line, 40 percent of the habitations have less than 35 percent of households live below poverty line and in the remaining 30 percent of habitations 35-50 percent of the households live below poverty line. Population size of control habitations is given in figure 3.8. In all India level 6.40 percent of control habitations have less than 250 inhabitants, 26.80 percent of habitations have 250-499 inhabitants, 24.40 percent of habitations have 500-999 inhabitants and 42.40 percent of the habitations have 1000 and above inhabitants. It is noticed that 53.20 percent of the habitations have less than 35 percent of SC/ST households, 13.20 percent of the habitations have 35-50 percent of SC/ST households and 33.60 percent of the habitations have more than 50 percent of SC/ST households. In the surveyed control habitations 30 percent have more than half of the households live below poverty line, 40 percent of the habitations have less than 35 percent of households live below poverty line and 30 percent of habitations 35-50 percent of the households live below poverty line.

In Cuddapah district 40 percent of the control habitations have 250-499 inhabitants, 20 percent have 500-999 inhabitants and the remaining 40 percent have 1000 and above inhabitants. In Vizianagram district 20 percent of the control habitations have 250-499 inhabitants, 60 percent have 500-999 inhabitants and the remaining 20 percent have 1000 and above inhabitants. In the two districts 80 percent of the control habitations have less than 35 percent of SC/ST households and 20 percent have more than 50 percent of SC/ST households. In Cuddapah district 20 percent of the control habitations covered have less than 35 percent of BPL families,

another 20 percent have 35-50 percent of BPL families and 60 percent have more than 50 percent of BPL families. In Vizianagram district 60 percent of the control habitations covered have less than 35 percent of BPL families and 40 percent have 35-50 percent of BPL families.

**Figure 3.8: Population Size of Control Habitations (% of Habitations)**



Source: Figure generated from Table 3.4

**Table 3.4. Profile of Control Habitations covered under the study**

District	Habitations Covered	(% of habitations)									
		Population size (persons)				% of SC/ST households			% of BPL households		
		Less than 250	250-499	500-999	1000 and above	less than 35	35-50	more than 50	less than 35	35-50	more than 50
Cuddapah	5	0	40	20	40	80	0	20	20	20	60
Vizianagram	5	0	20	60	20	80	0	20	60	40	0
<b>Andhra Pradesh</b>	<b>10</b>	<b>0</b>	<b>30</b>	<b>40</b>	<b>30</b>	<b>80</b>	<b>0</b>	<b>20</b>	<b>40</b>	<b>30</b>	<b>30</b>

Source: Field Survey

### 3.3.2. Profile of Control Households

A total of 250 control households have been covered from two districts in Andhra Pradesh. Majority of the households covered (94 %) are under BPL category. The percentage of SC household is 16, the percentage of ST

household is 5.2 and the percentage of other household is 78.8. Out of the control household covered in Andhra Pradesh 18.8 percent have kutcha houses, 15.2 percent have semi pucca houses, 61.6 have pucca houses and 4.4 percent does not own a house. It is identified that 95.6 percent of the houses surveyed have less than or equal to five family members. The sex ratio is 963.

Cuddapah district has the highest percentage (96 %) of BPL control household followed by Vizianagram (92 %). Cuddapah district have 20.8 percent of SC households, 3.2 percent of ST households and 76 percent of other households. Vizianagram district have 11.2 percent of SC households, 7.2 percent of ST households and 81.6 percent of other households. In Cuddapah district 4.8 percent of the control household surveyed is kutcha, 19.2 percent is semi pucca, 72 percent is pucca and 4 percent does not have own house. In Vizianagram district 32.8 percent of the control household surveyed is kutcha, 11.2 percent is semi pucca, 51.2 percent is pucca and 4.8 percent does not have own house. Household with less than or equal to five family members is 95.2 percent in Cuddapah district and 96 percent in Vizianagram district. The sex ratios in Cuddapah and Vizianagram districts are 974 & 952 respectively.

**Table 3.5. Profile of households (control) covered under the study**

District	No. of control households covered	BPL Status		Caste			Ownership of house				Size of households (no. of members)		Gender Ratio (female per 1000 male)
		APL	BPL	SC	ST	Others	Kutcha	Semi-Pucca	Pucca	Does not own a house	≤ 5	6 to 10	
Cuddapah	125	4	96	20.8	3.2	76	4.8	19.2	72	4	95.2	4.8	974
Vizianagram	125	8	92	11.2	7.2	81.6	32.8	11.2	51.2	4.8	96	4	952
<b>Andhra Pradesh</b>	<b>250</b>	<b>6</b>	<b>94</b>	<b>16</b>	<b>5.2</b>	<b>78.8</b>	<b>18.8</b>	<b>15.2</b>	<b>61.6</b>	<b>4.4</b>	<b>95.6</b>	<b>4.4</b>	<b>963</b>

Source: Field Survey

## Chapter 4

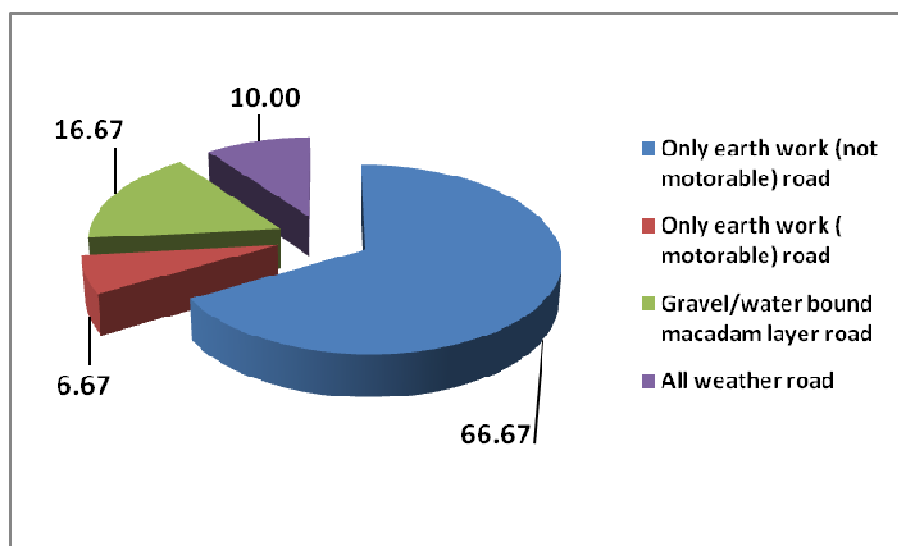
### Connectivity Provided by PMGSY

#### 4.1. Type of Road Access to the Sample Habitations before PMGSY

Before the implementation of PMGSY only 10 percent of sample habitations covered in Andhra Pradesh had all weather pucca roads, 16.67 percent have gravel/water bound macadam layer road, 6.67 percent have earth work (motorable) road and 66.67 percent have earth work (not motorable) road. Type of road access before PMGSY is depicted in figure 4.1. In all India level only 21.66 percent of sample habitations covered had all weather pucca roads, 11.63 percent have gravel/water bound macadam layer road, 29.41 percent have earth work (motorable) road and 37.30 percent have earth work (not motorable) road. *Refer Table 4.1 & Figure 4.1.*

In Cuddapah district 20 percent of the sample habitations had all weather pucca roads, 13.33 percent have gravel/water bound macadam layer road and 66.67 percent have earth work (not motorable) road. In Vizianagram district no sample habitations had all weather pucca roads, 20 percent have gravel/water bound macadam layer road, 13.33 percent have earth work (motorable) road and 66.67 percent have earth work (not motorable) road.

**Figure 4.1: Type of Road Access to Sample Habitations before PMGSY**



Source: Figure generated from Table 4.1

**Table 4.1. Connectivity status of sample habitations before PMGSY***(% of habitations)*

District	Habitations Covered	Type of Road access			
		Only earth work (not motorable) road	Only earth work (motorable) road	Gravel/ water bound macadam layer road	All weather road
Cuddapah	15	66.67	0.00	13.33	20.00
Vizianagram	15	66.67	13.33	20.00	0.00
<b>Andhra Pradesh</b>	<b>30</b>	<b>66.67</b>	<b>6.67</b>	<b>16.67</b>	<b>10.00</b>

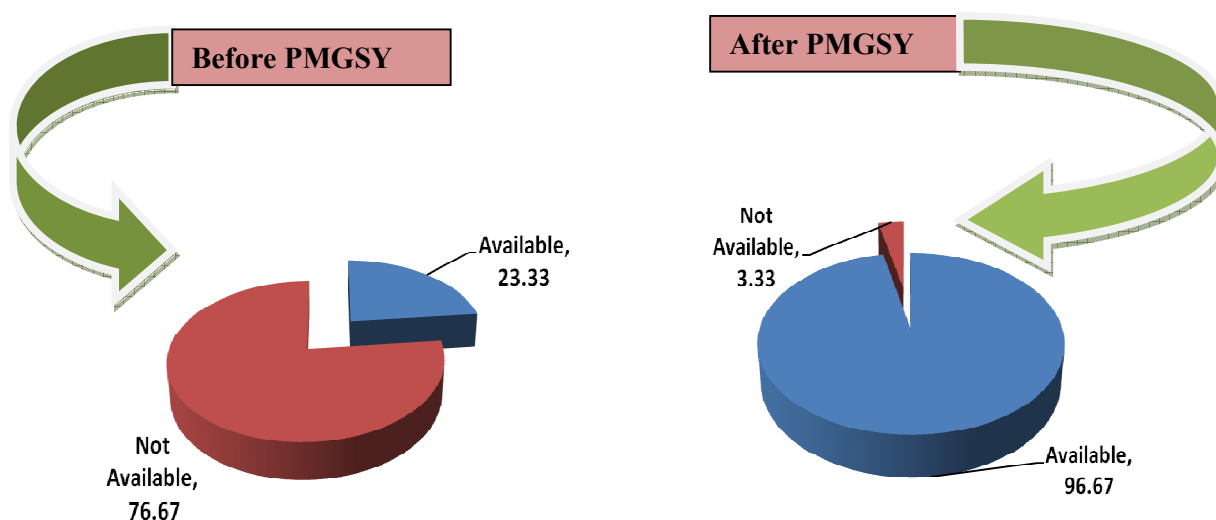
Source: Field Survey

**4.2. Changes in all Season Motorized Access after PMGSY**

Out of the 30 habitations covered in two districts of Andhra Pradesh the percentage of habitations enjoying all weather road connectivity rose from 23.33 percent to 96.67 percent after the implementation of PMGSY. In national level it is increased from 28.74 percent to 93.32 percent. The number of days, the roads remaining closed to traffic in a year declined from 68 days to 28 after PMGSY is implemented in Andhra Pradesh. Figure 4.2 depicts all season motorized access before and after PMGSY road.

In Cuddapah district the percentage of habitations enjoying all weather road connectivity rose from 40 percent to cent percent after the implementation of PMGSY. The number of days, the roads remaining closed to traffic in a year declined from 62 days to zero. In Vizianagram district the percentage of habitations enjoying all weather road connectivity rose from 6.67 percent to 93.33 percent after the implementation of PMGSY. The number of days, the roads remaining closed to traffic in a year declined from 72 days to 28 days. *Figure 4.2 & Table 4.2 provide changes in all season motorized access to sample habitations before and after PMGSY.*

**Figure 4.2: All Season Motorized Access**



Source: Figure generated from Table 4.2

**Table 4.2 Change in all season motorized access to sample habitations before and after PMGSY**

*(% of habitations)*

District	Habitations Covered	All season motorized access before PMGSY Road			All season motorized access after PMGSY Road		
		Available	Not Available	If not available, average no. of days closed	Available	Not Available	If not available, average no. of days closed
Cuddapah	15	40	60	62	100	0	0
Vizianagram	15	6.67	93.33	72	93.33	6.67	28
<b>Andhra Pradesh</b>	<b>30</b>	<b>23.33</b>	<b>76.67</b>	<b>68</b>	<b>96.67</b>	<b>3.33</b>	<b>28</b>

Source: Field Survey

In the case of control habitations of Andhra Pradesh 50 percent of the control habitations enjoy all weather road connectivity and the number of days the road remaining closed in a year is 102 days. In the control habitations of Cuddapah district 80 percent of the control habitations enjoy all weather road connectivity and the number of days the road remaining closed in a year is 90 days. In the control habitations of Vizianagram district 20 percent of the control habitations enjoy all weather road connectivity and the number of days the road remaining closed in a year is 105 days.

**Table 4.2 (a) Present status of all season motorized access to Control habitations**  
(Nos.)

District	Control Habitations Covered	All season motorized access		
		Available	Not Available	If not available, average no. of days closed
Cuddapah	5	80	20	90
Vizianagram	5	20	80	105
<b>Andhra Pradesh</b>	<b>10</b>	<b>50</b>	<b>50</b>	<b>102</b>

Source: Field Survey

### **4.3. Status of Connectivity to Important Facilities Post-PMGSY**

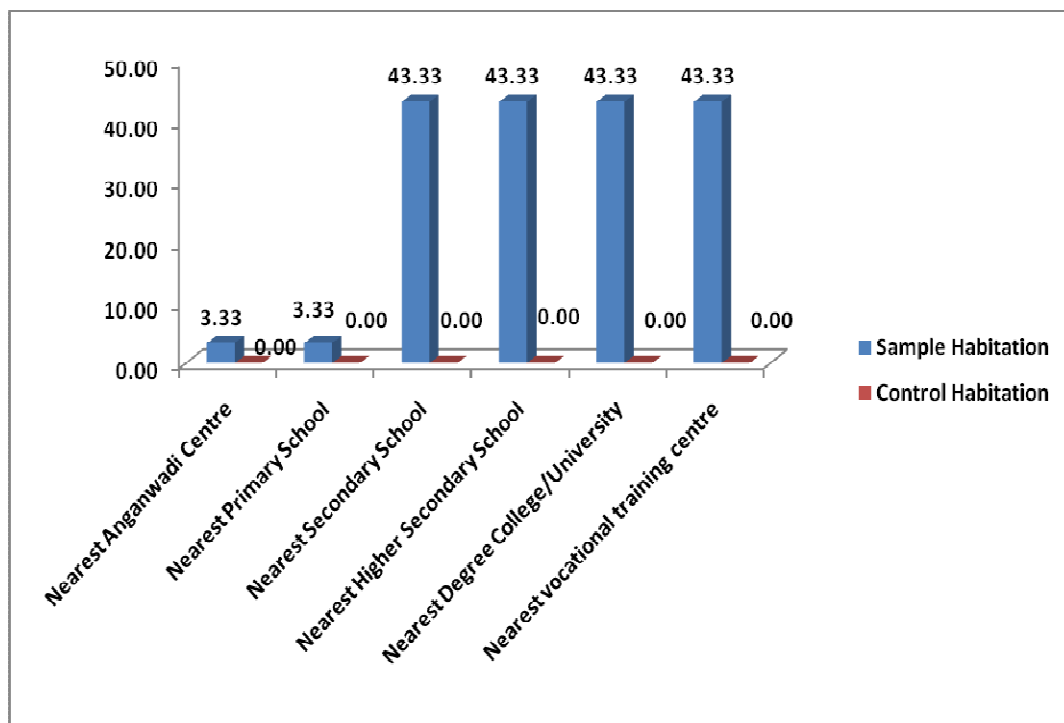
After the implementation of PMGSY the sample habitations can access the facilities outside their habitation by using PMGSY roads. For example 3.33 percent of habitation uses PMGSY road for reaching the nearest primary school outside their habitation. *The connectivity status to important facilities is given in the Table 4.3.*

#### **4.3.1. Connectivity to Educational Facilities**

In 3.33 percent of habitations people have to travel an average distance of 2 Kms to access the nearest anganwadi centre outside their habitation and using PMGSY road for that purpose. In 3.33 percent of habitations people have to travel an average distance of 2 Kms to access the nearest primary school outside their habitation and using PMGSY road for that purpose. In 83.33 percent of habitations people have to travel an average distance of 5.92 Kms to access the nearest secondary school outside their habitation, where 43.33 percent using PMGSY road, 40 percent using other pucca road and 3.33 percent using kuccha road. In 96.66 percent of habitations people have to travel an average distance of 10.69 Kms to access the nearest higher secondary school outside their habitation, where 43.33 percent using PMGSY road and 53.33 percent using other pucca road. In cent percent of habitations people have to travel an average distance of 15.67 Kms to access the nearest degree college/ university outside their habitation, where 43.33 percent using PMGSY road and 56.67 percent using other pucca road. In cent percent of habitations people have to travel an average distance of 18.60 Kms to access the nearest vocational training centre/institute outside

their habitation, where 43.33 percent using PMGSY road and 56.67 percent using other pucca road. *Figure 4.3 depicts the connectivity to educational facilities by all weather roads in sample & control habitations.* It is clear from the figure that people in the sample habitations have better access to educational facilities than the people in the control habitations.

**Figure 4.3: Connectivity to Educational Facilities by All Weather Roads**



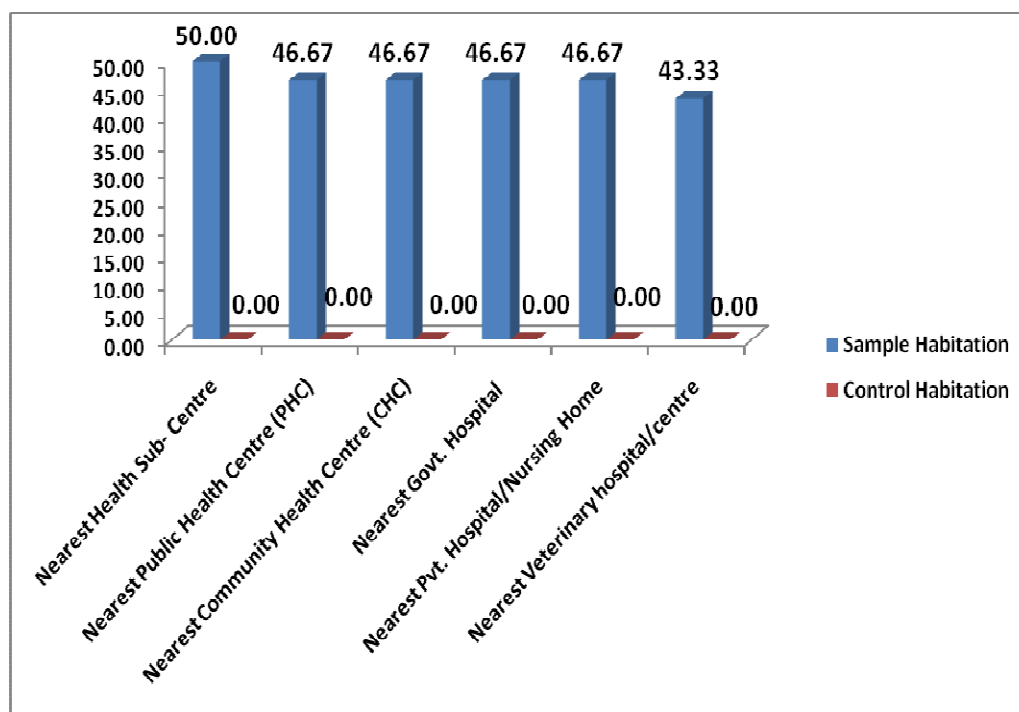
Source: Figure generated from Table 4.3 & 4.3 (a)

#### **4.3.2. Connectivity to Health Facilities**

In 96.67 percent of habitations people have to travel an average distance of 6.97 Kms to access the nearest health sub centre outside their habitation, where 50 percent using PMGSY road and 46.67 percent using other pucca road. In cent percent of habitations people have to travel an average distance of 7.90 Kms to access the nearest public health centre, 10.87 Kms to access the nearest community health centre, 11.40 Kms to access the nearest govt. hospital and 13.10 Kms to access the nearest private hospital. Out of that 46.67 percent using PMGSY road and 53.33 percent using other pucca road. In 93.33 percent of habitations people have to travel an average

distance of 8.43 Kms to access the nearest Veterinary outside their habitation, where 43.33 percent using PMGSY road and 50 percent using other pucca road. *Figure 4.4 gives the connectivity to health facilities by all weather roads in both sample and control habitations.*

**Figure 4.4: Connectivity to Health Facilities by All Weather Roads**



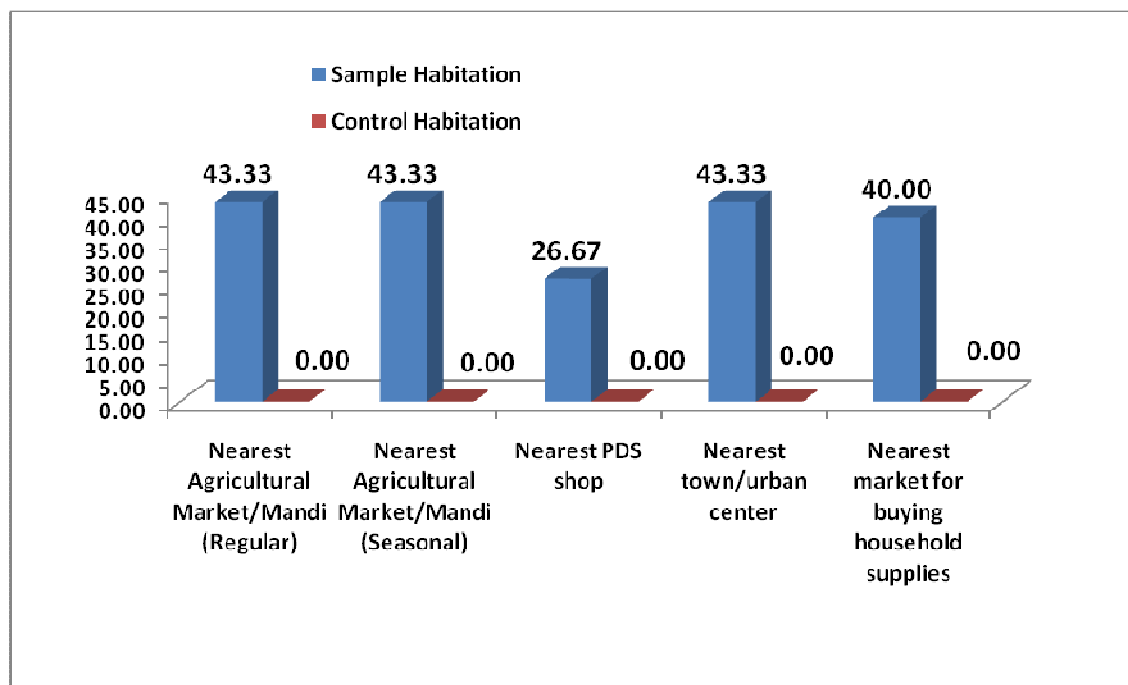
Source: Figure generated from Table 4.3 & 4.3 (a)

#### **4.3.3. Connectivity to Market Facilities**

In cent percent of habitations people have to travel an average distance of 15.60 Kms to access the nearest agricultural market/mandi(regular), 12.27 Kms to access the nearest agricultural market/mandi (seasonal) and 21.03 Kms to access the nearest town/urban centre. Out of that 43.33 percent using PMGSY road and 56.67 percent using other pucca road. In 53.34 percent of habitations people have to travel an average distance of 3 Kms to access the nearest PDS shop outside their habitation, where 26.67 percent using PMGSY road and 26.67 percent using other pucca road. In 83.33 percent of habitations people have to travel an average distance of 8.36 Kms to access the nearest market for buying household supplies outside their habitation, where 40 percent using PMGSY road and 43.33 percent using

other pucca road. *Figure 4.5 gives the connectivity to market facilities by all weather roads in both and control habitations.*

**Figure 4.5: Connectivity to Market Facilities by All Weather Roads**

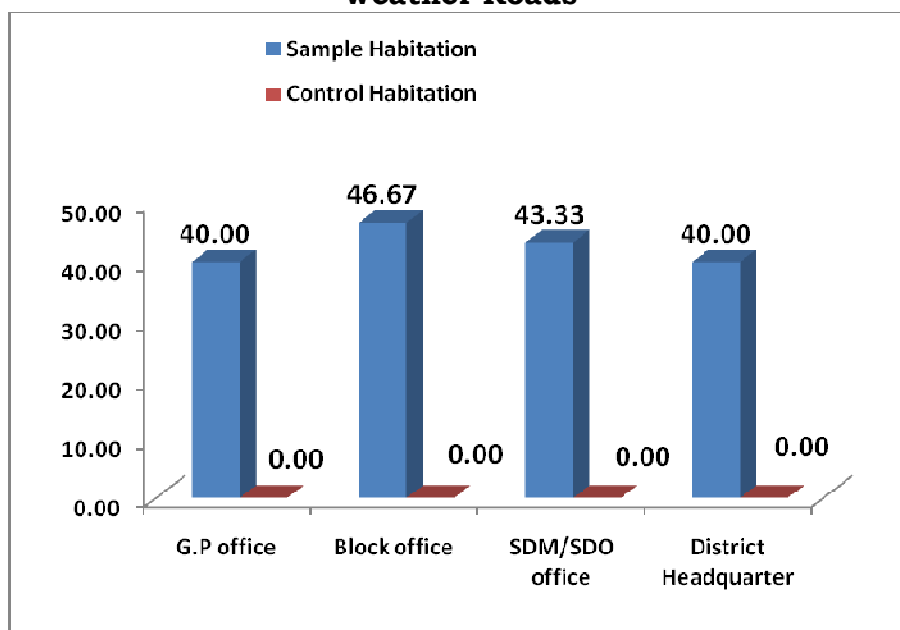


Source: Figure generated from Table 4.3 & 4.3 (a)

#### **4.3.4. Connectivity to Administration Establishments**

In 66.67 percent of habitations people have to travel an average distance of 3.05 Kms to access the G.P office outside the habitation, where 40 percent using PMGSY road and 26.67 percent using other pucca road. In cent percent of habitations people have to travel an average distance of 10.23 Kms to access the block office, where 46.67 percent using PMGSY road and 53.33 percent using other pucca road. In cent percent of habitations people have to travel an average distance of 16.70 Kms to access the SDM/SDO office, where 43.33 percent using PMGSY road and 56.67 percent using other pucca road. In cent percent of habitations people have to travel an average distance of 67.30 Kms to access the district headquarters, where 40 percent using PMGSY road and 60 percent using other pucca road. *Figure 4.6 gives the connectivity to administration establishment by all weather roads in sample and control habitations.*

**Figure 4.6: Connectivity to Administration Establishments by All Weather Roads**



Source: Figure generated from Table 4.3 & 4.3 (a)

**Table 4.3. Connectivity status to important facilities of sample habitations after PMGSY**

(% of Habitations)

S. No.	Facility	Facility within the habitation	Facility outside the habitation access by			
			PMGSY road	Other pucca road	Kuccha road	Avg. distance in km
1	Nearest Anganwadi Centre	96.67	3.33	0.00	0.00	2.00
2	Nearest Primary School	96.67	3.33	0.00	0.00	2.00
3	Nearest Secondary School	13.33	43.33	40.00	3.33	5.92
4	Nearest Higher Secondary School	3.33	43.33	53.33	0.00	10.69
5	Nearest Degree College/University	0.00	43.33	56.67	0.00	15.67
6	Nearest vocational training centre/institute	0.00	43.33	56.67	0.00	18.60
7	Nearest Health Sub- Centre	3.33	50.00	46.67	0.00	6.97
8	Nearest Public Health Centre (PHC)	0.00	46.67	53.33	0.00	7.90
9	Nearest Community Health Centre (CHC)	0.00	46.67	53.33	0.00	10.87
10	Nearest Govt. Hospital	0.00	46.67	53.33	0.00	11.40
11	Nearest Pvt. Hospital/Nursing Home	0.00	46.67	53.33	0.00	13.10
12	Nearest Veterinary hospital/centre	6.67	43.33	50.00	0.00	8.43
13	Local Police Station	0.00	46.67	53.33	0.00	9.97
14	Local Police Post	3.33	43.33	53.33	0.00	9.24

15	Nearest Agricultural Market/Mandi (Regular)	0.00	43.33	56.67	0.00	15.60
16	Nearest Agricultural Market/Mandi (Seasonal)	0.00	43.33	56.67	0.00	12.27
17	Nearest PDS shop	46.67	26.67	26.67	0.00	3.00
18	Nearest town/urban center	0.00	43.33	56.67	0.00	21.03
19	Nearest Bank	3.33	46.67	50.00	0.00	8.41
20	Nearest Post office	26.67	43.33	30.00	0.00	2.86
21	Nearest market for buying household supplies	16.67	40.00	43.33	0.00	8.36
22	G.P office	33.33	40.00	26.67	0.00	3.05
23	Block office	0.00	46.67	53.33	0.00	10.23
24	SDM/SDO office	0.00	43.33	56.67	0.00	16.70
25	District Headquarter	0.00	40.00	60.00	0.00	67.30

Source: Field Survey

The connectivity status to important facilities in control habitation is given in the table 4.3(a).

