CHAPTER V

SOCIO-ECONOMIC IMPACT OF TULASHI DAM ON STUDY REGION

CHAPTER V

5.1 INTRODUCTION

In the present chapter socio-economic impact of Tulashi dam on study region has been investigated through various aspects of population in the region. Demographical characteristics with its several significant components like age, sex, caste, education, structure of families are looked into thoroughly. Socio-economic amenities to the population of case studies are also been verified if there is change in pre and post dam construction. Amenities like television, refrigerators, two-wheelers, four-wheelers, telephone, mobile phone, and house structure, investment in shares and insurance, livestock barn are verified in sample villages. The brief review of dam induced problems is also duly been taken with respect of agricultural and social perspectives.

5.2 DEMOGRAPHICAL CHARACTERISTICS

Demographical characteristics of the population of selected villages scrutinized in respect of age and sex composition, caste composition, education and structure of families. The detailed account of the same has been given as follows

Age wise Classification of Respondents

Age is one of the major demographic determinant affect agricultural practices in populous country like India. As far as socio-economic development of particular region is concerned, age group wise classification is relevant one, as well as it also important for obtaining fruitful statistics of dependent and independent population of concerned region. In this section effort has taken to divide the respondents according to age groups. The situation of respondents in the village Chande is as the maximum respondents come under the age group of 36-60 and its per cent share is around 66%. Only 5 respondents includes in the age group of 1-18. The village Savarde Dumala and Savarwadi are informed that the high proportion of respondents occurred in the age group of 36-60 and their figures are 33 and 35 respectively. In both of these villages small proportion of respondents fall in the age group of 0-18 and that is 3 respectively. As far as senior citizen's is concerned only 20 per cent responds

belonging to it. Table: 5.1 emphasized the consolidated characteristics of age group of respondents. It represents that out of total 195 respondents highest proportion of respondents, that is 111 shown in the active age group (36-60). Considerable proportion of respondents comes under the age group of senior citizens i.e. 40 and its percent share is around 20%. In the child hood and quite younger age groups that are 0-18 and 19-35 respondents' proportion are around 5% and 19% respectively.

Table: 5.1 Age-wise classifications of respondents

Age Group	No.of Respondents	Percentage
1 - 18	11	5.64
19 - 35	33	16.92
36 - 60	111	56.92
61 & Above	40	20.51
Total	195	100.00

Source: Based on Fieldwork Data.

Caste Composition of Respondents

Caste is also one of the predominant social determinants influencing social structure of the country like India. Above tables are showing the caste wise classification of respondents in the concerned villages. It is informed that maximum respondents belonging to Maratha community in the village Chande, its per cent share is around 74% Sutar and chambhar castes are showing lowest proportion in this same village. The information explaining that contribution of Maratha community is high in the village Saverwadi and Saverde-Dumala. Out of total 65 respondents 40 and 46 respondents belonging to Maratha castes in the village Saverde-Du. And Saverwadi respectively. All other castes are having not more than 10% share in all villages. Table: 5.2 has focused on the combined distribution of respondents on the basis of caste. Out of 195 respondents 134 concerned to Maratha community and its per cent share is around 63% . Second and third largest caste groups are Mahar and Nhavi and their per cent share is around 10% and 4% respectively.

Table: 5.2 Caste compositions of respondents

Caste	No.of Respondents	Percentage
Maratha	134	68.72
Mahar	20	10.26
Matang	4	2.05
Chambhar	7	3.59
Nhavi	8	4.10
Bramhin	4	2.05
Dhangar	0	0.00
Muslim	1	0.51
Sutar	7	3.59
Others	10	5.13
Total	195	100.00

Source: Based on Fieldwork Data.

Educational status of Respondents

Education has paramount importance in the development of human life. Education is able to bring significant and positive change in human behavior and thinking. Status of respondents concerned to education has evaluated by categorizing in various groups like as 1) illiterate group 2) 1-7th standard group (primary school) 3) high School (8-10th) 3) higher secondary school(11-12th) 4) Graduation and 6) post graduation. The detail account has enumerated as below.

Table: 5.3 Education Status of respondents

Caste	No.of Respondents	Percentage
Illiterate	32	16.41
Primary	41	21.03
High School	61	31.28
Higher Secondary	35	17.95
Graduation	20	10.26
Post-Graduation	6	3.08
Total	195	100

Source: Based on Fieldwork Data.

Above tables presenting that out of total sample in all above mentioned villages 61 respondents have got high school level education and 32 are illiterate. Higher secondary and consequently graduation have completed by 35 and 20 respondents respectively. Smallest proportion oif respondents have comes under the category of post graduation. Majority of illiterate respondents observed in the village Chande, that are 14. Maximum proportion of graduates and post graduates are located in village Saverwadi. The village Saverwadi is located much nearer to Kolhapur city than other sample villages. Lowest

number of illiterates occurred in village Saverde du. This may conclude that majority of respondents have Primary ands secondary education followed by Higher secondary education.

Structure of Families

It is observed that total sample respondents are divided into two categories one is Joint family and another is nuclear family. Basically in developing country like India joint family structure is supporting to provide human workforce to the development of agricultural sector. Above tables are exposing the scenario of family structure of the sample respondents in the study area. It shows that out of total families 69.23% of families are in the category of joint family and rest of 30.77% families are occurred in the category of nuclear family structure.

