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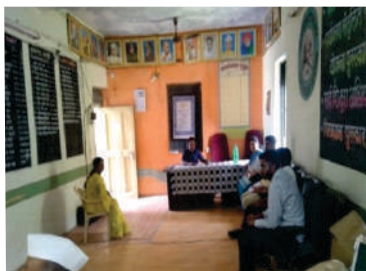
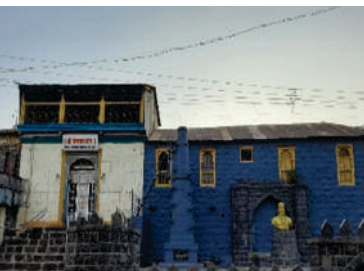
AERC Report



Agro-Economic Research Centre (AERC)

Village Survey Study in Maharashtra (Gulumb Village)

Jayanti Kajale
Amruta Suryawanshi



January 2021

Submitted to
Department of Agriculture, Cooperation and Farmers Welfare
Ministry of Agriculture and Farmers Welfare
Government of India

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Foreword

Village studies are important as they provide insights into socio economic status of the households and nature of changes taking place in village institutions, infrastructure and household characteristics. Such studies indicate policies which need to be framed keeping in mind future course of phenomena that would be observed in the villages.

The present study is a resurvey of village Gulumb in Maharashtra and makes an attempt to understand changes that have taken place in the structure and features of the village and the village households during last 45 years i.e. after the last survey was undertaken in the year 1976 till 2020.

The study observes considerable progress in terms of civic amenities and infrastructure available, number of households with access to basic civic amenities, technology used in the village for communication and construction and definitely points at improvement in living conditions of the village households of Gulumb as compared to earlier period as captured in 1976 survey. Increasing level of education and school enrolment in case of females, increasing share of household members as well as household income in nonfarm activities, occupational diversification and increasing integration with the urban areas are some of the important changes that have taken place at the household level over the years. The analysis however also reveals economically vulnerable position of marginal, landless, scheduled caste as well as Muslim households as compared to other household categories.

The policy implications arising from the study reveal need to focus on provision of adequate and clean drinking water and irrigation facilities, proper garbage collection and disposal system and closed drainage system. It is felt that provision of quality education, vocational guidance, usage of environmental friendly technologies, digital technologies and local area development strategies for creation of job opportunities would enhance overall standard of living of the village households.

It is hoped that the results of this study would be useful for researchers, policy makers and village level officials.

I thank Jayanti Kajale and Amruta Suryawanshi for undertaking this study on behalf of the Agro Economic Research Centre of the Institute.

Gokhale Institute of Politics and Economics,
(Deemed to be University under section 3 of the UGC Act, 1956)

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Officiating Director
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Executive Summary

Introduction

The report of the United Nations estimates that despite continued urbanization, little less than 3 billion people would be living in rural areas in 2050 and would earn their living primarily from agriculture (UN, 2018). Thus, villages still would be sustaining a large section of population. In India, around 69 percent of the population still resides in rural areas. This population constitutes largely the agrarian population of the country. Study of villages is therefore important as it reveals working of various existing agrarian and other associated socio economic institutions governing the village life, drivers of change and provides insight into the pace with which villages transform and adapt to changing environment and developments and integrate with urban areas.

The studies on various aspects of working of villages in India have noted changes in institutional and infrastructure facilities, land ownership and land use patterns, population size and migratory patterns, gender equations, income levels etc. and reveal rise of rural non-farm economy, growing educational opportunities and increasing mobility across caste and community. The recent literature also discusses the concept of *Smart Village* and various initiatives undertaken world over for transforming the villages into smart ones. The literature suggests that trends observed in villages would influence status of villages in future and hence national policies need to be framed keeping in mind future course of phenomena that would be observed in the villages.

Background of the Present Study

The present study is the study of village Gulumb based on selected sample households (HH) and was conducted 45 years after the population survey was conducted in the year 1976. A village with a population of more than 3000, Gulumb is situated in Wai taluka in Satara district of Maharashtra and houses more than 700 households and has a history of repeated surveys – sample as well as population - conducted by Gokhale Institute of Politics and Economics, Pune since 1936-37.

Located in the north eastern part of Wai taluka of Satara district, village Gulumb lies about 2 miles away from Pune Bangalore highway and can be reached in 5 to 10 minutes by car or a two wheeler from the highway. As per the reports, the village settlement is six to seven hundred years old. The village has now close ties with urban centres like Pune and Satara and depicts relatively more diversified livelihood pattern as compared to 1976.

Objectives of the Study

Following are the objectives of the study -

1. To understand the basic structure of the economy of village Gulumb and study socioeconomic and cultural features of the village.
2. To analyse household level responses to capture demographic and socioeconomic status of various categories of sample households.
3. To evaluate perceptions of the villagers about problems and challenges faced, changes they have experienced in the village and benefits from government schemes.
4. Based on the data collected during past survey and the current survey as well as secondary data, to observe changes that have taken place in the socio economic status of the village households over a period of time.
5. To suggest policy measures keeping in view implications for future changes arising from the analysis.

Selection of the Village, Methodology and Sampling

As per the guidelines, a village which was already surveyed before and was a moderately developed village was to be selected. Village Gulumb which had a history of repeated surveys being conducted by Gokhale Institute of Politics and Economics and was found to be a moderately developed village was selected. The study was based on secondary as well as primary or field level data. The former was collected mainly from Census of India and the field level data was collected from 400 sample households. The household level information was collected through a structured schedule and was analysed for various categories of households based on social status, public distribution card type and land size. The village level information was collected from the office of Gram Panchayat as well as experienced and knowledgeable villagers with the help of structured questionnaires through group discussions. The information collected was analysed and compared over census years and two survey years. Also, socio economic status of the village households was studied for the year 2018-19. Data was collected during December 2019 and February 2020.

Statistical tools used

Simple statistical tools such as percentage change and percentage share have been used and presented in tabular and graphical format. For understanding inequalities in land holding; Gini coefficients was calculated and Lorenze curves were plotted. For analyzing diversity in cropping pattern, Simpson Index was calculated for each category of HH based on land size.

Limitations of the Study

The nature of data/information collected during the two surveys differs on many counts the former (1976) being more of an analysis of evolution of village institutions. On this background, an attempt is made to compare the socioeconomic features of the village life in 1976 and in 2020. This is the major limitation. Secondly, as per the guidelines of the study, educational status of the school going children had to be assessed through Annual Status of Education Report (ASER) toolkit. However, in view of onset of covid pandemic and due to the requests from villagers, the survey of school going children in the village could not be conducted. Also, Pune being hot spot of the pandemic since the beginning, post survey visit to the village for cleaning of the data and for confirming broad trends revealed from the data collected had to be cancelled.

Major Findings of the Study

Major finding emerging from analysis of the secondary data are as follows

- It is observed that village Gulumb belongs to developed western region of the state.
- The analysis shows that the total population of Gulumb increased by about 23 percent during the two census periods. Though there was increase in the total workers, it was mainly the marginal workers which registered an increase and the main workers registered a slight decline.
- Notable features of the population structure include decline in the share of females in the total population and in sex ratio during the two census periods.
- The industrial classification of workers reveals that the share of cultivators declined from 76 percent to 53 percent registering a decline of 26 percent. Simultaneously, share of other workers increased from around 6 percent to 26 percent registering an increase of 352 percent during 1981 and 2011.
- It was revealed that the HH belonging to Maratha caste, one of the traditionally dominant open castes in Maharashtra, dominate the social structure of Gulumb also the census data shows that the share of SCs and STs in total population which was around 2 percent in 1981 increased to around 9 percent in 2011. Out of the rest, around 70 percent of the HH belongs to Maratha caste, 15 percent to OBCs and rest belonged to other religion in 2011.
- The settlement pattern in Gulumb reveals the social fabric of the village based strongly on caste and perhaps limitations to having mixed settlement given the lower extent of increase in the village population over the years and space constraints.

- The village had basic water, electricity, roads, education and credit infrastructure in 1981 which developed and further got expanded over the concerned period. Basic health facilities got developed and the village also got pucca approach road. The village now has a ration shop, anganwadis, sports ground and public library which did exist in 1976. The village now has ICICI bank ATM machine which was installed in the village after the field survey and in the month of August 2020.
- Over the period, percentage of irrigated land expanded from 15 percent in 1976 to 52 percent in 2018-19. The traditional crops-sugarcane, beans and jowar are still cultivated in Gulumb apart from new crops such as soybean, maize, ginger, green peas, fruits. The data reveals yield increase in case of jowar, gram and summer groundnut during the two survey years.
- The data shows that the percentage of literates increased from 54 percent in 1981 to 86 percent in 2011. The percentage of literates among females increased during this period from 44 percent to 81 percent.
- The village has received a number of awards such as Vanashree Puraskar, Nirmal Gram Puraskar, Sarva Shiksha Abhiyan Puraskar etc. It is also an Open Defecation and Tantamukta village and there is no liquor shop in the village.
- The unique feature of Gulumb has been the stream linking project which was recently undertaken for getting over the problem of recurrent droughts. This is perhaps one of its kind in the state and in the country as well.
- Telephonic interview with the Sarpanch in the first week of November 2020 revealed that the village remained Corona free village till then due to strict measures followed during lockdown as well as later on also.
- The villagers have been traditionally growing sugarcane. Also, a cooperative credit society was established in the village in 1930. Thus, cultivation of commercial crop like sugarcane and availability of credit for agriculture traditionally have been the two major features of the village and perhaps these have provided the needed stimulus for remaining integrated with the urban centres and for diversification of the occupational structure.

The analysis of the field level data relating to various HH / population reveal following changes-

- A comparison of demographic characteristics of HH over the concerned period reveals lower average size of the family, higher average age of family members, lower sex ratio,

reduced share of female members and higher share - around 50 percent- of productive (16 to 55 years) population during current survey in comparison with the survey of 1976. Data also reveals higher share of members above 60 years of age in the year 2019-20.

- The data is indicative of decline in birth rates, increased life expectancy, increase in the age of marriage especially for females and withering away of practice of having co-wife over the years which are welcome changes.
- The age structure of population also revealed that 82 percent and 17 percent of the married population belonged to age groups 7-16 and 17-36 respectively in 1976. A comparison with the corresponding age group in 2019-20 shows that none from the former age group had got married and only 10 percent of the married population belonged to the next i.e.16-30 age group.
- Percentage of illiterates was 32 in 1976, however during 2019-20 survey, it was only 13 percent. The corresponding figures for females were 50 percent in 1976 and 18 percent in 2020.
- In 2019-20, only 31 percent of the HH members were educated up to secondary level as against 10 percent in the year 1976. Higher rate of enrolment of female children was also noted. Out of the total enrolled children, in 1976-77, only 44 percent and 23 percent were female children. During the current survey, 55 percent of the children in primary as well as secondary school were female children.
- The occupational distribution of the HH members showed decline in the share of cultivators as well as labourers from 74 percent and 15 percent to 51 percent and 12 percent respectively from 1976 to 2020. Share of other workers increased from 11 percent to 37 percent during the same period.
- The analysis shows that the distribution of landholdings in Gulumb has almost remained same over the concerned period. The value of Gini coefficient of 0.79 and 0.78 in 1976 and in 2019-20 respectively reveals very high inequality in land distribution in both the years. The Lorenze curves however cross and therefore it is difficult to label one distribution as more unequal than the other.
- The comparison indicates considerable progress in terms of civic amenities / infrastructure available, number of HH with access to basic civic amenities, technology used in the village for communication and construction and definitely points at improvement in living conditions of the village HH.

The analysis of the data relating to economic status of the sample HH reveals the following-

- Occupational / livelihood pattern of the HH revealed that around 52 percent and 12 percent of the HH were primarily cultivator and agricultural labour HH respectively. 5 percent and 3.5 of the HH were salaried HH and HH engaged in trade/ business/ entrepreneurship respectively.
- Occupational pattern of the members of the sample HH showed that around 56 percent of the members were dependents. Out of the earning members, 60 percent of the members were dependent on agriculture and allied activities. The livelihood pattern was more diversified in case of male members of the HH.
- The available data as well as discussions relating to extent of migration as reported in 1976 and in 2019-20, showed that families had migrated in the pre-1976 period as well as in pre 2020 period. Thus migration appeared to be a continuous phenomenon. Out of those who migrated during last few years, 95 percent migrated in search of jobs/ for business, remaining 5 percent were students.
- It was observed that on an average, sample HH annually earned Rs. 1.4 lakh and per capita income of sample HH was Rs. 30, 000. Around 78 percent of the income was earned from non-farm activities, 18 percent from farming and 3 percent from off farm activities.
- During 2019-20 survey, food items absorbed 38 percent of the total consumption expenditure as against 60 percent during 1976 survey. Over the concerned period, consumption basket diversified due to consumption of varied food (such as livestock products) and non-food (education and medical services) items.
- 89 percent of the HH had savings. Also, 59 percent of the HH had borrowed from one or the other source. Majority out of these had borrowed from cooperative banks/ credit society. Out of those who borrowed, 57 percent of the HH had availed of agricultural loan.
- The analysis of the data collected during the current survey indicates diversification of economic activities of the HH members and their ability to save and invest as compared to the earlier survey.
- Analysis of the data relating to PDS card wise distribution of the HH revealed that majority of the sample HH (68 percent) belonged to Orange card category. The share of HH with Yellow card / BPL status was 30 percent and the share of White card holders

was 2 percent. The data suggested relatively better socio economic status of white card holders

- Due to the typical caste composition in the village, the sample also showed that most of the HH under each card type were from general category. Composition of card holders within caste category showed that majority of the HH under all caste categories were orange card holders.
- Out of the total of 400 of sample HH, 76.5 percent were landholding HH. The data shows that most of the landed HH were cultivating their own farms. Only around 12 percent of the HH had leased in land for cultivation and 8 percent of the HH had leased out land. It was also observed that no HH from the landless category had leased in any land for cultivating.
- Around 76 percent of the HH were marginal farm owners, 17 percent were small farm owners and the rest 7 percent were medium and large farm owners. The distribution of area however showed that 76 percent of the total area was under the 93 percent of the farms. Thus, 24 percent of the area was occupied by just 7 percent of the farms.
- It was observed that general category households (Maratha caste) was the dominant social group among all land size categories. Most of the HH were general category HH under all land size groups. Also, within all social categories, most of the sample HH were marginal HH.
- The land size wise characteristic features indicated higher resource richness of the HH with larger land size as compared to other HH.
- The survey revealed difference in yields of crops on irrigated and unirrigated land thereby also indicating difference in the income that would be earned.
- The overall cropping pattern of the HH showed that jowar and ghevda beans were the two major crops occupying 30 percent of the total cropped area each. These were followed by groundnut and sugarcane and other crops such as soybean, ginger and fruits. 59 percent of the total cropped area was irrigated.
- The Simpson Index calculated for understanding diversity in cropping pattern showed that around 70 percent or more HH in each category had value of index more than 0.5 indicating higher extent of diversification.
- During the last five years, around 22 percent and 39 percent of the overall HH changed cropping pattern and crop varieties respectively mainly to tide over the problems of water scarcity and for getting higher yield.

- Category wise analysis of the HH revealed higher economic status of larger size land holding HH and lower economic status of marginal farm size HH and landless HH.
- The analysis indicated that the marginal farmers and the landless workers in the village mainly survive on the income earned through non-farm activities. This share was 82 percent and 71 percent for marginal and landless categories respectively. However, in absolute terms, the level of total average income earned by these categories was very low as compared to other categories, especially the highest land size category.
- The average number of sources of income were lowest i.e. 3 for marginal category and highest i.e. 6 for the landless HH.
- Around 5 percent of the marginal category and 13 percent of the landless HH respectively belong to the two lowest MPCE classes (less than Rs. 3000).
- HH in category Other (i.e. Muslim HH) seem to be the most vulnerable category as was also observed from table 4.16. These HH were concentrated below MPCE category of Rs. 11000 and there were no HH in top 3 MPCE classes. Top two MPCE classes were constituted by Open / General and OBC category HH.
- *It is indicated that in case of marginal farmers very small size of landholding and limitations to having more sources of income leads to lower income from farming and non-farm sources, lower consumption expenditure and inability to make investments in land. As a result, more percentage of HH are in vulnerable classes of MPCE as compared to other land size classes. In case of landless HH also, in spite of having relatively more number of sources of non-farm income, the average income level for this category is very low and almost 15 percent of the HH from this category have very low MPCE revealing their vulnerability. The analysis highlights need for measures focusing on these two HH classes.*
- Overall, analysis of MPCE based on classification of HH reveals higher share of economically vulnerable HH among marginal and landless HH as well as HH in SC and Other (Muslim HH) category. Smaller size of land with marginal HH, inadequate income from various non-farm sources with landless HH and socio economic status in case of SC and Muslim HH appear to be the constraining factors. The analysis underlines better off economic status of HH with larger size of landholding and need for measures focusing on marginal land owning HH, landless HH and socially vulnerable SC and Muslim HH.