**Table 4.3 (a) Connectivity status to important facilities of Control Habitations (Current Status)**

S. No.	Facility	Facility within the habitation	Facility outside the habitation access by (% of Habitations)				
			Only Earth Work road (Not motorable)	Only Earth Work road (Motorable)	Gravel/ water bound macadam layer road	All weather road	Avg. distance in km
1	Nearest Anganwadi Centre	70.00	20.00	0.00	10.00	0.00	1.33
2	Nearest Primary School	100.00	0.00	0.00	0.00	0.00	0.00
3	Nearest Secondary School	10.00	50.00	0.00	40.00	0.00	3.22
4	Nearest Higher Secondary School	0.00	40.00	20.00	40.00	0.00	6.00
5	Nearest Degree College/University	0.00	30.00	30.00	40.00	0.00	11.30
6	Nearest vocational training centre/institute	0.00	40.00	30.00	30.00	0.00	12.80
7	Nearest Health Sub- Centre	0.00	50.00	0.00	50.00	0.00	4.90
8	Nearest Public Health Centre (PHC)	0.00	50.00	0.00	50.00	0.00	6.70
9	Nearest Community Health Centre (CHC)	0.00	50.00	0.00	50.00	0.00	9.00
10	Nearest Govt. Hospital	0.00	40.00	10.00	50.00	0.00	7.10
11	Nearest Pvt. Hospital/Nursing Home	0.00	50.00	0.00	50.00	0.00	9.70
12	Nearest Veterinary hospital/centre	0.00	30.00	20.00	50.00	0.00	5.80
13	Local Police Station	0.00	40.00	10.00	50.00	0.00	5.20
14	Local Police Post	0.00	40.00	10.00	50.00	0.00	5.40
15	Nearest Agricultural Market/Mandi (Regular)	0.00	30.00	30.00	40.00	0.00	10.10

16	Nearest Agricultural Market/Mandi (Seasonal)	0.00	30.00	30.00	40.00	0.00	9.30
17	Nearest PDS shop	60.00	30.00	0.00	10.00	0.00	1.50
18	Nearest town/urban center	0.00	30.00	30.00	40.00	0.00	13.60
19	Nearest Bank	0.00	50.00	10.00	40.00	0.00	5.70
20	Nearest Post office	30.00	40.00	0.00	30.00	0.00	2.57
21	Nearest market for buying household supplies	10.00	50.00	10.00	30.00	0.00	5.56
22	G.P office	50.00	40.00	0.00	10.00	0.00	2.40
23	Block office	0.00	40.00	20.00	40.00	0.00	5.80
24	SDM/SDO office	0.00	40.00	20.00	40.00	0.00	10.40
25	District Headquarter	0.00	30.00	20.00	50.00	0.00	63.80

Source: Field Survey

#### **4.4. Changes & Improvements in Public Transport Post PMGSY**

This section deals with the changes and improvements occurred in the public transport commuting & load carriage services after PMGSY road was operative. After the implementation of PMGSY, the number of vehicles traveling in and out of the habitations has increased very much.

##### **4.4.1. Changes in Public Transport Commuting Services after PMGSY for Sample Habitations**

People mainly depend on bus, auto rickshaws, jeep and car to travel in and out of the habitations. This part describes the changes occurred in the number of bus, auto rickshaws, jeep/car and other vehicles plying in and out of habitations on weekly basis after PMGSY road was operative in the sample habitations. *Refer table A.2 in Appendix.*

##### **4.4.1. a. Changes in the Number of Buses**

Out of the 30 habitations in Andhra Pradesh, 53.33 percent of habitations have not started bus services even after the implementation of PMGSY. But in 30 percent of habitations the number of buses plying in and out of habitations has increased from none to one, in 10 percent of habitations there is no change in the number of buses and in 3.33 percent of habitations the number of bus is increased. No answer is reported in 3.34 percent of habitations.

In Cuddapah district 33.33 percent of habitations have not started bus services even after the implementation of PMGSY. But in 40 percent of habitations the number of buses plying in and out of habitations has increased from none to one, in 13.33 percent of habitations there is no change in the number of buses and in 6.67 percent of habitations the number of bus is increased. No answer is reported in 6.67 percent of habitations. In Vizianagram district 73.33 percent of habitations have not started bus services even after the implementation of PMGSY. But in 20 percent of habitations the number of buses plying in and out of habitations has increased from none to one and in 6.67 percent of habitations there is no change in the number of buses. *Refer Table A.2 in Appendix.*

#### **4.4.1. b. Changes in the Number of Auto Rickshaws**

In Andhra Pradesh 3.33 percent of habitations have no auto rickshaws plying in and out of habitations even after the implementation of PMGSY. But in 70 percent of habitations the number of auto rickshaws plying has increased from none to one, in 3.33 percent of habitations there is no change in the number of auto rickshaws and in 20 percent of habitations the number of auto rickshaws is increased (the number of auto rickshaws is just increased for 10 percent of habitations and the number is doubled or more for 10 percent of habitations). No answer is reported in 3.34 percent of habitations.

In Cuddapah district 6.67 percent of habitations have no auto rickshaws plying in and out of habitations even after the implementation of PMGSY. But in 66.67 percent of habitations the number of auto rickshaws has increased from none to one, in 6.67 percent of habitations there is no change in the number of auto rickshaws and in 20 percent of habitations the number of auto rickshaws is increased. In Vizianagram district, in 73.33 percent of habitations the number of auto rickshaws has increased from none to one and in 20 percent of habitations the number of auto

rickshaws is doubled or more. No answer is reported in 6.67 percent of habitations. *Refer Table A.2 in Appendix.*

#### **4.4.1. c. Changes in the Number of Jeep/Car**

Out of the sample habitations in Andhra Pradesh, 10 percent of habitations have no jeep/car services even after the implementation of PMGSY. But in 76.67 percent of habitations the number of jeep/car plying in and out of habitations has increased from none to one, in 3.33 percent of habitations there is no change in the number of jeep/car and in 6.67 percent of habitations the number of jeep/car is increased (the number of jeep/car is just increased for 3.34 percent of habitations and the number is doubled or more for 3.33 percent of habitations). No answer is reported in 3.33 percent of habitations. *Refer Table A.2 in Appendix.*

In Cuddapah district 13.33 percent of habitations have no jeep/car services even after the implementation of PMGSY. But in 73.33 percent of habitations the number of jeep/car plying in and out of habitations has increased from none to one, in 6.67 percent of habitations there is no change in the number of jeep/car and in 6.67 percent of habitations the number of jeep/car is increased. In Vizianagram district 6.67 percent of habitations have no jeep/car services even after the implementation of PMGSY. But in 80 percent of habitations the number of jeep/car plying in and out of habitations has increased from none to one and in 6.67 percent of habitations the number of jeep/car is doubled or more. No answer is reported in 6.66 percent of habitations.

#### **4.4.1. d. Changes in the Number of other vehicles**

In Andhra Pradesh 13.33 percent of habitations have no other type of vehicles (other than bus, auto rickshaws, jeep or car) plying in and out of habitations even after the implementation of PMGSY. But in 66.67 percent of habitations the number of other vehicles has increased from none to one, in 3.33 percent of habitations there is no change in the number of other vehicles and in 13.33 percent of habitations the number of other vehicles is

increased (the number of other vehicles is just increased for 6.66 percent of habitations and the number is doubled or more for 6.67 percent of habitations). No answer is reported in 3.34 percent of habitations. *Refer Table A.2 in Appendix.*

In Cuddapah district 20 percent of habitations have no other type of vehicles plying in and out of habitations even after the implementation of PMGSY. But in 60 percent of habitations the number of other vehicles has increased from none to one, in 6.67 percent of habitations there is no change in the number of other vehicles and in 13.33 percent of habitations the number of other vehicles is increased. In Vizianagram district 6.67 percent of habitations have no other type of vehicles plying in and out of habitations even after the implementation of PMGSY. But in 73.33 percent of habitations the number of other vehicles has increased from none to one and in 13.33 percent of habitations the number is doubled. No answer is reported in 6.67 percent of habitations.

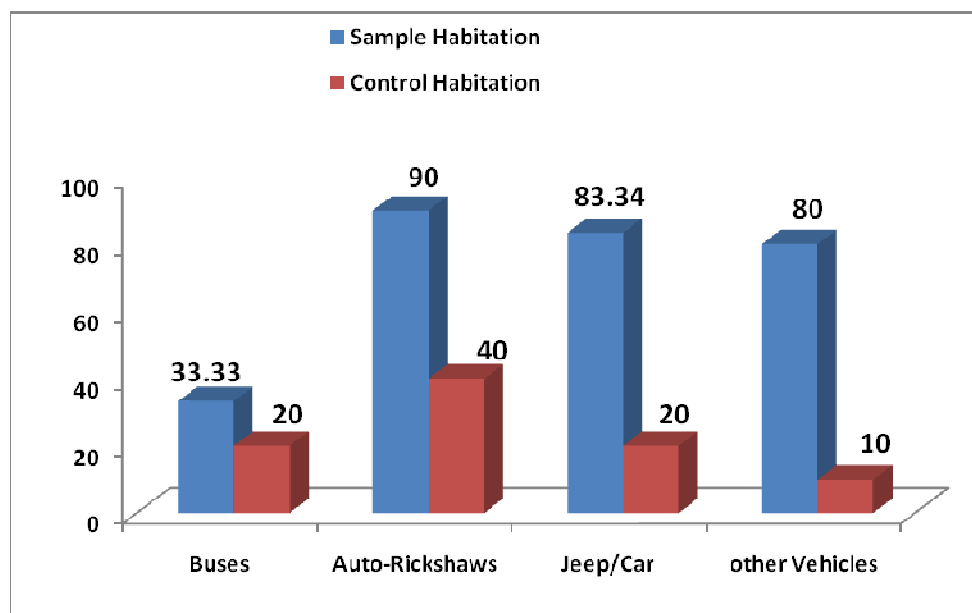
#### **4.4.2. Changes in Public Transport Commuting Services during the Period for Control Habitations**

In the case of control habitations during the period number of vehicles plying in and out of the habitation is increased for some of the habitations. Out of the 10 control habitations in Andhra Pradesh, number of bus is increased for 20 percent of habitations, number of auto rickshaws is increased for 40 percent of habitations, number of jeep/car is increased for 20 percent of habitations and the number of other vehicles is increased for 10 percent of habitations. *Refer table A.3 in Appendix.*

In Cuddapah district number of auto rickshaws is increased for 40 percent of habitations, number of jeep/car is increased for 20 percent of habitations and the number of other vehicles is increased for 20 percent of habitations. There is no increase in the number of bus. In Vizianagram district number of bus is increased for 40 percent of habitations, number of auto rickshaws is increased for 40 percent of habitations and number of jeep/car is

increased for 20 percent of habitations. There is no increase in the number of other vehicles. Figure 4.7 depicts increase in the number of public transport commuting services after PMGSY road become operative in the sample habitations and in the same period in the control habitations.

**Figure 4.7: Increase in the Number of Public Transport Commuting Services**



Source: Figure generated from Tables A.2, A.3, A.4 & A.5 in Appendix

#### **4.4.3. Changes in Public Transport Load Carriage Services after PMGSY for Sample Habitations**

This part describes the changes in the number of load carriage services such as light truck, medium truck, heavy truck, pick up truck/van, tractor-trolley and other vehicles plying in and out of the habitations on weekly basis after PMGSY road was operative in the sample habitations. *Refer table A.4 in Appendix.*

##### **4.4.3.a. Changes in Light Truck**

Out of the 30 sample habitations in Andhra Pradesh 46.67 percent of habitations have no light truck plying in and out of habitations even after the implementation of PMGSY. But in 40 percent of habitations the number

of light truck plying has increased from none to one, in 3.33 percent of habitations there is no change in the number of light truck and in 10 percent of habitations the number of light truck is increased (the number of light truck is just increased for 6.67 percent of habitations and the number is doubled or more for 3.33 percent of habitations).

In Cuddapah district 53.33 percent of habitations have no light truck plying in and out of habitations even after the implementation of PMGSY. But in 20 percent of habitations the number of light truck plying has increased from none to one, in 6.67 percent of habitations there is no change in the number of light truck and in 20 percent of habitations the number of light truck is increased (the number of light truck is just increased for 13.33 percent of habitations and the number is doubled or more for 6.67 percent of habitations). In Vizianagram district 40 percent of habitations have no light truck plying in and out of habitations even after the implementation of PMGSY. But in 60 percent of habitations the number of light truck plying has increased from none to one.

#### **4.4.3.b. Changes in Medium Truck**

In Andhra Pradesh 63.33 percent of habitations have no medium truck plying in and out of habitations even after the implementation of PMGSY. But in 16.67 percent of habitations the number of medium truck plying has increased from none to one, in 10 percent of habitations there is no change in the number of medium truck and in 10 percent of habitations the number of medium truck is increased (the number of medium truck is just increased for 3.33 percent of habitations and the number is doubled or more for 6.67 percent of habitations).

In Cuddapah district 60 percent of habitations have no medium truck plying in and out of habitations even after the implementation of PMGSY. In 20 percent of habitations there is no change in the number of medium truck and in 20 percent of habitations the number of medium truck is increased (the number of medium truck is just increased for 6.67 percent of

habitations and the number is doubled or more for 13.33 percent of habitations). In Vizianagram district 66.67 percent of habitations have no medium truck plying in and out of habitations even after the implementation of PMGSY. But in 33.33 percent of habitations the number of medium truck plying has increased from none to one.

#### **4.4.3.c. Changes in Heavy Truck**

Out of the surveyed habitations in Andhra Pradesh, 70 percent of habitations have no heavy truck plying in and out of habitations even after the implementation of PMGSY. But in 20 percent of habitations the number of heavy truck plying has increased from none to one, in 6.67 percent of habitations there is no change in the number of heavy truck and in 3.33 percent of habitations the number of heavy truck doubled or more.

In Cuddapah district 73.33 percent of habitations have no heavy truck plying in and out of habitations even after the implementation of PMGSY. But in 6.67 percent of habitations the number of heavy truck plying has increased from none to one, in 13.33 percent of habitations there is no change in the number of heavy truck and in 6.67 percent of habitations the number of heavy truck doubled or more. In Vizianagram district 66.67 percent of habitations have no heavy truck plying in and out of habitations even after the implementation of PMGSY. But in 33.33 percent of habitations the number of heavy truck plying has increased from none to one.

#### **4.4.3.d. Changes in Pick-up Truck/ Van**

In Andhra Pradesh 46.67 percent of habitations have no pick-up truck/van plying in and out of habitations even after the implementation of PMGSY. But in 33.33 percent of habitations the number of pick-up truck/van plying has increased from none to one, in 6.67 percent of habitations there is no change in the number of pick-up truck/van and in 13.33 percent of habitations the number of pick-up truck/van is doubled or more.

In Cuddapah district 66.67 percent of habitations have no pick-up truck/van plying in and out of habitations even after the implementation of PMGSY. But in 6.67 percent of habitations the number of pick-up truck/van plying has increased from none to one, in 13.33 percent of habitations there is no change in the number of pick-up truck/van and in 13.33 percent of habitations the number of pick-up truck/van is doubled or more. In Vizianagram district 26.67 percent of habitations have no pick-up truck/van plying in and out of habitations even after the implementation of PMGSY. But in 60 percent of habitations the number of pick-up truck/van plying has increased from none to one and in 13.33 percent of habitations the number of pick-up truck/van is doubled or more.

#### **4.4.3.e. Changes in Tractor-Trolley**

In Andhra Pradesh 16.67 percent of habitations have no tractor-trolley plying in and out of habitations even after the implementation of PMGSY. But in 60 percent of habitations the number of tractor-trolley plying has increased from none to one and in 23.33 percent of habitations the number of tractor-trolley is increased (the number of tractor-trolley is just increased for 13.33 percent of habitations and the number is doubled or more for 10 percent of habitations).

In Cuddapah district 20 percent of habitations have no tractor-trolley plying in and out of habitations even after the implementation of PMGSY. But in 46.67 percent of habitations the number of tractor-trolley plying has increased from none to one and in 33.33 percent of habitations the number of tractor-trolley is increased (the number of tractor-trolley is just increased for 20 percent of habitations and the number is doubled or more for 13.33 percent of habitations). In Vizianagram district 13.33 percent of habitations have no tractor-trolley plying in and out of habitations even after the implementation of PMGSY. But in 73.33 percent of habitations the number of tractor-trolley plying has increased from none to one and in 13.33 percent of habitations the number of tractor-trolley is increased (the number of

tractor-trolley is just increased for 6.66 percent of habitations and the number is doubled or more for 6.67 percent of habitations).

#### **4.4.3.f. Changes in Other Vehicles**

In Andhra Pradesh 33.33 percent of habitations have no other load carriage vehicles plying in and out of habitations even after the implementation of PMGSY. But in 50 percent of habitations the number of other vehicles plying has increased from none to one and in 16.67 percent of habitations the number of other vehicles is increased (the number of other vehicles is just increased for 6.67 percent of habitations and the number is doubled or more for 10 percent of habitations).

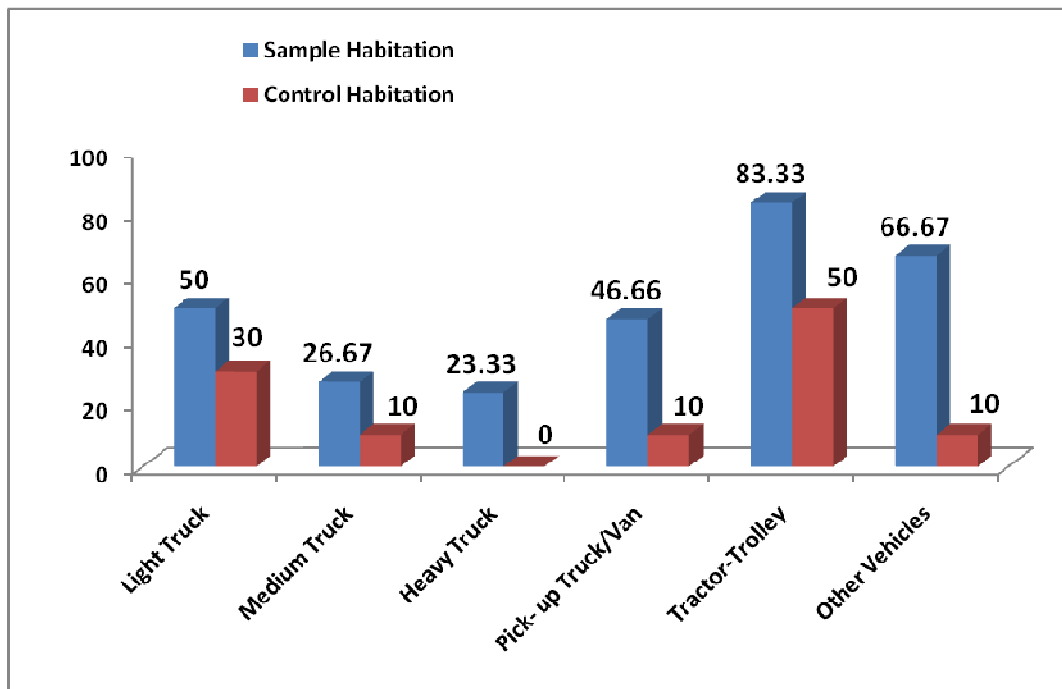
In Cuddapah district 40 percent of habitations have no other load carriage vehicles plying in and out of habitations even after the implementation of PMGSY. But in 40 percent of habitations the number of other vehicles plying has increased from none to one and in 20 percent of habitations the number of other vehicles is increased (the number of other vehicles is just increased for 13.33 percent of habitations and the number is doubled or more for 6.67 percent of habitations). In Vizianagram district 26.67 percent of habitations have no other load carriage vehicles plying in and out of habitations even after the implementation of PMGSY. In 60 percent of habitations the number of other vehicles plying has increased from none to one and in 13.33 percent of habitations the number of other vehicles is doubled or more.

#### **4.4.4. Changes in Public Transport Load Carriage Services during the Period for Control Habitations**

Out of the 10 control habitations in Andhra Pradesh the number of light truck plying in and out of the habitation on a week is increased for 30 percent of control habitations, number of medium truck is increased for 10 percent of habitations, number of pick up truck/van is increased for 10 percent of habitations, number of tractor-trolley is increased for 50 percent of habitations and number of other vehicles is increased for 10 percent of habitations. (*Refer table A.5 in Appendix*).

In Cuddapah district the number of light truck plying in and out of the habitation on a week is increased for 20 percent of control habitations, number of medium truck is increased for 20 percent of habitations and number of tractor-trolley is increased for 60 percent of habitations. In Vizianagram district number of light truck plying in and out of the habitation on a week is increased for 40 percent of control habitations, number of pick up truck/van is increased for 20 percent of habitations, number of tractor-trolley is increased for 40 percent of habitations and number of other vehicles is increased for 20 percent of habitations. Figure 4.8 depicts increase in the number of public transport load carriage services after PMGSY road become operative in the sample habitations and in the same period in the control habitations.

**Figure 4.8: Increase in the Number of Public Transport Load Carriage Services**



Source: Figure generated from Tables A.2, A.3, A.4 & A.5 in Appendix

## **Chapter 5**

### **Impact on Agriculture**

#### **5.1. Change in Cropping Patterns**

The main crops grown in the surveyed habitations are cereals, pulses, vegetables and fruits. In some habitations there is a significant change in the cropping pattern after the PMGSY road become operative.

##### **5.1.1. Cereals**

In the sample habitations of Andhra Pradesh the percentage of cropping area for cereals was 34.95 before PMGSY road and it is increased to 38.06 percent after PMGSY road. The change in cropped area is 8.9 percent in Andhra Pradesh whereas in all India level it is -0.32 percent. In Cuddapah district the cropped area is increased from 24.83 percent to 28.67 percent. In Vizianagram district the cropped area for cereals increased from 58.18 percent to 59.19 percent. *Refer Table 5.1.*

##### **5.1.2. Pulses**

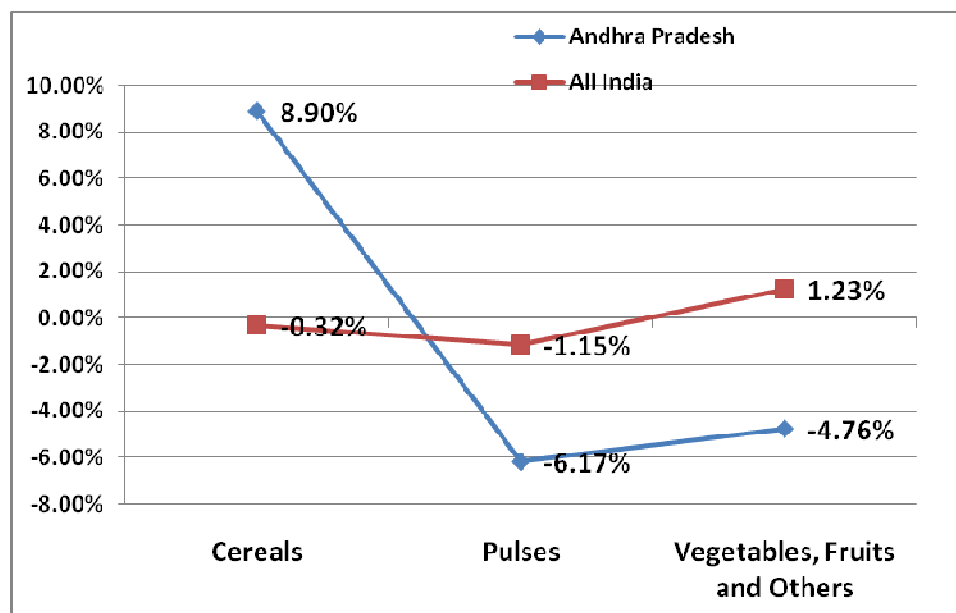
In the 30 surveyed habitations of Andhra Pradesh the cropping area for pulses was only 0.81 percent before PMGSY road and it is reduced to 0.76 percent after PMGSY road become operative. The reduction rate is 6.17 percent and national level it is 1.15 percent. Pulses are not cultivated in Cuddapah district. In Vizianagram district the cropped area for pulses decreased from 2.68 percent to 2.48 percent. *Refer Table 5.1.*

##### **5.1.3. Vegetables & Fruits**

In Andhra Pradesh area under cultivation for vegetables and fruits decreased from 64.24 percent to 61.18 percent after PMGSY road become operative. The change in area is -4.76 percent and all India level it is 1.23 percent. In Cuddapah district the cropped area decreased from 75.17 percent to 71.33 percent. In Vizianagram district the cropped area decreased increased from 39.14 percent to 38.34 percent. *Refer Table 5.1.*

Figure 5.1 depicts percentage of change in cropped area in Andhra Pradesh and in all India.

**Figure 5.1: Percentage of Change in Cropped Area**



Source: Figure generated from Table 5.1 & National Report on Impact Assessment of PMGSY, E&M Wing, Ministry of Rural Development Govt. of India, New Delhi,

**Table 5.1. Change in cropping pattern Before and After PMGSY Road**

District	Cereals			Pulses			Vegetables, Fruits and Others		
	% cropped area before PMGSY	% cropped area after PMGSY	% change	% cropped area before PMGSY	% cropped area after PMGSY	% change	% cropped area before PMGSY	% cropped area after PMGSY	% change
Cuddapah	24.83	28.67	15.47	0	0	0	75.17	71.33	-5.11
Vizianagram	58.18	59.19	1.74	2.68	2.48	-7.46	39.14	38.34	-2.07
<b>Andhra Pradesh</b>	<b>34.95</b>	<b>38.06</b>	<b>8.9</b>	<b>0.81</b>	<b>0.76</b>	<b>-6.17</b>	<b>64.24</b>	<b>61.18</b>	<b>-4.76</b>

Source: Field Survey

#### 5.1.4. Change in cropping pattern during the previous and current period in control habitations

In the control habitations of Andhra Pradesh the area used for cultivation of cereals shows a decrease from 47.86 percent to 41.57 percent during the period. Pulses are not cultivated in the control habitations of Andhra

Pradesh. Cropped area for vegetables & fruits it is increased from 52.14 percent to 58.43 percent. *Refer Table 5.1 (a).*

In the control habitations of Cuddapah district the area used for cultivation of cereals increased from 28.79 percent to 30.24 percent and for vegetables & fruits it is decreased from 71.21 percent to 69.76 percent. In the control habitations of Vizianagram district the area used for cultivation of cereals decreased from 94.02 percent to 86.74 percent and for vegetables & fruits it is increased from 5.98 percent to 13.26 percent.