Table: 5.4 Natures of Families

Types of Family	Total	Percentage
Joint Family	135	69.23
Nuclear	60	30.77
Total	195	100.00

Source: Based on Fieldwork Data.

It is shown that out of total 65 families in the village Chande 76.92% of families' falls under the category of joint families. Lowest number of Joint families occupied in the village Saverde Du., its share is 61% . Maximum number of nuclear families observed in the Saverde du. And its per cent share is 40%. Thus majority of respondents are supporting to run joint family culture, which is one of the distinguished characteristics of Indian rural society rather than nuclear families. They are going with joint family, because it is always better to sustain in rural areas as well as it is supporting factor to flourish agriculture. So it reveals the truth that in this region still joint families are dominant one.

5.3 SOCIO-ECONOMIC AMENITIES

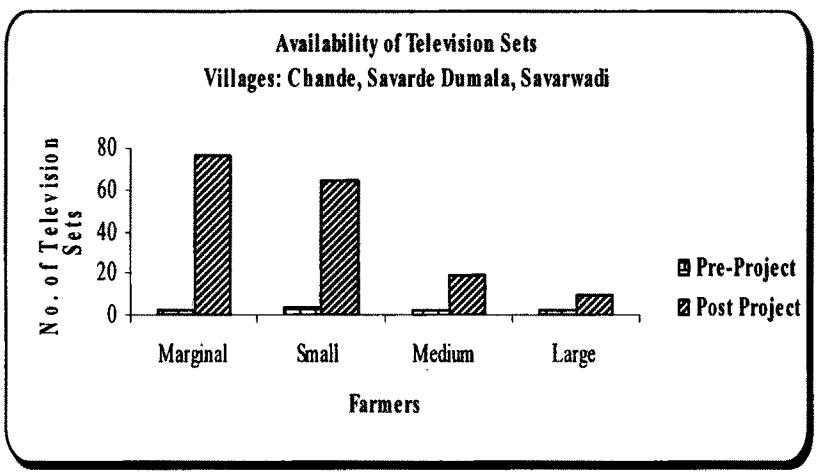
The availability Television sets depicting the economic prosperity of respondents in the command area of Tulasi irrigation project. It is shown that in pre project period there were only 09 sets of television was owned by farmers, of which small farmers had maximum numbers i.e. 03. The development of irrigation through Tulasi project has brought significant positive change in the economic wealth of society. In post project period the number of television set have tremendously increased and reached up to 168 out of this marginal and small farmers are having more than half share i.e.75and 65 respectively (table:5.5).

Table: 5.5 Availability of Television Sets

Particulars	Pre-Project	Post Project
Marginal Farmers	02	75
Small Farmers	03	65
Medium Farmers	02	19
Large Farmers	02	9
Total	**09**	**168**

Source: Based on Fieldwork Data.

Figure: 5.1 Availability of Television Sets



Source: Based on Fieldwork Data.

The availability of Refrigerators is exposing the economic prosperity of respondents in the command area of Tulasi irrigation project. It is shown that in pre project period there were no single farmer had Refrigerator in their home. The irrigation development has brought confidence in to the

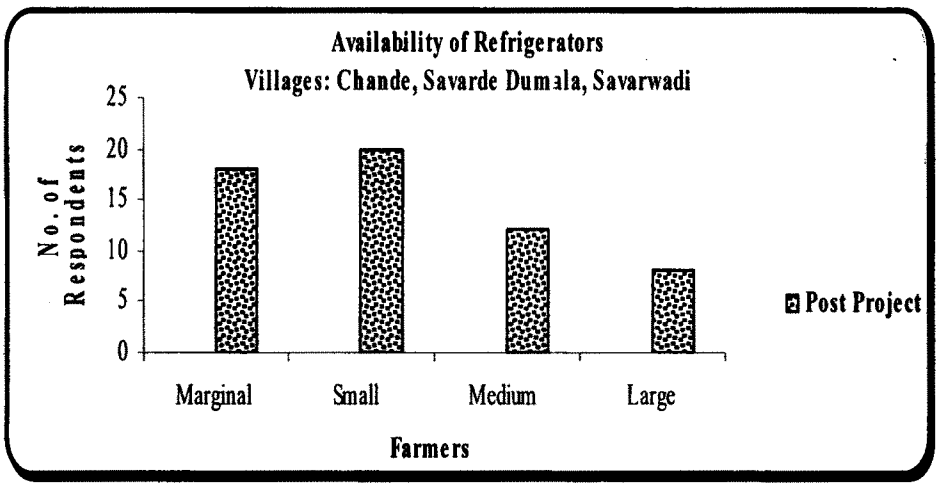
farmers to cultivate cash crops in this region; consequently the status of living of farmers is enriched. In post project period the number of Refrigerators have considerably increased and reached up to 58, out of this small and marginal farmers are having more than half share i.e.20 and 18 respectively (table:5.6).

Table: 5.6 Availability of Refrigerators

Particulars	Pre-Project	Post Project
Marginal Farmers	0	18
Small Farmers	0	20
Medium Farmers	0	12
Large Farmers	0	8
Total	**0**	58

Source: Based on Fieldwork Data.