- The analysis of the qualitative data collected revealed perception of the sample HH and village authorities about their overall perception about rural change, problems faced and remedial measures.
- More than 80 percent of the HH perceived that there was improvement in the economic condition of the village and village infrastructure of a period of time. 62 percent of the HH also felt that there was improvement in economic condition of their HH.
- Majority of the HH also reported that there was increased incidence of droughts in last 5 years.
- *Scarcity of water for drinking as well as irrigation, poor quality of drinking water, inadequate systems for maintaining cleanliness and sewage management, open drainages and inadequate infrastructure were the major civic problems reported by the villagers.*
- *Therefore, steps for provision of better infrastructure, adequate and clean water, maintaining cleanliness in the village were major suggestions of the villagers.*
- *General problem of lack of job opportunities was also revealed and hence villagers felt that establishment of industrial estate nearby or provision of other employment opportunities was essential.*
- *Group discussions with the village authorities revealed their demand for Inclusion of the Village under Drought Prone areas, Promoting usage of Solar Energy in the Village and Promotion of farm Mechanisation.*
- *Sustained efforts through Individual Initiatives have played important role in socio economic change in the village.*

Establishment and presence of cooperative credit society in the village since 1930, cultivation of commercial crop of sugarcane and proximity to urban centres of Pune and Satara have provided stimulus to the village to gradually get integrated with the urban world. Individual initiatives of the leadership have helped in bringing about positive socio economic changes for the individuals and village as a whole. These seem to be the major drivers of change for the village.

Policy Implications

Following are the policy implications arising from the analysis-

The village depicts reducing role of agriculture in supporting livelihood, reducing workforce participation rate, increased share of marginal workers, increasing extent of education, increasing share of elderly population and demand for employment

opportunities and migration. These changes would influence future course of development of the village and without interventions, may increase extent of migration, problems faced by elderly population and higher rates of unemployment and vulnerabilities. In order to tackle these problems, therefore, following policy initiatives arising from the analysis are suggested-

1. Data revealed that majority of the HH were marginal landholding HH and also their vulnerable economic status. Hence, *efforts need to be concentrated on provision of adequate water for increasing yield and market intelligence for marketing of the produce.*
2. The village has been facing recurring droughts and has adopted several strategies for coping up with the problem of water scarcity during summer and throughout the year as well. Therefore, the *suggestion of villagers to include the villager under Drought Prone Areas may be considered.*
3. The villagers receive drinking water from wells. As per the suggestion of the villagers, *water needs to be supplied after filtration to avoid and eliminate incidence of water borne diseases. Thus, water filtration plant needs to be constructed.*
4. For making an effort towards becoming a drought free village, the *villagers need to shift cropping pattern gradually away from sugarcane towards other traditionally grown crops / new crops introduced during last few years such as soybean and other high value crops such as vegetables and fruits*
5. *Proper systems for garbage collection and disposal need to be instituted. Awareness programmes about garbage disposal and maintenance of cleanliness need to be organised by the authorities for the villagers.*
6. The village has open channels for sewage water. This could lead to spread of diseases. It is extremely *important to have closed drainage system for carrying sewage water in the village. Underground sewage pipes need to be laid.*
7. *Usage of solar energy for electricity generation and other purposes by the village authorities needs to be promoted.*
8. In view of general opinion by members of sample HH about need for employment generating activities, it is felt that *opportunity specific training programmes, capacity development programmes may be organised.*
9. *Technology training programmes may be organised and imparted specifically to women involved in various livelihood supporting activities such as production of various items through activities of SHGs. Such training programmes would provide*

platforms for communication and marketing of the produce and instil sense of empowerment.

10. Special strategies for healthcare of elderly population may be devised.

Overall, it may be said that for bridging the developmental gap between the village and urban areas, reducing out migration towards urban areas and for improving standard of living of the villagers, focus needs to be on quality education, vocational guidance, health care, sanitation facilities, usage of environmental friendly technologies and local area development for creation of job opportunities. Usage of digital technologies especially for agriculture linked activities, communication and governance would greatly enhance pace and quality of outcomes and improve overall living of the households in the village.

Content

	Page No.
Foreword	i
Acknowledgements	ii
Executive Summary	iii-xiii
Content	xiv-xv
List of Tables	xvi-xviii
List of Figures	xix
List of Maps	xx
List of Boxes	xx
Chapter 1 Introduction	1-9
1.1 Introduction	1
1.2 A Brief Review of Literature	1
1.3 Background of the Present Study	3
1.4 Objectives of the Study	5
1.5 Selection of the Village, Methodology and Sampling	5
1.6 Organisation of the Report	7
1.7 Limitations of the Study	8
Chapter 2 Overview of Village Gulumb	10-36
2.1 Introduction	10
2.2 Major Socio Economic Indicators : Taluka Wai, District Satara and Maharashtra	10
2.3 Geographical and Administrative Information	11
2.4 Demographic Profile	13
2.5 Pattern of Settlement	15
2.6 Livelihood/Employment and Migration Status	16
2.7 Agricultural Status: 1976 and 2018-19	16
2.8 Education	22
2.9 Social and Financial Institutions	26
2.10 Health Facilities	27
2.11 Other Village Infrastructure	28
2.12 Socio Cultural Profile of the Village	31
2.13 Unique Features of the Village	31
2.14 Gulumb and the Covid Pandemic	35
2.15 Concluding Remarks	35
Chapter 3 Demographic and Social Characteristics of Village Sample Households 1976 and 2019-20	37-52
3.1 Introduction	37
3.2 Demographic Characteristics of the Households	37
3.3 Land size wise Distribution of Landholdings	42
3.4 Educational Progress	45

	Page No.	
3.5	Access of the Households to Various Civic Facilities	49
3.6	Concluding Remarks	51
Chapter 4	The Economic System in Gulumb	53-77
4.1	Introduction	53
4.2	Occupational and Livelihood Pattern of the Sample Households	53
4.3	Income of the Sample Households	57
4.4	Expenditure Pattern of the Sample Households	58
4.5	Saving and Borrowing of the Sample Households	60
4.6	Economic Status of HH according their PDS Card Status	62
4.7	Economic Status of HH according their Social Categories	64
4.8	Status of Agriculture	65
4.9	Economic Status of Cultivating and Landless Households	70
4.10	Poverty among Sample Households	72
4.11	Responses of the Sample Households about Food Security Challenges	76
4.12	Concluding Remarks	77
Chapter 5	Perception of the Sample Households: Policy, Ecology and Rural Change	78-88
5.1	Introduction	78
5.2	Coverage under Government Schemes	78
5.3	Perception of the Village Households about their Relative Status in the Village	79
5.4	Opinion of the Households about Rural Change	80
5.5	Major Problems Perceived by the Villagers, Officials and the Sample Households	81
5.6	Ecological Phenomena in the Village	85
5.7	Strategies Used for Coping with Drought	86
5.8	Individual Initiatives for Socio Economic Development of the Village	87
5.9	Concluding Remarks	88
Chapter 6	Conclusions and Policy Implications	89-103
6.1	Introduction	89
6.2	Background of the Present Study	90
6.3	Objectives of the Study	91
6.4	Selection of the Village, Methodology and Sampling	92
6.5	Organisation of the Report	94
6.6	Limitations of the Study	94
6.7	Major Findings of the Study	95
6.8	Policy implications	102
	References	104-105
	Annexure I, II	106-108

List of Tables

Table No.	Table Title	Page No.
1.1	Surveys undertaken in Gulumb since 1936	4
2.1	Major Development Indicators: Taluka Wai, District Satara and Maharashtra	11
2.2	Geographical and Administrative Information of Village Gulumb	12
2.3	Demographic Profile of Village Gulumb : 1981 and 2011	14
2.4	Industrial Classification of Workers in Gulumb : 1981 and 2011	15
2.5	Land Use Pattern and Irrigation in Gulumb : 1976 and 2018-19	17
2.6	Cumulative Number of Ponds, Dug Wells and Tube-Wells in Gulumb during Last 5 Years	18
2.7	Village Level Cropping Pattern of Gulumb 1976 and 2018-19	19
2.8	List of Varieties Cultivated Since 2015	20
2.9	List of Varieties Introduced Since 2015	20
2.10	List of Crop Varieties Discontinued Since 2015 in Gulumb	20
2.11	Crop wise NPK Use and Recommended Doses as per SHCs during Last Five Years	21
2.12	Pesticide and Farm Yard/ Organic Manure Use in Gulumb	21
2.13	Livestock in Gulumb : 1976 and 2012	22
2.14	Percentage of Literates in Gulumb: 1981 and 2011	22
2.15	Educational Infrastructure in Gulumb, 1981- 2019-20	23
2.16	Number of Members of Anganwadis of Gulumb as in December 2019	23
2.17	Enrolment in Primary School Gulumb, 2015-16 to 2019-20	25
2.18	Enrolment in Secondary School Gulumb, 2015-16 to 2019-20	25
2.19	Financial Institutions in Gulumb	27
2.20	Health Infrastructure in Gulumb: 1981-2020	27
2.21	Other Village Infrastructure in Gulumb : 1981-2020	30
2.22	Socio - Cultural Profile of Village Gulumb	31
2.23	Unique Features of Village Gulumb	32
3.1	Demographic Characteristics of the Sample Households	38
3.2	Classification Main Workers in Gulumb	39
3.3	Age and Sex Distribution of the Population in the Village Gulumb, 1976 and 2019-20	40
3.4	Distribution of Population by Age and Martial Status in the Village Gulumb, 1976 and 2019-20	41
3.5	Distribution of Landholdings in Gulumb in 1974 and in 2019-20	43

Table No.	Table Title	Page No.
3.6	Land Size Class wise Distribution of Households in Gulumb : 1976 and 2019-20	43
3.7	Land Size wise Cumulative Percentage of Land and Land Owning Owning Households	44
3.8	Category wise Educational Status of above 06 Years Family Members	46
3.9	Sex wise Composition of Enrolled Primary and Secondary School Children in Gulumb	47
3.10	Enrolment Level of Children (aged 5-15 years) in Schools in Sample Households by Caste, Sex and Type of School in Gulumb, 2019-20	48
3.11	Gender wise Drop outs in Different Educational Level in Gulumb, 2019-20	49
3.12	Access of Sample Households to Civic Facilities, 2019-20	50
4.1	Distribution of Sample Households in Gulumb by Primary and Secondary Occupations, 2019-20	53
4.2	Occupation of Sample Household Members in Gulumb, 2019-20	54
4.3	Distribution of Main Workers in Sample Households of Gulumb, 2019-20	55
4.4	Occupation wise Average Number of Days Worked by Earning Members of Sample Households of Gulumb, 2019-20	55
4.5	Migration of Individuals (Families) from Sample Households in Gulumb	56
4.6	Details of Number of Family Members in Sample Households in Gulumb, 2019-20	56
4.7	Total Average Annual Income of the Sample Households, 2019-20	57
4.8	Annual Expenditure Pattern of the Sample Households in Gulumb, 2019-20	58
4.9	Percentage of Sample Households in Gulumb Owning Various Assets	59
4.10	Annual Income and Expenditure of the Sample Households in Gulumb, 2019-20	60
4.11	Details of Savings of Sample Households in Gulumb during, 2019-20	61
4.12	Details of Borrowings of the Sample Households of Gulumb	61
4.13	Purpose of Borrowing of the Sample Households	62
4.14	Card Type wise Socio-Economic Status of Sample Households in Gulumb, 2019-20	63
4.15	Caste Composition of the PDS Card Holder Households in Gulumb, 2019-20	64
4.16	Social class wise Economic Status of the Sample Household	64
4.17	Share of Various Category Sample Households Farms and of Area under Farms	65
4.18	Land size wise Social Status of Sample HH in Gulumb	65
4.19	Basic Characteristics of Sample Farm Households in Gulumb, 2019-20	66

Table No.	Table Title	Page No.
4.20	Farm Size Category wise Average Number of Crops Grown by Sample Farming Households of Gulumb, 2019-20	66
4.21	Cropping Pattern of Sample Households of Gulumb, 2018-19	67
4.22	Yield of Crops of Sample Households of Gulumb, 2018-19	68
4.23	Pattern of Crop Diversification across Different Size Groups in 2019-20	69
4.24	Disposal of Major Farm Produce by Sample Households in Gulumb, 2019-20	69
4.25	Crop Diversification by Sample Households in Gulumb in Last 5 Years	70
4.26	Land Size wise Economic Status of the Sample Households in Gulumb, 2019-20	71
4.27	Share of Various Category Sample Households in Loans Taken in Gulumb	72
4.28	Responses of the Sample Households regarding Food Security in Gulumb, 2019-20	76
5.1	Coverage under Different Government Sponsored Schemes of Sample Households in Gulumb, 2019-20	79
5.2	Perception of the Village Households about their Relative Status in the Village, 2020	79
5.3	Responses of Sample Households about Rural Change in Gulumb,2020	80
5.4	Major Problems Faced by the Sample Households of Gulumb,2019-20	82
5.5	Remedial Measures for Problems Suggested by the Sample Households in Gulumb, 2019-20	84
5.6	Frequency of Extreme Events during Last 5 Years and Exposures to Shocks in Gulumb	86
5.7	Degree of Hardship Faced (vulnerability) during last 5 years	86

List of Figures

Figure No.	Title	Page No.
2.1	Enrolment in Primary and Secondary Schools in Gulumb, 2015-16 to 2019-20	25
3.1	Distribution of Main Workers in Gulumb- 1976 and 2019-20	39
3.2	Age Structure of Total Household Members in Gulumb, 1976 and 2019-20	41
3.3	Land Size Class wise Distribution of Households in Gulumb : 1976 and 2020	44
3.4	The Lorenze Curves of Land Distribution: 1976 and 2019-20	45
3.5	Category wise Educational Status of above 06 years Total Family Members	46
3.6	Enrollment in Primary Schools in Gulumb : 1976 and 2019-20	47
3.7	Enrollment in Secondary Schools in Gulumb : 1976 and 2019-20	47
4.1	Occupation wise Classification of Family Members of Sample Households in Gulumb, 2019-20	54
4.2	Monthly Per Capita Expenditure wise Share of Sample Households in Gulumb, 2019-20	72
4.3	Category wise Share of Sample Households in Gulumb in each Expenditure Class, 2019-20	73
4.4	Share of HH in Each Expenditure Class for Various Land Size Classes, 2019-20	74
4.5	Social Category wise Share of Sample Households in Gulumb in each Expenditure Class, 2019-20	75
4.6	Share of Social Category wise HH in Each Expenditure Class, 2019-20	76
5.1	Major Problems Faced by the Sample Households of Gulumb	83
5.2	Responses of Households Relating of the Sample Households relating to Remedial Measures to Problems	85

List of Maps

Map No.	Title	Page No.
1.1	Maharashtra, District Satara, Taluka Wai and Village Gulumb	9
2.1	Taluka Wai: Villages Gulumb and Chandak	34

List of Boxes

Box No.	Title	Page No.
5.1	Problem regarding PM Awas Yohana in the Village	78
5.2	Measures Suggested during Group Discussion in Gulumb	81
5.3	Availability of Drinking Water in the Village	84
5.4	Problem relating to Quality of Drinking Water supplied to Households	84
5.5	Individual Initiatives for Social Change in Gulumb	87
5.6	Initiatives for Women Empowerment in Gulumb	87
5.7	Initiatives for Development of the Village	88

Chapter I

Introduction

1.1. Introduction

A major phenomenon observed across the globe is increasing level of urbanization. According to one of the reports, 55 percent of the population lived in cities in 2018. Thus, for the first time, more number of people are residing in urban areas than in rural areas (United Nations, 2018). This has not only raised concerns about urban living but also about rural change and changing structure and nature of village economies. The above mentioned report also estimates that around 68 percent of the population would be residing in urban areas by 2050. However, the remaining 32 percent or little less than 3 billion would be still residing in rural areas mainly of South Asia and Sub-Saharan Africa and would earn their living primarily from agriculture. Thus, villages still would be sustaining a large section of population in country like India and depending upon the stimuli received would gradually experience change in their basic structure. The share of rural population in India which was 80 percent of the total population in 1960s has been reducing gradually over the time period, however still a massive proportion of the total population – around 69 percent- still resides in more than 6 lakh villages of rural India. This population constitutes largely the agrarian population of the country.

Study of villages is important as it reveals working of various existing agrarian and other associated socio economic institutions governing the village life and drivers of change. It also provides insight into the pace with which villages transform and adapt to changing environment and developments and integrate with urban areas. The analysis in such studies also indicates implications of the changes that would take place in future in the village and at a larger level as well and policies that need to be followed for further progress.