**Table 5.1 (a) Change in cropping pattern during the previous and current period in control habitations**

District	Cereals			Pulses			Vegetables, Fruits and Others		
	% cropped area during the previous period	% cropped area during the current period	% change	% cropped area during the previous period	% cropped area during the current period	% change	% cropped area during the previous period	% cropped area during the current period	% change
Cuddapah	28.79	30.24	5.04	0	0	0	71.21	69.76	-2.04
Vizianagram	94.02	86.74	-7.74	0	0	0	5.98	13.26	121.74
<b>Andhra Pradesh</b>	<b>47.86</b>	<b>41.57</b>	<b>-13.14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>52.14</b>	<b>58.43</b>	<b>12.06</b>

Source: Field Survey

## **5.2. Increase in Usage of Fertilizers and Improved Seeds**

This section deals with the increase in area for cultivation, increase in use of fertilizers, increase in use of improved seeds and increase in production for cereals, pulses, vegetables and fruits after PMGSY road become operative in the case of sample habitations and during the period for control habitations. Figure 5.2 depicts the changes in inputs and increase in production in sample and control habitations.

### **5.2.1. Increase in Usage of Fertilizers and Improved Seeds for Cereals**

Out of 750 sample households in Andhra Pradesh no households reported an increase in area of cereals cultivation, 4.4 percent of households reported

increase in use of fertilizers and 4 percent of households reported increase in use of improved seeds, 16 percent of households reported increase in production after PMGSY road become operative. *Refer Table 5.2.*

Increase in use of fertilizers is reported by 4.27 percent of households in Cuddapah district and 4.53 percent of households in Vizianagram district. Increase in use of improved seeds is reported by 1.87 percent of households in Cuddapah district and 6.13 percent of households in Vizianagram district. Increase in production of cereals is reported by 8.27 percent of households in Cuddapah district and 23.73 percent of households in Vizianagram district. *Refer Table 5.2.*

**Table 5.2 Change in use of inputs and increase in production of Cereals in sample habitations after the PMGSY Road**  
(% of households)

District	No. of households covered	Reported increase in growing crops	Reported increase in use of fertilizers	Reported increase in use of improved seeds	Reported increase in production
Cuddapah	375	0	4.27	1.87	8.27
Vizianagram	375	0	4.53	6.13	23.73
<b>Andhra Pradesh</b>	<b>750</b>	<b>0</b>	<b>4.4</b>	<b>4</b>	<b>16</b>

Source: Field Survey

In the case of control habitations in Andhra Pradesh no households reported an increase in area of cereals cultivation, only 1.6 percent of households reported increase in use of fertilizers, 1.2 percent of households reported increased in use of improved seeds and 5.6 percent of households reported increase in production. *Refer Table 5.2 (a).*

**Table 5.2 (a) Change in use of inputs and increase in production of Cereals in Control habitations during the period**

*(% of households)*

District	No. of households covered	Reported increase in growing crops	Reported increase in use of fertilizers	Reported increase in use of improved seeds	Reported increase in production
Cuddapah	125	0	0	0	0
Vizianagram	125	0	1.6	1.2	5.6
<b>Andhra Pradesh</b>	<b>250</b>	<b>0</b>	<b>1.6</b>	<b>1.2</b>	<b>5.6</b>

Source: Field Survey

### **5.2.2. Increase in Usage of Fertilizers and Improved Seeds for Pulses**

In the surveyed habitations of Andhra Pradesh, no households reported increase in the area for cultivation of pulses, increase in use of fertilizers, increase in use of improved seeds. Increase in production of pulses is reported by 0.13 percent of households. *Refer Table 5.3.*

**Table 5.3. Change in use of inputs and increase in production of Pulses in sample habitations after the PMGSY Road**

*(% of households)*

District	No. of households covered	Reported increase in growing crops	Reported increase in use of fertilizers	Reported increase in use of improved seeds	Reported increase in production
Cuddapah	375	0	0	0	0.27
Vizianagram	375	0	0	0	0
<b>Andhra Pradesh</b>	<b>750</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.13</b>

Source: Field Survey

In the case of control habitations, pulses are not cultivated in the surveyed households of two districts. *Refer Table 5.3 (a).*

**Table 5.3. (a) Change in use of inputs and increase in production of Pulses in Control habitations during the period**

*(% of households)*

District	No. of control households covered	Reported increase in growing crops	Reported increase in use of fertilizers	Reported increase in use of improved seeds	Reported increase in production
Cuddapah	125	0	0	0	0
Vizianagram	125	0	0	0	0
<b>Andhra Pradesh</b>	<b>250</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: Field Survey

### **5.2.3. Increase in Usage of Fertilizers and Improved Seeds for Vegetables**

In the case of vegetables in Andhra Pradesh increase in fertilizer usage is reported by 3.33 percent of households, increase in planting high yielding seeds is reported by 3.07 percent of households and increase in production is reported by 8.4 percent of households. In national level increase in fertilizer usage is reported by 2.68 percent of households, increase in planting high yielding seeds is reported by 3.04 percent of households and increase in production is reported by 5.21 percent of households.

Increase in use of fertilizers is reported by 5.07 percent of households in Cuddapah district and 1.6 percent of households in Vizianagram district. Increase in use of high yielding seeds is reported by 4.53 percent of households in Cuddapah district and 1.6 percent of households in Vizianagram district. Increase in production is reported by 8.8 percent of households in Cuddapah district and 8 percent of households in Vizianagram district. *Refer Table 5.4.*

**Table 5.4 Change in use of inputs and increase in production of Vegetables in sample habitations after the PMGSY Road**

*(% of households)*

District	No. of households covered	Reported increase in growing crops	Reported increase in use of fertilizers	Reported increase in use of improved seeds	Reported increase in production
Cuddapah	375	0	5.07	4.53	8.8
Vizianagram	375	0	1.6	1.6	8
<b>Andhra Pradesh</b>	<b>750</b>	<b>0</b>	<b>3.33</b>	<b>3.07</b>	<b>8.4</b>

Source: Field Survey

In the case of control habitations of Andhra Pradesh increase in fertilizer usage is reported by 0.4 percent of households and increase in production is reported by 7.2 percent of households.

Increase in use of fertilizers is reported by 0.8 percent of control households in Vizianagram district. Increase in production is reported by 11.2 percent of control households in Cuddapah district and 3.2 percent of control households in Vizianagram district.

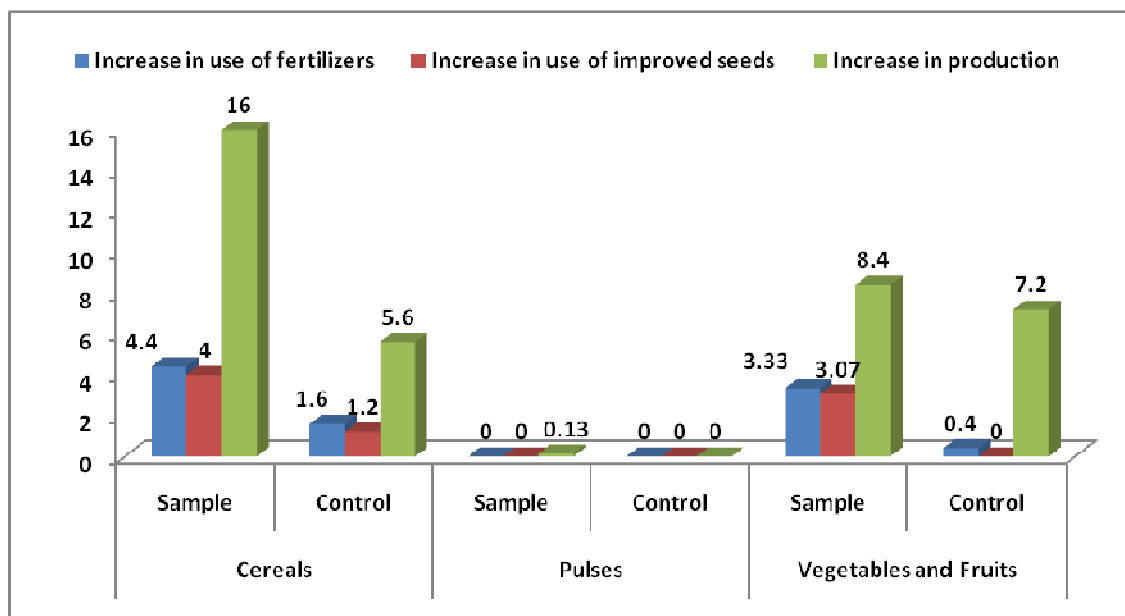
**Table 5.4. (a) Change in use of inputs and increase in production of Vegetables in control habitations during the period**

*(% of households)*

District	No. of control households covered	Reported increase in growing crops	Reported increase in use of fertilizers	Reported increase in use of improved seeds	Reported increase in production
Cuddapah	125	0	0	0	11.2
Vizianagram	125	0	0.8	0	3.2
<b>Andhra Pradesh</b>	<b>250</b>	<b>0</b>	<b>0.4</b>	<b>0</b>	<b>7.2</b>

Source: Field Survey

**Figure 5.2: Changes in Use of Inputs and Increase in Production (% of Households)**



Source : Figure generated from Tables 5.2, 5.2 (a), 5.3, 5.3 (a), 5.4 & 5.4 (a).

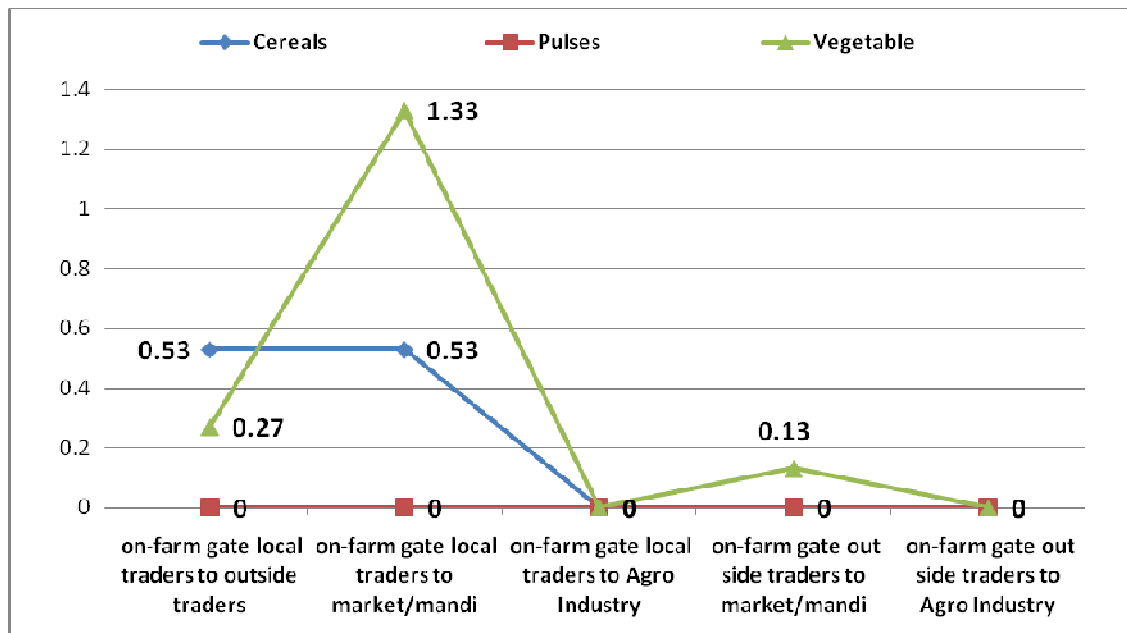
### 5.3. Increased Accessibility to Markets for Agricultural Products

Due to the implementation of PMGSY, farmers get more access to markets for selling their agricultural products. The number of farmers shifted from on-farm gate local traders to outside traders and markets have been increased after PMGSY road become operative. Out of the 750 households surveyed in Andhra Pradesh cereals are cultivated by 224 households, pulses are cultivated by only 5 households and vegetables are cultivated by 161 households. The percentage of households shifted from on-farm gate local traders to outside traders is 0.53 for cereals and 0.27 for vegetables. The percentage of households shifted from on-farm gate local traders to market is 0.53 for cereals and 1.33 for vegetables. The percentage of households shifted from on-farm gate outside traders to market is 0.13 for vegetables. *Refer Table 5.5.*

In Cuddapah district out of the 375 households surveyed cereals are cultivated by 92 households, pulses are cultivated by 5 households and vegetables are cultivated by 118 households. The percentage of households shifted from on-farm gate local traders to outside traders is 0.27 for cereals

and vegetables. The percentage of households shifted from on-farm gate local traders to market is 0.27 for cereals and 0.8 for vegetables. The percentage of households shifted from on-farm gate outside traders to market is 0.27 for vegetables. In the sample households of Vizianagram district cereals are cultivated by 132 households and vegetables are cultivated by 43 households. The percentage of households shifted from on-farm gate local traders to outside traders is 0.8 for cereals and 0.27 for vegetables. The percentage of households shifted from on-farm gate local traders to market is 0.8 for cereals and 1.87 for vegetables.

**Figure 5.3: Changes in Point of Sale in Sample Habitation after PMGSY  
(% of Households)**



Source : Figure generated from Table 5.5

**Table 5.5. Change in point of sale of production in the sample households after the PMGSY Road**

*(% of households)*

District	No. of households covered	No. of HH growing Crop post PMGSY		Shifted from on-farm gate local traders to			Shifted from on-farm gate out side traders to	
				outside traders	market /mandi	Agro Industry	market/ mandi	Agro Industry
Cuddapah	375	Cereals	92	0.27	0.27	0	0	0
		Pulses	5	0	0	0	0	0
		Vegetable	118	0.27	0.8	0	0.27	0
Vizianagram	375	Cereals	132	0.8	0.8	0	0	0
		Pulses	0	0	0	0	0	0
		Vegetable	43	0.27	1.87	0	0	0
Andhra Pradesh	750	Cereals	224	0.53	0.53	0	0	0
		Pulses	5	0	0	0	0	0
		Vegetable	161	0.27	1.33	0	0.13	0

Source: Field Survey

In the case of control habitations in Andhra Pradesh cereals are cultivated by 36 households, pulses are cultivated by 5 households and vegetables are cultivated by 48 households. The percentage of households shifted from on-farm gate local traders to market is 0.4 for vegetables. Out of the 125 control households surveyed in Cuddapah district cereals are cultivated by 18 households, pulses are cultivated by 5 households and vegetables are cultivated by 35 households. In Vizianagram district cereals are cultivated by 18 control households and vegetables are cultivated by 13 control households. The percentage of households shifted from on-farm gate local traders to market is 0.8 for vegetables. *Refer Table 5.5 (a).*

**Table 5.5 (a) Change in point of sale of production in control habitations during the period**

(*% of households*)

District	No. of households covered	No. of HH growing Crop post PMGSY		Shifted from on-farm gate local traders to			Shifted from on-farm gate out side traders to	
				outside traders	market /mandi	Agro Industry	market /mandi	Agro Industry
Cuddapah	125	Cereals	18	0	0	0	0	0
		Pulses	5	0	0	0	0	0
		Vegetable	35	0	0	0	0	0
Vizianagram	125	Cereals	18	0	0	0	0	0
		Pulses	0	0	0	0	0	0
		Vegetable	13	0.8	0	0	0	0
Andhra Pradesh	250	Cereals	36	0	0	0	0	0
		Pulses	5	0	0	0	0	0
		Vegetable	48	0.4	0	0	0	0

Source: Field Survey

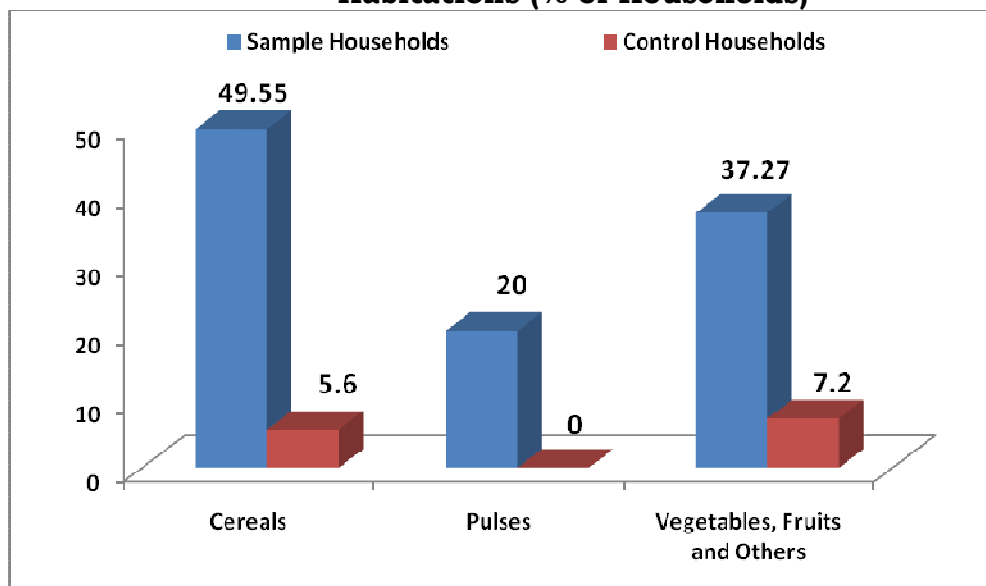
#### **5.4. Increase in Quantity Sold**

In Andhra Pradesh an increase in the quantity sold as compared to the period before PMGSY is reported by 49.55 percent of households growing cereals, 20 percent of households growing pulses and 37.27 percent of households growing vegetables. In national level increase in the quantity sold is reported by 11.48 percent of households growing cereals, 0.36 percent of households growing pulses and 4.50 percent of households growing vegetables. In Cuddapah district an increase in the quantity sold as compared to the period before PMGSY is reported by 26.09 percent of households growing cereals, 20 percent of households growing pulses and 26.27 percent of households growing vegetables. In Vizianagram district an increase in the quantity sold as compared to the period before PMGSY is reported by 65.91 percent of households growing cereals and 67.44 percent of households growing vegetables. *Refer Table 5.6.*

In the case of control habitations of Andhra Pradesh an increase in the quantity sold as compared to the previous period is reported by 5.6 percent of households growing cereals and 7.2 percent of households growing vegetables. In Cuddapah district an increase in the quantity sold as

compared to the previous period is reported by 3.2 percent of households growing cereals and 12 percent of households growing vegetables. In Vizianagram district an increase in the quantity sold as compared to the previous period is reported by 8 percent of households growing cereals and 2.4 percent of households growing vegetables. *Refer Table 5.6 (a).*

**Figure 5.4: Increase in Quantity Sold in Sample and Control Habitations (% of Households)**



Source : Figure generated from Tables 5.6 & 5.6 (a)

### 5.5. Increase in Prices for Agricultural Produces

Out of the surveyed households in Andhra Pradesh, increase in average realized price is reported by 2.23 percent of households for cereals and 14.29 percent of households for vegetables. No household reported increase in average realized price for pulses. In all India level increase in average realized price is reported by 34.59 percent of households for cereals, 57.61 percent of households for pulses and 46.64 percent of households for vegetables. In Cuddapah increase in average realized price is reported by 1.09 percent of households for cereals and 13.56 percent of households for vegetables. In Vizianagram district increase in average realized price is reported by 3.03 percent of households for cereals and 16.28 percent of households for vegetables. *Refer Table 5.6.*

**Table 5.6. Change in quantity sold and realized price in the sample households after the PMGSY Road**

District	No. of households covered	No. of HH growing Crop post PMGSY		(% of households)	
				Reported increase in marketable surplus	Reported increase in average realized price
Cuddapah	375	Cereals	92	26.09	1.09
		Pulses	5	20	0
		Vegetable	118	26.27	13.56
Vizianagram	375	Cereals	132	65.91	3.03
		Pulses	0	0	0
		Vegetable	43	67.44	16.28
Andhra Pradesh	750	Cereals	224	49.55	2.23
		Pulses	5	20	0
		Vegetable	161	37.27	14.29

Source: Field Survey

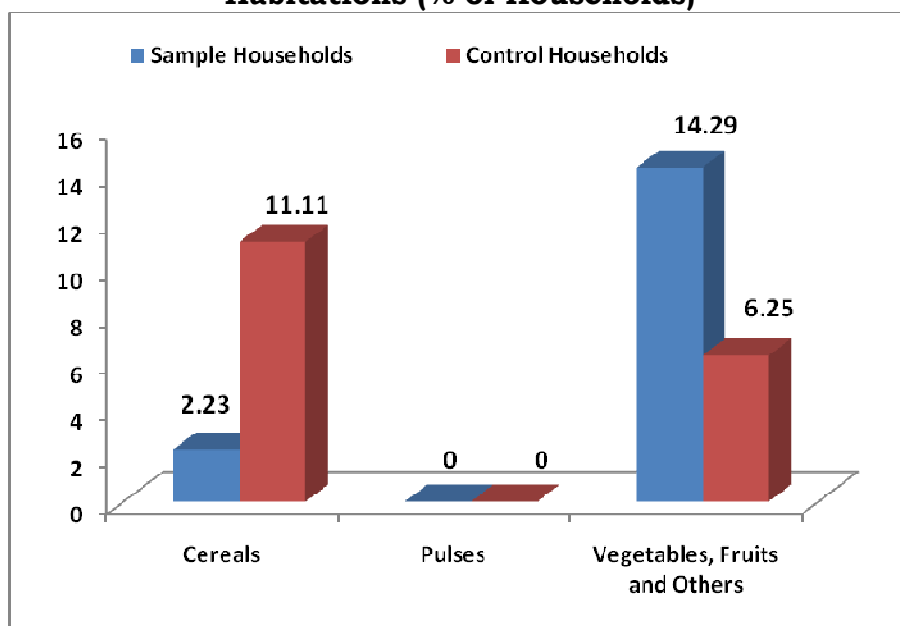
In the case of control habitations increase in average realized price is reported by 11.11 percent of control households for cereals and 6.25 percent of control households for vegetables. In Cuddapah district increase average realized price is reported by 22.22 percent of control households for cereals and 8.57 percent of control households for vegetables. In Vizianagram district no household reported increase in average realized price for cereals and vegetables. *Refer Table 5.6 (a).*

**Table 5.6 (a) Change in quantity sold and realized price in the control households during the period**

District	No. of households covered	No. of HH growing Crop post PMGSY		(% of households)	
				Reported increase in marketable surplus	Reported increase in average realized price
Cuddapah	125	Cereals	18	3.2	22.22
		Pulses	5	0	0
		Vegetable	35	12	8.57
Vizianagram	125	Cereals	18	8	0
		Pulses	0	0	0
		Vegetable	13	2.4	0
Andhra Pradesh	250	Cereals	36	5.6	11.11
		Pulses	5	0	0
		Vegetable	48	7.2	6.25

Source: Field Survey

**Figure 5.5: Increase in Average Realized Price in Sample and Control Habitations (% of Households)**



Source : Figure generated from Tables 5.6 & 5.6 (a)

## **5.6. Changes in Access to Facilities/Services by Farmers**

### **5.6.1. Changes in Access to Facilities/Services by Farmers in Sample Habitation**

The construction of PMGSY road has improved access to markets for selling their products and purchasing fertilizers and pesticides. Out of the 750 surveyed households in Andhra Pradesh only 331 households have own agricultural land. After the implementation of PMGSY, the households shifted to nearby market outside habitation to buy fertilizers and pesticides is 1.21 percent and the households shifted to distant market outside habitation to buy fertilizers and pesticides is 0.3 percent. The percentage of households shifted to nearby market outside habitation to buy improved seeds is 0.3 and the households shifted to distant market outside habitation to buy improved seeds is 0.6 percent. After PMGSY road become operative 4.53 percent of households acquired membership from farmers cooperative society, 5.14 percent of households have bank account, 3.32 percent of households got agricultural loan and 21.69 percent of households got an increase in the loan amount. It is noted that 1.51 percent of households reported an increase in the number of visits by agriculture extension

workers, 3.02 percent of households reported receiving improved seeds and 1.51percent of households reported receiving training/exposure visits.

Number of sample households having own agricultural land is 190 in Cuddapah district and 141 in Vizianagram district. After the implementation of PMGSY, the households shifted to nearby market outside habitation to buy fertilizers and pesticides are 1.58 percent in Cuddapah district and 0.71 percent in Vizianagram district. Households shifted to distant market outside habitation to buy fertilizers and pesticides are 0.53 percent in Cuddapah district. Households shifted to nearby market outside habitation to buy improved seeds are 0.71 percent in Vizianagram district. Households shifted to distant market outside habitation to buy improved seeds are 1.05 percent in Cuddapah district. After PMGSY road become operative percentage of households acquired membership from farmers cooperative society is 4.74 percent in Cuddapah district and 4.26 percent in Vizianagram district. Sample households having bank account is 6.84 percent in Cuddapah district and 2.84 percent in Vizianagram district. Percentage of household got agriculture loan is 4.21 in Cuddapah district and 2.13 percent in Vizianagram district. There is an increase in the loan amount for 20.51 percent of households in Cuddapah district and 40 percent in Vizianagram district. It is reported an increase in the number of visit by agriculture extension workers by 1.58 percent of households in Cuddapah district and 1.42 percent in Vizianagram district. Receiving improved seeds is reported by 4.74 percent of households in Cuddapah district and 0.71 percent in Vizianagram district. Receiving training/exposure visits is reported by 2.11 percent of households in Cuddapah district and 0.71 percent in Vizianagram district. *Refer table A.6 in Appendix.*

#### **5.6.2. Changes in Access to Facilities/Services by Farmers in Control Habitation**

Out of the 250 control households surveyed in Andhra Pradesh only 80 households have own agricultural land. During the period 2.5 percent of

households acquired membership from farmers cooperative society, 1.25 percent of households have bank account and 7.5 percent of households got agricultural loan in Andhra Pradesh.