Figure: 5.2 Availability of Refregerators



Source: Based on Fieldwork Data.

The above table describes the pre project and post project status of 'Two wheelers' in selected sample villages. Two wheelers has become a common means of transportation in rural India. It is observed that in pre project period there were only 13 farmers having their own vehicle, of which medium and large farmers owned 4 vehicles respectively. In post project period the scenario regarding to ownership of vehicles has considerably changed in this region. The number of vehicles has reached up to 97 of which small farmers are having 42 two wheelers (table:5.7). It may conclude that economic welfare

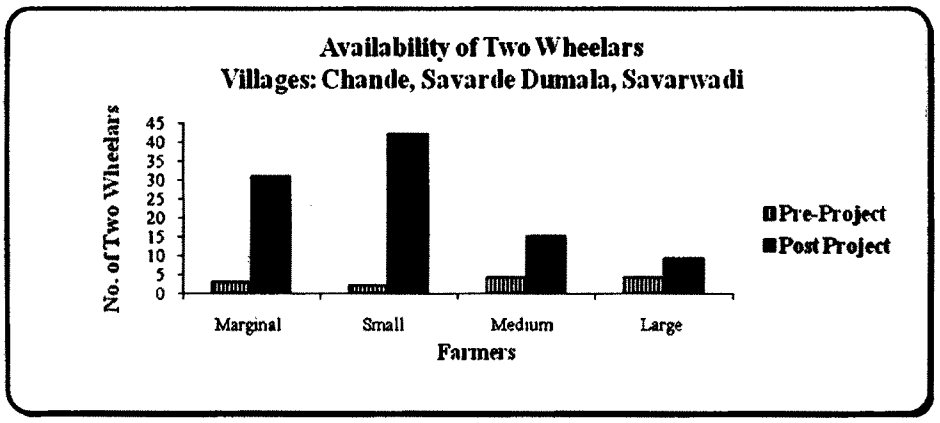
accelerates farmers to have such kind of amenities for betterment of society. It is also sign of good standard of living.

Table: 5.7 Availability of Two-wheelers

Particulars	Pre-Project	Post Project
Marginal Farmers	3	31
Small Farmers	2	42
Medium Farmers	4	15
Large Farmers	4	9
Total	**13**	**97**

Source: Based on Fieldwork Data.

Figure: 5.3 Availability of Two Wheelers



Source: Based on Fieldwork Data.

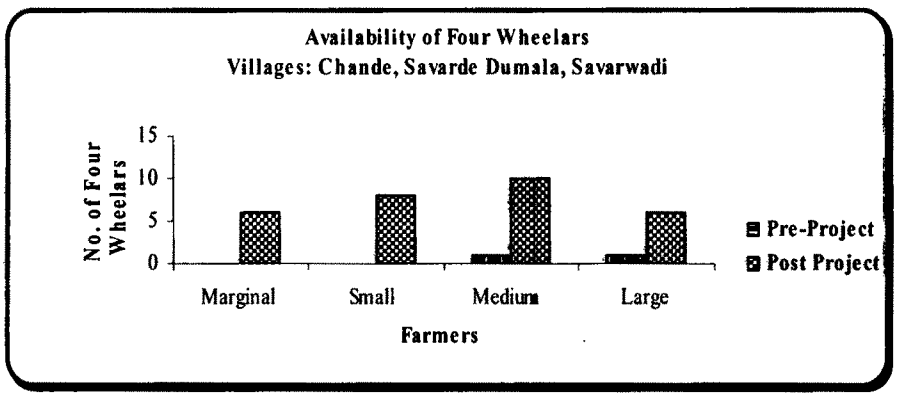
The pre project and post project status of ownership of 'Four wheelers' among the farmers in selected sample villages has enumerated in table 5.8. Now a day's 'Four wheelers' like Jeep, Tempos are utilizing for agro-product transportation in our country. It is evaluated that in pre project period there were only 2 farmers having their own vehicle, of which medium and large farmers owned 1 vehicle respectively. In post project period the picture concerned to ownership of 'Four wheelers' has significantly changed in this region. The number of vehicles has reached up to 30, of which medium farmers are having 10.

Table: 5.8 Availability of Four-wheelers

Particulars	Pre-Project	Post Project
Marginal Farmers	0	6
Small Farmers	0	8
Medium Farmers	1	10
Large Farmers	1	6
Total	**2**	**30**

Source: Based on Fieldwork Data.

Figure: 5.4 Availability of Four Wheelers



Source: Based on Fieldwork Data.