1.2 A Brief Review of Literature

The available literature suggests that a large number of studies have been undertaken by social scientists which have analysed specific aspects of working of villages based on data collected from sample households. Studies based on population surveys and resurveys also have been carried out. These sample / population based surveys were undertaken with the objective of understanding the erstwhile stagnant and largely self-sufficient nature of villages, the agrarian dependence, nature of socio economic life and activities of households (HH) and various institutions which governed village life. One of the earlier resurvey studies

was undertaken by The Indian Society of Agricultural Economics for comparing the village surveys undertaken in 1915 and 1955 of village Bhadkad in Gujrat (erstwhile Bombay state) (ISAE, 1957). It revealed the stark reality of very low progress in economic as well as social sphere and very slow pace of change during the period of nearly 40 years of pre independence era. The studies undertaken in the later period analysed changes taking place on the backdrop of overall increasing scale and extent of commercialization, expanding services of government institutions and development of village infrastructure and made an attempt to understand the drivers of change, various survival strategies of village HH and overall structure of the village economy. One of the studies was based on resurvey (1957-58 and in 1980-81) of cluster of villages in Chikmagalur district of Karnataka state (Gajrajan, 1983). The study noted the phenomena of occupational diversification and gradual integration of the villages with the urban sector. Thus, the village cluster was transformed from a state of stagnancy into a dynamic cluster by 1980-81. Studies based on survey of villages of 4 southern states revealed diverse patterns of transformation as well as pace and direction of change (Rao and Nair, 2003). The survey (in 2004-05) and recently undertaken resurvey (in 2014-15) of one of the villages of Uttar Pradesh revealed rise of rural non-farm economy, growing educational opportunities and increasing mobility across caste and community (Kumar, 2016). Overall, the studies have noted changes in institutional and infrastructure facilities, land ownership and land use patterns, population size and migratory patterns, gender equations, income levels etc.

Some of the socio economic village surveys have also been undertaken for collecting baseline information for implementation of a programme or a scheme and with the objective of finding the impact or progress due to the scheme over a period of time at a later date (Apte, 1979; NIRD, 2010).

The village surveys have thus attempted to capture various phenomena associated with rural change and to understand how rural transformation takes place. Apart from having historical value due to documentation of information relating to the village concerned, the village studies are important as they assess the socio economic status of the households and overall progress and developmental status of the village at a particular point of time.

It is clear that the village life in 1950s and in the current scenario has drastically changed. Reduced importance of agriculture as livelihood source, increasing occupational diversification and increasing unemployment, increasing extent of education, fragmentation of landholdings and changes in aspirations and frames of references of villagers are phenomena noted and in some respects, conceptual distinction between villages and cities

seems to be fading (Simpson, 2016). The literature suggests that trends observed in villages would influence status of villages in future and hence national policies need to be framed keeping in mind future course of phenomena that would be observed in the villages.

The recent literature as well as government policies discuss importance of developing villages in a smart way. The literature therefore discusses the concept of *Smart Village* and various initiatives undertaken world over for transforming the villages into smart ones (Zavratnik et al, 2018; http://nirdpr.org.in/nird_docs/tps/DG_Smart-Village-9-2-18.pdf).

Major features of a smart village revealed through the literature are usage of information and communication technologies (ICT), energy efficient technologies and green initiatives.

The Government of India, initiated Shyama Prasad Mukherji Rurban Mission (SPMRM) in 2016, aimed at developing rural areas by provisioning of economic, social and physical infrastructure facilities. The outcomes envisaged under this Mission are: i. Bridging the rural-urban divide-viz: economic, technological and those related to facilities and services ii. Stimulating local economic development with emphasis on reduction of poverty and unemployment in rural areas iii. Spreading development in the region and iv. Attracting investment in rural areas (https://rurban.gov.in/index.php/Public_home/about_us).

1.3 Background of the Present Study

The present study is the study of village Gulumb based on the selected sample and was conducted 45 years after the population survey was conducted in the year 1976. A village with a population of more than 3000, Gulumb is situated in Wai taluka in Satara district of Maharashtra (Map 1.1) and houses more than 700 HH and has a history of repeated surveys – sample as well as population, conducted by Gokhale Institute of Politics and Economics, Pune. Table 1.1 shows the surveys that were undertaken in Gulumb since 1936-37.

It is seen that the farm business survey undertaken during 1936-37 of Wai taluka included 24 households from Gulumb. During 1936-37 and 1976 i.e. over a period of 40 years, the village households were studied through more farm household surveys as well as comprehensive population surveys. A report based on surveys undertaken during 1936-37 and 1966-67 has been published (Jagtap, 1970). The current report studies the report based on the last survey conducted in 1976 and published in 1978 by Dandekar and others and makes an attempt with the help of comparable data, to understand the type and extent of change that has taken place in the overall level of development of the village as well as in the economic status of the households.

Table 1.1: Surveys undertaken in Gulumb since 1936

Sr. No.	Type of survey	Year	Sample selected from village Gulumb
1	Farm business study of Wai taluka	1936-37	24 farms
2	Farm business study of Wai taluka	1937-38	29 farms
3	Comprehensive socio economic survey	1942-45	Population
4	Farm business study of Wai taluka	1959-60	29 families of 1937-38 survey and 26 additional families
5	Farm business study of Wai taluka	1967-67	Same 55 families
6	Population survey	1976	All households of the village
7	Current survey	2019-20 December- February 2020	400 sample households

Source: Dandekar et al (1978)

Located in the north eastern part of Wai taluka of Satara district, village Gulumb lies about 2 miles west of village Vele situated on the Pune Bangalore highway and can be reached in 5 to 10 minutes by car or a two wheeler form the highway. As per the reports, the village settlement is six to seven hundred years old and mainly comprises of households of Yadavs and Jadhavs belonging to Maratha caste which is the major caste in Maharashtra. However, it is not known clearly as to when and wherefrom these groups came to Gulumb for settlement.

Over a period of time the isolated and self-sufficient nature of Gulumb went on changing and by 1976, the dependency on outside world and monetization of transactions increased. It was also observed at that time that due to improved transport and crop diversification, the nature of the village economy had changed.

The village has now close ties with urban centres like Pune and Satara and depicts relatively more diversified livelihood pattern as compared to 1976. Therefore, based on the available literature and comparable data, this study tries to understand the changes that have taken place in the structure of the village broadly during last 45 years. The focus of the study is on pattern of rural livelihoods and socio economic status of various HH categories. The study also tries to analyse the perception of village HH about the efficacy of government interventions in rural areas and key drivers of changes in village economy.

1.4 Objectives of the Study

Specifically, following objectives are set forth:

1. To understand the basic structure of the economy of village Gulumb and study socioeconomic and cultural features of the village.
2. To analyse household level responses to capture demographic and socioeconomic status of various categories of sample households.
3. To evaluate perceptions of the villagers about problems and challenges faced, changes they have experienced in the village and benefits from government schemes.
4. Based on the data collected during past survey and the current survey as well as secondary data, to observe changes that have taken place in the socio economic status of the village households over a period of time.
5. To suggest policy measures keeping in view implications for future changes arising from the analysis.

1.5 Selection of the Village, Methodology and Sampling

Selection of Village

The objective of the study was to select a village which was already surveyed before and was a moderately developed village. Therefore, village Gulumb which had a history of repeated surveys being conducted by Gokhale Institute of Politics and Economics, Pune was selected. Before beginning the current survey, the village was found to be a moderately developed village- it had all the basic public infrastructure and regular contact of the villagers with the urban centers.

Methodology and Sampling

The study was based on primary or field level data as well as secondary data collected mainly from Census of India. Village level information was collected from decadal Primary Census Abstracts. This census related data was used to understand demographic and socio economic changes taken place at the village level during the thirty year period between 1981 and 2011. These are the census years nearest to the survey years – 1976 and 2020 respectively. At the time of sample survey of 2019-20, census round for 2021 census had not started and hence, 1981 census data had to be compared with 2011 census data.

As per guidelines provided for sampling for this study, for villages with number of HH less than 400 households, census method was suggested. For villages with number of HH 400 or more, probability proportionate sampling (PPS) was to be attempted based on farm size. The selected village for the present study is of moderate size and consists of 769 households. Thus, 400 households or 52 percent of total village households had to be

selected. Discussions with the village officials revealed that majority i.e. more than 50 percent of the HH were marginal and small land holders with less than 2 hectares of land. Also, a detailed house list revealing farm size was not available. Besides this, a number of households were locked due to seasonal or permanent migration. However, exact information about number of households which had migrated permanently was not documented by the Gram Panchayat (GP) and could not be made available.

Hence, every alternate household was selected for survey as this would represent characteristics of the village HH. In total, 1863 people from 400 households are covered under this study.

The information was collected at two levels.

Village level information: Village level information was collected from the office of Gram Panchayat (GP), elected representatives as well as experienced and knowledgeable villagers. This included information about infrastructure of the village, geographical and ecological aspects, schemes implemented by the GP, about unique features of the village and various socio economic aspects. The information was collected with the help of a structured questionnaire through group discussions.

Household level information: A structured schedule was prepared with the objective of collecting information relating to socio economic status of the households and their perception about rural change.

Additional information about cultivator households: Apart from the general information collected, additional information relating to crop cultivation was collected from farm households with the help of a separate schedule.

The information collected from the households pertained to their demographic features, occupational/ livelihood pattern, educational status, migration, employment, earnings and expenditure, savings and borrowing. Information was also collected on perception of the HH on their social status, participation in government schemes and on problems faced by the villagers. The information was analysed for categories of households based on social status, public distribution card (PDS) card type and land size.

With the help of census data, 1976 population survey and current 2019-20 sample survey, village level and HH level information was analysed and compared over census years and two survey years. Socio economic status of the village households was studied for the year 2018-19. The field survey was conducted over a period of three months during December 2019 and February 2020.

Statistical tools used

Simple statistical tools such as percentage change and percentage share have been used and presented in tabular and graphical format. For understanding inequalities in land holding and comparing these at the given two points of time, Gini coefficients were calculated and Lorenz curves were plotted. For analyzing diversity in cropping pattern, Simpson Index was calculated for each category of farm HH based on land size.

Survey 1976 and Resurvey 2019-20

It has to be noted that the 1976 report mainly focusses on historical evolution of various village institutions/ phenomena such as distribution of landholdings or land tenure pattern, details of migration, changing status and role of cooperative credit society etc. The survey has also collected data on demographic, occupational, and educational and migration and agriculture related issues from all the households in the village and provides an excellent account of changes taken place 1930 onwards. The discussion in this report is largely qualitative in nature.

For data relating to income and expenditure, sample was selected during this survey. Also, for a number of variables, which were not relevant or existing at the time of survey, data was not collected. As a result, all the data/ information collected could not be strictly compared with that collected during the current 2019-20 survey. For the latter survey, guidelines provided by the coordinating AERC center were largely used. Therefore, comparison of information collected was wherever comparable data was available. In each chapter, results of both the surveys were compared with the above mentioned constraints.

1.6 Organisation of the Report

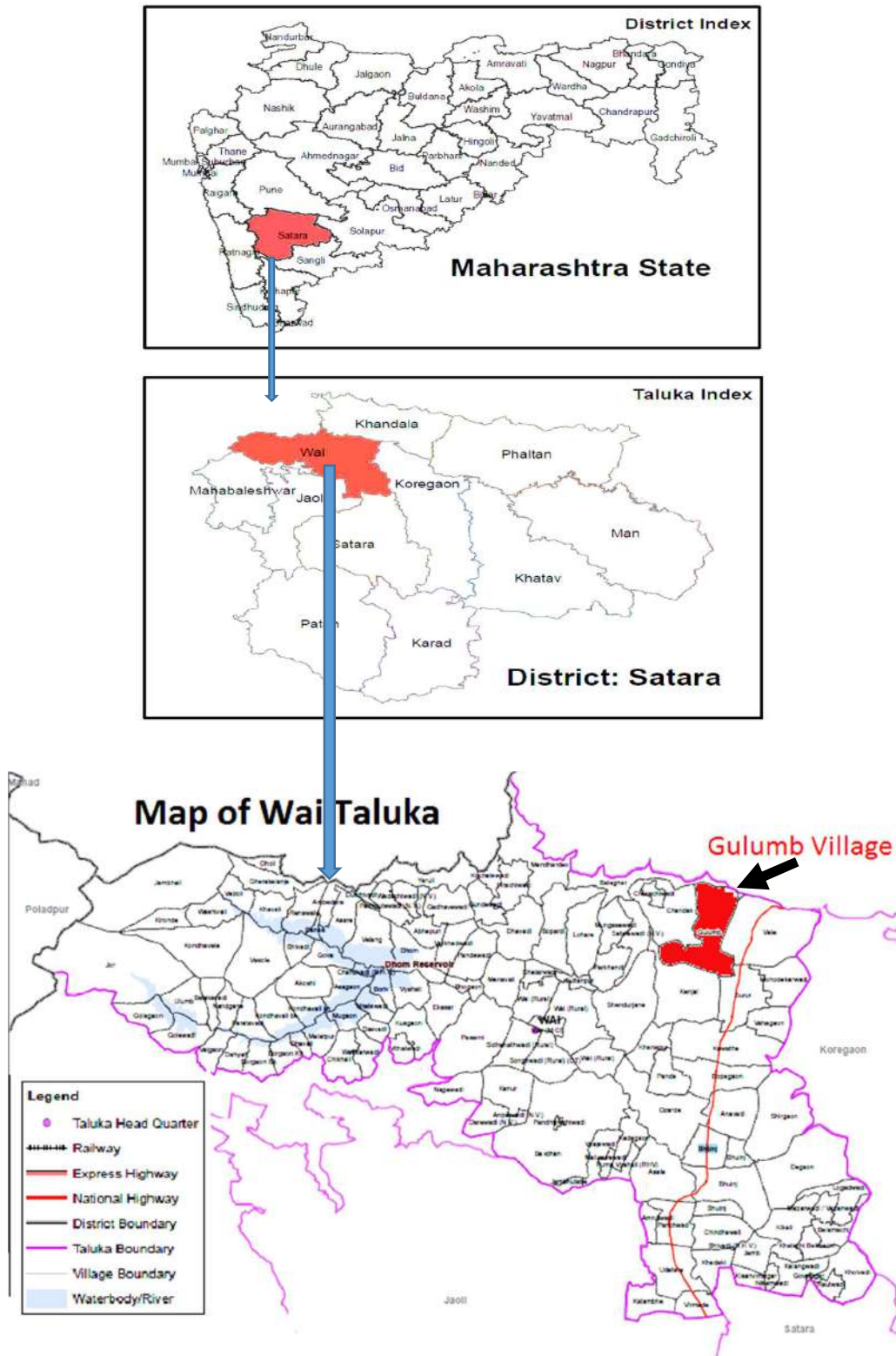
Chapter one provides background to the study. Besides stating objectives and discussing methodology, it also presents a brief review of literature and historical background of village Gulumb. Chapter two discusses demographic and socio economic profile of the village based on the secondary data available. Chapter three focusses on household level data relating to demographic characteristics, educational status, and distribution of landholdings and access of the HH to various civic amenities. The next chapter i.e. chapter four discusses economic status of the village households. The perceptions of sample HH about government schemes, major problems faced in the village and about rural change are discussed in chapter five. The last chapter presents summary and policy implications.

1.7 Limitations of the Study

As has been already mentioned, the nature of data/ information collected during the two surveys differs on many counts the former (1976) being more of an analysis of evolution of village institutions. Though the current survey (2020) is a resurvey, the variables for which data was collected and the methodology used in the year 1976 are different. Also, the 1976 survey included the village population in some respects and sample HH some times. On this background, an attempt is made to compare the village life in 1976 and in 2020. This is the major limitation.

Secondly, as per the guidelines of the study, educational status of the school going children had to be assessed through ASER toolkit. However, in view of onset of covid pandemic and due to the requests from villagers, the scheduled visit to the village was cancelled and hence the survey of school going children in the village could not be conducted. Also, post survey visits to the village for cleaning of the data and for confirming broad trends revealed from the data collected could not be organized.

Map 1.1 Maharashtra, District Satara, Taluka Wai and Village Gulumb



Source: https://mrsac.gov.in/writereaddata/MRSAC/map/15663876565d5d2dc8d768bTH_BID_Kaij.pdf

Chapter II

Overview of Village Gulumb

2.1 Introduction

This chapter sets a background for study of village Gulumb by observing major socio economic indicators relating to taluka Wai and District Satara. It provides an overview of village Gulumb. With the help of available secondary data relating to 1981 and 2011 censuses, a comparative study of population structure, industrial classification of workers, health, education and other infrastructure in the village is carried out. Also, considering the village data for the years 1976 and 2018-19, agricultural status and cropping pattern of the village are studied. Data relating to availability of livestock is also compared. The chapter also discusses unique features of the village which would make a difference.