Number of control households having own agricultural land is 55 in Cuddapah district and 25 in Vizianagram district. During the period 8 percent of households acquired membership from farmers cooperative society, 4 percent of households have bank account and 12 percent of households got agricultural loan in Vizianagram district. In Cuddapah district 5.45 percent of households got agricultural loan. *Refer Table A.7 in Appendix.*

### **5.7. Increase in Ownership of Assets Related to Agriculture**

After PMGSY road become operative in Andhra Pradesh, tractor is owned by 20 sample households, power tiller in 4 households, thrasher in 1 household, water lifting pump set in 26 households, other farm machinery in 10 households, cows/buffaloes in 114 households, goat/sheep/pigs in 55 households, horse/mule/camel in 5 households and poultry birds in 41 households. The households reported increase in the number of assets is 80 percent for tractor, 84.62 percent for water lifting pump set, 60 percent for other farm machinery, 60.53 percent for cows/buffaloes, 40 percent for goat/sheep/pigs, 20 percent for horse/mule/camel and 24.39 percent for poultry birds. *Table 5.7 gives the district wise details of assets and percentage of household reported increase in the number of assets after PMGSY road become operative.*

**Table 5.7 Changes in ownership of assets related to agriculture in the sample households after the PMGSY Road**

Households owning at least one asset				(% of households)
District	No. of households covered	No. of HH reported ownership of assets		Reported increase in numbers or acquired assets
Cuddapah	375	Tractor	14	78.57
		Power Tiller	3	0
		Thrasher	0	0
		Water Lifting Pump Set	19	89.47
		Other Farm Machinery	7	57.14
		Cows/ Buffaloes	77	70.13
		Goat/ Sheep/ Pigs	21	42.86
		Horse/ Mule/ Camel	0	0
		Poultry Birds	1	100
Vizianagram	375	Tractor	6	83.33
		Power Tiller	1	0
		Thrasher	1	0
		Water Lifting Pump Set	7	71.43
		Other Farm Machinery	3	66.67
		Cows/ Buffaloes	37	40.54
		Goat/ Sheep/ Pigs	34	38.24
		Horse/ Mule/ Camel	5	20
		Poultry Birds	40	22.5
Andhra Pradesh	750	Tractor	20	80
		Power Tiller	4	0
		Thrasher	1	0
		Water Lifting Pump Set	26	84.62
		Other Farm Machinery	10	60
		Cows/ Buffaloes	114	60.53
		Goat/ Sheep/ Pigs	55	40
		Horse/ Mule/ Camel	5	20
		Poultry Birds	41	24.39

Source: Field Survey

In the case of control habitation in Andhra Pradesh, tractor is owned by 6 control households, water lifting pump set in 1 household, other farm machinery in 5 households, cows/buffaloes in 30 households, goat/sheep/pigs in 7 households, horse/mule/camel in 1 household and poultry birds in 2 households. The households reported increase in the number of assets is 66.67 percent for tractor, 40 percent for other farm machinery, 53.33 percent for cows/buffaloes, 42.86 percent for

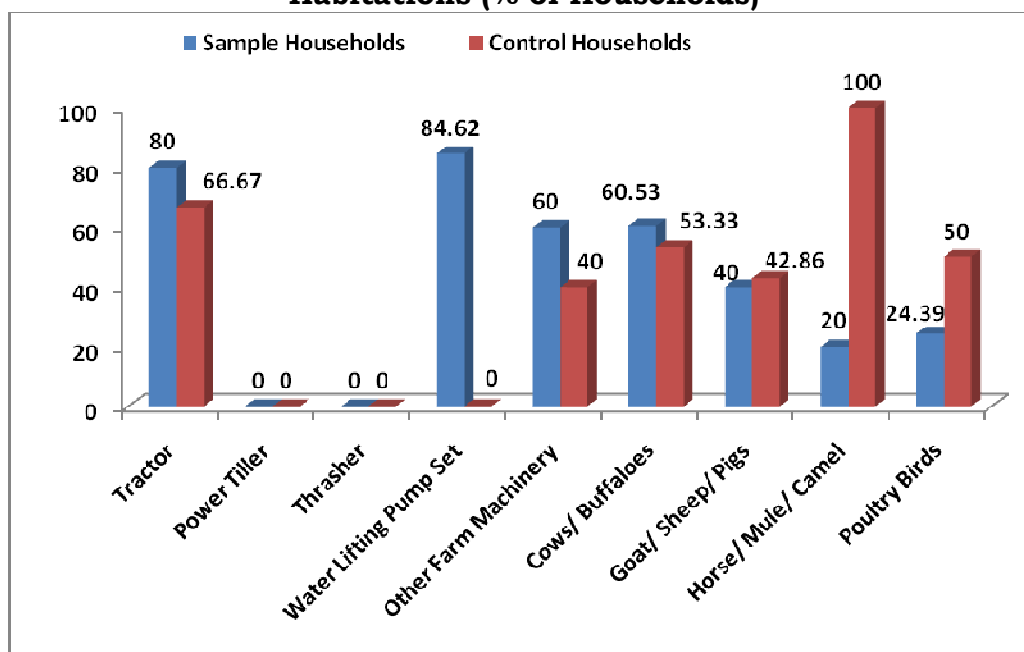
goat/sheep/pigs, cent percent for horse/mule/camel and 50 percent for poultry birds. Table 5.7(a) gives the district wise details of assets and percentage of household reported increase in the number of assets during the period in the control habitation. Figure 5.6 depicts the increase in the acquired assets post PMGSY in sample habitations and during the period in control habitations.

**Table 5.7 (a) Changes in ownership of assets related to agriculture in the control households during the period**

District	No. of households covered	(% of households)	
		No. of HH reported ownership of assets	% HH reported increase in numbers or acquired assets during the current period
Cuddapah	125	Tractor	5
		Power Tiller	0
		Thrasher	0
		Water Lifting Pump Set	1
		Other Farm Machinery	5
		Cows/ Buffaloes	19
		Goat/ Sheep/ Pigs	4
		Horse/ Mule/ Camel	1
		Poultry Birds	1
Vizianagram	125	Tractor	1
		Power Tiller	0
		Thrasher	0
		Water Lifting Pump Set	0
		Other Farm Machinery	0
		Cows/ Buffaloes	11
		Goat/ Sheep/ Pigs	3
		Horse/ Mule/ Camel	0
		Poultry Birds	1
Andhra Pradesh	250	Tractor	6
		Power Tiller	0
		Thrasher	0
		Water Lifting Pump Set	1
		Other Farm Machinery	5
		Cows/ Buffaloes	30
		Goat/ Sheep/ Pigs	7
		Horse/ Mule/ Camel	1
		Poultry Birds	2

Source: Field Survey

**Figure 5.6: Increase in Acquired Assets in Sample and Control Habitations (% of Households)**



Source : Figure generated from Tables 5.7 & 5.7 (a)

## **Chapter 6**

### **Impact on Employment Generation**

#### **6.1. Increase in Number of Days Employed**

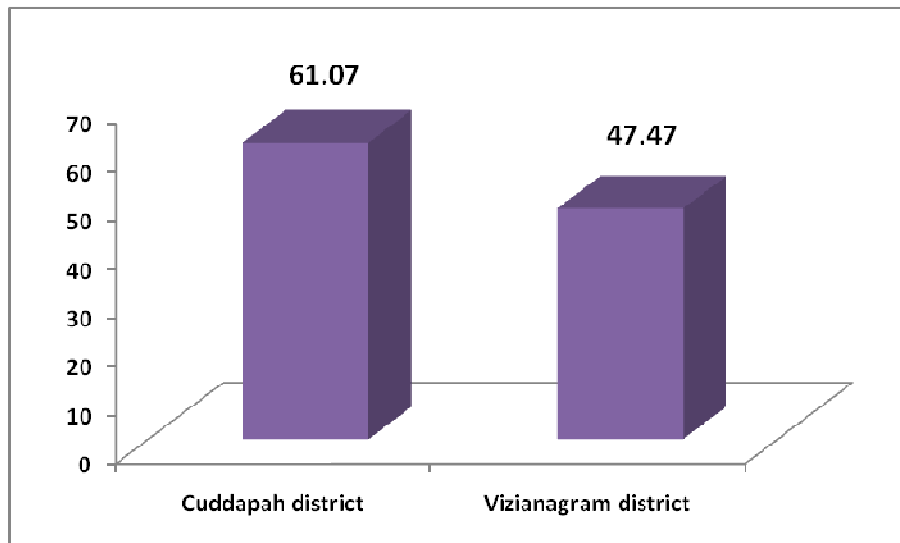
##### **6.1.1. Increase in Number of Days Employed for Sample Habitations**

Household heads were asked whether work opportunities have increased after PMGSY road was laid. In Andhra Pradesh 53.33 percent of the households reported improved employment opportunities in their main occupations and 1.2 percent of households reported improvement in other occupations. In the case of main occupations 21.33 percent of households reported increase in the number of days of employment up to 50 days, 23.07 percent of households reported 51-100 days, 4.8 percent of households reported 101-150 days, 2.53 percent of households reported 151-200 days and 1.6 percent of households reported above 200 days. In the case of other occupations 0.93 percent of households reported increase in the number of days of employment up to 50 days, 0.13 percent of households reported 51-100 days and 0.13 percent of households reported 101-150 days. *Refer Table A.8 in Appendix.* However there was no apparent increase in the number of people taking up other occupations. Households reported increase in total days of employment is 54.27 percent in Andhra Pradesh. Out of that 22 percent of households reported increase in the number of days of employment up to 50 days, 23.2 percent of households reported 51-100 days, 4.93 percent of households reported 101-150 days, 2.53 percent of households reported 151-200 days and 1.6 percent of households reported above 200 days.

It is identified that 59.47 percent of households in Cuddapah district and 47.2 percent of households in Vizianagram district reported improved employment opportunities in their main occupations. Households reported improved employment opportunities in other occupation are 2.13 percent in Cuddapah district and 0.27 percent in Vizianagram district. In Cuddapah district 61.07 percent of households and in Vizianagram 47.47 percent of households reported increase in total days of employment. *Refer Table 6.1.*

Out of the increase in the main occupations in Cuddapah district 27.2 percent of households reported increase in the number of days of employment up to 50 days, 23.47 percent of households reported 51-100 days, 5.33 percent of households reported 101-150 days, 2.67 percent of households reported 151-200 days and 0.8 percent of households reported above 200 days. Out of the increase in the other occupations in Cuddapah district 1.6 percent of households reported increase in the number of days of employment up to 50 days, 0.27 percent of households reported 51-100 days and 0.27 percent of households reported 101-150 days. Out of the increase in the main occupations in Vizianagram district 15.47 percent of households reported increase in the number of days of employment up to 50 days, 22.67 percent of households reported 51-100 days, 4.27 percent of households reported 101-150 days, 2.4 percent of households reported 151-200 days and 2.4 percent of households reported above 200 days. Out of the increase in the other occupations in Vizianagram district 0.27 percent of households reported increase in the number of days of employment up to 50 days.

**Figure 6.1: Increase in the Number of Total Days Employed in Sample Habitation (% of Households)**



Source : Figure generated from Table 6.1

**Table 6.1. Increase in employment opportunities for sample households Before and After PMGSY Road**

District	No. of HH Covered	(% of Households)			
		Reported increase in no. of days of employment in principal occupation	Reported increase in no. of days of employment in other occupation	Reported more members taking up other occupations	Reported increase in total days employed
Cuddapah	375	59.47	2.13	0	61.07
Vizianagram	375	47.2	0.27	0	47.47
<b>Andhra Pradesh</b>	<b>750</b>	<b>53.33</b>	<b>1.2</b>	<b>0</b>	<b>54.27</b>

Source: Field Survey

### **6.1.2. Increase in Number of Days Employed for Control Habitations**

In the case of control habitations in Andhra Pradesh, 63.6 percent of control households reported improved employment opportunities in their main occupations. In the case of main occupations 36 percent of households reported increase in the number of days of employment up to 50 days, 20.4 percent of households reported 51-100 days, 4.8 percent of households reported 101-150 days, 0.8 percent of households reported 151-200 days and 1.6 percent of households reported above 200 days. *Refer table A.9 in Appendix.* Improved employment opportunities in other occupations is reported by 2 percent of households and out of that 1.6 percent of households reported increase up to 50 days and 0.4 percent of households reported increase above 200 days. Increase in total days of employment is reported by 64.8 percent of households. Out of that 36.8 percent of households reported increase in the number of days of employment up to 50 days, 20.8 percent of households reported 51-100 days, 4.8 percent of households reported 101-150 days, 0.8 percent of households reported 151-200 days and 1.6 percent of households reported above 200 days.

In the control habitations improved employment opportunities in their main occupations is reported by 64.8 percent of households in Cuddapah district and 64.8 percent of households in Vizianagram district. *Refer Table 6.1 (a).* Improved employment opportunities in other occupations are reported by 4 percent of households in Vizianagram district. Increase in total days

employed is reported by 64.8 percent of households in Cuddapah and Vizianagram districts.

**Table 6.1(a) Increase in employment opportunities for control households during the period**

*(% of households)*

District	No. of control HH Covered	Reported increase in no. of days of employment in principal occupation	Reported increase in no. of days of employment in other occupation	Reported more members taking up other occupations	Reported increase in total days employed
Cuddapah	125	64.8	0	0	64.8
Vizianagram	125	62.4	4	0	64.8
<b>Andhra Pradesh</b>	<b>250</b>	<b>63.6</b>	<b>2</b>	<b>0</b>	<b>64.8</b>

Source: Field Survey

## **6.2. Changes in Travel to Place of Employment**

### **6.2.1. Changes in Travel to Place of Employment for Sample Habitations**

After PMGSY road become operative in the surveyed habitations of Andhra Pradesh 2.8 percent of households (members) shifted place of employment, 1.47 percent reported reduction in the distance traveled to their place of work, 4.53 percent reported reduction in travel time and 1.73 percent depends on motor vehicles to travel to their working place. In all India level 6.2 percent of households (members) shifted place of employment, 0.69 percent reported reduction in the distance traveled to their place of work, 16.73 percent reported reduction in travel time and 1.39 percent depends on motor vehicles to travel to their working place.

Households shifted place of employment is 3.73 percent in Cuddapah district and 1.87 percent in Vizianagram district. Reduction in the distance traveled to working place is reported by 1.6 percent of households in Cuddapah district and 1.33 percent of households in Vizianagram district. Reduction in the travel time to working place is reported by 4.53 percent of households in Cuddapah and Vizianagram districts. Households depend on motor vehicles to travel to their working place is 0.27 percent in Cuddapah district and 3.2 percent in Vizianagram district.

**Table 6.2. Change in travel to place of employment (Principal Occupation) for members of sample households Post PMGSY**

*(% of HH where members)*

District	No. of HH Covered	Shifted place of employment outside the habitation	Reported reduction of distance travelled	Reported reduction in travel time	Reported shifting to motorized transport for commuting to place of work
Cuddapah	375	3.73	1.6	4.53	0.27
Vizianagram	375	1.87	1.33	4.53	3.2
<b>Andhra Pradesh</b>	<b>750</b>	<b>2.8</b>	<b>1.47</b>	<b>4.53</b>	<b>1.73</b>

Source: Field Survey

### **6.2.2. Changes in Travel to Place of Employment for Control Habitations**

During the period in the control habitations of Andhra Pradesh 1.6 percent of control households (members) shifted place of employment and 0.8 percent reported reduction in travel time. No households reported reduction in distance travelled and depends on motor vehicles to travel to their working place.

Households shifted place of employment is 0.8 percent in Cuddapah district and 2.4 percent in Vizianagram districts. Reduction in the travel time to working place is reported by 0.8 percent of households in Cuddapah and Vizianagram districts. *Figure 6.2 depicts changes in travel to place of employment in sample and control habitations.*

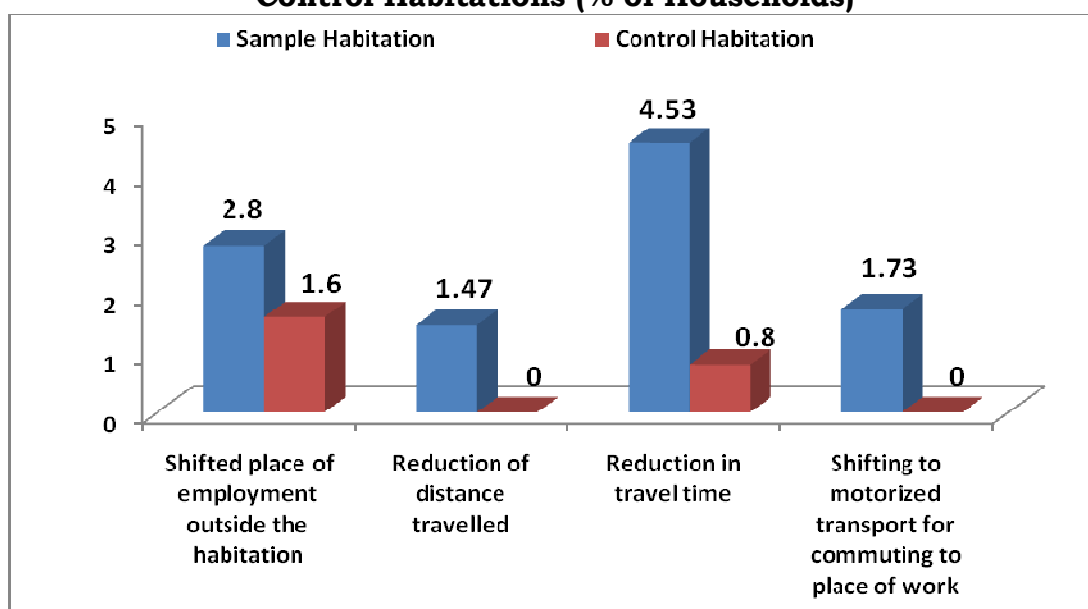
**Table 6.2 (a). Change in travel to place of employment (Principal Occupation) for members of control households during the period**

*(% of HH where members)*

District	No. of control HH Covered	% of HH where members shifted place of employment outside the habitation	% of HH where members reported reduction of distance travelled	% of HH where members reported reduction in travel time	% of HH where members reported shifting to motorized transport for commuting to place of work
Cuddapah	125	0.8	0	0.8	0
Vizianagram	125	2.4	0	0.8	0
<b>Andhra Pradesh</b>	<b>250</b>	<b>1.6</b>	<b>0</b>	<b>0.8</b>	<b>0</b>

Source: Field Survey

**Figure 6.2: Changes in Travel to Place of Employment in Sample and Control Habitations (% of Households)**



Source : Figure generated from Tables 6.2 & 6.2 (a)

### 6.3. Changes in Occupational Pattern

#### 6.3.1. Changes in Occupational Pattern in the Sample Habitations

After PMGSY road become operative in Andhra Pradesh 1.07 percent of households change their occupations. *Refer Table 6.3.* It is noted that 0.13 percent of households shifted to trading/shop keeping, 0.53 percent of households shifted to driver/service in the transport sector and 0.13 percent shifted to private services.

Members of the households change their occupations after PMGSY is 1.33 percent in Cuddapah district and 0.8 percent in Vizianagram district. *Refer Table 6.3.*

**Table 6.3 Change in Principal occupation of sample households after PMGSY Road**

(% of households)			
District	No. of HH Covered	Reported change in occupation	Reported no change in occupation
Cuddapah	375	1.33	98.67
Vizianagram	375	0.8	99.2
<b>Andhra Pradesh</b>	<b>750</b>	<b>1.07</b>	<b>98.93</b>

Source: Field Survey

### 6.3.2. Changes in Occupational Pattern in the Control Habitations

In the case of control habitations in Andhra Pradesh 1.6 percent of households change their occupation. It is identified that 0.4 percent of households shifted to driver/service in the transport sector. Refer Table 6.3 (a).

Control household change their occupation during the period is 1.6 percent in Cuddapah and Vizianagram districts. Control household members shifted to driver/service in the transport sector are 0.8 percent in Cuddapah district. Refer Table 6.3 (a).

**Table 6.3 (a) Change in Principal occupation of households ( control) during the period**

(% of households)

District	No. of Control HH Covered	Reported change in occupation	Reported no change in occupation
Cuddapah	125	1.6	98.4
Vizianagram	125	1.6	98.4
<b>Andhra Pradesh</b>	<b>250</b>	<b>1.6</b>	<b>98.4</b>

Source: Field Survey

**Table 6.4 Change in occupational pattern of members of sample households during the period**

(% of Households)

District	No. of HH Covered	Where members shifted to trading/shop keeping	Where members shifted to driver/service in transport sector	Where members shifted to Government Services	Where members shifted to Private Services
Cuddapah	375	0.13	0.53	0	0.13
Vizianagram	375	0	0	0	0
<b>Andhra Pradesh</b>	<b>750</b>	<b>0.13</b>	<b>0.53</b>	<b>0</b>	<b>0.13</b>

Source: Field Survey

**Table 6.4 (a) Change in occupational pattern of members of control households during the period**

(% of Households)

District	No. of HH Covered	Where members shifted to trading/shop keeping	Where members shifted to driver/service in transport sector	Where members shifted to Government Services	Where members shifted to Private Services
Cuddapah	125	0	0.8	0	0
Vizianagram	125	0	0	0	0
<b>Andhra Pradesh</b>	<b>250</b>	<b>0</b>	<b>0.4</b>	<b>0</b>	<b>0</b>

Source: Field Survey

# Chapter 7

## Impact on Income and Poverty Alleviation

### 7.1. Increase in Income of Households

This part describes the changes occurred in the income of the sample households after the implementation of PMGSY road.

#### 7.1.1. Increase in Income in the Agricultural Activities

Number of sample households engaged in agricultural activities is 331 in Andhra Pradesh. After laying PMGSY road 9.97 percent of the households reported increase in income from agricultural activities and in all India level it is 37.48 percent. Out of that 57.58 percent of households reported increase in the income up to 10 percent, 21.21 percent reported an increase in the range of 11-25 percent, 15.15 percent reported an increase in the range of 26-50 percent and 6.06 percent reported an increase of more than 50 percent. *Refer Table 7.1.*

**Table 7.1 Increase in income in the agricultural activities of sample households after PMGSY road**

(% of households)

State	Households Covered	No. of Households engaged in agricultural activities	reported increase in income in agricultural activities	reported increase in income in agricultural activities			
				upto 10%	11% to 25%	26% to 50%	more than 50%
Andhra Pradesh	750	331	9.97	57.58	21.21	15.15	6.06

Source: Field Survey

In the case of control habitations in Andhra Pradesh number of control households engaged in agricultural activities are 80. Increase in income from agricultural activities is reported by 8.75 percent of control households. Out of that 14.29 percent of control households reported increase in the income up to 10 percent, 57.14 percent reported an increase

in the range of 11-25 percent and 28.57 percent reported and increase of more than 50 percent. Refer Table 7.1 (a).

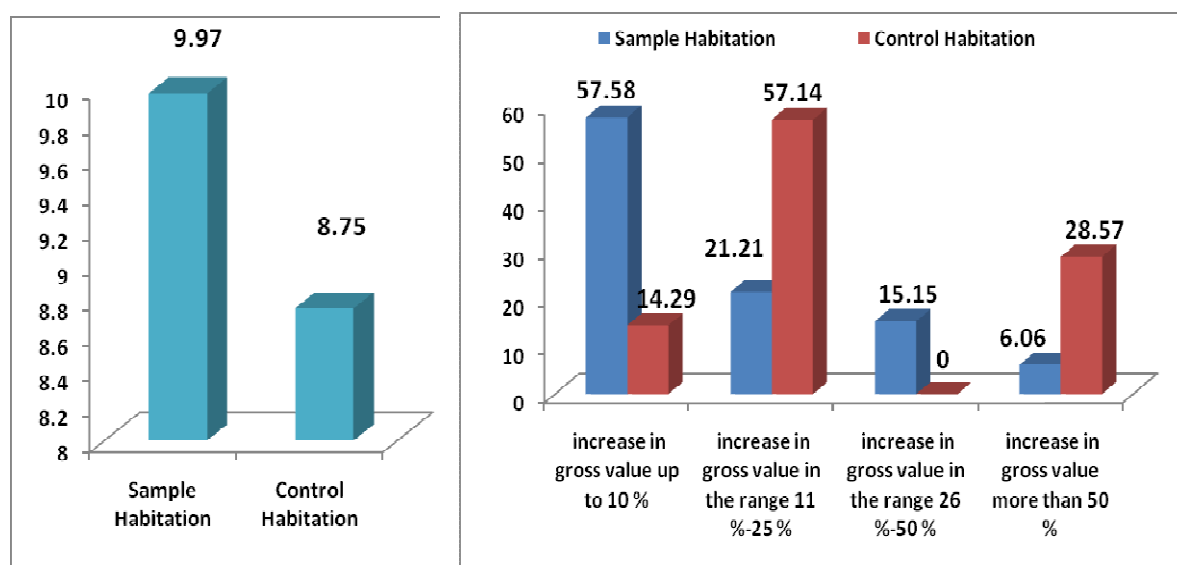
**Table 7.1 (a) Increase in income in the agricultural activities of control households during the period**

(% of households)

State	Control Households Covered	No. of Households engaged in agricultural activities	reported increase in income in agricultural activities	reported increase in income in agricultural activities			
				upto 10%	11% to 25%	26% to 50%	more than 50%
Andhra Pradesh	250	80	8.75	14.29	57.14	0	28.57

Source: Field Survey

**Figure 7.1: Increase in Income in Agricultural Activities (% of Households)**



Source : Figure generated from Tables 7.1 & 7.1 (a)

### 7.1.2. Increase in Income by Occupations

In the sample households of Andhra Pradesh, increase in average annual income due to principal occupation is reported by 71.73 percent of households and increase in average annual income due to other occupation is reported by only 1.6 percent of households. Increase in total average annual income in all occupations is reported by 72.53 percent of households and in national level it is 65.45 percent. It is noted that 8.27 percent of households reported increase in total average annual income due to all

occupations up to 10 percent, 43.07 percent reported an increase in the range of 11-35 percent, 7.87 percent reported an increase in the range of 36-50 percent and 13.33 percent reported an increase of more than 50 percent after PMGSY road become operative. *Refer Table 7.2.*

**Table 7.2. Increase in average annual income of sample households Post PMGSY**

State	No. of HH Covered	Reported increase in average annual income in principal occupation	Reported increase in average annual income in other occupation	Reported increase in total average annual income in all occupations	% of households)			
					upto 10%	11 to 35%	36 to 50%	more than 50%
Andhra Pradesh	750	71.73	1.6	72.53	8.27	43.07	7.87	13.33

Source: Field Survey

In the control habitations of Andhra Pradesh, increase in average annual income due to principal occupation is reported by 66 percent of control households and increase in average annual income due to other occupation is reported by 2.4 percent of control households. Increase in total average annual income in all occupations is reported by 68 percent of control households. It is noted that 11.6 percent of control households reported increase in total average annual income due to all occupations up to 10 percent, 40.4 percent reported an increase in the range of 11-35 percent, 6.8 percent reported an increase in the range of 36-50 percent and 9.2 percent reported an increase of more than 50 percent after PMGSY road become operative. *Refer Table 7.2 (a).*

Increase in average annual income due to principal occupation is reported by 65.6 percent of control households in Cuddapah district and 66.4 percent of control households in Vizianagram district. Increase in average annual income due to other occupation is reported by 4.8 percent of control households in Vizianagram district. Increase in total average annual income in all occupations is reported by 65.6 percent of control households in

Cuddapah district and 70.4 percent of control households in Vizianagram district.