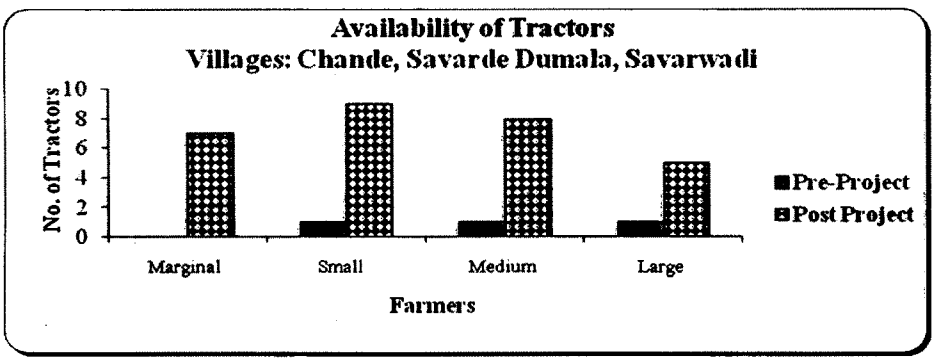
The utilization of Tractors is coming under the modern agro-techniques and it has started since the initiation of 'Green revolution' in our country. Here an attempt is made to focus on the ownership of Tractors in pre project and post project period in samples villages. Pre project statistics shows that there were only 03 tractors owned by respondents, of which medium, large and small farmers had single tractor respectively (table:5.9). It is exposed that maximum farmers were doing their agriculture practice with traditional means. After the execution of Tulasi irrigation project, farmers are slowly and steadily turning towards adopt modern agro-techniques, consequently the number of Tractors has tremendously risen in this region. In post project period the total number of Tractors is become 29, of which small and medium farmers own 9 and 8 Tractors respectively.

Table: 5.9 Availability of Tractors

Particulars	Pre-Project	Post Project
Marginal Farmers	0	7
Small Farmers	1	9
Medium Farmers	1	8
Large Farmers	1	5
Total	**3**	**29**

Source: Based on Fieldwork Data.

Figure: 5.5 Availability of Tractors



Source: Based on Fieldwork Data.

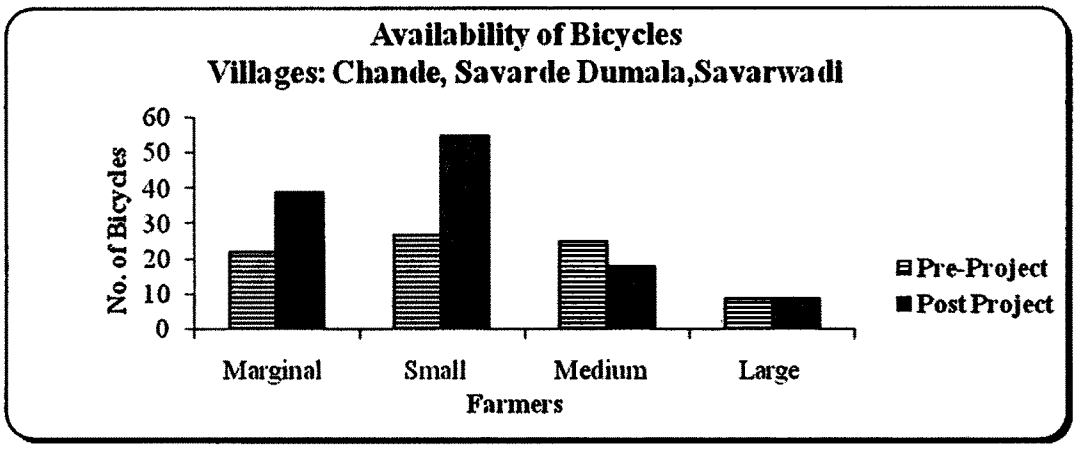
The table 5.10 highlights the pre project and post project position of ownership of 'Bicycles' in selected sample villages. 'Bicycle' is used for small distance transportation in rural region. It is observed that in pre project period there were 83 farmers having their own Bicycle, of which small and marginal farmers owned 27 and 22 Bicycles respectively. In post project period the situation regarding to ownership of Bicycles have considerably changed in this region. The number of Bicycles has increased up to 121, of which small farmers are having 55.

Table: 5.10 Availability of Bicycles

Particulars	Pre-Project	Post Project
Marginal Farmers	22	39
Small Farmers	27	55
Medium Farmers	25	18
Large Farmers	9	9
Total	**83**	**121**

Source: Based on Fieldwork Data.

Figure: 5.6 Availability of Bicycles.



Source: Based on Fieldwork Data.

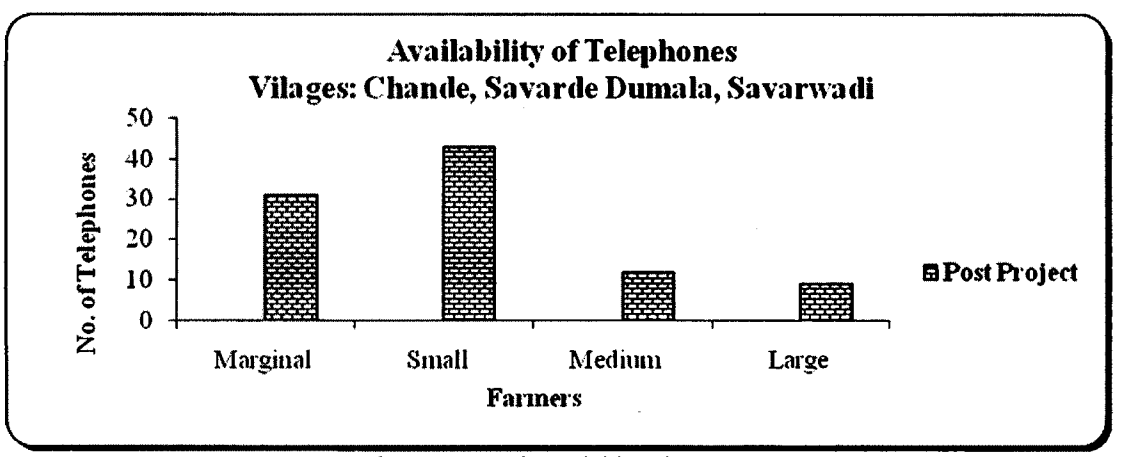
The pre project and post project status of Telephone ownership of in selected sample villages has described in table 5.11. Telephone has become a one of the fastest means of communication. It is evaluated that in pre project period there were no single farmer having their own Telephone. In post project period the number of farmers having their own Telephone has increased and become 95. Out of this total small and marginal farmers are contributing maximum share.