2.2 Major Socio Economic Indicators: Taluka Wai, District Satara and Maharashtra

The village is situated in district Satara of Maharashtra. As was seen from map 1.1, district Satara is located in south west region, which is the most advanced part of the state in terms of various socio economic indicators. The district is also part of division Pune. As per the available information, the Human Development Index (HDI) of Satara was above 0.7 for the year 2011 (Economic Survey of Maharashtra, 2019-20, GoM, 2020) and therefore is categorized as a district with high HDI. Village Gulumb is thus part of developed region of the state. Table 2.1 shows major demographic and development indicators of taluka Wai, district Satara and Maharashtra.

It is observed that share of male and female population is almost equal in rural population of Wai, Satara and Maharashtra. Share of ST population is lower both at taluka as well as at district level as compared to that at the state level. It is seen that the combined share of cultivators and labourers was more than 60 percent in the case of both. For Maharashtra, share of cultivators and labourers was 52 percent and that of other workers was around 48 percent. Sex ratio and literacy rate for total population were higher in case of taluka Wai than the district and the state average.

Per capita income of the district was Rs 1.47 lakh in 2017-18 and was lower than the state average (Rs1.76 lakh). The statistics on irrigation shows that the around 31 percent of the Gross Cropped Area (GCA) was under irrigation in Satara, this percentage was lower i.e. 23.43 percent for Wai. It is observed that this percentage for state was only 17 percent, however it pertains to the year 2001. The average size of landholding in Satara was only 0.75

hectares and is typical of that prevailing in Western part of Maharashtra state. The average for the state was 1.44 hectares.

Table: 2. 1: Major Development Indicators: Taluka Wai, District Satara and Maharashtra

		Taluka Wai			District Satara			Maharashtra		
1	Distribution of male and female in total rural population (%) (2011)	M	F		M	F		M	F	
		49.75	50.25		50.12	49.88		51.22	48.78	
2	Share of SC and ST in total rural population (%) (2011)	SC	ST		SC	ST		SC	ST	
		9.1	2.4		10.8	1		11.83	9.34	
3	Total Main Workers (%) (2011)	Cultivators	Agl Laborers	Others	Cultivators	Agl Laborers	Others	Cultivators	Agl Laborers	Others
		44.36	20	35.64	44.05	20.57	35.38	26.19	25.85	47.97
4	Sex ratio rural (2011)	1010			995			929		
5	Literacy (%) (2011)	M	F	T	M	F	T	M	F	T
		90.67	77.92	84.22	88.68	74.21	81.4	88.4	75.9	82.3
6	Per capita income (Rs) 2017-18	-			1,47,761 *			1,76,102*		
7	HH rural below poverty line 2002-07	16.32			15.97			24.2		
8	% of GIA to GCA***	23.43			31.27			17.8		
9	Average size of landholding (2011)	-			0.75 hec			1.44 hec		

Note: 1. * GVA at current prices 2017-18, 2 ***2001, GIA, GCA= gross irrigated and cropped area respectively

Source: District Socio-economic Abstract, DES, GoI (2018) for Satara, Economic Survey of Maharashtra, 2019-20, GoI, 2020

The major features observed of Wai taluka are the higher rate of literacy and higher sex ratio than the district and state average.

2.3 Geographical and Administrative Information

Table 2.2 presents basic geographical and administrative information about the village. With a geographical area of 1089 m², Gulumb also has forest land of 416.52 hectares. It also has wells and stream on which the villagers depend for drinking water and

water for crops and other needs. It needs to be noted here that the annual rainfall data was available for centre Wai and hence that is reported. The village however has experienced low rainfall and droughts frequently in past few years.

Table 2.2: Geographical and Administrative Information of Village Gulumb

	Particular	
1	Geographical & administrative location of the village	Gulumb is a large village located in Wai Taluka of Satara district, Maharashtra
2	Village code	563080
3	Tehsil	Wai
4	District	Satara
5	Assembly constituency	Assembly Constituencies: (256 – Wai)
6	Parliament constituency	Parliamentary Constituencies: (45– Satara
7	Panchayat Total Number of governing body members:	11: Male - 4+1(Sarpanch), Female -6
8	Latitude & longitude	Latitude 17.996, Longitude 73.974
9	Geographical area	1089m ²
10	Temperature:	36-41°C in summer, 8-12°C in winter
11	Rainfall (mm) : Annual Average	1020 mm (Wai)
12	Soil type	Light to medium
13	Natural resources: Forest/Rivers/Pond/Wells	Wells and streams, Forest land 416.52 hectare
14	Trees mainly found in village/ forest	Mango, Custard Apple, Banyan, Neem
15	Animals found in village/ forest land	Buffaloes, Sheep, Goat, Dogs, Peacocks, Wild pigs

Source: Gram Panchayat office, Gulumb

Gram Panchayat Office, Gulumb



Main Chowk, Gulumb



Field Investigators in Gulumb



Gram Sabha Gulumb, January 2020



Field Investigator addressing Gram Sabha



2.4 Demographic Profile

An important aspect of the village is its demographic and occupational composition. Table 2.3 presents figures relating to Census 1981 and 2011 and compares the demographic structure wherever possible. The population of the village increased by 23 percent over the census period. It is also observed that share of females which was around 55 percent in total population reduced to 49 percent in 2011. Out of the total population, 80 percent of the population belonged to above 6 years age group. The rest belonged to 0-6 years age group. Caste wise distribution shows that over the period, with increase in population, share of SC and ST population increased considerably. However, overall only around 2 percent and 10 percent of the population belonged to SC and ST categories in 1981 and 2011 respectively. Thus, majority of the population belonged to open or general category. Also, the 1981 data shows that majority of the population belonged to Hindu religion and only a few i.e. around 3 percent of the HH belonged to Muslim religion. In all, 1 percent of the HH belonged to BPL category in 2011.

The table also shows classification of workers for both the census years. It is observed that the number of total workers and non-workers has increased by 6 percent and 7 percent respectively over the years. The data shows that most of the workers were main workers in both the years. The main feature that was noted was the reduction in share of female total as well as main workers in 2011 as compared to 1981. This is probably in line with reduction of female population over the concerned period. Unlike in case of total male workers, share of female total workers in population and main workers in total workers has reduced. This is accompanied by increase in the share of female non workers as well as marginal workers. This indicates a decline in workforce participation rate and higher share of marginal workers in 2011 than in 1981.

Table 2.3: Demographic Profile of Village Gulumb: 1981 and 2011

Particulars	1981			2011			% Change in Total
	Male	Female	Total	Male	Female	Total	
No. of HH	NA			769			
Total Population (Share of M and F in total (%))	1361 (45.45)	1633 (54.54)	2994 (100)	1597 (50.03)	1595 (49.97)	3192 (100)	22.58
Above 6 (% in total)	NA	NA	NA	89.04	89.71	80.92	-
Child (0-6) (% in total)	NA	NA	NA	10.96	10.28	10.62	-
Scheduled Caste (% out of total population)	1.7	1.9	1.80	7.9	7.2	7.6	412.76
Scheduled Tribe (% out of total population)	0.5	0.2	0.34	2.1	2.1	2.1	644.44
BPL Households (% of total HH)	NA	NA	NA	109			
Total Workers (% of above 6 yrs. population)	44.75*	54.38*	50*	65.40	46.33	49.90	6.41
Main workers (% of total workers)	99.34	94	96.19	95.27	81.47	89.51	-0.97
Marginal Worker (% of total workers)	0.66	6	3.80	4.73	18.55	10.48	192.98
Non worker (% of total population)	43.57	31.47	37	41.77	58.43	50.09	6.81
Sex Ratio	1200			999			

Note: * % to total population in absence of data on above 06 yrs population

Source: Primary Census Abstracts Satara, various years

A notable feature observed from the above table is the sex ratio in Gulumb which was 1200 females per thousand males in 1981 and has drastically reduced to 999 females in 2011. It is now comparable with that of Wai (1010) and Satara (995) as can be seen from table 2.1. Reduced share of females in total population, decline in sex ratio, lower workforce participation rate in 1981 raise concerns about gender balance in the village.

The industrial classification of workers over a period of time clearly reveals considerably reduced share of cultivators – for both male as females. It can be noted from table 2.4 that share of agricultural labourers has increased in case of females and they accounted for 29 percent of the Total Main Workers (TMW) in 2011 against 18 percent in 1981. The other important feature has been the number as well as the share of other workers, which has increased by almost 352 percent. This highlights expansion of non-farm sector and engagement of villagers in this sector. The increase in the percentage share is considerable for male as well as female workers during the period.

Table 2.4: Industrial Classification of Workers in Gulumb: 1981 and 2011

Category	1981			2011			% Change in number of Total Workers
	Male	Female	Total	Male	Female	Total	
Cultivators	73.16	77.91	75.67	50.90	55.74	52.73	-26.49
Agricultural Labourers	18.56	18.45	18.49	15.80	29.26	20.90	19.2
Other Workers	8.28	3.64	5.84	33.30	15	26.37	351.54
Total Workers	100	100	100	100	100	100	

Source: Primary Census Abstracts Satara, various years

2.5 Pattern of Settlement

The village is divided in four sections or *Wadis*. These are - the Jadhav wadi, the Yadav wadi, the Wanvas wadi and Mayureshwar which is the 4 th wadi and sub section of the village located around 5 km from the main village. The settlement pattern denotes continuation of the typical traditional settlement pattern based on caste observed during the 1976 survey of the village (Dandekar et al, 1987). The former two are the sections of village where dominant Maratha caste population is settled traditionally. The Wanwaswadi denotes settlement of households at the periphery and hill slopes and belonging to by and large scheduled category population. Such a settlement pattern denotes social fabric of the village based strongly on caste and perhaps limitations to having mixed settlement given the lower extent of increase in the village population over the years and space constraints.

2.6 Livelihood/Employment and Migration Status

Discussions with the village officials revealed that majority of the families were landowners and cultivated their land. However, majority of the families had secondary sources of income also. With older generation staying in the village and looking after cultivation, the younger generation members in well to do families have permanently migrated for education and employment. Discussion revealed that some of the younger generation members have their own businesses such as transport. Some of the household members have been working in nearby industries. Some of the villagers work in the service sector such as in restaurants at taluka place or nearby towns and commute daily. Also, through a number of Self Help Groups (SHGs) working in the village, the women members have been engaged in jewelry making, chulha making, tailoring etc. As is clear from table 2.3, dependence of villagers on agriculture has declined over the concerned years. Engagement in the non-farm sector has considerably increased as is clear from increased share of other workers in the census year 2011 as compared to 1981.

Discussions revealed that around 1980, there were a number of cane crushing and jaggery units in the village and provided employment to the villagers. With passage of time, their number reduced mainly owing to the rules and regulations relating to sugar factories relating to distance at which jaggery units needed to be located from the factory.

The village has witnessed permanent as well as seasonal migration and also has household members who work outside village. This clearly indicates occupational diversification at the village level and increased level of integration with the urban centers.

However, the data relating to number of families migrated could not be made available by the village officials.

2.7 Agricultural Status: 1976 and 2018-19

2.7.1 Land Ownership Pattern in Gulumb

Discussions with the village officials revealed that majority of the farms were marginal and small farms with a size of less than two hectares. It was informed that most of the farms were family operated farms and incidence of leasing in and leasing out of land was very low.

2.7.2 Land Use Pattern and Irrigation

Table below presents information about agricultural status of the village as a whole in 1976 as well as in 2018-19. The table shows only data which is available in both the years and comparable. It is observed that the cultivable land has declined marginally in 2018-19 as compared to 1976. It is also observed that the percentage area irrigated was merely 15

percent in 1976. However, in 2018-19, 52 percent of the land was irrigated, 35 percent was dry land and 13 percent had remained fallow. Thus there was remarkable increase in area under irrigation over the concerned period.

Table 2.5: Land Use Pattern and Irrigation in Gulumb : 1976 and 2018-19

1	Land utilization pattern (ha)	1976	2018-19
	Cultivable land (ha)	880.40	873
	Fallow	NA	(13%)
	Dry land (%)	84.51%	306 (35%)
	Irrigated land(%)	15.49%	456(52%)
2	Source of Irrigation and Irrigation Infrastructure	Chandrabhaga stream bunds, Percolation tank, Wells	Chandrabhaga stream bunds 1 Percolation tank– 1 Cement Nala Bandhara - 8 Mati Bandhare – 19-20

Source: Dandekar et al (1978), Office of Gram Panchayat Gulumb.

In both the years, irrigation infrastructure consisted of chandrabhaga stream, wells and the percolation tank. However, as per the latest information, now there are more number of bandharas/ bunds which have been constructed for ensuring water supply to the village.

Table 2.6 shows number of private farm ponds, dug wells and tube wells in the village and indicates inadequacy of public sources of water for satisfying water needs of the HH. In 2019, there were 6 farm ponds, 9 tube wells and 199 dug wells in the village. Over the years, the number of these has increased. In case of dug wells, it is noticed that the rate of increase per year has reduced over the period.

Table 2.6: Cumulative Number of Ponds, Dug Wells and Tube-Wells in Gulumb during Last 5 Years

Year	Farm Ponds	Dug Wells	Tube Wells
2015	4	176	2
2016	5	186	5
2017	5	191	5
2018	6	196	9
2019	6	199	9

Source: Agricultural Assistant, Gulumb

2.7.3 Cropping Pattern: 1976 and 2018-19

Table below on cropping pattern of the village as a whole shows that main crop cultivated in 1976 was jowar (51 percent). Other main crops were bajra, groundnut, matki, sugarcane and beans and occupied around 80 percent of the cropped area.

It is observed that over the concerned period, share of jowar declined to 26 percent, whereas that of beans, groundnut, wheat, gram and sugarcane and maize increased. These crops contributed around 70 percent of the total cropped area in the year 2018-19. Beans has been a traditional pulse crop in the village and its share has increased considerably. Area under sugarcane also recorded an increase from 4 percent to 7 percent.

The crops which were not recorded in 1974 but were cultivated in 2018-19 were soybean, maize, green pea, fruits and ginger. This change reveals that the villagers have been gradually shifting their cropping pattern to more commercial and high value cropping pattern. It was also observed that all kharif crops were rain fed. In case of rabi crops, except jowar, all crops were fully irrigated. Overall, 74 percent of the total cropped area (TCA) was irrigated in 2018-19.

A comparison of yield figures of crops for which data for both the years was available is also presented in the table. As reliable data on cropping pattern could not be obtained for the village as a whole for the year 2018-19, Wai taluka figures available on the government website were considered for comparison. Also, as yield data for the year 1976 was not available, figures documented for the year 1966-67 were used for comparison. It is revealed that yields increased during 1966-67 and 2018-19. In case of jowar, gram and summer groundnut which were common crops for both the years, yields have increased by 95 percent, 150 percent and 200 percent respectively over a period of around 55 years.

Table 2.7 : Village Level Cropping Pattern of Gulumb 1976 and 2018-19 (%)

	Crop	Cropping Pattern 1976 (%)	% Area under irrigation (out of area under crop)	Yield** 1966-67 Kg/acre	Cropping Pattern 2018-19 (%)	% Area under irrigation (out of area under crop)	Taluka Yield*** 2016-17 Kg per acre	Percentage Change (%)
	Kharif							
1	Paddy	0.5	NA	468	-	-	-	
2	Beans	2.9	NA	-	32.75	-		
3	Groundnut	5.6	NA	321	7.19	-	358	11.53
4	Green pea	--	NA		1.44	-		
5	Soybean	-	NA		0.80	-		
	Total		-	-	-	-		
	Rabi and Sugarcane		NA					
1	Bajra	14.1	NA	48	-	-	-	
2	Jowar	51.1*	NA	206	26.04	26	402	95.15
3	Wheat	1.0	NA	NA	8.47	100	452	
4	Gram	0.7	NA	103	7.03	100	310	201
5	Maize (fodder)	-	NA	-	2.72	100		
6	Matki	9.4	NA	-	-			
7	Safflower and other oilseeds	4.3	NA		-			
8	Vegetables	1.4**	NA	-	1.44	100		
9	Fruits	-	NA	-	0.80	100		
10	Ginger	-	NA	-	1.28	100		
11	Turmeric	0.2	NA	-				
12	Sugarcane	4.7	NA	NA	7.67	100	-	
	Total		NA			227(ha)		
	Summer		NA					
1	Groundnut	-	NA	321	0.32	100	837	160.75
2	Maize(fodder)	-	NA		1.12	100		
3	Vegetables		NA		0.96	100		
4	Other crops	7.00	NA					
	Total	100	NA		100	100		
	Total cropped area	867 ha	NA		626 ha			
	Area irrigated		**		74 percent	242		

Note: * Includes hybrid jowar, 8 %, **Yield figures not available for the year 1976, ***Due to non-availability of proper yield data for the year 2018-19 for village as a whole, taluka average figures considered for comparison

Source: Dandekar et al (1978), <http://krishi.maharashtra.gov.in>

2.7.4 Crop Varieties Cultivated

Tables below indicate varieties cultivated, varieties introduced and varieties discontinued. Table 2.9 shows that for major crops of the village such as sorghum, beans and sugarcane, new varieties were introduced for increasing yield of crops since 2015. Table 2.10 shows the varieties which were discontinued.