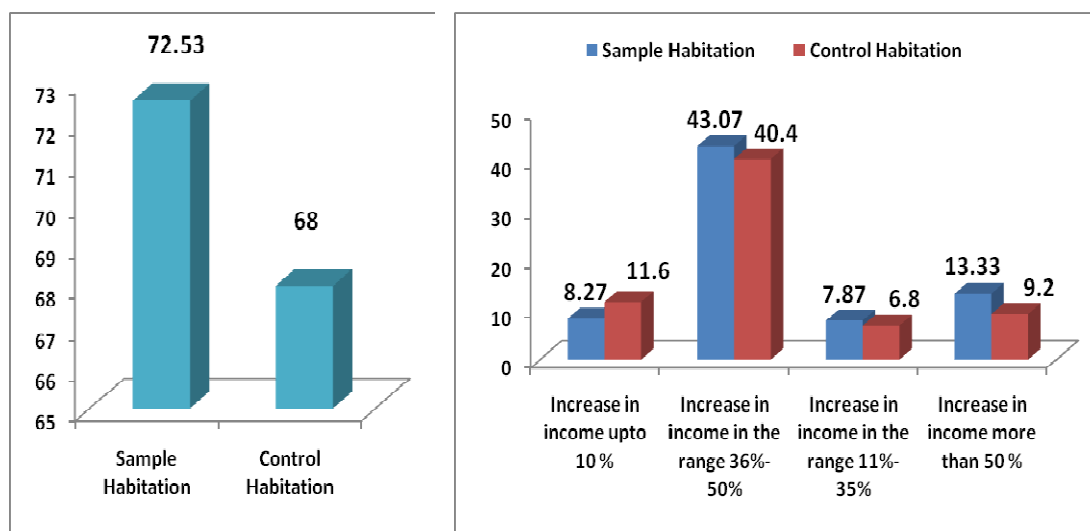
**Table 7.2. (a) Increase in average annual income of control households during the period**

*(% of households)*

District	No. of control HH Covered	Reported increase in average annual income in principal occupation	Reported increase in average annual income in other occupation	Reported increase in total average annual income in all occupations	Increase in total average annual income in all occupations			
					upto 10%	11 to 35%	36 to 50%	more than 50%
Cuddapah	125	65.6	0	65.6	12.8	39.2	7.2	6.4
Vizianagram	125	66.4	4.8	70.4	10.4	41.6	6.4	12
<b>Andhra Pradesh</b>	<b>250</b>	<b>66</b>	<b>2.4</b>	<b>68</b>	<b>11.6</b>	<b>40.4</b>	<b>6.8</b>	<b>9.2</b>

Source: Field Survey

**Figure 7.2: Increase in Average Annual Income in all Occupations (% of Households)**



Source : Figure generated from Tables 7.2 & 7.2 (a)

### 7.1.3. Increase in Income levels of Sample Habitations

In the sample habitations of Andhra Pradesh income level of the people is increased in 96.67 percent of habitations after PMGSY road become operative and it is more than the national value of 90.91 percent. This increase is due to multiple reasons. Farmers in 93.1 percent of habitations reported increase in the income level due to increase in crop yield and

fetching better prices. Wage labourers in 89.66 percent of the habitations reported increase in the income level due to increase in labour rates. Persons engaged in livestock/poultry business in 48.28 percent of the habitations reported increase in the income level due to better access to markets. Persons engaged in business/ trading/running shops in 75.86 percent of habitations reported increase in the income level due to better connectivity. *Refer Table 7.3.*

**Table 7.3 Increase in the income levels of people in sample habitations After PMGSY Road**

*(% of habitations)*

State	Habitations Covered	Increase in the income levels of people	it has been in case of			
			The farmers due to increase in crop yield and fetching better prices	The wage labourers due to increase in labour rates	The persons engaged in livestock/ poultry business etc. due to better access to markets	The persons engaged in business/ trading/ running shops due to better connectivity
Andhra Pradesh	30	96.67	93.1	89.66	48.28	75.86

Source: Field Survey

## **7.2. Impact on Improvements in Quality of Life**

### **7.2.1. Change in Status of Quality of Life According to Socio-Economic Parameters**

In order to assess the quality of life 13 socio-economic parameters are analyzed in the sample and control habitations. These parameters are size of operational land holdings, type of house, availability of clothing, food security, sanitations, ownership of consumer durables, literacy status, status of labour, means of livelihood, status of children working and education, indebtedness, reason for migration and preference of assistance of the families. After the implementation of PMGSY socio-economic characteristics of most the households have improved. In the surveyed habitations of Andhra Pradesh, households weighed score on socio-economic parameters in the range 0-15 was 57.6 percent before PMGSY and it is reduced to 36.53 percent after PMGSY. Households weighed score in

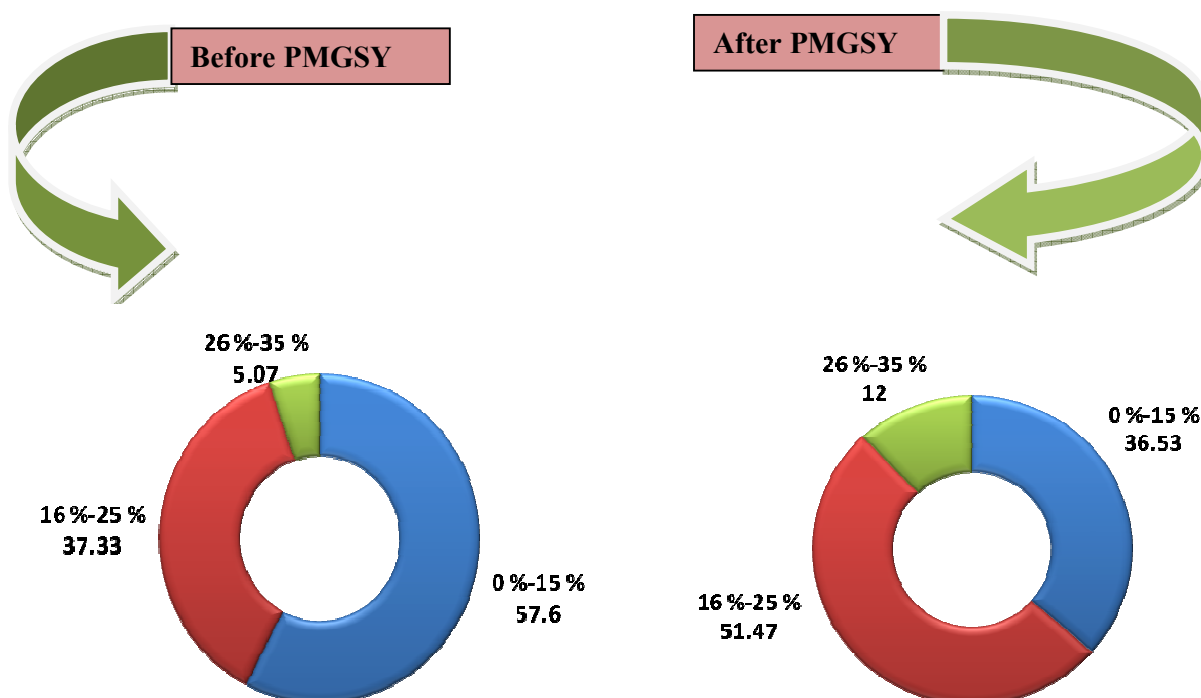
the range 16-25 was 37.33 percent before PMGSY and it is increased to 51.47 percent after PMGSY. Households weighed score in the range 26-35 was 5.07 percent before PMGSY and it is increased to 12 percent after PMGSY. Households weighed score more than 35 was 0 percent before and after PMGSY. In 78.27 percent of households score has increased after PMGSY, in 0.53 percent of households score has decreased and in 21.2 percent of households there is no change in the score. *Refer Table 7.4.*

**Table 7.4 Change in status of quality of life of respondent households in the sample habitations before and after PMGSY Road**

State	No. of HH covered	Households weighted score on socio-economic parameters before PMGSY				Households weighted score on socio-economic parameters after PMGSY				% of HH where score has increased post PMGSY	% of HH where score has decreased post PMGSY
		0-15	16-25	26-35	more than 35	0-15	16-25	26-35	more than 35		
Andhra Pradesh	750	57.6	37.33	5.07	0	36.53	51.47	12	0	78.27	0.53

Source: Field Survey

**Figure 7.3: Households Weighed Score on Socio-economic Parameters in Sample Habitations**



Source : Figure generated from Table 7.4

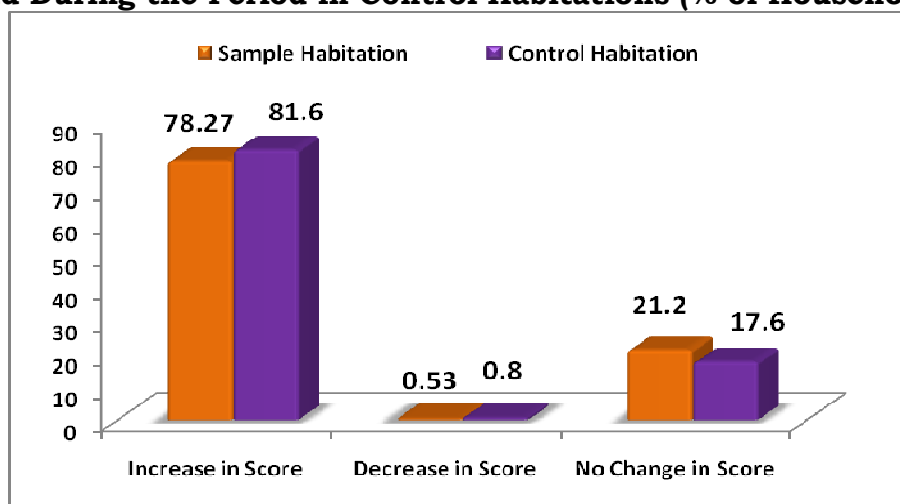
In the control habitations of Andhra Pradesh, control households weighed score on socio-economic parameters in the range 0-15 was 53.6 percent during the previous period and it is reduced to 26.8 percent during the current period. Households weighed score in the range 16-25 was 39.2 percent during the previous period and it is increased to 58 percent during the current period. Households weighed score in the range 26-35 was 7.2 percent during the previous period and it is increased to 14.4 percent during the current period. Households weighed score more than 35 was 0 percent during the previous period and it is increased to 0.8 percent during the current period. In 81.6 percent of households score has increased during the current period, in 0.8 percent of households score has decreased and in 17.6 percent of households there is no change in the score. Refer Table 7.4 (a).

**Table 7.4 (a) Change in status of quality of life of respondent households in the surveyed control habitations during the period**

State	No. of control HH covered	Households weighted score on socio-economic parameters during the pervious period				Households weighted score on socio-economic parameters during the current period				% of HH where score has increased during the period	% of HH where score has decreased during the period
		0-15	16-25	26-35	more than 35	0-15	16-25	26-35	more than 35		
Andhra Pradesh	250	53.6	39.2	7.2	0	26.8	58	14.4	0.8	81.6	0.8

Source: Field Survey

**Figure 7.4: Changes in the Score after PMGSY in Sample Habitations and During the Period in Control Habitations (% of Households)**



Source : Figure generated from Tables 7.4 & 7.4 (a)

### 7.2.2. Impact on Poverty Alleviation

Out of the 750 households surveyed in Andhra Pradesh, 727 are BPL households. BPL households reported improvement in their economic status is 78.13 percent and in all India level it is 66.22 percent. The average increase in the score is four and in all India level it is five. Increase in score up to 10 percent is reported by 26.58 percent of households, increase in the range 11-25 percent is reported by 29.58 percent of households, increase in the range 26-50 percent is reported by 25 percent of households and increase more than 50 percent is reported by 18.84 percent of households. Refer Table 7.5.

Number sample BPL households are 365 in Cuddapah district and 362 in Vizianagram district. BPL households reported improvement in their economic status is 69.32 percent in Cuddapah district and 87.02 percent in Vizianagram district. Increase in score up to 10 percent is reported by 24.11 percent of households in Cuddapah district and 28.57 percent of households in Vizianagram district. Increase in score in the range 11-25 percent is reported by 28.46 percent of households in Cuddapah district and 30.48 percent of households in Vizianagram district. Increase in score in the range 26-50 percent is reported by 28.46 percent of households in Cuddapah district and 22.22 percent of households in Vizianagram district. Increase in score more than 50 percent is reported by 18.97 percent of households in Cuddapah district and 18.73 percent of households in Vizianagram district.

**Table 7.5 Impact on poverty alleviation - Increase in scores of BPL households post PMGSY**

District	No. of households Covered	No. of BPL households	% of BPL households reported increase in scores	average increase in scores	(% of households)			
					Up to 10%	11-25%	26-50%	more than 50%
Cuddapah	375	365	69.32	4	24.11	28.46	28.46	18.97
Vizianagram	375	362	87.02	4	28.57	30.48	22.22	18.73
<b>Andhra Pradesh</b>	<b>750</b>	<b>727</b>	<b>78.13</b>	<b>4</b>	<b>26.58</b>	<b>29.58</b>	<b>25</b>	<b>18.84</b>

Source: Field Survey

Out of 250 control households in Andhra Pradesh 235 households are under BPL category. BPL households reported improvement in their economic status is 83.4 percent. Average increase in score is five. Increase in score up to 10 percent is reported by 25 percent of control households, increase in the range 11-25 percent is reported by 21.43 percent of control households, increase in the range 26-50 percent is reported by 24.49 percent of control households and increase more than 50 percent is reported by 27.04 percent of control households. *Refer Table 7.5 (a).*

**Table 7.5 (a) Impact on poverty alleviation - Increase in scores of BPL households (Control) during the period**

District	No. of households Covered	No. of BPL households	% of BPL households reported increase in scores	average increase in scores	(% of households)			
					upto 10%	11-25%	26-50%	more than 50%
Cuddapah	125	120	85	4	34.31	21.57	33.33	10.78
Vizianagram	125	115	81.74	6	14.89	21.28	14.89	44.68
<b>Andhra Pradesh</b>	<b>250</b>	<b>235</b>	<b>83.4</b>	<b>5</b>	<b>25</b>	<b>21.43</b>	<b>24.49</b>	<b>27.04</b>

Source: Field Survey

Number control BPL households are 120 in Cuddapah district and 115 in Vizianagram district. BPL control households reported improvement in their economic status is 85 percent in Cuddapah district and 81.74 percent in Vizianagram district. Increase in score up to 10 percent is reported by 34.31 percent of control households in Cuddapah district and 14.89 percent of control households in Vizianagram district. Increase in score in the range 11-25 percent is reported by 21.57 percent of control households in Cuddapah district and 21.28 percent of control households in Vizianagram district. Increase in score in the range 26-50 percent is reported by 33.33 percent of control households in Cuddapah district and 14.89 percent of control households in Vizianagram district. Increase in score more than 50 percent is reported by 10.78 percent of control households in Cuddapah district and 44.68 percent of control households in Vizianagram district.

### 7.2.3. Improvement in Quality of Life

The households experienced improvements in various areas of their lives after the implementation of PMGSY road. After PMGSY road become operative in Andhra Pradesh 22.27 percent of households have better dwelling unit, 19.07 percent of households have access to better sanitation facilities, 36.4 percent of households reported increase in ownership of consumer durables and 1.87 percent of households reported reduction in the migration. In national level 12.71 percent of households have better dwelling unit, 13.12 percent of households have access to better sanitation facilities, 41.45 percent of households reported increase in ownership of consumer durables and 1.96 percent of households reported reduction in the migration. *Refer Table 7.6.*

Households owned better dwelling unit after PMGSY road is 28.27 percent in Cuddapah district and 16.27 percent in Vizianagram district. Households having access to better sanitation facilities after PMGSY road is 27.2 percent in Cuddapah district and 10.93 percent in Vizianagram district. Households reported increase in ownership of consumer durables is 41.6 percent in Cuddapah district and 31.2 percent in Vizianagram district. Households reported reduction in migration is 0.27 percent in Cuddapah district and 3.47 percent in Vizianagram district.

**Table 7.6 Change in status of quality of life of households in the sample habitations after PMGSY Road**

<i>(% of households)</i>					
District	No. of HH covered	Owning a better dwelling unit	Having access to better sanitation facilities	Reported increase in ownership of consumer durables	Reported reduction in migration outside
Cuddapah	375	28.27	27.2	41.6	0.27
Vizianagram	375	16.27	10.93	31.2	3.47
<b>Andhra Pradesh</b>	<b>750</b>	<b>22.27</b>	<b>19.07</b>	<b>36.4</b>	<b>1.87</b>

Source: Field Survey

In the case of control habitations is Andhra Pradesh 26.8 percent of the control households owned a better dwelling unit, 25.6 percent of the control households having access to better sanitation facilities, 41.6 percent of the control households reported increase in ownership of consumer durables and 0.4 percent of control households reported reduction in migration during the period.

Control households owned better dwelling unit after PMGSY road is 15.2 percent in Cuddapah district and 38.4 percent in Vizianagram district. Control households having access to better sanitation facilities after PMGSY road is 40 percent in Cuddapah district and 11.2 percent in Vizianagram district. Control households reported increase in ownership of consumer durables is 37.6 percent in Cuddapah district and 45.6 percent in Vizianagram district. Control households reported reduction in migration is 0 percent in Cuddapah district and 0.8 percent in Vizianagram district. Refer Table 7.6 (a).

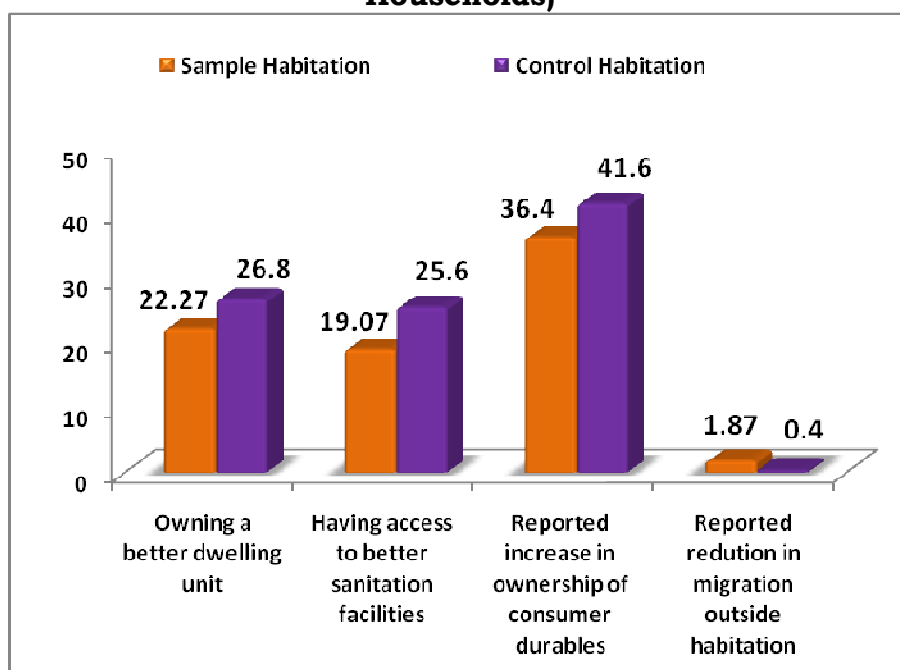
**Table 7.6 (a) Change in status of quality of life of respondent households in control habitations during the period**

(% of households)

District	No. of HH covered	Owning a better dwelling unit	Having access to better sanitation facilities	Reported increase in ownership of consumer durables	Reported reduction in migration outside
Cuddapah	125	15.2	40	37.6	0
Vizianagram	125	38.4	11.2	45.6	0.8
<b>Andhra Pradesh</b>	<b>250</b>	<b>26.8</b>	<b>25.6</b>	<b>41.6</b>	<b>0.4</b>

Source: Field Survey

**Figure 7.5: Changes in the Quality of Life after PMGSY in Sample Habitations and During the Period in Control Habitations (% of Households)**



Source : Figure generated from Tables 7.6 & 7.6 (a)

### **7.3. Improvements in Income Generation Scenario in the Habitations**

After the implementation of PMGSY road in Andhra Pradesh, new enterprise/industry is set up in 6.67 percent of the habitations and in national level it is 4.95 percent. Average number of new enterprise set up in each habitation is one and the average number of persons employed in the new enterprises is 6. The PMGSY road encouraged people in 26.67 percent of the habitations to migrate to other places in search of better employment opportunities. In 20 percent of habitations there is migration of labour force in to these habitations. Both in and out migration takes place in 50 percent of habitations and there is no change in 3.33 percent of habitations. *Refer Table 7.7.*

New enterprise is set up in 6.67 percent of habitations in Cuddapah and Vizianagram districts. Average number of new enterprise set up in each habitation is one in Cuddapah and Vizianagram districts. Average number of persons employed in the new enterprises is one in Cuddapah district and

10 in Vizianagram district. The PMGSY road encouraged people to migrate to other places in search of better employment opportunities in 13.33 percent of habitations in Cuddapah district and 40 percent of habitations in Vizianagram district. In-migration of labour force occurred in 20 percent of habitations in Cuddapah and Vizianagram districts. In and out migration takes place in 60 percent of habitations in Cuddapah district and 40 percent of habitations in Vizianagram district. No change in migration in 6.67 percent of habitations in Cuddapah district.

**Table 7.7 Improvements in income generation scenario in the habitations**

*(% of habitations)*

District	Habitations Covered	New enterprise/ industry setup in the habitation after PMGSY	Habitations where new enterprise/ industry was setup		Changes in the migration of labour/ workers			
			Average no. of such enterprises setup	Average no. of persons engaged/ employed	More out-migration of labour for seeking employment	More in-migration of labour coming to the habitation for work	Both	No changes
Cuddapah	15	6.67	1	1	13.33	20	60	6.67
Vizianagram	15	6.67	1	10	40	20	40	0
<b>Andhra Pradesh</b>	<b>30</b>	<b>6.67</b>	<b>1</b>	<b>6</b>	<b>26.67</b>	<b>20</b>	<b>50</b>	<b>3.33</b>

Source: Field Survey

## **Chapter 8**

### **Impact on Health**

#### **8.1. Improved Connectivity to Health Facilities**

In the sample habitations of Andhra Pradesh, all weather pucca roads is available to Public Health Centre (PHC) in 86.67 percent of habitations, to govt. hospital in 80 percent of habitations and to private hospital/nursing home in 76.67 percent of habitations. In all India level, all weather pucca roads is available to Public Health Centre (PHC) in 82.89 percent of habitations, to govt. hospital in 82.75 percent of habitations and to private hospital/nursing home in 81.82 percent of habitations. In the case of maternity emergencies in Andhra Pradesh there is reduction in travel time to reach the nearest health facility in 80 percent of habitations after the implementation of PMGSY road. Out of that in 63.33 percent of habitations reduction up to 30 minutes is reported, in 10 percent of habitations reduction in the range 30-60 minutes is reported and in 6.67 percent of habitations reduction of more than 60 minutes is reported. In the case of serious physical injuries or accidents there is reduction in travel time to reach the nearest health facility in 76.67 percent of habitations after the implementation of PMGSY road. Out of that in 60 percent of habitations reduction up to 30 minutes is reported, in 6.67 percent of habitations reduction in the range 30-60 minutes is reported and in 10 percent of habitations reduction of more than 60 minutes is reported. In the case of other medical emergencies reduction in travel time to reach the nearest health facility is reported in 80 percent of habitations after the implementation of PMGSY road. Out of that in 63.33 percent of habitations reduction up to 30 minutes is reported, in 10 percent of habitations reduction in the range 30-60 minutes is reported and in 6.67 percent of habitations reduction of more than 60 minutes is reported.

All weather pucca road connectivity is available to PHC in 73.33 percent of habitations in Cuddapah district and cent percent of habitations in

Vizianagram district. All weather pucca roads are available to govt. hospital in 66.67 percent of habitations in Cuddapah district and 93.33 percent of habitations in Vizianagram district. All weather pucca roads are available to private hospital/nursing home in 60 percent of habitations in Cuddapah district and 93.33 percent of habitations in Vizianagram district. Reduction in travel time to reach nearest health facility in the case of maternity emergency is reported in 86.67 percent of habitations in Cuddapah district and 73.33 percent of habitations in Vizianagram district. Reduction in travel time up to 30 minutes is reported in 66.67 percent of habitations in Cuddapah district and 60 percent of habitations in Vizianagram district. Reduction in travel time in the range 30-60 minutes is reported in 13.33 percent of habitations in Cuddapah district and 6.67 percent of habitations in Vizianagram district. Reduction in travel time to more than 60 minutes is reported in 6.67 percent of habitations in Cuddapah and Vizianagram districts.

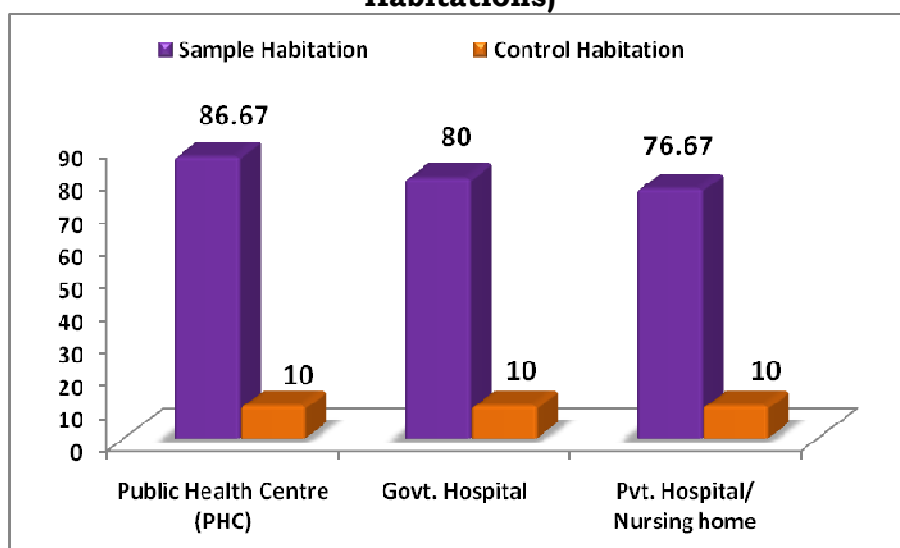
In the case of serious injuries or accidents reduction in travel time to reach nearest health facility is reported in 80 percent of habitations in Cuddapah district and 73.33 percent of habitations in Vizianagram district. Reduction in travel time up to 30 minutes is reported in 60 percent of habitations in Cuddapah and Vizianagram districts. Reduction in travel time in the range 30-60 minutes is reported in 6.67 percent of habitations in Cuddapah and Vizianagram districts. Reduction in travel time to more than 60 minutes is reported in 13.33 percent of habitations in Cuddapah district and 6.67 percent of habitations in Vizianagram districts.

In the case of other medical emergencies reduction in travel time to reach nearest health facility is reported in 86.67 percent of habitations in Cuddapah district and 73.33 percent of habitations in Vizianagram district. Reduction in travel time up to 30 minutes is reported in 66.67 percent of habitations in Cuddapah district and 60 percent of habitations in Vizianagram district. Reduction in travel time in the range 30-60 minutes is reported in 13.33 percent of habitations in Cuddapah district and 6.67

percent of habitations in Vizianagram district Reduction in travel time to more than 60 minutes is reported in 6.67 percent of habitations in Cuddapah and Vizianagram districts. *Refer table A.10 in Appendix.*

In the case of control habitations of Andhra Pradesh, in 10 percent of habitations all weather pucca roads are available to Public Health Centre (PHC), govt. hospital and private hospital/nursing home. There is reduction in travel time to reach the nearest health facility in 20 percent of habitations during the period and the reduction in time is up to 30 minutes for 10 percent of habitations and more than 60 minutes for 10 percent of habitations for maternity emergencies, serious physical injuries or accidents and other medical emergencies. *Refer table A.11 in Appendix.*

**Figure 8.1: Changes in Connectivity to Health Facilities after PMGSY in Sample Habitations and During the Period in Control Habitations (% of Habitations)**



Source : Figure generated from Tables A.10 & A.11 in Appendix

## 8.2. Changes in Status of Health Facilities within the Habitations

After the implementation of PMGSY road in the sample habitations of Andhra Pradesh, health sub centre is available in 10 percent of habitations, public health centre in 10 percent of habitations, availability of govt. doctors in 20 percent of habitations, appointment of ASHA workers in 26.67 percent

of habitations. Village health committee is constituted in 10 percent of habitations, village health plan is prepared in 20 percent of habitations and private medical practitioner is available in 20 percent of habitations.