Table: 5.11 Availability of Telephones

Particulars	Pre-Project	Post Project
Marginal Farmers	0	31
Small Farmers	0	43
Medium Farmers	0	12
Large Farmers	0	9
Total	**0**	**95**

Source: Based on Fieldwork Data.

Figure: 5.7 Availability of Telephones



Source: Based on Fieldwork Data.

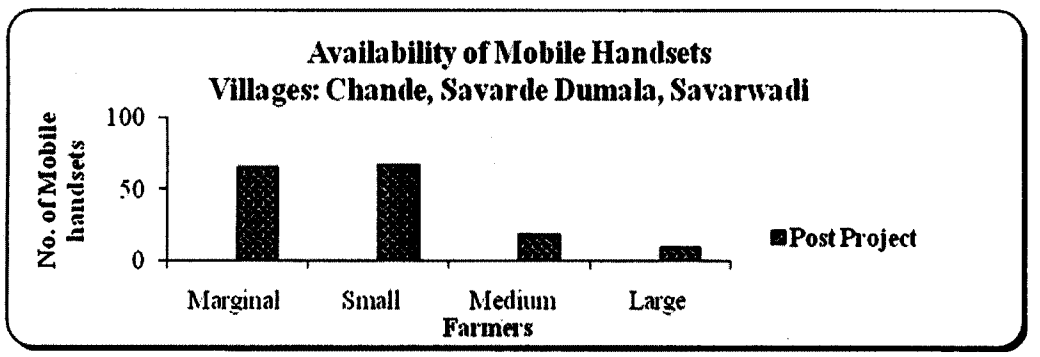
The table 5.12 presents pre project and post project status of Mobile handsets ownership of respondents in selected sample villages. It is also one of the fastest means of communication and farmer can get resent information through SMS about prices of agro products and modern agriculture techniques. It is observed that in pre project period there was no single farmer having their Mobile handset. In post project period about 121 farmers are using Mobile handsets. Out of this total small and marginal farmers are contributing maximum share.

Table: 5.12 Availability of Mobile-phones

Particulars	Pre-Project	Post Project
Marginal Farmers	0	39
Small Farmers	0	55
Medium Farmers	0	18
Large Farmers	0	9
Total	**00**	**121**

Source: Based on Fieldwork Data.

Figure: 5.8 Availability of Telephones



Source: Based on Fieldwork Data.

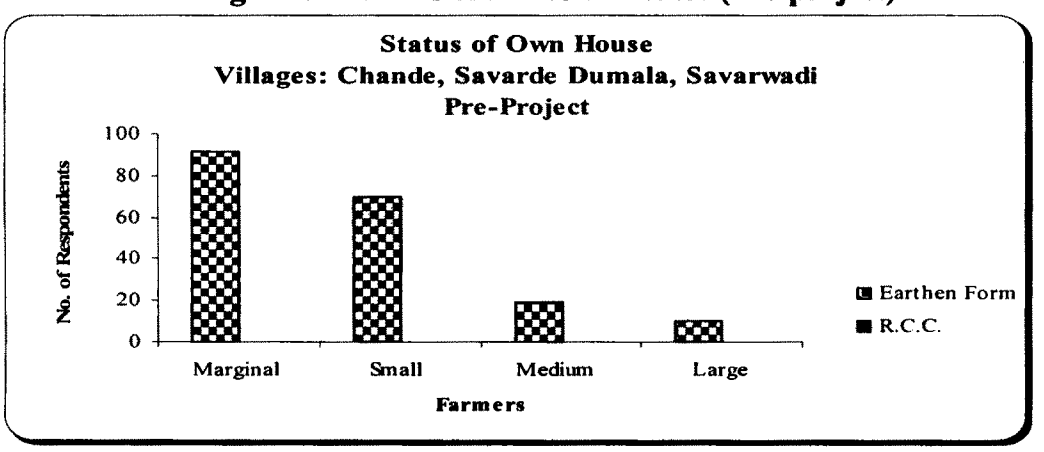
The status of own house of respondents in pre project and post project period is enumerated in table 5.13. It is shown that in pre project period the houses of farmers were made by compact soil bricks and earthen material. However in post project period due to the economic prosperity through agricultural development, farmers turning towards construct the R.C.C homes in sample villages.