Table 2.8: List of Varieties Cultivated Since 2015

		Varieties				
	Crops	1	2	3	4	5
1	Turmeric	Selum	Rajapuri	Krishna	Lokhandi	-
2	Ginger	Kalikat	Varad	Nagthane	-	-
3	Bean	Varun	Phule Rajama	-	-	-
4	Sugarcane	CO.86032	COM-265	VSI-434	COM-10001	-
5	Onion	Garava	Basawant780	-	-	-
6	Soyabean	DS-228	IS-335	Phule Agrani	Phule Sangam	-
7	Gram	Vijay	Digvijay	Jakki	Ranvijay	-
8	Sorghum	Maldandi 35-1	Dagadi	Phule Suchitra	Phule Vasudha	Phule Revati
9	Wheat	LOK-1	HD-2189	NIAW-34	NIAW 301	Phule Samadhan

Source: Agricultural Assistant, Gulumb

Table 2.9: List of Varieties Introduced Since 2015

	Crop	2015	2016	2017	2018	2019
1	Turmeric	Selam				
2	Ginger			Kalikat	Varad	
3	Bean	Varun				
4	Sugarcane			VSI-434	COM10001	
5	Onion				B.780	
6	Soyabean				P.Agrani	P.Sangam
7	Gram		Vijay	Digvijay	Jaki	Ranvijay
8	Sorghum			P.Suchitra	P.Vasudha	P.Revati
9	Wheat		NIAW-34	NIAW-301	P.Samadhan	MACS6222

Source: Agricultural Assistant, Gulumb

Table 2.10: List of Crop Varieties Discontinued Since 2015 in Gulumb

		Varieties Discontinued				
1	Crop	2015	2016	2017	2018	2019
2	Turmeric	Lokhandi				
3	Bean	Vaghya				
4	Gram					Chaffa

Source: Agricultural Assistant, Gulumb

2.7.5 Use of Fertilizers and Pesticides

Table 2.11 shows NPK use as well as recommended doses of fertilizers (RDF) in case of major crops. It is observed that the current use of NPK fertilizers is less than the RDF in case of all the crops. The data also shows use of organic manure along with pesticides (table 2.12).

Table 2.11: Crop wise NPK Use and Recommended Doses as per SHCs during Last Five Years

	Crop	NPK Use (kg/ha)	Recommended dose as per SHC
1	Turmeric	120:60:60	200:100:100
2	Ginger	80:40:40	120:75:75
3	Bean	20:40:0	30:80:0
4	Sugarcane	200:100:100	300:140:140
5	Onion	50:20:20	100:50:50
6	Soybean	30:40:0	50:75:0
7	Gram	20:30:0	25:50:30
8	Sorghum	50:25:0	60:30:0
1	Wheat	80:40:40	120:60:40

Source: Agricultural Assistant, Gulumb

Table 2.12: Pesticide and Farm Yard/ Organic Manure Use in Gulumb

	Crop	Pesticide Use (kg/ha)	FYM/Organic Manuare Use (tonne/ha)
1	Turmeric	4.0	20.0
2	Ginger	7.0	25.0
3	Bean	-	4.0
4	Sugarcane	-	20.0
5	Onion	2.0	10.0
6	Soyabean	-	5.0
7	Gram	-	4.0

Source: Agricultural Assistant, Gulumb

2.7.6 Marketing Channels and Procurement System

It was revealed that most of the agricultural produce is taken to the Agricultural Produce Market Committees (APMC) for selling. The sugarcane crop is sold to the sugar factory at Bhuinj in Wai taluka. The milk goes to taluka cooperative Doodh Sangh for its sale.

2.7.7 Livestock in the Village

The data on livestock in two periods of time shows that the number of cows has increased by around 45 percent during the concerned period. Also, table indicates that probably in 1976, all the cows were indigenous. As per 2012 census however, around 96 percent of the cows were of hybrid type. The number of bullocks, buffaloes and sheep has drastically reduced. However, the number of goats has increased. This is a major change and indicates importance of demand driven supply of poultry products.

Table 2.13 : Livestock in Gulumb : 1976 and 2012

	1976		2012, Livestock Resources Census 19 th census			
1	Cow	226	Cows	501	Indigenous: 20	Hybrid: 481
2	Bullock	259	Bullocks	16	Indigenous: 11	Hybrid:5
3	Buffalo	227	Buffaloes	175	Male-6	Female- 169
4	Sheep	400	Sheep	71		
5	Goat	177	Goat	345		
6	-		Hen(indigenous)	997		
7	-		Hen (poultry farm)	15000		

Source: Agricultural Assistant, Gulumb, Dandekar (1978)

The table also shows that a large number of poultry birds were documented during 2012 census. The table probably indicates reduced need / preference of the farming HH for bullocks and preference for rearing goat and poultry birds for earning income.

2.8 Education

The table 2.14 shows considerable increase in percentage of literates in the village in 2011 as compared to 1981. Percentage of literates among males as well as females has increased. As a result, overall, percentage of literates has increased by about 59 percent. 91 percent of the males and 81 percent of the females were literate in 2011. Overall, 86 percent of the total population (above 06 yrs) was literate.

Table 2.14 : Percentage of Literates in Gulumb: 1981 and 2011

	1981			2011			% Change in Total
	Male	Female	Total	Male	Female	Total	
Literate population (% of total population above 06 yrs)	66.86*	43.54*	54.14*	91.35	80.85	86.08	59.26

Note: * % to total population in absence of data on above 06 yrs population

Source: Primary Census Abstract, Satara, 1981 and 2011, GoI

Table 2.15 shows presence of schools and colleges in the census years from 1981 to 2011 and in the survey year of 2020. It is seen that the village had primary and secondary schooling in 1981, however, preprimary schools or anganwadis did not exist as per Census

2001. 2011 census recorded presence of 5 ananganwadis in the village. Currently, Gulumb has 4 ananganwadis under Integrated Child Development Scheme (ICDS). There were 2 primary schools initially in the village in 2001 as well as in 2011. One was government run school and the other was a private English medium school which started in the village temple. However, discussion with the villagers revealed that the English medium school had to be closed down sometime after 2011 due to lack of response from the village HH.

Table 2.15: Educational Infrastructure in Gulumb, 1981- 2019-20

Census Year	1981	1991	2001	2011	2020
Pre-Primary School (PP)	NA	NA	NA	5	4
Primary or elementary school	1	1	2	2	1
Junior secondary / Middle school	1	1	1	1	1
Matriculation or secondary school	1	1	1	1	1
Senior Secondary School (PUC)	NA	NA	NA	Available nearby 5-10km	Available nearby 5-10km

Source: Primary Census Abstract, Satara, 1981 and 2011, GoI, Field work for the year 2019-20.

It was also revealed that some of the villagers send their children to good English medium schools in nearby Chandak and Vele villages and hence currently, English medium school doesn't exist in Gulumb. There is a Marathi primary school and a high school. However, for senior secondary school and college, the students have to travel to the taluka place. Table 2.16 shows the number of children enrolled in ananganwadis of the village. There are 4 ananganwadis and are working regularly. The total number of ananganwadi children is 191.

Table 2.16: Number of Members of Anganwadis of Gulumb as in December 2019

	Age group	Gulumb – 1			Gulumb – 2			Gulumb – 3			Gulumb – 4		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	*6 months to 1 year	2	0	2	2	2	4	2	1	3	1	1	2
2	*1 to 2 years	6	4	10	4	6	10	5	2	7	2	3	5
3	*2 to 3 years	3	3	6	3	5	8	6	4	10	3	5	8
4	*Expectant Mothers	2		2	2		2	3		3	2		2
5	*Nursing Mothers	3		3	6		6	3		3	2		2
6	3 to 4 years	4	4	8	4	3	7	3	4	7	3	2	5
7	4 to 5 years	4	3	7	8	7	15	6	5	11	4	3	7
8	5 to 6 years	2	3	5	4	3	7	4	4	8	3	3	6
	Total			43			59			52			37

Note: * Take Home Ration (THR) Provided

Source: Anganwaadi Registers, Gulumb

Anganwadi in the Main Temple, Gulumb



Mid-day meal is provided to all the children and daily details are uploaded on the App. This monitoring system is based on a common application software named ICDS-CAS. The ICDS-Common Application Software (CAS) is one of the main components of POSHAN Abhiyaan of the Central Government. Under this Abhiyaan, Anganwadi Workers (AWW) and lady supervisors have been equipped with smart phones/tablets pre-installed with a CAS. The Software application facilitates the capture of data by frontline functionaries and a six-tier dashboard ensures the monitoring and intervention mechanism. It enables monitoring of growth of the children with the help of auto plotting of growth chart on the mobile application; auto-generated task list and home visit scheduler for enabling AWW to focus on the beneficiaries based on priority. System generated SMS alerts are sent to beneficiaries and stakeholders. The data is available on a real time basis and can be viewed by different functionaries at block level, district level, state level and national level through dynamic dashboard using credentials (GoI, <https://wcd.nic.in/schemes/anganwadi-services-scheme>)

The information relating primary and secondary schools for the last five years was collected from respective schools (tables 2.17 and 2.18). Table 2.17 shows that the total enrolment in primary school has been declining 2015-16 onwards. It declined from 121 to 93 in 2019-20. One of the explanations put forth for this declining trend was availability of private schools in nearby developed villages and at taluka place and preference of better off families for such schools. Another observation from this data related to composition of male and female students. It was observed that the total number of enrolled female students in 1st to 4th standards was higher in almost all years except 2015-16. This probably indicates enrolment of boys in better schools outside the village.

Table 2.17: Enrolment in Primary School Gulumb, 2015-16 to 2019-20

	2015-16			2016-17			2017-18			2018-19			2019-20		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	15	17	32	13	16	29	9	15	24	7	8	15	7	9	16
2	20	14	34	16	18	34	15	15	30	8	15	23	10	9	19
3	14	14	28	18	14	32	16	19	35	16	14	30	9	19	28
4	14	13	27	14	14	28	17	14	31	17	17	34	16	14	30
Total	63	58	121	61	62	123	57	63	120	48	54	102	42	51	93

Source: Office of Principal, primary school, Gulumb, Field survey, 2020

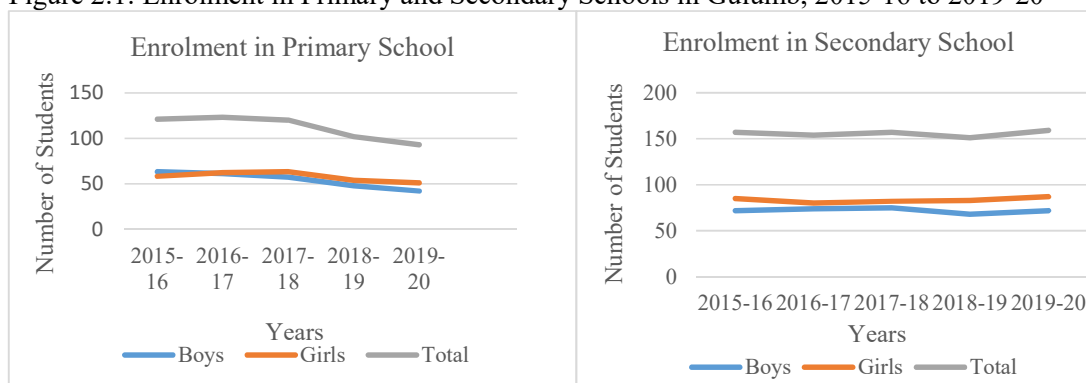
As far as secondary school is concerned (table 2.19), total number of enrolled students has not been declining like in case of primary school. However, the data clearly shows higher number of girl students than the boy students every year during 2015-16 to 2019-20. This again may be indicative of enrolment of boys into better schools in other villages. These trends are presented in figure 2.1

Table 2.18: Enrolment in Secondary School Gulumb, 2015-16 to 2019-20

Std	2015-16			2016-17			2017-18			2018-19			2019-20		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
5	12	16	28	14	13	27	13	11	24	13	11	24	13	19	32
6	11	19	30	13	16	29	15	13	28	11	12	23	13	12	25
7	8	16	24	11	17	28	13	16	29	11	13	24	10	11	21
8	13	11	24	8	14	22	11	16	27	11	16	27	11	12	23
9	15	10	25	14	10	24	10	15	25	12	16	28	13	17	30
10	13	13	26	14	10	24	13	11	24	10	15	25	12	16	28
Total	72	85	157	74	80	154	75	82	157	68	83	151	72	87	159

Source: Office of Principal, Secondary School, Gulumb, Field survey, 2020

Figure 2.1: Enrolment in Primary and Secondary Schools in Gulumb, 2015-16 to 2019-20



Source: Based on tables 2.10 and 2.11

In the Primary School Campus, Gulumb



Secondary School, Gulumb



2.9 Social and Financial Institutions

There are around 32-35 SHGs in the village and majority of them are formed by women. These groups consist of around 10-20 members each and are involved in livelihood activities like making candles, artificial jewelry, tailoring jobs, retail shops, livestock rearing, chulha making etc. Senior citizens group in the village is also very active. Members meet once in a month on Sundays and engage in activities like Bhajans, Kirtans and discuss spiritual ideas.

Senior Citizens Group, Gulumb



Table below shows that the village did not have commercial as well as cooperative banks within the village as well as nearby during 1981 and 1991. 2001 census reported presence of these institutions within 5/10 kms from the village. Presence of ATM within 0-5kms was reported in 2011. As the table shows, ICICI bank ATM was installed and started working in August 2020. The 1976 report notes presence of cooperative credit society which was established in 1930 and was affiliated to the Bombay Cooperative Provincial Bank. However, information about this society in the post 1976 period could not be obtained. Currently, there is one cooperative society, one Primary Agricultural Credit Society (PACS) and a District Agricultural Credit Society (DACS) in the village.

Table 2.19: Financial Institutions in Gulumb.

		1981	1991	2001	2011	2019-20
1	Commercial Bank	NA	NA	Available within 0-5 kms	Available within 0-5 kms	Available within 0-5 kms
2	Cooperative Bank	NA	NA	Available within 0-5 kms	Available within 0-5 kms	Yes
3	ATM	NA	NA	NA	Available within 0-5 kms	Yes ICICI Bank ATM started in August 2020

Source: Primary Census Abstract, Satara, 1981 and 2011, GoI and Field survey 2020.

There is Shetkari Sahakari Vikas Seva Society also for sale of inputs and provision of advisory to the farmers.

2.10 Health Facilities

Table below shows the census data on health infrastructure as documented in decadal census. It is observed that a number of facilities such as primary health centre, medical shop or dispensary were not available in the village earlier i.e. before 2000. It still doesn't have a maternity home and a hospital. However, they are available at a distance of 5/10 km in nearby villages/ taluka place. The village has primary health sub centre (PHC) with auxiliary nurse midwife (ANM) and a health worker. Private medical Homeopathy and Ayurveda practitioners are also there in the village.

Table 2.20: Health Infrastructure in Gulumb: 1981-2020

		1981	1991	2001	2011	2019-20
1	Allopathic Hospital (H)	NA	NA	Within 5-10 km	Available nearby 10+km	Available nearby 10+km
2	Maternity Home (MH)	NA	NA	NA	NA	NA
3	Primary Health Sub-Centre (PHS)	NA	NA	1	1	1 with ANM nurse and 1 health worker
4	Registered Private Medical Practitioner (RMP)	NA	NA	1	1	2
5	Medicine Shop	NA	NA	NA	1	1
6	Mobile health clinic (MHC)	NA	NA	NA	Available nearby 10+km	Available nearby 10+km
7	Veterinary hospital (VH)	NA	NA	NA	Available nearby 0-5km	Government sub centre in the village

Source: Primary Census Abstract, Satara, 1981 and 2011, GoI and Field survey 2020.