In the sample habitations of Vizianagram district, 20 percent of habitations have health sub centre and public health centre. Availability of govt. doctors in 13.33 percent of habitations in Cuddapah district and 26.67 percent of habitations in Vizianagram district. Appointment of ASHA workers in 20 percent of habitations in Cuddapah district and 33.33 percent of habitations in Vizianagram district. Health sub centres and PHC are not available in any of and the sample habitations of Cuddapah district. Village health committee is constituted in 20 percent of habitations in Vizianagram district. Village health plan is prepared in 13.33 percent of habitations in Cuddapah district and 26.67 percent of habitations in Vizianagram district. Private medical practitioner is available in 20 percent of habitations in two districts. *Refer Table 8.1*

**Table 8.1 Change in Health facilities status within sample habitations after PMGSY Road**

*(% of habitations)*

District	No. of habitations Covered	Health Sub-Centre	Public Health Centre (PHC)	Availability of Govt. doctors	Increase in Number of ANMs	Appointment of ASHA	Constitution of village health committee	Preparation of village health plan	Availability of Private medical practitioner
Cuddapah	15	0	0	13.33	0	20	0	13.33	20
Vizianagram	15	20	20	26.67	0	33.33	20	26.67	20
<b>Andhra Pradesh</b>	<b>30</b>	<b>10</b>	<b>10</b>	<b>20</b>	<b>0</b>	<b>26.67</b>	<b>10</b>	<b>20</b>	<b>20</b>

Source: Field Survey

In the control habitations of Andhra Pradesh, 10 percent of habitations have availability of govt. doctors, constitution of village health committee, preparation of village health plan and 50 percent of habitations have appointed ASHA workers. *The district wise details are given in Table 8.1(a).*

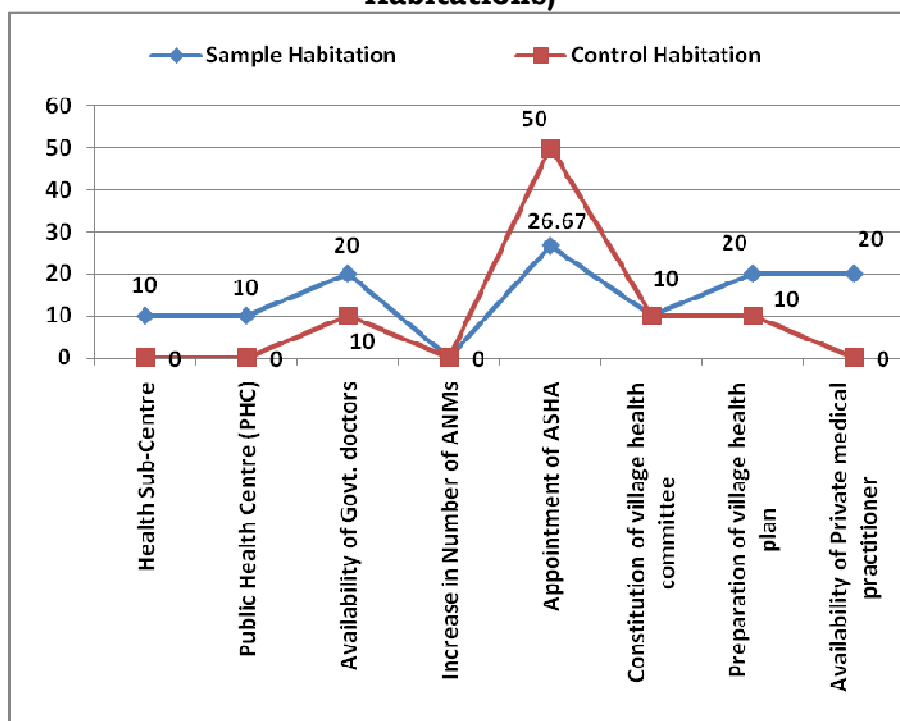
**Table 8.1 (a) Change in Health facilities status within control habitations during the period**

(No. of habitations)

District	No. of habitations Covered	Health Sub-Centre	Public Health Centre (PHC)	Availability of Govt. doctors	Increase in Number of ANMs	Appointment of ASHA	Constitution of village health committee	Preparation of village health plan	Availability of Private medical practitioner
Cuddapah	5	0	0	20	0	20	0	0	0
Vizianagram	5	0	0	0	0	80	20	20	0
<b>Andhra Pradesh</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>50</b>	<b>10</b>	<b>10</b>	<b>0</b>

Source: Field Survey

**Figure 8.2: Changes in Health Facilities Status after PMGSY in Sample Habitations and During the Period in Control Habitations (% of Habitations)**



Source : Figure generated from Tables 8.1 & 8.1 (a)

### 8.3. Improved Pre and Post Natal Care

#### 8.3.1. Improved Pre Natal Care

It is noted that 89.19 percent of the women has received pre-natal care before PMGSY road and cent percent after PMGSY road in the surveyed habitations of Andhra Pradesh. In all India level 53.42 percent of the women

has received pre-natal care before PMGSY road and 65.02 percent after PMGSY road. In Andhra Pradesh the percentage of women received pre-natal care from ANM/govt. doctor in the village 45.45 before PMGSY road and it is 54.65 after PMGSY road. Women received pre-natal care from pvt. doctor/nurse in the village is 15.15 percent before PMGSY road and it is 25.58 percent after PMGSY road. The percentage of women received pre-natal care from ANM/govt. doctor outside the village 36.36 before PMGSY road and it is 18.6 after PMGSY road. Women received pre-natal care from pvt. doctor/nurse outside the village is zero percent before and after PMGSY road. Women received pre-natal care from others in the village is 3.03 percent before PMGSY road and it is 1.16 percent after PMGSY road.

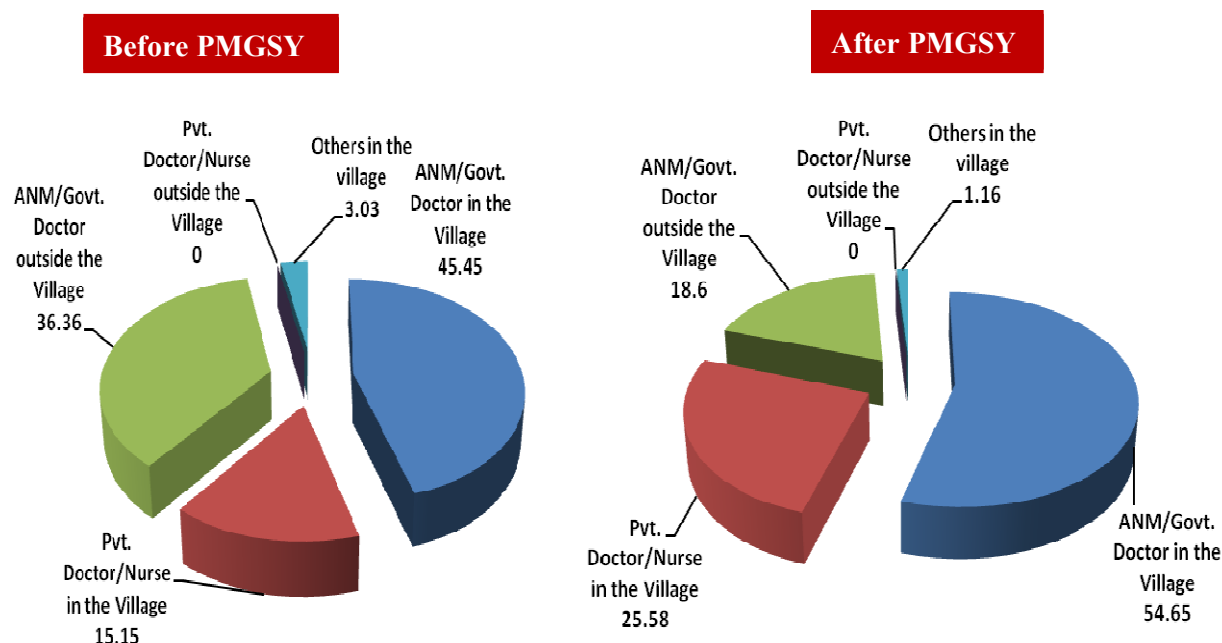
Women received pre-natal care before PMGSY road is cent percent in Cuddapah district and 88.89 percent in Vizianagram district. After the implementation of PMGSY road, women received pre-natal care is cent percent in the two districts. *The location from where they received pre-natal care is given in Table 8.2.*

**Table 8.2. Change in status of pre natal care of women of respondent households in the surveyed sample habitations before and after PMGSY Road**

District	% of Women aged 15-45 in the habitations received pre-natal care before PMGSY Road	If 'Yes', where were they provided pre-natal care					% of women aged 15-45 in the habitations received pre-natal care after PMGSY Road	If 'Yes', where were they provided pre-natal care				
		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village
Cuddapah	100	100	0	0	0	0	100	53.85	38.46	7.69	0	0
Vizianagram	88.89	43.75	15.62	37.5	0	3.12	100	55.32	14.89	27.66	0	2.13
<b>Andhra Pradesh</b>	<b>89.19</b>	<b>45.45</b>	<b>15.15</b>	<b>36.36</b>	<b>0</b>	<b>3.03</b>	<b>100</b>	<b>54.65</b>	<b>25.58</b>	<b>18.6</b>	<b>0</b>	<b>1.16</b>

Source: Field Survey

**Figure 8.3: Percentage of Women Received Pre-natal Care in Sample Habitations**



Source : Figure generated from Table 8.2

In the case of control habitations of Andhra Pradesh cent percent of the women has received pre-natal care during the previous and current periods. The percentage of women received pre- natal care from ANM/govt. doctor in the village 56.52 during the previous period and it is 37.5 during the current period. Women received pre-natal care from pvt. doctor/nurse in the village is 8.7 percent during the previous period and it is 12.5 percent during the current period. The percentage of women received pre- natal care from ANM/govt. doctor outside the village 34.78 during the previous period and it is 50 during the current period. *The district wise data is given in table 8.2(a).*

**Table 8.2 (a) Change in status of pre & post natal care of women of respondent households in the surveyed control habitations during the period**

District	% of women aged 15-45 in the habitations received pre-natal care during the previous period	If 'Yes', where were they provided pre-natal care					% of women aged 15-45 in the habitations received pre-natal care during the current period	If 'Yes', where were they provided pre-natal care				
		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village
Cuddapah	100	100	0	0	0	0	100	50	50	0	0	0
Vizianagram	100	0	20	80	0	0	100	33.33	0	66.67	0	0
<b>Andhra Pradesh</b>	<b>100</b>	<b>56.52</b>	<b>8.7</b>	<b>34.78</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>37.5</b>	<b>12.5</b>	<b>50</b>	<b>0</b>	<b>0</b>

Source: Field Survey

### 8.3.2. Improved Post Natal Care

It is identified that 70.27 percent of women who has given birth to a child before PMGSY has received adequate care after the birth of her child in the surveyed habitations of Andhra Pradesh. After the implementation of PMGSY road it has reduced to 70.93 percent and it is less than the all India value of 72.19 percent. The percentage of women received post- natal care from ANM/govt. doctor in the village 65.38 before PMGSY road and it is increased to 78.69 after PMGSY road. Women received post-natal care from pvt. doctor/nurse in the village is 3.85 percent before PMGSY road and it is increased to 21.31 percent after PMGSY road. The percentage of women received post- natal care from ANM/govt. doctor outside the village 30.77 before PMGSY road and it is zero after PMGSY road. Women received post-natal care from pvt. doctor/nurse outside the village and from others in the village is zero percent before and after PMGSY road.

In Cuddapah district women received post-natal care before PMGSY road is cent percent and after the implementation of PMGSY road it is reduced to 69.23 percent. In Vizianagram district women received post-natal care before PMGSY road is 69.44 percent and after the implementation of PMGSY road it is increased to 72.34 percent. *The location from where they received post-natal care is given in Table 8.3.*

**Table 8.3. Change in status of post natal care of women of respondent households in the surveyed sample habitations before and after PMGSY Road**

District	% of women aged 15-45 in the habitations received post-natal care before PMGSY Road	If 'Yes', where were they provided post-natal care					% of women aged 15-45 in the habitations received post-natal care after PMGSY Road	If 'Yes', where were they provided post-natal care				
		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village
Cuddapah	100	100	0	0	0	0	69.23	92.59	7.41	0	0	0
Vizianagram	69.44	64	4	32	0	0	72.34	67.65	32.35	0	0	0
<b>Andhra Pradesh</b>	<b>70.27</b>	<b>65.38</b>	<b>3.85</b>	<b>30.77</b>	<b>0</b>	<b>0</b>	<b>70.93</b>	<b>78.69</b>	<b>21.31</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: Field Survey

In the case of control habitations of Andhra Pradesh, 78.26 percent of women received post-natal care during the previous period and it is reduced to 75 percent during the current period. The percentage of women received post- natal care from ANM/govt. doctor in the village 50 during the previous period and it is increased to 83.33 during the current period. Women received post-natal care from pvt. doctor/nurse in the village is 22.22 percent during the previous period and it is reduced to 16.67 percent during the current period. The percentage of women received post- natal care from ANM/govt. doctor outside the village 27.78 during the previous period and it is zero during the current period. Women received post-natal care from pvt. doctor/nurse outside the village and from others in the village is zero percent before and after PMGSY road.

In Cuddapah district women received post-natal care during the previous period is 84.62 percent and it is increased to cent percent during the current period. In Vizianagram district women received post-natal care during the previous period is 70 percent and it is reduced to 66.67 percent during the current period. *The location from where they received post-natal care is given in Table 8.3(a).*

**Table 8.3 (a) Change in status of post natal care of women of respondent households in the surveyed control habitations during the period**

District	% of women aged 15-45 in the habitations received post-natal care during the previous period	If 'Yes', where were they provided post-natal care					% of women aged 15-45 in the habitations received post-natal care during the current period	If 'Yes', where were they provided post-natal care				
		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village		ANM/ Govt. Doctor in the Village	Pvt. Doctor/ Nurse in the Village	ANM/ Govt. Doctor outside the Village	Pvt. Doctor/ Nurse outside the Village	Others in the village
Cuddapah	84.62	81.82	18.18	0	0	0	100	100	0	0	0	0
Vizianagram	70	0	28.57	71.43	0	0	66.67	75	25	0	0	0
<b>Andhra Pradesh</b>	<b>78.26</b>	<b>50</b>	<b>22.22</b>	<b>27.78</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>83.33</b>	<b>16.67</b>	<b>0</b>	<b>0</b>	<b>0</b>

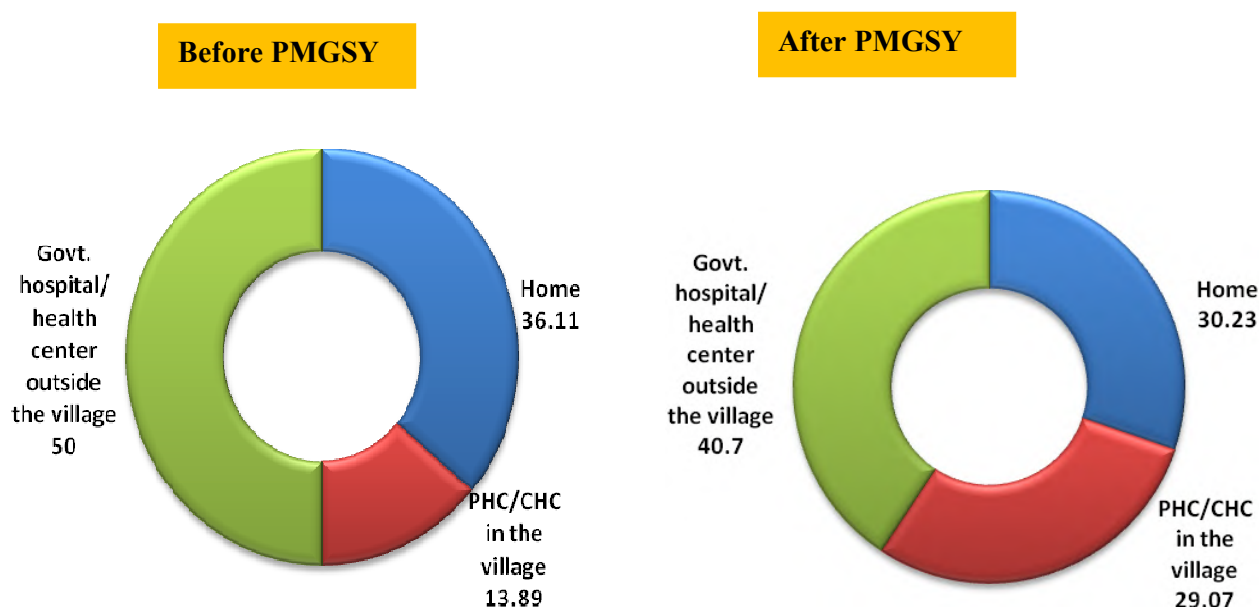
Source: Field Survey

#### **8.4. Increase in Number of Institutional Deliveries**

In the surveyed habitations of Andhra Pradesh 36.11 percent of the child birth took place in home before PMGSY road and after PMGSY road it is reduced to 30.23 percent. In all India level 76.38 percent of the child birth took place in home before PMGSY road and after PMGSY road it is reduced to 57.27 percent. In Andhra Pradesh deliveries in the PHC/CHC in the village are 13.89 percent before PMGSY road and it is increased to 29.07 percent after PMGSY road. The deliveries in the hospitals outside the village are 50 percent before PMGSY road and it is reduced to 40.7 percent after PMGSY road. The construction of PMGSY road reduced deliveries at home.

In Cuddapah district cent percent of the child birth took place in hospitals outside the village before PMGSY road. After PMGSY road the deliveries in home is 46.15 percent, in the PHC/CHC in the village is 38.46 percent and in the hospitals outside the village is 15.38 percent. In Vizianagram district 37.14 percent of the child birth took place in home before PMGSY road and after PMGSY road it is reduced to 17.02 percent. The deliveries in the PHC/CHC in the village are 14.29 percent before PMGSY road and it is increased to 21.28 percent after PMGSY road. The deliveries in the hospitals outside the village are 48.57 percent before PMGSY road and it is increased to 61.7 percent after PMGSY road. *Refer Table 8.4.*

**Figure 8.4: Percentage of Women as per Place of Delivery in Sample Habitations**



Source : Figure generated from Table 8.4

**Table 8.4. Change in status of institutional delivery in the surveyed sample habitations before and after PMGSY Road**

District	Before PMGSY % of women delivered a child at				After PMGSY % of women delivered a child at			
	Home	PHC/CHC in the village	Govt. hospital/health center outside the village	Pvt. Hospital/health center outside the village	Home	PHC/CHC in the village	Govt. hospital/health center outside the village	Pvt. Hospital/health center outside the village
Cuddapah	0	0	100	0	46.15	38.46	15.38	0
Vizianagram	37.14	14.29	48.57	0	17.02	21.28	61.7	0
<b>Andhra Pradesh</b>	<b>36.11</b>	<b>13.89</b>	<b>50</b>	<b>0</b>	<b>30.23</b>	<b>29.07</b>	<b>40.7</b>	<b>0</b>

Source: Field Survey

In the control habitations of Andhra Pradesh child birth took place in home increased to 25 percent from zero percent during the current period. Deliveries in the PHC/CHC in the village are 13.04 percent during pervious period and it is reduced to 12.5 percent during the current period. Deliveries in the govt. hospital/health centre outside the village are 78.26 percent

during pervious period and it is reduced to 62.5 percent during the current period. Deliveries in the pvt. hospital/health centre outside the village are 8.7 percent during pervious period and it is reduced to zero percent during the current period.

In the control habitations of Cuddapah district child birth took place in home increased to 50 percent from zero percent during the current period. Deliveries in the govt. hospital/health centre outside the village are 100 percent during pervious period and it is reduced to 50 percent during the current period. In the control habitations of Vizianagram district child birth took place in home increased to 16.67 percent from zero percent during the current period. Deliveries in the PHC/CHC in the village are 30 percent during pervious period and it is reduced to 16.67 percent during the current period. Deliveries in the govt. hospital/health centre outside the village are 50 percent during pervious period and it is increased to 66.67 percent during the current period. Deliveries in the pvt.hospital/health centre outside the village are 20 percent during pervious period and it is reduced to zero percent during the current period. *Refer Table 8.4 (a).*

**Table 8.4(a) Change in status of institutional delivery in the control habitations during the period**

District	During the previous period % of women delivered a child at				During the current period % of women delivered a child at			
	Home	PHC/CHC in the village	Govt. hospital/ health center outside the village	Pvt. Hospital /health center outside the village	Home	PHC/CHC in the village	Govt. hospital/ health center outside the village	Pvt. Hospital /health center outside the village
Cuddapah	0	0	100	0	50	0	50	0
Vizianagram	0	30	50	20	16.67	16.67	66.67	0
<b>Andhra Pradesh</b>	<b>0</b>	<b>13.04</b>	<b>78.26</b>	<b>8.7</b>	<b>25</b>	<b>12.5</b>	<b>62.5</b>	<b>0</b>

Source: Field Survey

### **8.5. Improved Child Immunization and Health Care**

In the sample habitations of Andhra Pradesh immunization of children aged up to 5 years has reduced after the implementation of PMGSY road and the

rate of reduce is 1.7 percent and in national level it is increased and the rate of increase is 5.72 percent. Immunization of children by govt. doctor/health worker/nurse in the village is increased and the amount of increase is 3.62 percent. There is a decrease of 2.91 percent in immunization by school/anganwadi with in the village and a decrease of 2.41 percent in the immunization by govt. doctor/nurse outside the village.

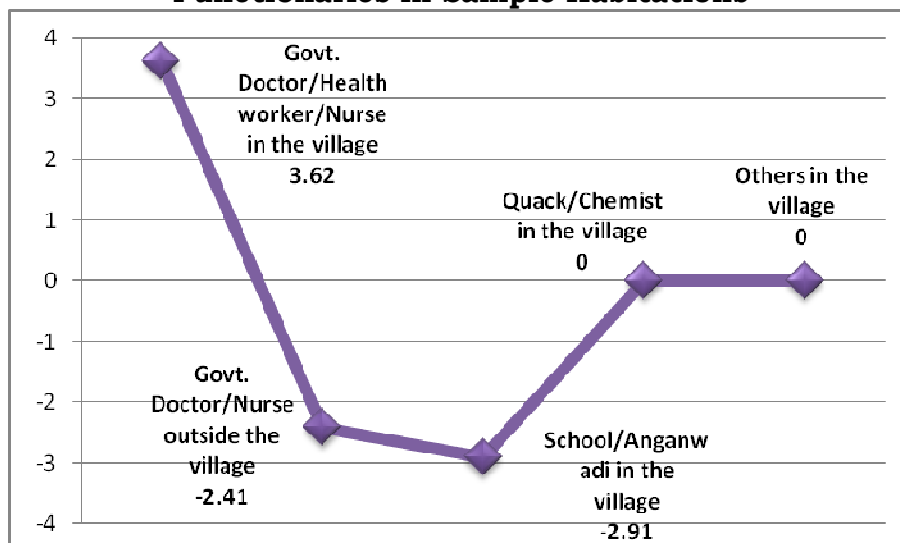
Immunization of children up to the age of 5 years is decreased and the decreased amount is 0.76 percent in Cuddapah district and 2.88 percent in Vizianagram district. Immunization of children by govt. doctor/health worker/nurse in the village is increased in Cuddapah district and the amount of increase is 5.12 percent and it is decreased in Vizianagram district and amount of decrease is 8.19 percent. Immunization of children by govt. doctor/health worker/nurse outside the village is decreased in Cuddapah district and the amount of decrease is 5.79 percent and it is increased in Vizianagram district and amount of increase is 3.12 percent. Immunization of children by school/anganwadi in the village is decreased in Cuddapah district and the amount of decrease is 0.09 percent and it is increased in Vizianagram district and amount of increase is 2.18 percent. Refer Table 8.5.

**Table 8.5. Changes in immunization of children in the sample habitations after PMGSY Road**

District	% change in children aged 5 years or younger immunized	% change in children aged 5 years or younger immunized by				
		Govt. Doctor/ Health worker/ Nurse in the village	Govt. Doctor/ Nurse outside the village	School/ Anganwadi in the village	Quack/ Chemist in the village	Others in the village
Cuddapah	-0.76	5.12	-5.79	-0.09	0	0
Vizianagram	-2.88	-8.19	3.12	2.18	0	0
<b>Andhra Pradesh</b>	<b>-1.7</b>	<b>3.62</b>	<b>-2.41</b>	<b>-2.91</b>	<b>0</b>	<b>0</b>

Source: Field Survey

**Figure 8.5: Percentage of Change in Children Immunized by Various Functionaries in Sample Habitations**



Source : Figure generated from Table 8.5

In the control habitations of Andhra Pradesh immunization of children aged up to 5 years has increased after the implementation of PMGSY road and the amount of increase is 7.69 percent. Immunization of children by govt. doctor/health worker/nurse in the village is decreased and the amount of decrease is 5.73 percent. There is an increase of 1.47 percent in immunization by school/anganwadi with in the village and an increase of 11.96 percent in the immunization by govt. doctor/nurse outside the village. *The district wise details are given in Table 8.5(a).*

**Table 8.5 (a). Changes in Status of immunization of children in the control habitations during the period**

District	% change of children aged 5 years or younger in the habitations immunized	% change of children aged 5 years or younger in the habitations immunized				
		Govt. Doctor/ Health worker/ Nurse in the village	Govt. Doctor/ Nurse outside the village	School/ Anganwadi in the village	Quack/Chemist in the village	Others in the village
Cuddapah	0	-9.16	0	9.16	0	0
Vizianagram	19.23	12.82	6.41	0	0	0
<b>Andhra Pradesh</b>	<b>7.69</b>	<b>-5.73</b>	<b>11.96</b>	<b>1.47</b>	<b>0</b>	<b>0</b>

Source: Field Survey

In the sample habitations of Andhra Pradesh zero percent of children were not immunized before PMGSY road. But after PMGSY road become operative the percentage of children not immunized is increased and it is 1.7 percent. Out of that 1.28 percent was not immunized because the family was not aware about it and 0.43 percent was not immunized because they were not considered it as a necessary thing.

In the sample habitations of Cuddapah district 0.76 percent of children were not immunized after PMGSY road and the reason is that they were not considered it as a necessary thing. In the sample habitations of Vizianagram district 2.88 percent of children were not immunized after PMGSY road and the reason is that family was not aware about it. *Refer Table 8.6.*

**Table 8.6 Children were not immunized in sample habitations before and after PMGSY road**

District	% of children were not immunized in the households before PMGSY road	% of children were not immunized in the households before PMGSY road due to					% of children were not immunized in the households after PMGSY road	% of children were not immunized in the households after PMGSY road due to				
		Family was not aware	Was not considered necessary	Hospital/ Health Center was very far	Family could not afford the cost	Other reasons		Family was not aware	Was not considered necessary	Hospital/ Health Center was very far	Family could not afford the cost	Other reasons
Cuddapah	0	0	0	0	0	0	0.76	0	0.76	0	0	0
Vizianagram	0	0	0	0	0	0	2.88	2.88	0	0	0	0
<b>Andhra Pradesh</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.7</b>	<b>1.28</b>	<b>0.43</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: Field Survey

## **Chapter 9**

### **Impact on Education**

This chapter describes the impact of PMGY roads on the educational facilities of the sample habitations of Andhra Pradesh.