Table: 5.13 Status of House Structure

Particulars	Pre-Project		Post Project	
	Earthen Form	R.C.C.	Earthen Form	R.C.C.
Marginal Farmers	92	0	55	34
Small Farmers	70	0	44	35
Medium Farmers	19	0	8	11
Large Farmers	10	0	4	4
Total	191	**0**	**111**	**84**

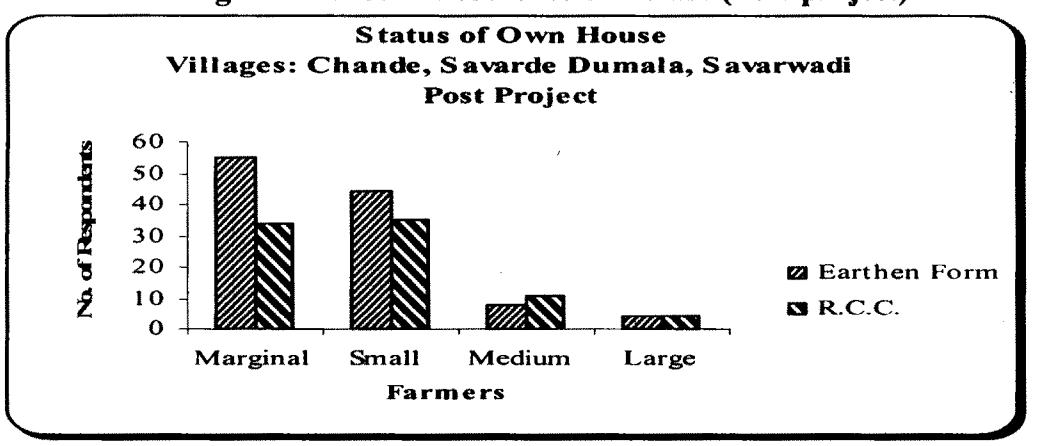
Source: Based on Fieldwork Data.

Figure:5.9 Status of House Structure (Pre-project)



Source: Based on Fieldwork Data.

Figure:5.10 Status of House Structure (Post-project)



Source: Based on Fieldwork Data.

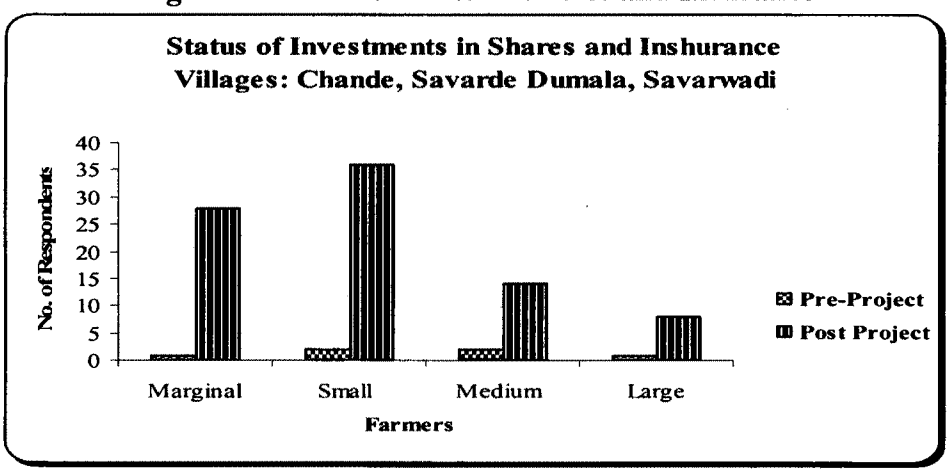
The table 5.14 describes the pre project and post project status of investments in shares and insurance of respondents. Now a day's people are willing to do savings through investment in shares of various companies and institutions as well as obtain life insurance for security purpose. It is observed that in pre project period there were only 06 farmers have invested money in the same. In post project period the scenario regarding to investments has noticeably changed in this region. The number of respondents has reached up to 86 of which small farmers are stood first. It may conclude that, in post project period the obtained economic prosperity encourages farmers to do the same.

Table: 5.14 Investments in Shares and Insurance

Particulars	Pre-Project	Post Project
Marginal Farmers	1	28
Small Farmers	2	36
Medium Farmers	2	14
Large Farmers	1	8
Total	**6**	**86**

Source: Based on Fieldwork Data.

Figure: 5.11 Investments in Shares and Insurance



Source: Based on Fieldwork Data.

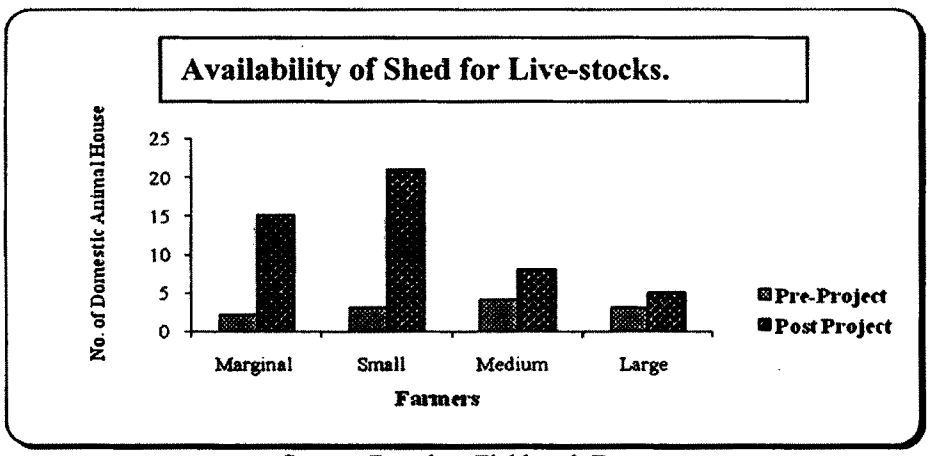
Table 5.15 represents the status of separate livestock-shed owned by individual farmers. It is seen that there is considerable growth in form of separate shed for animals have been built after the project.