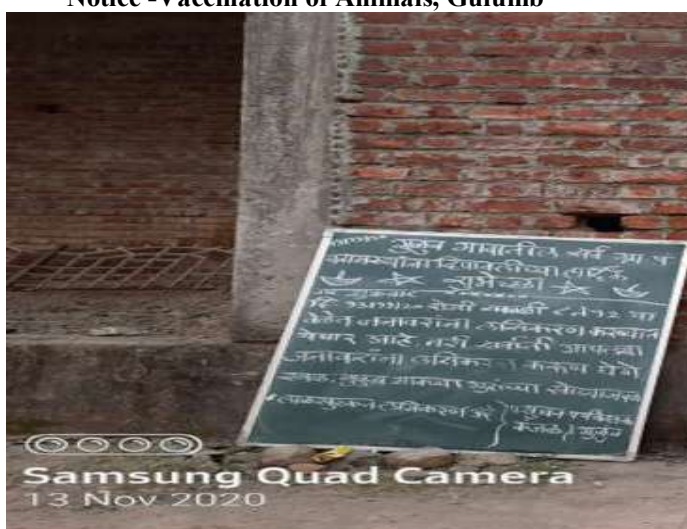
Primary Health Sub Centre, Gulumb



Veterinary Clinic, Gulumb



Notice -Vaccination of Animals, Gulumb



2.11 Other Village Infrastructure

The information relating to village infrastructure shows availability of basic infrastructure in Gulumb in the census years (table 2.21).The village had taps-wells-handpumps, electricity, post office, bus stop in 1981. At the time of the field work 2019-20, each village HH had water tap. The main source of drinking water is public wells, through which water is carried to an overhead tank and supplied to village HH through pipelines.

The village is now well connected with Wai, the taluka place which is located at a distance of 13.5 km from Gulumb. The Mayureswar bus stop is located at Mayureswar (earlier called as Kochale wadi) which is a sub section of Gulumb.

There are two APMCs at Wai and at Khandala which are within a distance of 15 km from the village, the weekly market which is held at Surur, is nearby. The village has sub branch of post office. The village is 100 percent electrified and has 100 percent piped water supply. There are 3 public tube wells and 4 public wells which provide water to the village.

All the villagers have facility of tap water supply. The village also has one ration shop for public distribution of food grains. There is a playground and also a public library in the village.

Sub Brach, Post Office Gulumb



Public Library, Gulumb



Bus Stop at Mayureshwar, Gulumb



District Cooperative Central Bank



Table 2.21: Other Village Infrastructure in Gulumb : 1981-2020

	Census Year	1981	1991	2001	2011	2020
1	Drinking Water	Tap, wells, hand pumps	Tap, wells, hand pumps	Tap, wells, hand pumps	Tap, wells, hand pumps	100 % Tap water supply, 4 open wells, 3 bore wells
2	Post and Telegraph	Yes	Yes	Yes	Yes	Yes Sub Branch in Village Main Branch in Kenjal (3 KM)
3	Electricity	yes	yes	Yes	Yes	100 percent electrification
4	Market	available within 5-10 kms	available within 5-10 kms	available within 5-10 kms	available within 5-10 kms	Wai APMC- (14 KM), Khandala APMC – (14 KM) Weekly Market in Surur (4 KM)
5	Banks	NA	NA	Commercial Bank available within 0-5 kms	Commercial Bank available within 0-5 kms	Commercial Bank available within 0-5 kms
6	Co-operative Bank	NA	NA	Co-operative Bank available within 0-5 kms	Co-operative Bank available within 0-5 kms	Co-operative Bank available within 0-5 kms
7	PDS	NA	NA	NA	NA	Yes
8	ATM	NA	NA	NA	available within 5-10 kms	Yes ICICI Bank ATM started in August 2020
9	Agricultural Credit Society	NA	NA	1	1	PAC: 1 DACS : 1
10	Other Credit Society	NA	NA	3	NA	1
11	Cinema/ Video Hall	NA	NA	available within 10+ kms	available within 10+ kms	available within 10+ kms
12	Sports Club	NA	NA	1	available within 10+ kms	available within 10+ kms
13	Play ground	NA	NA	NA	NA	Yes
14	Public Library	NA	NA	NA	Yes	Yes
15	Transport	Bus Stop	Bus Stop	Bus Stop	Bus Stop	Wai – Gulumb (MSRTC bus: 6 round trips), Other private vehicles
16	Telecommunications	NA	NA	NA	NA	No Landline Majority of people use mobile
17	Internet cafes/ Common service centre	NA	NA	Available within 10+ kms	available within 10+ kms	available within 10+ kms
18	Approach to village	Kuccha road	Pucca road	Pucca road	Pucca road,	Pucca road,

Source: Primary Census Abstract, Satara, 1981 and 2011, GoI and Field survey 2020.

2.12 Socio Cultural Profile of the Village

Like any other village, Gulumb also has its traditional religious and cultural life. There are in all 7 temples and 1 mosque in the village. Two village jattras– *Gram jatra* and the other – *Chouneshwar jatra* – are held traditionally every year.

The village folk belonging to the older generation wear traditional Maharashtrian costume- saree in case of women and dhoti, kurta and topi in case of men. The language spoken in the village is Marathi. Village cuisine typically involves jowar/ bajra bhakri / wheat roti, rice, subjis and daal.

Table 2.22: Socio - Cultural Profile of Village Gulumb

1	Fairs and festivals	Gram Yatra – In April- May Chouneshwar Yatra - In November
2	Temples/Mosques/Churches etc	Temples-7, Mosques-1
3	Dress and ornaments	Typical Maharashtrian costume: saree for women, dhoti, kurta and topi for men
4	Languages	Marathi
5	Food habits	Jowar/ bajra bhakri, wheat roti, rice, vegetables, daals.
6	Caste composition	General: 75 (Maratha) NT/OBC: 15% (SC/ST) 10 %
7	Major Political Parties	Major Political Parties: BJP, Congress, NCP and Shivsena

Source: Discussion with villagers, village officials

The caste composition of the village shows that around 75 percent of the households belong to Maratha caste, 15 percent of the households OBC category and only 10 percent of the households belong to SC/ST category. The settlement of the village is typical and is based on caste. Thus, families belonging to same caste stay in a particular part of the village. As in any other village, caste system is an integral part of the social fabric and marriages outside the caste are not preferred.

The village is dominated by Hindu population and very few (Five) households were Muslim households. Discussions with the villagers did not reveal existence of any communal tensions in the village.

2.13 Unique Features of the Village

Gulumb village is unique due to the Awards it has received. Way back in 2005, it received *Vanashree Award*, which is now called ‘Chhatrapati Shivaji Maharaj Vanshree Award’. This is given at the state level to honour outstanding work in the field of tree planting and conservation in the forested areas of the state.

For increasing sanitation coverage and for ensuring better health and quality of life for population residing in rural areas, the central government launched an award based incentive scheme “*Nirmal Gram Puraskar*” for fully sanitized and open defecation free Gram Panchayats, Blocks, Districts and States in October 2003. Gulumb received this award for the year 2008.

The Department of Rural Development, Government of Maharashtra in recognition of efforts of village Gulumb to preserve and nurture the environment for preventing adverse effects of global warming, awarded it with *Paryavaran Santulit Samruddha Gram Vikas* award in 2010.

Gulumb was declared as Open Defecation Free (ODF) village. A village is declared ODF provided that it follows checklist of guidelines and measures provided by the Ministry of Drinking Water and Sanitation, GoI, so that no visible feces is found in the environment/village; and every household as well as public/community institution uses safe technology option for disposal of feces.

Table 2.23: Unique Features of Village Gulumb

	Awards	Year	Given by
1	Vanashree Puraskar	2005	
2	Nirmal Gram Puraskar	2008	Department of Drinking Water And Sanitation, Government of India
3	Vimagram Puraskar	2008	Life Insurance Corporation of India
4.	Sarv Shiksha Abhyan Purskar	2008	Government of India
5	Environmental Balanced Prosperous Village Development	2010	District Forest Department
	Other features		
1	Open Defecation Free (ODF) Gram		Guidelines by Ministry of Drinking Water and Sanitation, GoI
2	Tantamukta Gav		Alternative Dispute Resolution Scheme of Home department, GoM
3	No Liquor shop in village		
4	Construction of Smashan Bhumi		Self-funding by village HH, 5/6 thousand people can be accommodated, mainly used for tree plantation
	Unique scheme		
	Stream Linking Project	2018	

Source: Office of Gram Panchayat, Gulumb.

Moreover, Gulumb also is a tantamukta gav. The Mahatma Gandhi Tantamukt Gaon Mohim is a village level Alternative Dispute Resolution (ADR) system initiated by the state government. It seeks to prevent the occurrence of disputes and to resolve existing disputes

at the village level itself through formation of village level committees for solving disputes. It was reported by the village officials that the committee consists mainly of teachers, retired military personnel and lawyers. Members of the committee change every year on the Independence Day.

Gulumb also boasts being liquor shop free village. The village has also received Vimagram puraskar (2008) and Sarv Shiksha Abhiyan Purskar GOI, in 2008. It was also reported that the first Sabhapati of the Panchayat Samittee of Wai was from Gulumb.

Gram Panchayat Office, Gulumb

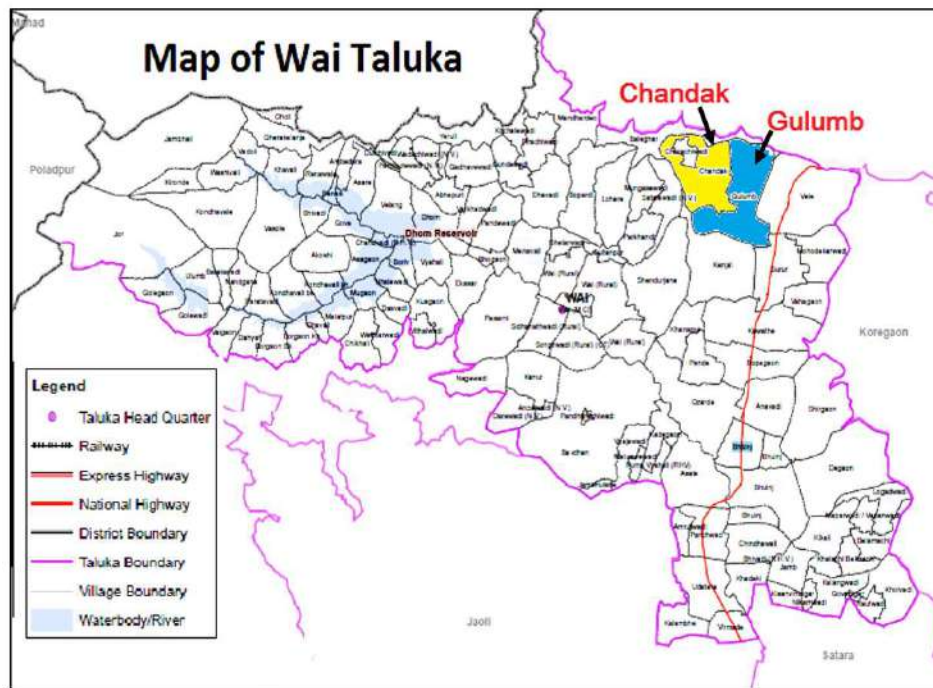


The most important and unique feature of the village is the project wherein it connected natural streams to the lake for increasing availability of water. Discussion with the villagers and village officials revealed that due to the recurrent droughts in the 5 years before 2018-19, dire need was felt to find a solution to this problem of water scarcity and make the village drought free. The meetings between the villagers, the water supply department and Zilla Parishad (ZP) officials led to the emergence of idea of linking percolation tank and the stream in Gulumb to the storage tank in nearby by Chandak village situated at the bottom of a hill. Due to the linking, surplus water in the latter would flow towards Gulumb and satisfy needs of Gulumb villagers.

The collaboration between villagers, civil society organisations, industries around the village and the government led to collection of required amount of funds needed for completing the work. A fund of more than 80 lakhs was raised for this purpose through joint

effort. The important feature of this collaborative activity was the contribution of the villagers to the fund. A collection chamber was constructed near Chandak storage tank from where the water was taken to Gulumb percolation tank through a pipeline. Thus, the two tanks at a distance of around 1130 meters in two different villages were joined through a pipeline. (Agrowon Marathi daily <https://www.agrowon.com/agriculture-story-marathi-agrowon-gavshiwar-water-conservation-gulumb-vai-satara-12250>). The streams linked to the tanks thus got connected.

Map 2.1: Taluka Wai: Villages Gulumb and Chandak



Source: https://mrsac.gov.in/writereaddata/MRSAC/map/15663876565d5d2dc8d768bTH_BID_Kaij.pdf

The Pipeline from Chandak to Gulumb and the Percolation Tank in Gulumb



Source: Mrs. Alpana Yadav, ex Sarpanch, village Gulumb,

Villagers have also constructed a Samshan Bhumi, which can accommodate 5-6 thousand people. Villagers shared the cost of the project without government aid. A large

number of trees have been planted over there. This afforestation has enriched the ecology of the village.

2.14 Gulumb and the Covid Pandemic

During Covid pandemic, strict measures were implemented by the village authorities. Entry of outsiders was strictly banned in the village during the lockdown period. Covid care centres were started for villagers entering into the village from outside and social distancing was followed within the village. Almost Rs. 3.45 lakhs were spent on various measures for keeping corona away from the village. As a result, the village also boasts of being a Corona Free village from the beginning i.e. March 2020 till October end 2020.

Notices regarding Care to be taken during Corona Pandemic, Gulumb



2.15 Concluding Remarks

The information relating to Gulumb as revealed from census data, the report published in 1978 and the primary data collected during current survey indicates that a number of changes have taken place at the village level in terms of demographic characteristics, industrial classification of workers, civic amenities, development infrastructure and agricultural sector. The demographic changes reveal occupational diversification of total main workers. It also indicates reduced share of females in population, decline in sex ratio, reduced workforce participation and higher share of marginal workers in case of females which are the phenomena causing concern. The village had basic infrastructure such as water, electricity, transport, communication, education, and credit facilities in 1981 which developed and further got expanded over the concerned period. Basic health facilities were developed. The village got pucca approach road. The village now has a ration shop, anganwadis, sports ground and public library which did not

exist in 1976. Over the period, percentage of irrigated land has also increased and cropping pattern diversified. The social structure of the village has however remained more or less same with Marathas as the dominant social category. The settlement pattern of the village also is based on social status. The village has received a number of awards given by centre/ state government departments and the unique feature of Gulumb has been the stream linking project which was recently undertaken for getting over the problem of recurrent droughts. This is perhaps one of its kind in the state and in the country as well.

The villagers have been traditionally growing sugarcane. Also, a cooperative credit society was established in the village in 1930. Thus, cultivation of commercial crop like sugarcane and availability of credit for agriculture traditionally have been the two major features of the village and perhaps these have provided the needed stimulus for remaining integrated with the urban centres and for diversification of the occupational structure.

Chapter III

Demographic and Social Characteristics of Village Sample Households 1976 and 2019-20

3.1 Introduction

Chapter 2 made an attempt to understand the changes that have taken place at the village level in the last 45 years. The objective of this chapter is to analyse the responses of the sample HH collected through field survey and understand the changes which have taken place during 1976 and 2019-20 in major characteristics of the sampled households. This mainly includes the demographic characteristics, the educational status, and distribution of landholdings and access of the HH to various civic amenities which tend to change / develop over a longer period of time.

Through the Village for Survey



3.2 Demographic Characteristics of the Households

The following table shows comparable characteristics of the households surveyed in Gulumb in both the survey years. It is noted that the percentage of population above 06 years has increased from 82 percent in 1976 to around 94 percent in 2019-20. Thus, correspondingly, population below age 06 years has reduced from 17 percent to around 6 percent during the concerned time period. This is indicative of preference for having lesser number of children per family. Out of the 400 respondents, 61 percent were male respondents and the rest were female respondents during the current survey. The average age of the respondents was around 53 years in 2019-20. This data was not available for the earlier survey year 1976. Average age of family members of sample HH was found out. It was around 37 years in 2019-20 for both males and females. In case of 1976 data, average age was estimated from the given age class wise age structure. It was 25 years and 28 years for male and female

members respectively and indicates increase in life expectancy of village population over the concerned period. The average size of family also reduced from 5.24 members to 4.66 members indicating preference for smaller families and lesser number of children. An important feature of the population is its composition as male and female members. In 1976, 57 percent of the members were females and the rest were males. This situation reversed and in 2019-20 survey it was found that 47 percent were the female members and 53 percent were male members. As a result, sex ratio declined. There were 1227 females per 1000 males in 1976. This proportion however considerably reduced to 945 females in 2019-20. Thus, the village witnessed the phenomenon of reduction of sex ratio as observed in many districts of Maharashtra over a period of time.

Table 3.1: Demographic Characteristics of the Sample Households

		1976				2019-20			
		Male	Female	Total		Male	Female	Total	
1	Total no. of HH	493				400			
	Members above 06 yrs. (%)	78.45	82.27	82.27		93.02	94.46	93.72	
	Children 0-6 yrs. (%)	21.55	17.73	17.73		6.98	5.54	6.28	
2.	Average age of the respondent (Yrs.)	NA				52.86			
3	Sex of the respondent (%)	M	F			M	F		
		NA	NA			60.5	39.5		
4	Average size of the family (No)	5.24				4.66			
5	Average age of family members (Yrs.)	M	F			M	F		
		25.70	28.04			37.37	37.86		
6	Sex wise distribution of family members (%)	M	F			M	F		
		42.82	57.18			53.34	46.67		
7	Sex Ratio	1227				945			
8	Religion wise distribution of HH (%)	H	M	B		H	M	B	
		-	-	-		91.25	2	6.75	
9	Caste wise distribution of HH (%)	General	OBC	SC/ST	Others*	General	OBC	SC/ST	Others**
		70.19	11.07	6.19	12.54	70.21	20.08	8.16	1.6

Note: 1. H, M, B= Hindu, Muslim, Buddhists respectively, 2. *In 1976, Other included NT (7.4%), Muslims (2.59%) and Kaikadi (2.55%), 3. **In 2019, Other included Muslim Households.