#### **9.1. Improved Status of Education Facilities**

In the surveyed habitations of Andhra Pradesh, after the implementation of PMGSY road 23.33 percent of the habitations reported increase in number of anganwadi centers, 16.67 percent of habitations reported increase in number of schools, 10 percent of habitations reported sufficient number of teachers in the schools and 13.33 percent of habitations reported regular provision of mid-day meals for the students. In all India level 16.58 percent of the habitations reported increase in number of anganwadi centers, 15.24 percent of habitations reported increase in number of schools, 18.18 percent of habitations reported sufficient number of teachers in the schools and 19.39 percent of habitations reported regular provision of mid-day meals for the students. *Refer Table 9.1.*

After the PMGSY road become operative, increase in number of anganwadi centers is reported by 26.67 percent of habitations in Cuddapah district and 20 percent of habitations in Vizianagram district. Increase in number of schools is reported by 6.67 percent of habitations in Cuddapah district and 26.67 percent of habitations in Vizianagram district. Sufficient number of teachers in the schools is reported by 13.33 percent of habitations in Cuddapah district and 6.67 percent of habitations in Vizianagram district. Regular provision of mid-day meals for the students is reported by 13.33 percent of habitations in Cuddapah and Vizianagram district.

**Table 9.1. Change in status of education facilities within the surveyed sample habitations before and after PMGSY Road**

*(% of habitations)*

District	No. of Habitations Covered	Reported increase in number of anganwadi centers	Reported increase in number of schools	Reported having sufficient teaching staff in the schools	Reported having regular provision of mid-day meals for the students
Cuddapah	15	26.67	6.67	13.33	13.33
Vizianagram	15	20	26.67	6.67	13.33
<b>Andhra Pradesh</b>	<b>30</b>	<b>23.33</b>	<b>16.67</b>	<b>10</b>	<b>13.33</b>

Source: Field Survey

In the control habitations of Andhra Pradesh, during the period 20 percent of habitations reported increase in number of anganwadi centers and 10 percent of habitations reported sufficient number of teachers in the schools.

*Refer Table 9.1 (a).*

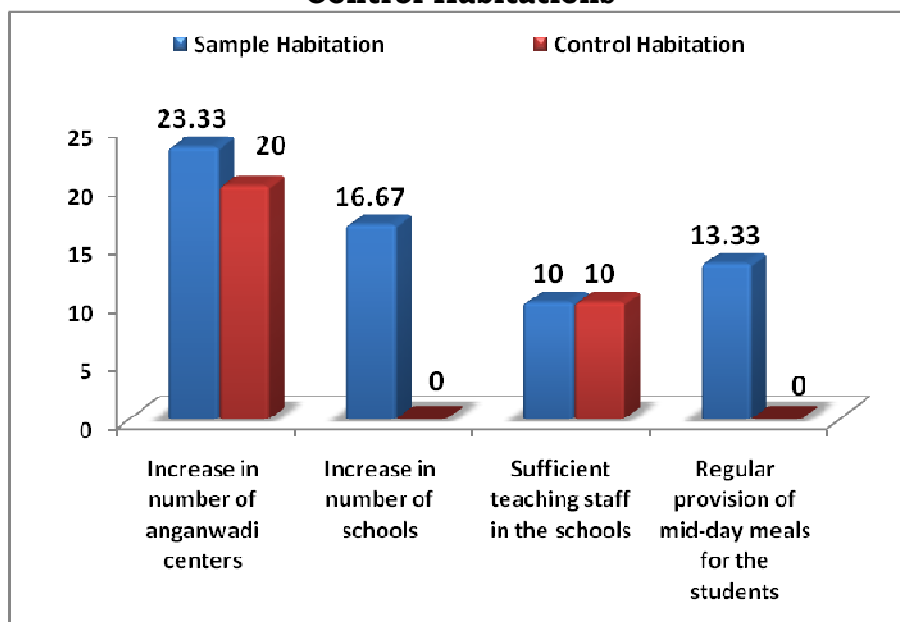
**Table 9.1(a) Change in status of education facilities within the surveyed control habitations during the period**

*(% of habitations)*

District	No. of Habitations Covered	Reported increase in number of anganwadi centers	Reported increase in number of schools	Reported having sufficient teaching staff in the schools	Reported having regular provision of mid-day meals for the students
Cuddapah	5	0	0	0	0
Vizianagram	5	40	0	20	0
<b>Andhra Pradesh</b>	<b>10</b>	<b>20</b>	<b>0</b>	<b>10</b>	<b>0</b>

Source: Field Survey

**Figure 9.1: Comparison of Changes in Education Facilities in Sample & Control Habitations**



Source : Figure generated from Tables 9.1 & 9.1 (a)

## 9.2. Improved All Seasons Connectivity of Education Facilities

After the PMGSY road become operative in the sample habitations of Andhra Pradesh, it is reported that all weather pucca road is available in 60 percent of habitations to nearest anganwadi center and to nearest primary school. All weather pucca road is available in 76.67 percent of habitations to nearest secondary school, to nearest higher secondary school and to nearest college/university and in 80 percent of habitations to nearest vocational training institute. *Refer Table 9.2.*

In Cuddapah district all weather pucca road is available in 53.33 percent of habitations to nearest anganwadi center, 46.67 percent of habitations to nearest primary school, in 66.67 percent of habitations to nearest secondary school, to nearest higher secondary school, to nearest college/university and to nearest vocational training institute. In Vizianagram district all weather pucca road is available in 66.67 percent of habitations to nearest anganwadi center, 73.33 percent of habitations to nearest primary school, in 86.67 percent of habitations to nearest secondary school, to nearest higher

secondary school, to nearest college/university and in 93.33 percent of habitations to nearest vocational training institute.

**Table 9.2. Change in connectivity status to education centers from sample habitations after PMGSY Road**

District	No. of Habitations Covered	% of habitations reported availability of all weather pucca road connectivity					
		Nearest Anganwadi center	Nearest Primary School	Nearest Secondary School	Nearest Higher Secondary School	Nearest Degree College/ University	Nearest Vocational Training Institute
Cuddapah	15	53.33	46.67	66.67	66.67	66.67	66.67
Vizianagram	15	66.67	73.33	86.67	86.67	86.67	93.33
<b>Andhra Pradesh</b>	<b>30</b>	<b>60</b>	<b>60</b>	<b>76.67</b>	<b>76.67</b>	<b>76.67</b>	<b>80</b>

Source: Field Survey

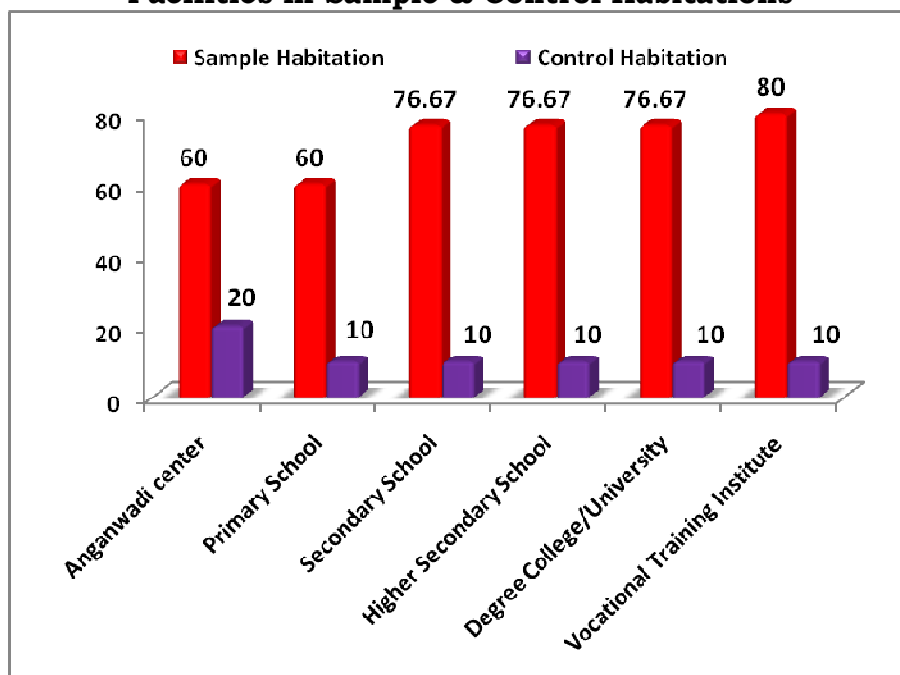
In the case of control habitations of Andhra Pradesh all weather pucca road is available in 20 percent of habitations to nearest primary school, in 10 percent of habitations to nearest secondary school, to nearest higher secondary school, to nearest college/university and to nearest vocational training institute. *Refer Table 9.2 (a).*

**Table 9.2 (a) Status of connectivity to education centers from control habitations now**

District	No. of Habitations Covered	% of habitations reported availability of all weather pucca road connectivity					
		Nearest Anganwadi center	Nearest Primary School	Nearest Secondary School	Nearest Higher Secondary School	Nearest Degree College/ University	Nearest Vocational Training Institute
Cuddapah	5	0	0	0	0	0	0
Vizianagram	5	40	20	20	20	20	20
<b>Andhra Pradesh</b>	<b>10</b>	<b>20</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

Source: Field Survey

**Figure 9.2: Comparison of All Weather Road Connectivity to Education Facilities in Sample & Control Habitations**



Source : Figure generated from Tables 9.2 & 9.2 (a)

### 9.3. Changes in Access to Education Facilities

This part deals with the access to educational facilities by the children in the sample habitations before and after PMGSY road. It also describes the distance traveled and time taken to reach the children in the educational institution.

#### 9.3.1. Access to Educational Institution

In the surveyed habitations of Andhra Pradesh, percentage of children having access to primary school before PMGSY road was 99.37 and after PMGSY road it is increased to cent percent. Children having access to secondary school before PMGSY road was 93.85 percent and after PMGSY road it is increased to 96.81 percent and the corresponding national value is 96.18 percent. But the children having access to higher secondary school has reduced from cent percent to 98.36 percent and it is higher than the national value of 94.82 percent. The percentage of students having access to college is cent percent in the pre and post PMGSY periods. *Refer Table 9.3.*

In Cuddapah district having access to primary school, secondary school, higher secondary school and college are cent percent before and after PMGSY road. In Vizianagram district percentage of children having access to primary school before PMGSY road was 98.47 and after PMGSY road it is increased to cent percent. Children having access to secondary school before PMGSY road was 90.91 percent and after PMGSY road it is increased to 94.64 percent. But the children having access to higher secondary school has reduced from cent percent to 96.15 percent. The percentage of students having access to college is cent percent in the pre and post PMGSY periods.

**Table 9.3 All Season access to education for children in the households of sample habitations before and after PMGSY road**

(% of children of eligible age )

District	No. of Households Covered	Primary school		Secondary school		Higher/sr. secondary school		College	
		Before	After	Before	After	Before	After	Before	After
Cuddapah	375	100	100	100	100	100	100	100	100
Vizianagram	375	98.47	100	90.91	94.64	100	96.15	100	100
<b>Andhra Pradesh</b>	<b>750</b>	<b>99.37</b>	<b>100</b>	<b>93.85</b>	<b>96.81</b>	<b>100</b>	<b>98.36</b>	<b>100</b>	<b>100</b>

Source: Field Survey

In the control habitations of Andhra Pradesh, percentage of children having access to primary school during previous period was 98.97 and during current period it is increased to cent percent. Children having access to secondary school during previous period was cent percent and during current period it is reduced to 97.73 percent. Children having access to higher secondary school is cent percent in the previous and current periods. The percentage of students having access to college is not reported in the previous period and it is increased to cent percent during current period. Refer Table 9.3 (a).

**Table 9.3 (a) All Season access to education for children in the households of control habitations during the period**

(% of children of eligible age )

District	No. of Households Covered	Primary school		Secondary school		Higher/sr. secondary school		College	
		Previous Period	Current Period	Previous Period	Current Period	Previous Period	Current Period	Previous Period	Current Period
Cuddapah	125	100	100	100	100	100	100	0	85.71
Vizianagram	125	97.96	100	100	94.44	100	100	0	100
<b>Andhra Pradesh</b>	<b>250</b>	<b>98.97</b>	<b>100</b>	<b>100</b>	<b>97.73</b>	<b>100</b>	<b>100</b>	<b>0</b>	<b>88.89</b>

Source: Field Survey

### 9.3.2. Distance Traveled

In the sample habitations of Andhra Pradesh after the implementation of PMGSY road distance traveled by children to educational institution is decreased. Distance traveled by children to reach primary school before PMGSY road is 10.385 Km and after PMGSY road it is reduced to 8.548 Km. Distance traveled to reach secondary school is decreased from 7.194 Km to 6.385 Km. Distance traveled to reach higher secondary school is decreased from 11.125 Km to 8.721 Km. Distance traveled to reach college has increased from 12.429 Km to 16.833 Km. *Refer Table 9.4.*

Distance traveled to reach primary school in Cuddapah and Vizianagram districts before PMGSY road was 10.444 Km and 10.367 Km respectively and after PMGSY road become operative it is decreased to 5.333 Km and 9.864 Km respectively. Distance traveled to reach secondary school in Cuddapah and Vizianagram districts before PMGSY road was 7.844 Km and 6.921 Km respectively and after PMGSY road it become 6.029 Km and 6.607 Km respectively. Distance traveled to reach higher secondary school in Cuddapah and Vizianagram districts before PMGSY road was 10.833 Km and 11.3 Km respectively and after PMGSY road become operative it is decreased to 8.771 Km and 8.654 Km respectively. Distance traveled to reach college in Cuddapah and Vizianagram districts before PMGSY road was 11 Km and 13 Km respectively and after PMGSY road become operative it is increased to 23 Km and 13.75 Km respectively.

**Table 9.4. Change in access to education for children in the households of sample habitations**

District	No. of Households Covered	Average distance travelled by children of eligible age to reach the							
		Primary school		Secondary school		Higher/sr. secondary school		College	
		Before	After	Before	After	Before	After	Before	After
Cuddapah	375	10.444	5.333	7.844	6.029	10.833	8.771	11	23
Vizianagram	375	10.367	9.864	6.921	6.607	11.3	8.654	13	13.75
<b>Andhra Pradesh</b>	<b>750</b>	<b>10.385</b>	<b>8.548</b>	<b>7.194</b>	<b>6.385</b>	<b>11.125</b>	<b>8.721</b>	<b>12.429</b>	<b>16.833</b>

Source: Field Survey

In the control habitations of Andhra Pradesh, distance traveled by children to reach primary school in the previous period was 9.5 Km and in the current period it is decreased to 4.857 Km. Distance traveled to reach secondary school is increased from 5.45 Km to 5.75 Km. Distance traveled to reach higher secondary school is decreased from 12.227 Km to 8.8 Km. Distance traveled to reach college has not reported in the previous period and in the current period it is 54.667 Km. *Refer Table 9.4 (a).*

**Table 9.4 (a) Change in access to education for children in the households of control habitations during the period**

District	No. of Households Covered	Average distance travelled by children of eligible age to reach the							
		Primary school		Secondary school		Higher/sr. secondary school		College	
		Previous Period	Current Period	Previous Period	Current Period	Previous Period	Current Period	Previous Period	Current Period
Cuddapah	125	14.333	4.667	6.85	5.806	14.278	10.75	0	67
Vizianagram	125	6.6	5	2.65	5.694	3	5.875	0	11.5
<b>Andhra Pradesh</b>	<b>250</b>	<b>9.5</b>	<b>4.857</b>	<b>5.45</b>	<b>5.75</b>	<b>12.227</b>	<b>8.8</b>	<b>0</b>	<b>54.667</b>

Source: Field Survey

### 9.3.3. Travel Time

Time taken by children to reach educational institution is decreased after the implementation of PMGSY road. In the sample habitations of Andhra Pradesh, average travel time taken by the children to reach primary school before PMGSY road is 29 minutes and after PMGSY road it is decreased to 19 minutes. Average travel time taken by the children to reach secondary

school before PMGSY road is 27 minutes and after PMGSY road it is decreased to 22 minutes. Average travel time taken by the children to reach higher secondary school before PMGSY road is 28 minutes and after PMGSY road it is decreased to 25 minutes. Average travel time taken by the children to reach college before PMGSY road is 39 minutes and after PMGSY road it is increased to 51 minutes. *Refer Table 9.5.*

Average travel time taken by the children to reach primary school before PMGSY road is 41 minutes & 26 minutes in Cuddapah and Vizianagram districts and after PMGSY road it is decreased to 18 minutes and 19 minutes respectively. Average travel time taken by the children to reach secondary school before PMGSY road is 25 minutes & 28 minutes in Cuddapah and Vizianagram districts and after PMGSY road it is changed to 18 minutes and 24 minutes respectively. Average travel time taken to reach higher secondary school before PMGSY road is 19 minutes & 34 minutes in Cuddapah and Vizianagram districts after PMGSY road it is changed to 21 minutes and 29 minutes respectively. Time taken to reach college before PMGSY road is 52 minutes & 34 minutes in Cuddapah and Vizianagram districts after PMGSY road it is increased to 70 minutes and 41 minutes respectively.

**Table 9.5 Change in access to education for children in the households of sample habitations**

District	No. of Households Covered	Average travel time taken by children of eligible age to reach							
		Primary school		Secondary school		Higher/sr. secondary school		College	
		Before	After	Before	After	Before	After	Before	After
Cuddapah	375	41	18	25	18	19	21	52	70
Vizianagram	375	26	19	28	24	34	29	34	41
<b>Andhra Pradesh</b>	<b>750</b>	<b>29</b>	<b>19</b>	<b>27</b>	<b>22</b>	<b>28</b>	<b>25</b>	<b>39</b>	<b>51</b>

Source: Field Survey

In the control habitations of Andhra Pradesh, average travel time taken by the children to reach primary school during previous period is 31 minutes and in the current period it is decreased to 17 minutes. Average travel time taken by the children to reach secondary school during previous period is 20

minutes and in the current period it is increased to 23 minutes. Average travel time taken by the children to reach higher secondary school during previous period is 35 minutes and in the current period it is decreased to 30 minutes. Average travel time taken by the children to reach college during previous period is not reported and in the current period it is 53 minutes. Refer Table 9.5 (a).

**Table 9.5 (a) Change in access to education for children in the respondent households of control habitations during the period**

District	No. of Households Covered	Average travel time taken by children of eligible age to reach							
		Primary school		Secondary school		Higher/sr. secondary school		College	
		Previous Period	Current Period	Previous Period	Current Period	Previous Period	Current Period	Previous Period	Current Period
Cuddapah	125	35	22	21	22	38	30	0	58
Vizianagram	125	28	14	18	24	22	32	0	38
<b>Andhra Pradesh</b>	<b>250</b>	<b>31</b>	<b>17</b>	<b>20</b>	<b>23</b>	<b>35</b>	<b>30</b>	<b>0</b>	<b>53</b>

Source: Field Survey

#### **9.4. Improvements in Enrollment of Children for Education**

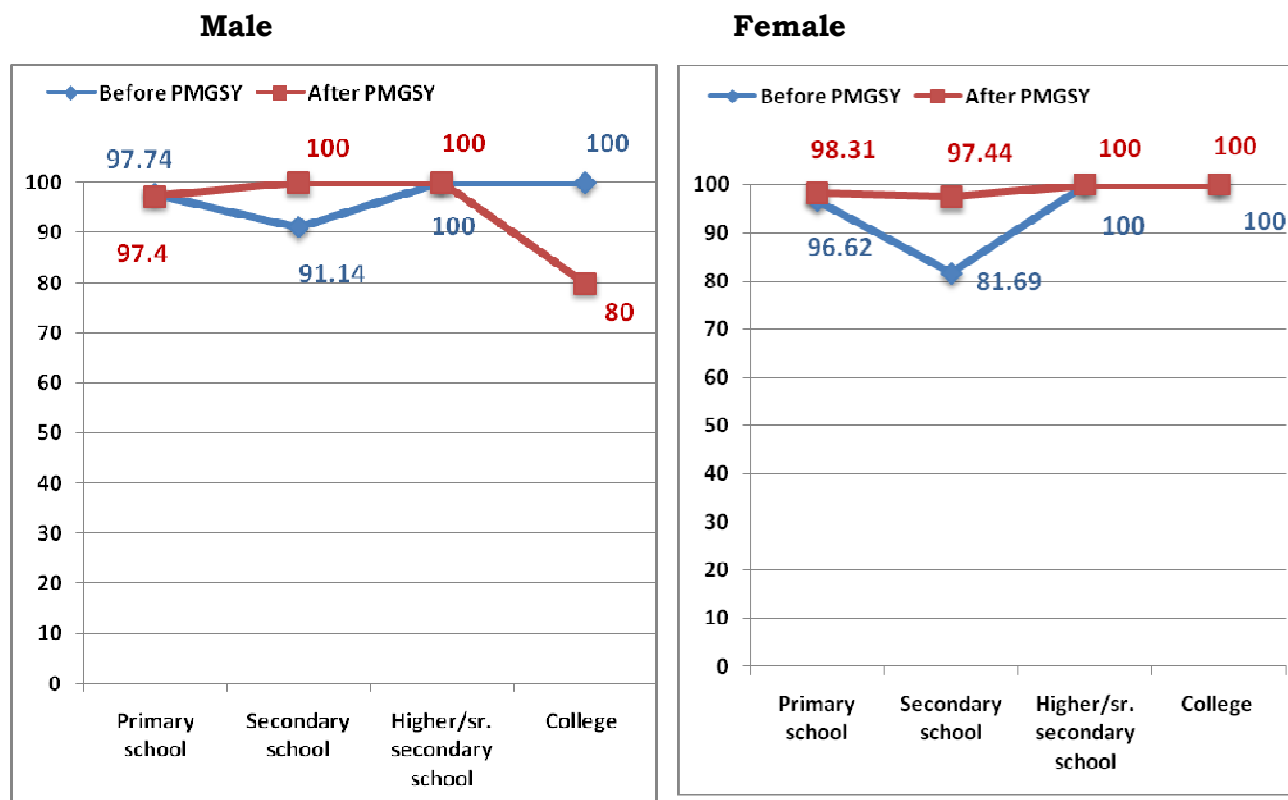
After the implementation of PMGSY road, enrollment of children in educational institutions is increased significantly. In the sample habitations of Andhra Pradesh, before PMGSY road enrollment in primary school is 97.74 percent for boys & 96.62 percent for girls and after PMGSY road it is changed to 97.4 percent & 98.31 percent respectively. Enrollment in secondary school before PMGSY road is 91.14 percent for boys & 81.69 percent for girls and after PMGSY road it is increased to cent percent & 97.44 percent respectively. Enrollment in higher secondary school before and after PMGSY road is cent percent for boys & girls. Enrollment in college before PMGSY road is cent percent for boys & girls and after PMGSY road it is changed to 80 percent for boys and no change in the case of girls.

In the sample habitations of Cuddapah district enrollment in primary school before PMGSY road is 99.05 percent for boys & cent percent for girls and after PMGSY road it is decreased to 97.37 percent & 97.67 percent respectively. Enrollment in secondary school & higher secondary school

before and after PMGSY road is cent percent for both boys & girls. Enrollment in college before PMGSY road is cent percent for boys & girls and after PMGSY road it is not reported for boys and cent percent for girls.

In the sample habitations of Vizianagram district enrollment in primary school before PMGSY road is 95.83 percent for boys & 92.54 percent for girls and after PMGSY road it is increased to 97.44 percent & 98.67 percent respectively. Enrollment in secondary school before PMGSY road is 87.72 percent for boys & 74.51 percent for girls and after PMGSY road it is increased to cent percent & 96 percent respectively. Enrollment in higher secondary school before and after PMGSY road is cent percent for boys & girls. Enrollment in college before PMGSY road is cent percent for boys & girls and after PMGSY road it is changed to 80 percent for boys and not reported for girls. *Refer table A.12 in Appendix.*

**Figure 9.3: Percentage of Children Enrolled at Various Levels Before and After PMGSY in Sample Habitations**



Source : Figure generated from Table A.12 in Appendix

After the implementation of PMGSY road, number of students going outside the village for higher education also increases. Out of the 30 habitations of Andhra Pradesh, in 96.67 percent of habitations there is an increase in number of children going to school, increase in number of girls going to school and improvement in attendance of students in the nearby schools during all seasons. In cent percent of habitations, there is an increase in number of children going outside the village for higher education, enhanced overall literacy levels due to better access and improved communications and families are willing to send girls for higher education. *Refer Table 9.6.*

**Table 9.6 Change in education status of residents of surveyed sample habitations due to better road connectivity after PMGSY Road**

*(% of habitations reported)*

District	No. of Habitations Covered	Increase in number of children going to schools	Increase in number of girls going to schools	Increase in number of children going outside the village for higher education	Enhanced overall literacy levels due to better access and improved communications	Improvement in attendance of students from the habitation in the nearby schools during all seasons	Where families willing to send more of there girls for higher schools now
Cuddapah	15	100	100	100	100	93.33	100
Vizianagram	15	93.33	93.33	100	100	100	100
<b>Andhra Pradesh</b>	<b>30</b>	<b>96.67</b>	<b>96.67</b>	<b>100</b>	<b>100</b>	<b>96.67</b>	<b>100</b>

Source: Field Survey

## **Chapter 10**

### **Impact on Other Aspects**

#### **10.1. Improved Living Conditions and Security**

After the implementation of PMGSY road in the sample habitations Andhra Pradesh, more families constructed pucca houses in cent percent of habitations it is higher than the all India value of 63.64 percent. On an average 55 houses were constructed during last 12 months period. In 76.67 percent of habitations more families constructed sanitary latrines and the corresponding national value is 60.56 percent. On an average 56 latrines were constructed during last 12 months period. In 80 percent of habitations persons traveling outside the habitation for cultural visits and in 70 percent of habitations NGOs/VOs visits to the habitation increases. In 66.67 percent of habitations visit to the habitation by representatives of various organizations and police patrolling increases. *Refer Table 10.1.*

More families constructed pucca houses in cent percent of habitations in Cuddapah and Vizianagram districts. On an average, during last 12 months period 61 houses were constructed in Cuddapah district and 48 houses were constructed in Vizianagram district. More families constructed sanitary latrines in 86.67 percent of habitations in Cuddapah district and 66.67 percent of habitations in Vizianagram district. On an average, during last 12 months period 71 latrines were constructed in Cuddapah district and 36 latrines were constructed in Vizianagram district. There is an increase in traveling by persons outside the habitation for cultural visits in 93.33 percent of habitation in Cuddapah district and 66.67 percent of habitations in Vizianagram district. Visits to the habitation by NGOs/VOs increases in cent percent of habitations in Cuddapah district and in 40 percent of habitations in Vizianagram district. Visits to the habitation by representatives of various organization increases in 86.67 percent of habitations in Cuddapah district and in 46.67 percent of habitations in

Vizianagram district. Police patrolling increased after PMGSY road in 66.67 percent of habitations in Cuddapah and Vizianagram districts.

**Table 10.1. Improvements/changes in the living condition and security of sample habitations after PMGSY Road**

(% of habitations)

District	No. of Habitations Covered	Where more families constructed pucca house	Avg. no. of pucca houses constructed during last 12 months	Where more families constructed sanitary latrines	Average no. of sanitary latrines constructed during last 12 months	where visits to the habitation increases			
						Persons travelling outside the habitation for cultural visit	NGOs/ VOs visiting	Representatives of various organizations	Police patrolling
Cuddapah	15	100	61	86.67	71	93.33	100	86.67	66.67
Vizianagram	15	100	48	66.67	36	66.67	40	46.67	66.67
<b>Andhra Pradesh</b>	<b>30</b>	<b>100</b>	<b>55</b>	<b>76.67</b>	<b>56</b>	<b>80</b>	<b>70</b>	<b>66.67</b>	<b>66.67</b>

Source: Field Survey

In the control habitations of Andhra Pradesh more families constructed pucca houses in 70 percent of control habitations during the period. On an average 41 houses were constructed during last 12 months period. In 50 percent of control habitations more families constructed sanitary latrines. On an average 51 latrines were constructed during last 12 months period. In 50 percent of control habitations persons traveling outside the habitation for cultural visits and in 40 percent of habitations NGOs/VOs visits to the control habitation increases. In 10 percent of control habitations visit to the habitation by representatives of various organizations and police patrolling increases. Refer Table 10.1 (a).