Table: 5.15 Availability of Separate Shed for Live-stocks (Barn)

Particulars	Pre-Project	Post Project
Marginal Farmers	2	15
Small Farmers	3	21
Medium Farmers	4	8
Large Farmers	3	5
Total	**12**	**49**

Source: Based on Fieldwork Data.

Figure: 5.12 Availability of Separate Shed for Live-stocks



Source: Based on Fieldwork Data.

5.4 DAM INDUCED PROBLEMS IN STUDY AREA

Dams are not only meant for development of irrigation for agriculture but are also significant in reduction of river floods, to increase the supply of groundwater storage by recharging subsurface infiltration, to support the biodiversity around the water reservoirs, to facilitate the water ways one of the chipset means of travels. However, the dams are also proved responsible for arising several problems. The problems generally can be categorized in physical problems and social one. Therefore, the effect of problems can mainly be seen at dam site itself, in upstream of catchment area and downstream command area. The huge water storage on surface mainly

causes the loss of forest, grass land agricultural lands; moreover it causes the evacuation of native farmers.

Agricultural Problems

As we know soil deterioration by degrading natural properties of soil mainly taken place by water logging and salinity in and around the dam area. However, extension of this problem in present study area is not much or considerable. Some linear patches in valley and along the dam site are occurring with water logging and saline soils as we see in the hill shed map of the basin (fig.5.13). I some cases extensive lifting of water from river channels and open wells that also causes farm lands drenched beyond repairing.

Undulating topography is beneficial for collecting water in saucer shape elongated basin, however, it has become main hurdle which bar lifting of water to the far site of agriculture lands. Moreover, undulated topography does not facilitating the construction of artificial canals and distributaries in the command area.

Social Problems

Social problems mainly caused by the submergence of some villages and farm lands. Tulashi River at Burambali village submerging total area of 1995 acres, out of which 1008 acres of land was under cultivation. It is therefore; about 900 persons are affected by the dam. However, rehabilitation these people are duly taken place at Parite and Kuditre village. At the new sites roads, school and other amenities are provided, however, there are some grievances of people migrated there asking for more compensation in the form of permanent government job and monitory help.