Source: Dandekar et al 1978, Field Survey- 2020

Almost 91 percent of the households in Gulumb were Hindu households and the rest were Buddhists (around 7 percent) and Muslims (2 percent). Similarly, majority i.e. 68.5 percent belonged to general caste and were followed by OBC (20 percent), and SC (9.5 percent) and others (2 percent).

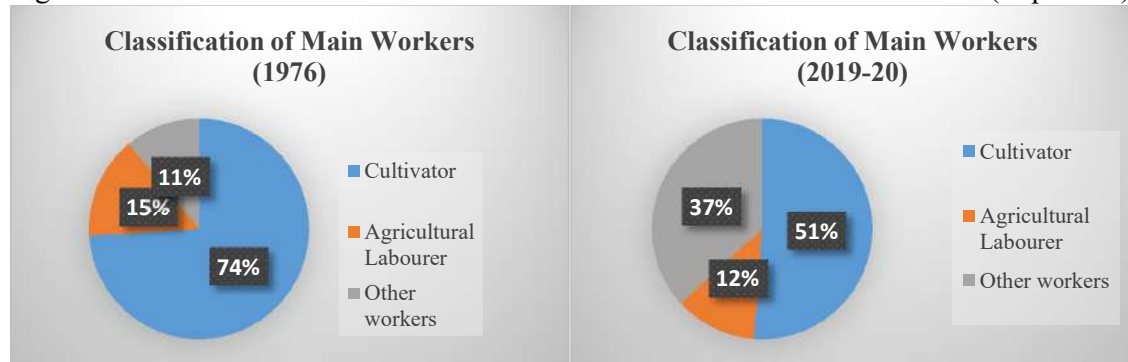
The classification of main workers shows that more than 70 percent of the workers in Gulumb were cultivators followed by agricultural labourers (15 percent) and other workers (11 percent) in 1976. This distribution is almost similar to the distribution of main workers as per census 1981 as was observed earlier. In 2019-20 however, it was observed that around 50 percent of the total workers were cultivators and share of other workers was 37 percent. In case of male workers, share of other workers was almost 42 percent and that of female workers was around 23 percent. Thus, share of other workers in 2019-20 was twice of that in 1976 for males and more than four times in case of females. Still around 47 percent and 76 percent of the male and female workers were dependent on agriculture during 2019- 20. A comparison of 2020 data with the census 2011 data (table 2.4) shows that share of cultivators was almost same in both the years. However, share of agricultural labourers was less and that of other workers was more in the year 2019-20. This can also be seen from figure 3.1

Table 3.2: Classification Main Workers in Gulumb

	Particulars	1976 Population survey			2019-20 Sample survey		
		Male	Female	Total	Male	Female	Total
1	Cultivator	68.81	77.19	73.98	49.73	55.55	51.23
2	Agricultural Labourer	10.87	17.54	14.98	8.58	21.71	11.96
3	Other workers	20.32	5.26	11.04	41.69	22.74	36.81

Source: Dandekar et al (1978), Field Survey- 2020

Figure 3.1: Distribution of Main Workers in Gulumb- 1976 and 2019-20 (In percent)



Source: Based on table 3.2

The age and sex distribution in Gulumb at two points of time is presented in table 3.3. The table shows approximately comparable age groups. In both the years, concentration of

population (70-80 percent) is observed in first four age groups i.e. upto the age of 55/56 years and thereafter the share of age groups is lesser than the earlier age groups.

However, the difference in the shares of various age groups can be clearly noted. It can be seen that in 1976, the share of population in age group 0-6 was far higher (18 percent) than that in the corresponding age group during the current survey. This is indicative of reduction in the fertility rates over a period of time and preference for small family norm. Another feature of the structure is the difference in composition of age groups for male and female members. The 1976 data shows that the share of female members in lower age groups was higher than that of the male members and had increased in the upper age groups. On the contrary, the current data shows that the shares of males and females in the respective age group structure were almost similar indicating improvement in outlook of households relating specially to son preference and education of girl children over a period of time.

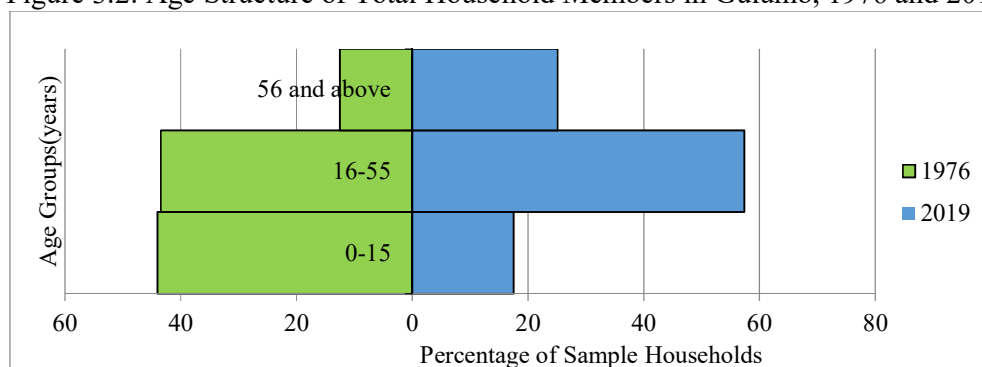
Table 3.3: Age and Sex wise Distribution of the Population in the Village Gulumb, 1976 and 2019-20 (In percent)

Age Groups	1976			Age Groups	2019-20		
	Male	Female	Total		Male	Female	Total
0-6	21.55	14.62	17.73	0-5	4.9	4.5	4.7
7-16	29.74	23.47	26.29	6-15	12.8	12.8	12.8
17-36	19.14	29.52	24.85	16-35	29.7	27.5	28.7
37-56	15.26	21.36	18.62	36-55	28	29.5	28.7
57 -66	8.97	7.45	8.13	56 -60	4.3	5.2	4.7
66 and above	5.34	3.58	4.37	60 and above	20.3	20.5	20.4
Total	100.00	100.00	100.00	Total	100.0	100.0	100.0

Source: Dandekar et al (1978), Field Survey- 2020

Figure 3.2 shows the age structure of population as shown in table above after clubbing the classes in three major groups. It shows comparatively lower share of 0-15 age group and higher share of other two groups indicating a change in the age structure due to increased awareness about importance of smaller families and increased life expectancy. The figure shows more than 55 percent of household members into the productive age group of 16 to 55 years in 2019-20 as against 43.47 in 1976. Table also brings out higher share of population above 60 years in the population structure during 2019-20 as compared to the earlier survey.

Figure 3.2: Age Structure of Total Household Members in Gulumb, 1976 and 2019-20



Source: Based on table 3.3

Table 3.4 shows distribution of population by marital status in the two reference years. Almost one fourth of population (table 3.3) was concentrated in the 7-16 age group. It is observed from table 3.4 that 82 percent and 17 percent of the married population belonged to age groups 7-16 and 17-36. A comparison with the corresponding age group in 2019-20 shows that none from the former age group had got married and only 10 percent of the married population belonged to the next i.e.16-30 age group. Difference is also observed for unmarried HH members. In 2019-20 survey, out of the unmarried members, most of the members were concentrated in first two age groups out of which 42 percent were in the 7-16 age which is indicative of preference for delayed age of marriage. The 1976 data however shows that less than one percent of the total unmarried members were there in the above age group.

Table 3. 4: Distribution of Population by Age and Martial Status in the Village Gulumb, 1976 and 2019-20 (In percent)

	1976						2019-20					
	Age Groups	Married	Un-married	Widow/er	Divorced & others	Co-wife	Age Groups	Married	Un-married	Widow/er	Divorced & others	Co-wife
1	7-16	82.4	0.7	0.5	0.0	0.0	7-16	0.18	42.66	4.27	0.00	0
2	17-36	17.0	44.4	5.4	50.0	47.6	17-36	27.65	53.86	11.97	33.33	0
3	37-56	0.5	36.5	33.3	50.0	47.6	37-56	41.57	2.32	19.66	66.67	0
4	57+	0.1	18.5	60.8	0.0	4.8	57+	30.60	1.16	64.10	0.00	0
	All age groups	100.0	100.0	100.0	100.0	100.0	All age groups	100	100	100	100	0
	Males	56.3	39.8	13.7	4.5	0.0	Males	50.4	60.1	10.9	0.00	0
	Females	43.7	60.2	86.3	95.5	100.0	Females	49.6	39.9	89.1	100.00	0

Source: Dandekar et al (1978), Field Survey- 2020

It is observed that the practice of having co wife existed in 1976 and barring the age group 7-16 years, all other age groups reported the same. This practice however was not reported in 2019-20. It is also observed that percentage of widow/ widower and of divorcees

was lesser in the age groups 16-30 years in 2019-20. This percentage in comparable age groups in 1976 was considerably high. Table definitely highlights change that has taken place over the period of time in perception of the households relating to education especially of girls and also marriageable age.

Interviews of Sample Household Members, Gulumb



3.3 Land size wise Distribution of Landholdings

The table on distribution on landholdings provides us with important insights into the changes taken place during the concerned period. As per the guidelines for the this survey, the land was categorized into three size groups – below 2 hectares, between 2-4 hectares and above 4 hectares. In case of 1976 survey, data was aggregated into size groups- below 2 hectares, between 2-5 hectares and above 5 hectares. This can be observed from table 3.5. It is seen that during 1976, the number of farms were almost equally distributed in various farm size groups. However, around 72 percent of the total land was under medium and large farms, 22 percent under small farms and only 6 percent under marginal farms. Thus, 32 percent of the medium and large farms occupied 72 percent of the land and 33 percent of the marginal farms occupied only 6 percent of the land. The data collected during the current survey shows that as compared to 1974, the share of number of marginal farms has increased (to 74 percent, thus the share has increased more than 2 times) and medium and large farm has reduced (to 7 percent). Area under

marginal farms has also increased to 46 percent and that under medium and large farms has reduced to around 24 percent. However, in both the years, it is observed that more than proportionate area is under the medium and large farms.

Table 3.5: Distribution of Landholdings in Gulumb in 1974 and in 2019-20

		In 1976		In 2019-20	
Total number of holdings		Land size (ha)	%	Land size (ha)	%
1	Marginal farms	Below 2	33.34	Below 2	52.92
2	Small farms	2- 5	34.59	2- 4	35.04
3	Medium & above	Above 5	32.07	Above 4	12.04
			100		100
Total area operated		Land size (ha)		Land size (ha)	
1	Marginal farms	Below 2	6.37	Below 2	46.18
2	Small farms	2- 5	21.66	2- 4	29.92
3	Medium & above	Above 5	71.97	Above 4	23.90
			100		100

Source: Dandekar et al (1978), Field survey 2020

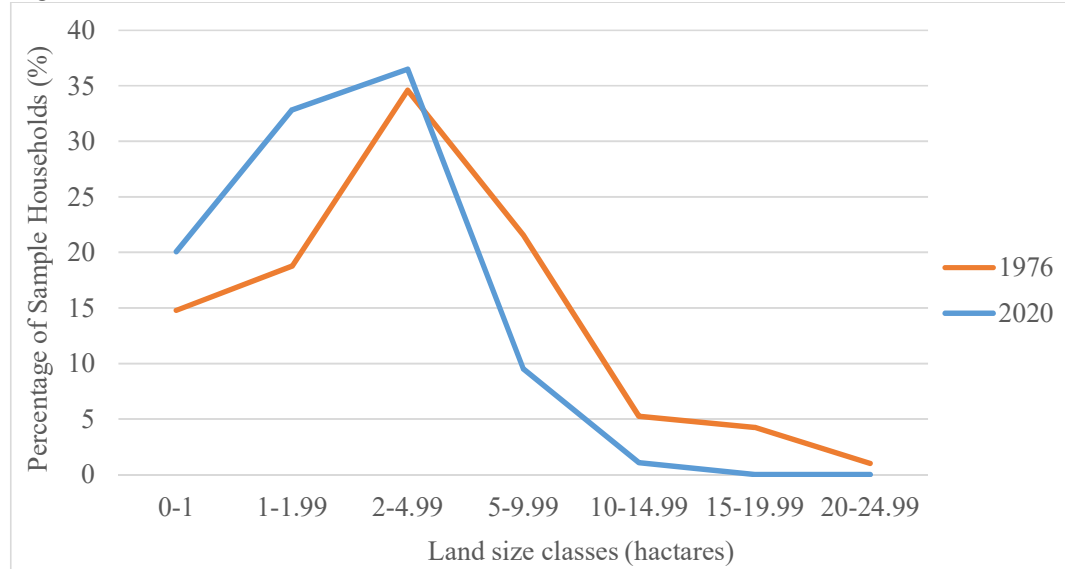
To get a clearer picture of changes in land ownership pattern in Gulumb and extent of inequality, an attempt was made to construct Lorenze curves for 2 distributions and respective Gini coefficients. Given the 5 size class distribution, cumulative percentage of land held under each class as well as cumulative percentage of HH having land was found out for the year 1976. The land ownership data for the year 2019-20 was also classified into classes for making it comparable with 1976 data and the cumulative percentages was found out. As observed from the above table, the 2 distributions are different - the maximum land size class in 2019-20 was only up to 10 hectares as against in case of 1976 data wherein the last land size class was 20-24.99 hectares. This can be seen from table 3.6 as well as figure 3.3

Table 3.6: Land Size Class wise Distribution of Households in Gulumb: 1976 and 2019-20
(In percent)

	Land Size class (Ha)	1976	2019-20
1	0-1	14.79	20.07
2	1-1.99	18.75	32.85
3	2-4.99	34.59	36.50
4	5-9.99	21.55	9.49
5	10-14.99	5.16	1.09
6	15-19.99	4.16	0.00
7	20-24.99	1	0.00

Source: Dandekar et al (1978), Field survey 2020

Figure 3.3: Land Size Class wise Distribution of Households in Gulumb: 1976 and 2020



Source: Based on table 3.6

The cumulative percentage of land held as well as landowning HH was found out based on the available data. This is shown in table 3.7. Based on this information, Gini coefficients of the two distributions were found out (table 3.8) and Lorenze curves were plotted (figure 3.4)

Table 3.7: Land Size wise Cumulative Percentage of Land and Land Owning Households

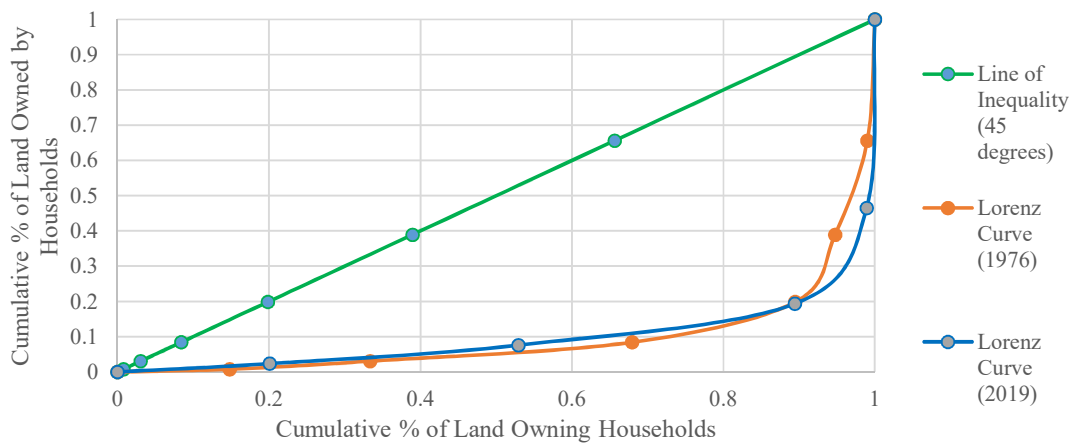
	Land Size	1976		2019-20	
		Cumulative % of land	Cumulative % of HH owning land	Cumulative % of land	Cumulative % of HH owning land
1	0-1	0.76	14.79	2.62	20.07
2	1-1.99	3.05	33.33	8.49	52.92
3	2-4.99	8.40	67.92	21.63	89.42
4	5-9.99	19.85	89.47	52.04	98.91
5	10-14.99	38.93	94.74	100.00	100
6	15-19.99	65.65	99.00		
		100	100		
	Gini Coefficient	0.7992		0.786	

Source: Dandekar et al (1978), Field survey 2020

The Gini Coefficient and the Lorenz Curve reveal that the land distribution in Gulumb has not changed much over the time period. Moreover, as the two curves are crossing, there is ambiguity as far as the extent of inequality in both the distributions is concerned and it is difficult to say which distribution is more unequal. Table 3.7 shows that in 1976 top 1 percent of the HH owned around 34 percent of the land. In 2019-20 also, top 1 percent of the HH owned

48 percent of the land. The values of Gini coefficient indicates highly unequal and skewed distribution of land at both the time periods in Gulumb.