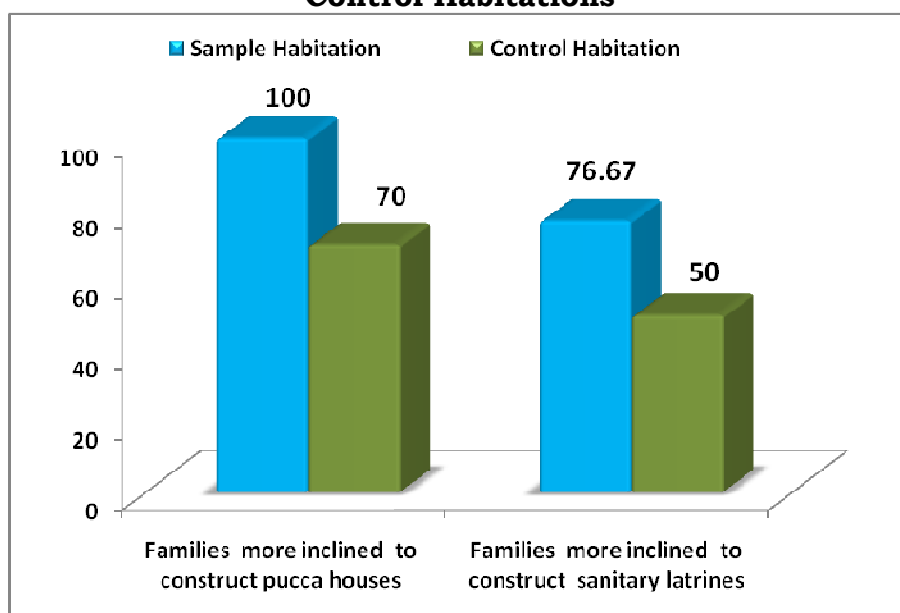
**Table 10.1 (a) Improvements/changes in the living condition and security of control habitations during the period**

(% of habitations)

District	No. of Habitations Covered	Where more families constructed pucca house	Avg. no. of pucca houses constructed during last 12 months	Where more families constructed sanitary latrines	Average no. of sanitary latrines constructed during last 12 months	where visits to the habitation increases			
						Persons travelling outside the habitation for cultural visit	NGOs/ VOs visiting	Representatives of various organizations	Police patrolling
Cuddapah	5	100	53	100	51	80	80	20	20
Vizianagram	5	40	10	0	0	20	0	0	0
<b>Andhra Pradesh</b>	<b>10</b>	<b>70</b>	<b>41</b>	<b>50</b>	<b>51</b>	<b>50</b>	<b>40</b>	<b>10</b>	<b>10</b>

Source: Field Survey

**Figure 10.1: Changes in the Living Conditions after PMGSY in Sample & Control Habitations**



Source : Figure generated from Tables 10.1 & 10.1 (a)

## 10.2. Improved Connectivity to Various Administrative Centers

PMGSY roads have provided better connectivity to various administrative centers and reduced the travel time to reach these centers. In the surveyed habitations of Andhra Pradesh better connectivity is reported by 73.33 percent of habitations to gram panchayat, 76.67 percent of habitations to block panchayat, 80 percent of habitations to district head quarters and to local police station. In all India level better connectivity is reported by 72.33 percent of habitations to gram panchayat, 86.76 percent of habitations to block panchayat, 86.23 percent of habitations to district head quarters and 81.15 percent of habitations to local police station. In Andhra Pradesh reduction in travel time is reported by 43.33 percent of habitations to reach gram panchayat, 63.33 percent of habitations to reach block panchayat, 56.67 percent of habitations to reach district head quarters and 60 percent of habitations to reach local police station. *Refer Table 10.2.*

In the sample habitations of Cuddapah district 66.67 percent of habitations reported better connectivity to gram panchayat, block panchayat, district head quarters and local police station. Reduction in travel time is reported

by 46.67 percent of habitations to reach gram panchayat, 80 percent of habitations to reach block panchayat, 66.67 percent of habitations to reach district head quarters and 73.33 percent of habitations to reach local police station. In the sample habitations of Vizianagram district better connectivity is reported by 80 percent of habitations to gram panchayat, 86.67 percent of habitations to block panchayat and 93.33 percent of habitations to district head quarters & local police station. Reduction in travel time is reported by 40 percent of habitations to reach gram panchayat, 46.67 percent of habitations to reach block panchayat, district head quarters and local police station.

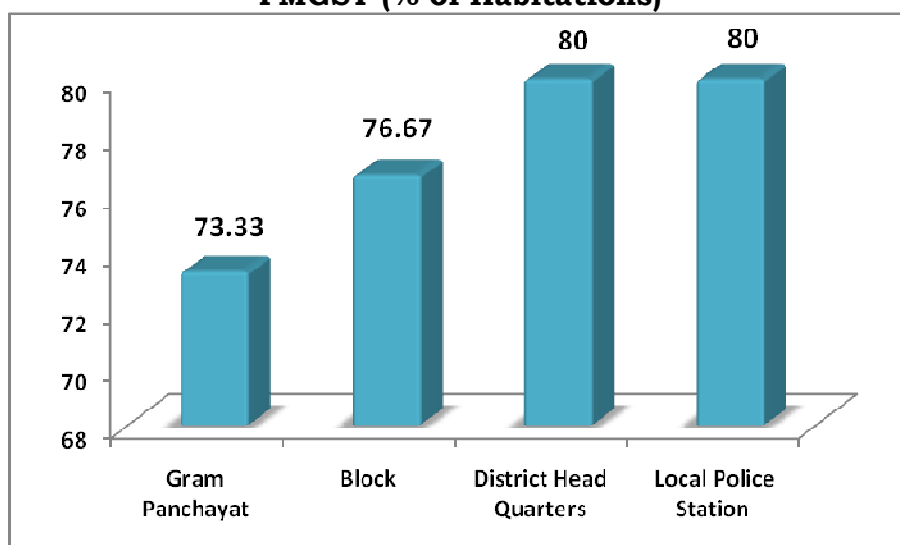
**Table 10.2. Improvement in connectivity to various administrative centres from sample habitations after PMGSY Road**

*(% of habitations)*

District	No. of Habitations Covered	Reported better connectivity to				Reported reduction in travel time to reach			
		Gram Panchayat	Block	District Head Quarters	Local Police Station	Gram Panchayat	Block	District Head Quarters	Local Police Station
Cuddapah	15	66.67	66.67	66.67	66.67	46.67	80	66.67	73.33
Vizianagram	15	80	86.67	93.33	93.33	40	46.67	46.67	46.67
<b>Andhra Pradesh</b>	<b>30</b>	<b>73.33</b>	<b>76.67</b>	<b>80</b>	<b>80</b>	<b>43.33</b>	<b>63.33</b>	<b>56.67</b>	<b>60</b>

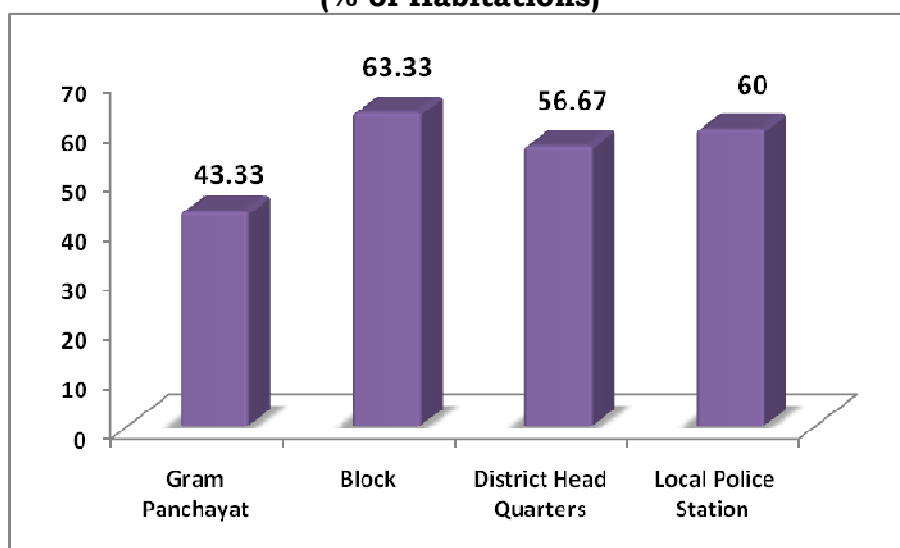
Source: Field Survey

**Figure 10.2: Improvement in Connectivity to Various Offices after PMGSY (% of Habitations)**



Source : Figure generated from Table 10.2

**Figure 10.3: Reduction in Travel Time to Various Offices after PMGSY  
(% of Habitations)**



Source : Figure generated from Table 10.2

### **10.3. Improvements in Public Distribution System (PDS)**

After the PMGSY road become operative in the sample habitations of Andhra Pradesh, 10 percent of habitations reported increases in number of ration shops and 13.33 percent of habitations reported increase in the accessing of ration shops outside the habitation and in National level the corresponding increases are 6.82 percent and 6.95 percent respectively. There is an increase in the households having ration cards in 76.67 percent of habitations. After PMGSY road, 83.33 percent of habitations reported increase in the quantity of wheat/rice distribution, 60 percent of habitations reported increase in the quantity of sugar and 76.67 percent of habitations reported increase in the quantity of kerosene oil. *Refer Table 10.3.*

Increase in the number of ration shops after PMGSY road is reported by 6.67 percent of habitations in Cuddapah district and 13.33 percent of habitations in Vizianagram district. Accessing of ration shops outside the habitation is increased in 13.33 percent of habitation in Cuddapah and Vizianagram districts. Increase in the number of households holding ration card is reported by 66.67 percent of habitations in Cuddapah district and 86.67 percent of habitations in Vizianagram district. Increase in the quantity of wheat/rice distributed is reported by 66.67 percent of

habitations in Cuddapah district and cent percent of habitations in Vizianagram district. Increase in the quantity of sugar distributed through ration shops is reported by 46.67 percent of habitations in Cuddapah district and 73.33 percent of habitations in Vizianagram district. Increase in the quantity of kerosene is reported by 66.67 percent of habitations in Cuddapah district and 86.67 percent of habitations in Vizianagram district.

**Table 10.3. Improvements/Changes in the status of PDS in sample habitations after PMGSY Road**

*(% of habitations Reported increase in )*

District	No. of Habitations Covered	No. of PDS shops	PDS shops outside accessed by the residents of habitation	Households holding ration cards	Increase in the quantity distributed to them		
					Wheat/ rice	Sugar	Kerosene oil
Cuddapah	15	6.67	13.33	66.67	66.67	46.67	66.67
Vizianagram	15	13.33	13.33	86.67	100	73.33	86.67
<b>Andhra Pradesh</b>	<b>30</b>	<b>10</b>	<b>13.33</b>	<b>76.67</b>	<b>83.33</b>	<b>60</b>	<b>76.67</b>

Source: Field Survey

In the case of control habitations of Andhra Pradesh, 10 percent of habitations reported increases in number of ration shops and 20 percent of habitations reported increase in the accessing of ration shops outside the habitation during the period. There is an increase in the households having ration cards in 60 percent of habitations. During the period, 60 percent of habitations reported increase in the quantity of sugar and 70 percent of habitations reported increase in the quantity of wheat/rice and kerosene. Refer Table 10.3 (a).

**Table 10.3 (a) Changes/Improvements in the status of PDS in control habitations during the period**

*(% of habitations Reported increase in )*

District	No. of Habitations Covered	No. of PDS shops	PDS shops outside accessed by the residents of habitation	Households holding ration cards	Increase in the quantity distributed to them		
					Wheat /rice	Sugar	Kerosene oil
Cuddapah	5	0	20	80	80	80	80
Vizianagram	5	20	20	40	60	40	60
<b>Andhra Pradesh</b>	<b>10</b>	<b>10</b>	<b>20</b>	<b>60</b>	<b>70</b>	<b>60</b>	<b>70</b>

Source: Field Survey

#### 10.4. Improvements in Rural Electrification

After the implementation of PMGSY road in the sample habitations of Andhra Pradesh, increase in the number of electricity connection is reported by 80 percent of habitations for household purpose, 63.33 percent of habitations for agricultural purposes, 16.67 percent of habitations for industrial/commercial purposes and 80 percent of habitations for street lights. *Refer Table 10.4.*

In the sample habitations of Cuddapah district increase in the number of electricity connection is reported by 6.67 percent of habitations for industrial/commercial purposes, 80 percent of habitations for street light posts and 86.67 percent of habitations for household purpose & agricultural purposes. In the sample habitations of Vizianagram district increase in the number of electricity connection is reported by 73.33 percent of habitations for household purpose, 40 percent of habitations for agricultural purposes, 26.67 percent of habitations for industrial/commercial purposes and 80 percent of habitations for street lights.

**Table 10.4. Improvements in rural electrification programme in sample habitations after PMGSY Road**

District	No. of Habitations Covered	Reported increase in no. of electricity connections			
		In households	For agriculture	Industrial/ Commercial	Of street light posts
Cuddapah	15	86.67	86.67	6.67	80
Vizianagram	15	73.33	40	26.67	80
<b>Andhra Pradesh</b>	<b>30</b>	<b>80</b>	<b>63.33</b>	<b>16.67</b>	<b>80</b>

(% of habitations)

Source: Field Survey

In the control habitations of Andhra Pradesh, increase in the number of electricity connection is reported by 60 percent of habitations for agricultural purposes and 80 percent of habitations for household purpose and for street lights.

**Table 10.4(a) Improvements in rural electrification programme in control habitations during the period**

*(% of habitations)*

District	No. of Habitations Covered	Reported increase in no. of electricity connections			
		In households	For agriculture	Industrial/ Commercial	Of street light posts
Cuddapah	5	80	80	0	80
Vizianagram	5	80	40	0	80
<b>Andhra Pradesh</b>	<b>10</b>	<b>80</b>	<b>60</b>	<b>0</b>	<b>80</b>

Source: Field Survey

In Cuddapah district increase in the number of electricity connection is reported by 80 percent of habitations for household purpose, agricultural purposes and for street lights. In Vizianagram district increase in the number of electricity connection is reported by 40 percent of habitations for agricultural purposes and 80 percent of habitations for household purpose and for street lights. Refer Table 10.4 (a).

# Appendix

Table A.1. Year of completion of PMGSY road

*(Nos.)*

District	No. of Districts Covered	Habitations Covered	Total		2001		2002		2003		2004		2005		2006		2007		2008	
			New	Upgrade	New	Upgrade	New	Upgrade	New	Upgrade	New	Upgrade	New	Upgrade	New	Upgrade	New	Upgrade	New	Upgrade
Cuddapah	1	15	10	5	0	0	0	0	0	0	0	0	5	1	3	0	2	3	0	1
Vizianagram	1	15	10	5	0	0	0	0	0	0	0	0	2	1	7	1	1	2	0	1
<b>Andhra Pradesh</b>	<b>2</b>	<b>30</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>10</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>2</b>

Source: Field Survey

Table A.2. Changes in public transport commuting services after PMGSY road was operative

*(% of habitations)*

District	Habitations Covered	Change in no. of vehicles plying in and out of the habitation on weekly basis																			
		Buses					Auto Rickshaws					Jeep/Car					Other Vehicles				
		Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more
Cuddapah	15	33.33	40	13.33	6.67	0	6.67	66.67	6.67	20	0	13.33	73.33	6.67	6.67	0	20	60	6.67	13.33	0
Vizianagram	15	73.33	20	6.67	0	0	0	73.33	0	20	20	6.67	80	0	6.67	6.67	6.67	73.33	0	13.33	13.33
<b>Andhra Pradesh</b>	<b>30</b>	<b>53.33</b>	<b>30</b>	<b>10</b>	<b>3.33</b>	<b>0</b>	<b>3.33</b>	<b>70</b>	<b>3.33</b>	<b>20</b>	<b>10</b>	<b>10</b>	<b>76.67</b>	<b>3.33</b>	<b>6.67</b>	<b>3.33</b>	<b>13.33</b>	<b>66.67</b>	<b>3.33</b>	<b>13.33</b>	<b>6.67</b>

Source: Field Survey

Table A.3. Changes in public transport commuting services over the period in Control Habitations

(No. of habitations)

District	Control Habitations Covered	Change in no. of vehicles plying in and out of the habitation on weekly basis																			
		Buses					Auto Rickshaws					Jeep/Car					Other Vehicles				
		Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more
Cuddapah	5	40	0	60	0	0	40	0	20	40	20	80	0	0	20	0	80	0	0	20	0
Vizianagram	5	60	40	0	0	0	60	40	0	0	0	80	20	0	0	0	100	0	0	0	0
Andhra Pradesh	10	50	20	30	0	0	50	20	10	20	10	80	10	0	10	0	90	0	0	10	0

Source: Field Survey

Table A.4. Changes in public transport load carriage services after PMGSY road was operative

(% of habitations)

District	Change in no. of vehicles plying in and out of the habitation on weekly basis																													
	Light Truck					Medium Truck					Heavy Truck					Pick-up truck/van					Tractor-Trolley					Other vehicles				
	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more
Cuddapah	53.33	20	6.67	20	6.67	60	0	20	20	13.33	73.33	6.67	13.33	6.67	6.67	66.67	6.67	13.33	13.33	13.33	20	46.67	0	33.33	13.33	40	40	0	20	6.67
Vizianagram	40	60	0	0	0	66.67	33.33	0	0	0	66.67	33.33	0	0	0	26.67	60	0	13.33	13.33	13.33	73.33	0	13.33	6.67	26.67	60	0	13.33	13.33
Andhra Pradesh	46.67	40	3.33	10	3.33	63.33	16.67	10	10	6.67	70	20	6.67	3.33	3.33	46.67	33.33	6.67	13.33	13.33	16.67	60	0	23.33	10	33.33	50	0	16.67	10

Source: Field Survey

**Table A.5. Changes in public transport load carriage services over the period in Control Habitations**

*(No. of habitations)*

District	Change in no. of vehicles plying in and out of the habitation on weekly basis																														
	Light Truck					Medium Truck					Heavy Truck					Pick-up truck/van					Tractor-Trolley					Other vehicles					
	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	Nil to Nil	Nil to 1 or more	Same nos. as before	Increased nos.	Increased to double or more	
Cuddapah	20	0	60	20	0	40	0	40	20	0	100	0	0	0	0	100	0	0	0	0	20	0	20	60	20	100	0	0	0	0	0
Vizianagram	60	20	0	20	20	100	0	0	0	0	100	0	0	0	0	80	20	0	0	0	60	20	0	20	20	80	20	0	0	0	0
Andhra Pradesh	40	10	30	20	10	70	0	20	10	0	100	0	0	0	0	90	10	0	0	0	40	10	10	40	20	90	10	0	0	0	0

Source: Field Survey

**Table A.6. Change in access to facilities/services by farmers in sample habitations after the PMGSY Road**

*(% of households)*

District	No. of households own agricultural land	Sourcing of Fertilizers/Pesticides		Sourcing of Improved Seeds		Access to farmers cooperative society and banking				Access to agricultural extension services		
		shifting to nearby market outside the habitation	shifting to distant market outside the habitation	shifting to nearby market outside the habitation	shifting to distant market outside the habitation	Acquired membership of farmers cooperative	holding bank account	availed agriculture loan	increase in amount of loan availed	increase in number of visits by agriculture extension workers	receiving improved seeds	receiving training/exposure visits
Cuddapah	190	1.58	0.53	0	1.05	4.74	6.84	4.21	20.51	1.58	4.74	2.11
Vizianagram	141	0.71	0	0.71	0	4.26	2.84	2.13	40	1.42	0.71	0.71
<b>Andhra Pradesh</b>	<b>331</b>	<b>1.21</b>	<b>0.3</b>	<b>0.3</b>	<b>0.6</b>	<b>4.53</b>	<b>5.14</b>	<b>3.32</b>	<b>21.69</b>	<b>1.51</b>	<b>3.02</b>	<b>1.51</b>

Source: Field Survey

**Table A.7. Change in access to facilities-services by farmers in control households during the period**

(% of households)

District	No. of households own agricultural land	Sourcing of Fertilizers/Pesticides		Sourcing of Improved Seeds		Access to farmers cooperative society and banking				Access to agricultural extension services		
		% of HH reported shifting to nearby market outside the habitation	% of HH reported shifting to distant market outside the habitation	% of HH reported shifting to nearby market outside the habitation	% of HH reported shifting to distant market outside the habitation	% of HH acquired membership of farmers cooperative during the current period	% of HH reported holding bank account during the current period	% of HH reported availed agriculture loan during the current period	% of HH reported increase in amount of loan availed during the current period	% of HH reported increase in number of visits by agriculture extension workers during the current period	% of HH reported receiving improved seeds during the current period	% of HH reported receiving training/exp osure visits during the current period
Cuddapah	55	0	0	0	0	0	0	5.45	0	0	0	0
Vizianagram	25	0	0	0	0	8	4	12	0	0	0	0
<b>Andhra Pradesh</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2.5</b>	<b>1.25</b>	<b>7.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: Field Survey

**Table A.8. Distribution of increase in employment opportunities for sample households after PMGSY Road (No. of days)**

District	No. of HH Covered	% HH reported Increase in no. of days employment in principal occupation					% HH reported Increase in no. of days employment in other occupation					% HH reported Increase in total days employed				
		Upto 50	51 to 100	101 to 150	151 to 200	Above 200	Upto 50	51 to 100	101 to 150	151 to 200	Above 200	Upto 50	51 to 100	101 to 150	151 to 200	Above 200
Cuddapah	375	27.2	23.47	5.33	2.67	0.8	1.6	0.27	0.27	0	0	28.27	23.73	5.6	2.67	0.8
Vizianagram	375	15.47	22.67	4.27	2.4	2.4	0.27	0	0	0	0	15.73	22.67	4.27	2.4	2.4
<b>Andhra Pradesh</b>	<b>750</b>	<b>21.33</b>	<b>23.07</b>	<b>4.8</b>	<b>2.53</b>	<b>1.6</b>	<b>0.93</b>	<b>0.13</b>	<b>0.13</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>23.2</b>	<b>4.93</b>	<b>2.53</b>	<b>1.6</b>

Source: Field Survey

**Table A.9. Distribution of increase in employment opportunities for control households during the period (No. of days)**

*(% of households)*

District	No. of Control HH Covered	Reported Increase in No. of days employment in principal occupation					Reported Increase in No. of days employment in other occupation					Reported Increase in total days employed				
		Upto 50	51 to 100	101 to 150	151 to 200	Above 200	Upto 50	51 to 100	101 to 150	151 to 200	Above 200	Upto 50	51 to 100	101 to 150	151 to 200	Above 200
Cuddapah	125	41.6	18.4	4	0.8	0	0	0	0	0	0	41.6	18.4	4	0.8	0
Vizianagram	125	30.4	22.4	5.6	0.8	3.2	3.2	0	0	0	0.8	32	23.2	5.6	0.8	3.2
<b>Andhra Pradesh</b>	<b>250</b>	<b>36</b>	<b>20.4</b>	<b>4.8</b>	<b>0.8</b>	<b>1.6</b>	<b>1.6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.4</b>	<b>36.8</b>	<b>20.8</b>	<b>4.8</b>	<b>0.8</b>	<b>1.6</b>

Source: Field Survey

**Table A.10. Change in connectivity to Health facilities from sample habitations after PMGSY Road**

*(% of habitations)*

District	No. of habitations Covered	All weather pucca road connectivity			Reduction in travel time to reach the nearest health facility in case of maternity emergencies	Reduction in travel time to reach the nearest health facility in case of maternity emergencies			Reduction in travel time to reach the nearest health facility in case of serious physical injuries. Accidents	Reduction in travel time to reach the nearest health facility in case of serious physical injuries. Accidents			Reduction in travel time to reach the nearest health facility in case of other medical emergencies	Reduction in travel time to reach the nearest health facility in case of other medical emergencies		
		Public Health Centre (PHC)	Govt. Hospital	Pvt. Hospital/ Nursing home		Upto 30 minutes	30-60 minutes	More than 60 minutes		Upto 30 minutes	30-60 minutes	More than 60 minutes		Upto 30 minutes	30-60 minutes	More than 60 minutes
Cuddapah	15	73.33	66.67	60	86.67	66.67	13.33	6.67	80	60	6.67	13.33	86.67	66.67	13.33	6.67
Vizianagram	15	100	93.33	93.33	73.33	60	6.67	6.67	73.33	60	6.67	6.67	73.33	60	6.67	6.67
<b>Andhra Pradesh</b>	<b>30</b>	<b>86.67</b>	<b>80</b>	<b>76.67</b>	<b>80</b>	<b>63.33</b>	<b>10</b>	<b>6.67</b>	<b>76.67</b>	<b>60</b>	<b>6.67</b>	<b>10</b>	<b>80</b>	<b>63.33</b>	<b>10</b>	<b>6.67</b>

Source: Field Survey

**Table A.11. Change in connectivity to Health facilities from control habitations during the period**

*(% of habitations)*

District	No. of habitations Covered	All weather pucca road connectivity			Reduction in travel time to reach the nearest health facility in case of maternity emergencies	Reduction in travel time to reach the nearest health facility in case of maternity emergencies			Reduction in travel time to reach the nearest health facility in case of serious physical injuries. Accidents	Reduction in travel time to reach the nearest health facility in case of serious physical injuries. Accidents			Reduction in travel time to reach the nearest health facility in case of other medical emergencies	Reduction in travel time to reach the nearest health facility in case of other medical emergencies		
		Public Health Centre (PHC)	Govt. Hospital	Pvt. Hospital/ Nursing home		Upto 30 minutes	30-60 Minutes	More than 60 Minutes		Upto 30 minutes	30-60 Minutes	More than 60 Minutes		Upto 30 minutes	30-60 Minutes	More than 60 Minutes
Cuddapah	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vizianagram	5	20	20	20	40	20	0	20	40	20	0	20	40	20	0	20
<b>Andhra Pradesh</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>10</b>

Source: Field Survey

**Table A.12. Percentage of children enrolled in sample habitations before and after PMGSY road**

*(% of children of eligible age enrolled in a )*

District	No. of Households Covered	primary school before PMGSY Road		primary school after PMGSY Road		secondary school before PMGSY Road		secondary school after PMGSY Road		higher/sr. secondary school before PMGSY Road		higher/sr. secondary school after PMGSY Road		did attend a college before PMGSY Road		did attend a college after PMGSY Road	
		male	female	male	female	male	female	male	female	male	female	male	female	male	female	male	female
Cuddapah	375	99.05	100	97.37	97.67	100	100	100	100	100	100	100	100	100	100	0	100
Vizianagram	375	95.83	92.54	97.44	98.67	87.72	74.51	100	96	100	100	100	100	100	100	80	0
<b>Andhra Pradesh</b>	<b>750</b>	<b>97.74</b>	<b>96.62</b>	<b>97.4</b>	<b>98.31</b>	<b>91.14</b>	<b>81.69</b>	<b>100</b>	<b>97.44</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>80</b>	<b>100</b>

Source: Field Survey