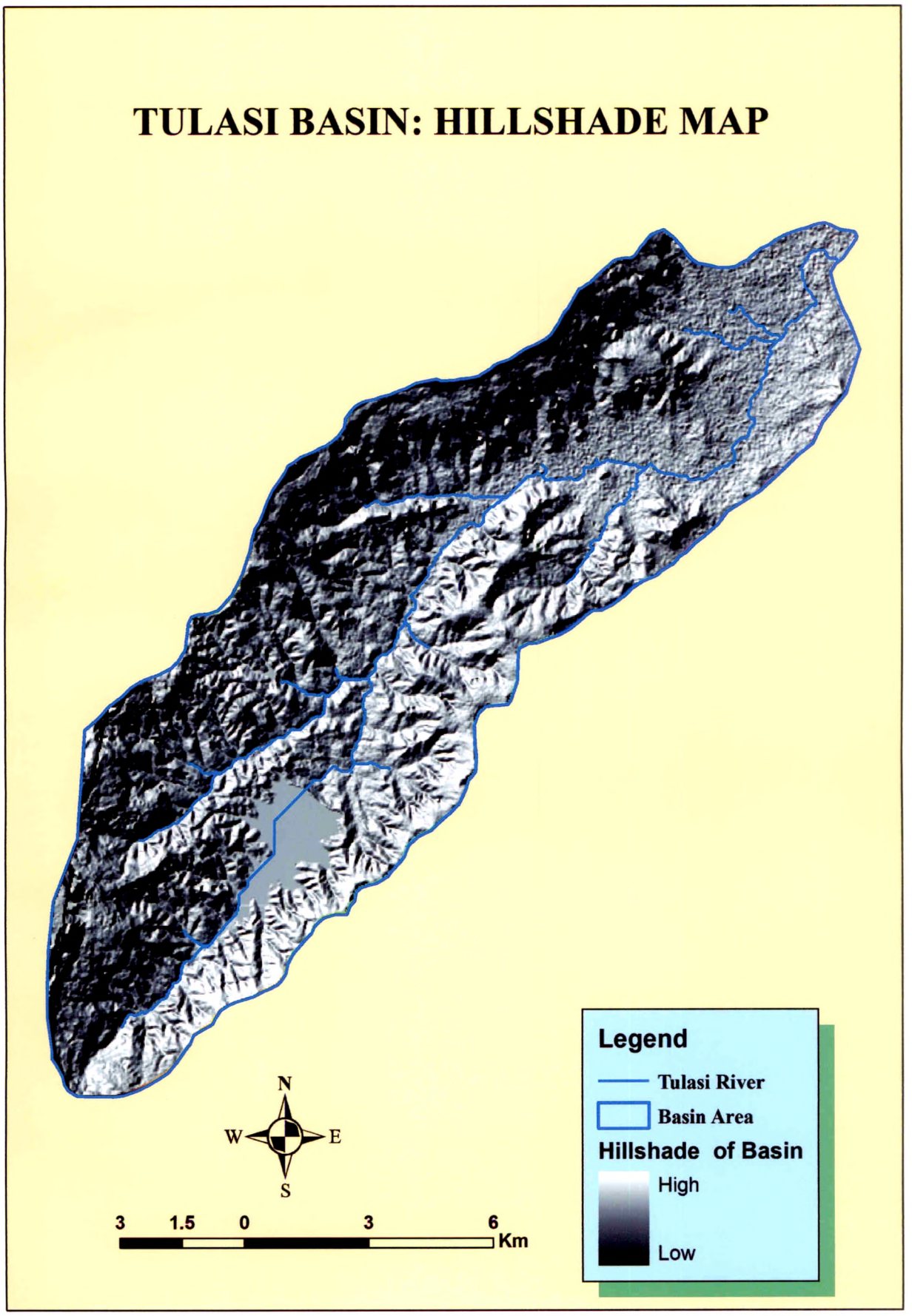


Figure:5.13 Tulashi Basin Hill Shade Map.

5.5 REFERENCES

Gurjar, R. K.,(1994),: "Irrigation facilities and agriculture", Scientific Publishers, Jodhpur.

Gurjar, Ram Kumar, (1987): "Irrigation for agricultural modernization", Scientific Publishers, New Delhi.

Maharashtra, State Gazetteers, Kolhapur District (1960): Published By Directorate Of Government Of Printing, Stationary And Publications, Maharashtra State Mumbai.

Maharashtra, State Gazetteers, Kolhapur District (1989): Published By Directorate Of Government, Printing, Stationary And Publication, Government Of Maharashtra, Mumbai.

Patil, P.B., (1983):"Agriculture Land Use And Land Degradation In The Panchganga Basin: A Geographical Appraisal" Unpublished Ph.D. Thesis Shivaji University Kolhapur

Pawar, C.T., Pawar D.H. & et al (2008):.A Geographical Analysis of Water Quality for Irrigation in Panchaganga Basin. The Goa Geographer, Research Journal of Geographer's Association, Goa (GAG), Volume: V, No.1, December, 2008. pp. 6-13.

Pawar, C.T., Pawar, D.H. & et al (2008): A Geographical Analysis of Soil Erosion: A Case Study of Panchaganga Basin (Maharashtra), Proceedings of the National Seminar & workshop on Research Methodology I Geography, 3 Oct. 2008, Rayat Sikshan Sanstha's Arts, Science & Commerce College, Ramanandnagar, Sangli (MS)-November 2008.

Pawar, C.T., Pawar, D.H. & Etal. (2009): "Land Degradation, Land Conservation And Improvement In Panchaganga Basin (Maharashtra): A Geo-Ecological Analysis" Project Submitted To UGC, Safdarganj Road, Delhi.

Pawar, D.H. & Jadhav K.R. (2012): Agriculture Problems and Prospects of Drought Prone Region in Sangli District of Maharashtra, Maharashtra Bhugolshastra Sanshodhan Patrika, ISSN: 0971-6785, Vol. XXIX, No.1, January-June 2012, pp 42-45.

Pawar, D.H. & Jadhav K.R. (2012): Regional Disparity in Agricultural Development in Satara District of Maharashtra: A Geographical Analysis TIJ's Research Journal of Social Science & Management - RJSSM. ISSN: 2251-1571, Vol.2, No.6, October 2012, pp.

Pawar, D.H. & Raskar, A.K.(2011): Linear Aspects of Basin Morphometry of Panchaganga River (Kolhapur): Western Maharashtra, Research Analysis & Evaluation,International Reffered Research Journal, May 2011, ISSN: 0975-3486, Vol. II, Issue 20, pp.95-97.

Pawar, D.H. (2012): River water pollution an environmental crisis a case study of Panchaganga river Kolhapur. International Journal of Environment and Development, ISSN:0973-3574, Vol. 8,

No.1, January-June 2012, Serial Publications, New Delhi, India pp, 95-97.

Pawar, D.H. et al (2012): Morphometric Correlation of Spatial and Linear Aspects of Panchaganga River, Proceeding of International Conference on Multidisciplinary approaches in Applied Geology, G.K.G. College, Kolhapur, 20 February 2012, pp 253-258.

Rao,R. Ram Mohan & Simhadri, S.,(1989),: "Development dynamics in command areas of major irrigation projects", Inter-India Publications.

Shinde, S.D. (1973): The Panchaganga Basin: An Appraisal Of Some Aspects Of Its Agriculture Geography Geographical Review Of India, Calcutta Vol.35 September1973.