Figure 3.4: The Lorenze Curves of Land Distribution: 1976 and 2019-20



Source: Based on table 3.8

3.4 Educational Progress

Educational status of the HH in 1976 and in 2019-20 is presented in table 3.8 as well as in figure 3.5. It highlights the changes that have taken place over a period of 45 years. It can be seen from table below that whereas overall, around 32 percent of the HH members were illiterate in 1976, this percentage was merely 13 percent in case of sample HH in 2019-20. Out of the educated population, majority of the members across categories were educated up to primary level in 1976. In 2019-20 however, highest share- around 30 percent was of members who had completed education up to secondary level. It is also observed that 16 percent of the members had reached intermediate level as well as graduate level. These figures are far higher than those for 1976.

In case of males as well as females, percentage of illiterates has considerably reduced over a period of time. It was 32 percent in 1976 and only 13 percent in 2019-20. As far as gender wise status is concerned, relatively more percentage of female members (50 percent) were illiterate than the male members (15 percent) in 1976. It was observed that this gap had during 2019-20. Among the literates, it was observed that relatively lesser percentage of female members as compared to the male members have been educated intermediate level onwards and indicates gender-based bias in imparting higher level of education.

A comparison of 1981 census figures with 1976 survey figures however shows a gap between the two estimates. Whereas as per the census estimates, percentage of total literate

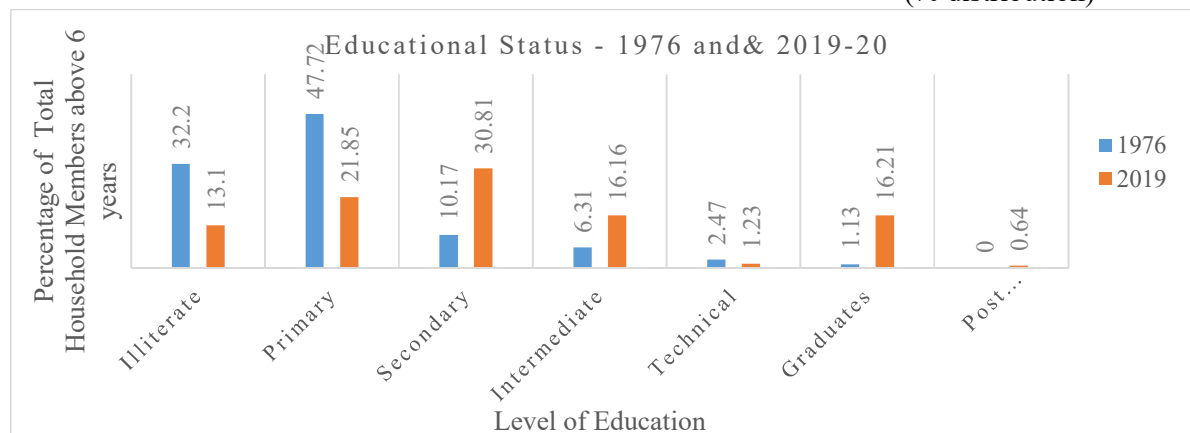
population was 54.14% in 1981, it was higher – 64.75 percent as per the survey conducted in 1976. In 2011, it was 86.08 percent and 91.8 percent as per the current survey.

Table 3.8: Category wise Educational Status of above 06 Years Family Members
(% distribution)

	Education level	1976			2019-20		
		Male	Female	Total	Male	Female	Total
1	Illiterate	15.5	50.3	32.20	8.33	18.16	13.10
2	Primary	53	42	47.72	19.17	24.70	21.85
3	Secondary	15.4	4.5	10.17	30.31	31.34	30.81
4	Intermediate	10.1	2.2	6.31	20	12.07	16.16
5	Technical	4.1	0.7	2.47	2.29	0.11	1.23
6	Graduates	1.9	0.3	1.13	18.96	13.29	16.21
7	Post graduates & professionals	-	-	-	0.94	0.33	0.64
	Total	100	100	100	100	100	100

Source: Dandekar et al (1978), Field Survey- 2020

Figure 3.5: Category wise Educational Status of above 06 years Total Family Members
(% distribution)



Source: Based on table 3.5

Table 3.9 and the figures 3.6 and 3.7 show gender wise school enrolment in 1976 as well as in 2019-20. It also shows share of male and female students in total enrolment. Being population survey, the number of students enrolled was much higher in 1976 than the 2019-20 numbers which are based on sample survey. The major point to be noted is that the share of female students enrolled was 23 percent and 44 percent for primary and secondary school, respectively in 1976. Correspondingly these figures were around 55 percent for primary as well as secondary school in 2019-20. Share of female students in high school has thus increased by

136 percent and that in primary school has increased by 23 percent and indicates increased awareness about sending girls to high schools.

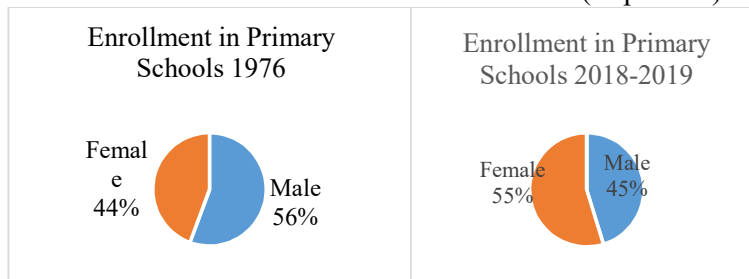
Table 3.9: Sex wise Composition of Enrolled Primary and Secondary School Children in Gulumb

	1976			2019-20			% Change
	Male	Female	Total	Male	Female	Total	
School enrollment (No)	(1976-77)			(2018-19)			
High school	202	61 (23.19%)	263	42	51 (54.83%)	93	136.44
Primary	203	162 (44.38%)	365	72	87 (54.72%)	159	23.3

Source: Dandekar et al (1978), Field Survey- 2020.

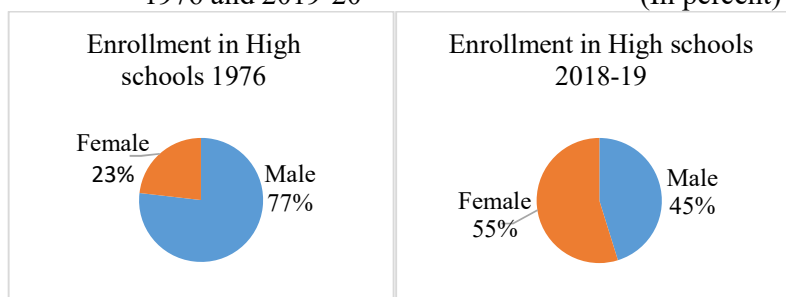
The figures indicate reversal of shares of male and female students in 2019-20. In both – primary as well as secondary school, the number of female students was higher than that of male students as against in the year 1976. This phenomenon can be explained not only in terms of increased awareness about education of female children but also in terms of enrollment of children in better government/ private schools outside the village.

Figure 3.6: Enrollment in Primary Schools in Gulumb 1976 and 2019-20 (In percent)



Source: Based on table 3.10

Figure 3.7: Enrollment in Secondary Schools in Gulumb, 1976 and 2019-20 (In percent)



Source: Based on table 3.10

Analysis of the census data has revealed lower work force participation rates of females in the village (table 2.3). Putting together this conclusion from census data and increasing level

of education of females as seen from above tables, it may be said that the increasing level and extent of education over a period of time might have been one of the reasons for withdrawal of females from the workforce. Table 3.10 shows enrolment level of children by type of school.

Table 3.10: Enrolment Level of Children (aged 5-15 years) in Schools in Sample Households by Caste, Sex and Type of School in Gulumb, 2019-20
(In percent %)

Children categories	Govt. school			Private school			Total
	Marathi	English	Semi English	Marathi	English	Semi English	
Male Children							
General	75	16	6	3	0	0	100
SC	83	6	11	0	0	0	100
OBC	100	0	0	0	0	0	100
Minorities	90	10	0	0	0	0	100
Female Children							
General	61	4	0	15	20	0	100
SC	91	0	0	0	9	0	100
OBC	100	0	0	0	0	0	100
Minorities	100	0	0	0	0	0	100
All Children							
General	68	10	3	9	10	0	100
SC	87	3	7	0	3	0	100
OBC	100	0	0	0	0	0	100
Minorities	95	5	0	0	0	0	100

Source: Field Survey, 2020

It is observed that within each social category most of the children are enrolled in Marathi medium government school for male as well as female children. It is also observed that proportion of children going to English medium or semi English medium government schools or private schools is relatively higher among general category students and indicates better paying capacity of general category households than other category households.

Table 3.11 shows that though there have not been any drop outs from school in case of male as well as female students, it is observed that lesser percentage of female students were regularly attending school as compared to their male counterparts. This again probably indicates gender defined roles of male and female students.

Table 3.11: Gender wise Drop outs at Gulumb, 2019-20

		Male	Female	Total
1	Percentage of HH out of total, with students enrolled in school/ anganwadi (%)	33.00		
2	No. of students	104	105	209
3	No. of students regularly attending school	90	73	163
4	Students regularly attending school (%)	86.54	69.52	77.99
5	No. of students getting mid-day meal	72	60	132
6	No. of school drop outs	0	0	0
7	drop outs and informing about reasons	0	0	0

Source: Field Survey- 2020

3.5 Access of the Households to Various Civic Facilities

With the expansion of government institutions, villages gradually witness expansion of various civic amenities / infrastructural facilities. Also, various government programs relating to poverty alleviation, agricultural development, social security etc. lead to improvement in economic status of the beneficiaries. This section presents an overview of various such facilities available to the village households.

Table 3.12 presents information relating to access of the sample households to various facilities/ infrastructure at the time of current survey. It is seen that majority i.e. around 68 percent of the households have orange ration cards which are distributed to above poverty line (APL) households. Around 30 percent of the households have BPL i.e. below poverty line cards. However, though 30 percent of the households are BPL card holders, only 7 percent of the HH are Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) card holders. It was observed that only around 17 percent of the HH had Kisan Credit Cards (KCC).

It is observed that around 31 percent of the HH have pucca houses, around 22 percent have kaccha houses. Rest of the HH have semi pucca houses.

Majority i.e. more than 90 percent of the HH have electricity connection as well as LPG connection. All the HH have drinking water supply. It can be however observed that only 84 percent of the HH have toilets and out of these toilets of around 4 percent of the HH are non-functional.

Almost all the HH i.e. around 98.5 percent have bank accounts and the average number of bank accounts per HH is 2.83. This indicates financial literacy and inclusion of these HH in the banking system. Around 62 percent of the HH have smart phones.

The HH were asked about their preference during medical emergency. Around 69 percent of the HH reported their preference for private doctors. It was also observed that only 15 percent of the HH had health insurance policies and overall, only about 30 percent of the total HH members were covered by the policies. This indicates that only about 2 members per HH were covered by health insurance policies. This underlines need for upgradation of government health care services and for creating awareness about importance of having health insurance.

Table 3.12: Access of Sample Households to Civic Facilities, 2019-20

1	PDS Card type	Orange	Yellow	White			
	% distribution	67.75	29.5	2.75			
		Number	%				
2	MGNAREGA Card Holder	29	7.25				
3	Households with KCC	67	16.75				
4	HH with Electricity Connection	383	95.75				
5	HH with legal connection	383	95.75				
6	HH with Sanitary Toilet	338	84.50				
7	HH with functional toilet	326	96.45				
8	HH with LPG connection	373	93.25				
9	HH with Bank Accounts	394	98.50				
10	Average No .of bank accounts per HH	2.83					
11	Number and % HH with smart phones	247	61.75				
12	Average Number of smart phones per HH	1.11					
13	HH with Availability of Drinking Water at home (Number and %)	400	100				
14	Source of drinking water	Govt	Private	both			
15	% of Total	97.25	2.25	0.5			
16	Type of residence	Kaccha	Semi Pucca	Pucca			
	% of Total	21.75	47.75	30.50			
17	HH with Health insurance policy	Number	%				
		62	15.50				
18	Average number of people covered under Health insurance policy in each HH	1.92					
19	During new born delivery or medical emergency whom did you consult?	Govt Doctor	Govt Hospital	Pvt Doctor	Pvt nursing home	Both	Military hospital
	% of Total	11.00	16.50	68.75	0.75	2.75	0.25

Source: Field Survey- 2020

As far as the facilities available in the year 1976 is concerned, the report mentions that the village was electrified in the year 1964 however, by 1976, only 35 percent of the HH had electricity. The water supply scheme was completed in the year 1964 and since then protected or tap water was provided to the villagers. There were however 40 taps on the main roads and the villagers had to fetch water from the taps. The report also mentions non availability of proper sewage system to drain out water and hence presence of stagnant water pools on roads and prevalence of unhygienic conditions. 90 percent of the houses were constructed the old way i.e. in stone and mud mortar. The rest either used bricks or were kachcha houses using straw/ mat/wattle. The roofing of the tiles was mainly with country tiles, mangalore tiles or iron sheets or a mixture of both. Few households even had roofs of straw or thatch. 14 percent of the houses had bathrooms for washing/ bathing. However, there is no mention of presence of toilets in the village. The report also does not clearly mention source of fuel and about presence of PDS shop in the village.

The 1978 report is silent about savings by HH, their accounts in commercial banks, government schemes such as wage employment providing Employment Guarantee Scheme (EGS) and their impact on lives of beneficiaries indicating absence of the same.

3.6 Concluding Remarks

This chapter has analysed the field level data relating to various HH / population attributes which tend to change very gradually over a period of time to make any positive difference. A comparison of various demographic characteristics and age structure indicates higher share of productive population, reduced size of families, decline in birth rates, increased life expectancy, increase in the age of marriage especially for females, withering away of the practice of having co-wife and higher share of members above 60 years of age in the year 2019-20 than in 1976. It also shows overall higher literacy rate and higher percentage of family members taking higher education. The analysis also reveals higher share of enrollment of female children. This indicates their capacity to contribute more in terms of workforce in the long run. It is felt that these are the most important changes experienced by the village over the concerned period. It may be said that that increasing level of education over a period of time might have been one of the reasons for withdrawal of females from the workforce as was observed from the census data relating to the village.

The analysis shows that the distribution of landholdings in Gulumb has almost remained same over the concerned period. The value of Gini coefficient reveals very high inequality in land distribution in both the years. The comparison indicates considerable progress in terms of civic amenities / infrastructure available, number of HH with access to

basic civic amenities, technology used in the village for communication and construction and definitely points at improvement in living conditions of the village HH.

Chapter IV

The Economic System in Gulumb

4.1 Introduction

This chapter analyses the household level data to understand the occupational and livelihood pattern of the households, their income and expenditure as well as their assets, savings and borrowings. The information collected was analysed for categories of households based on social status, public distribution system card type and size of land holding.

Based on the income expenditure data, an attempt was made to find out extent of economically vulnerable HH in various HH categories. The earlier report (Dandekar, 1978) notes that data relating to income was not collected from HH. Hence, comparison of the overall HH as well as the farming HH in particular was not possible.

4.2 Occupational and Livelihood Pattern of the Sample Households

Table 4.1 shows the occupational/livelihood pattern of the HH. It indicates the primary, secondary and the tertiary occupations of the sample HH. Around 52 percent of the HH were cultivator HH and around 12 percent were agricultural labour HH. Considering allied activities, around 63 percent of the HH were primarily dependent on agriculture for livelihood. 5 percent of the HH were primarily salaried and 3.5 percent were engaged in trade/ business or were entrepreneurs. Around 21 percent of the households were engaged in other miscellaneous activities. Almost all the HH, were seen to be having some or the other source of secondary source of livelihood.

Table 4.1: Distribution of Sample Households in Gulumb by Primary and Secondary Occupations, 2019-20 (In percent)

	Livelihood of the household	Primary	Secondary
1	Cultivator	51.75	23.91
2	Agricultural Labourer	11.50	3.62
3	Dairying /fishing / Poultry	0.50	6.52
4	Salaried government	1.75	2.17
5	Salaried private	3.25	6.52
6	Pensioner	3.25	2.17
7	Caste based Profession	1.25	0.72
8	Trade and Business	2.25	2.90
9	Entrepreneur	1.00	0.72
10	Casual Labour	1.25	1.45
11	Marginal work (construction, rickshaw puller, etc.)	1.00	2.90
12	Others	21.25	46.38
	Total	100.00	100.00

Source: Field Survey, 2020

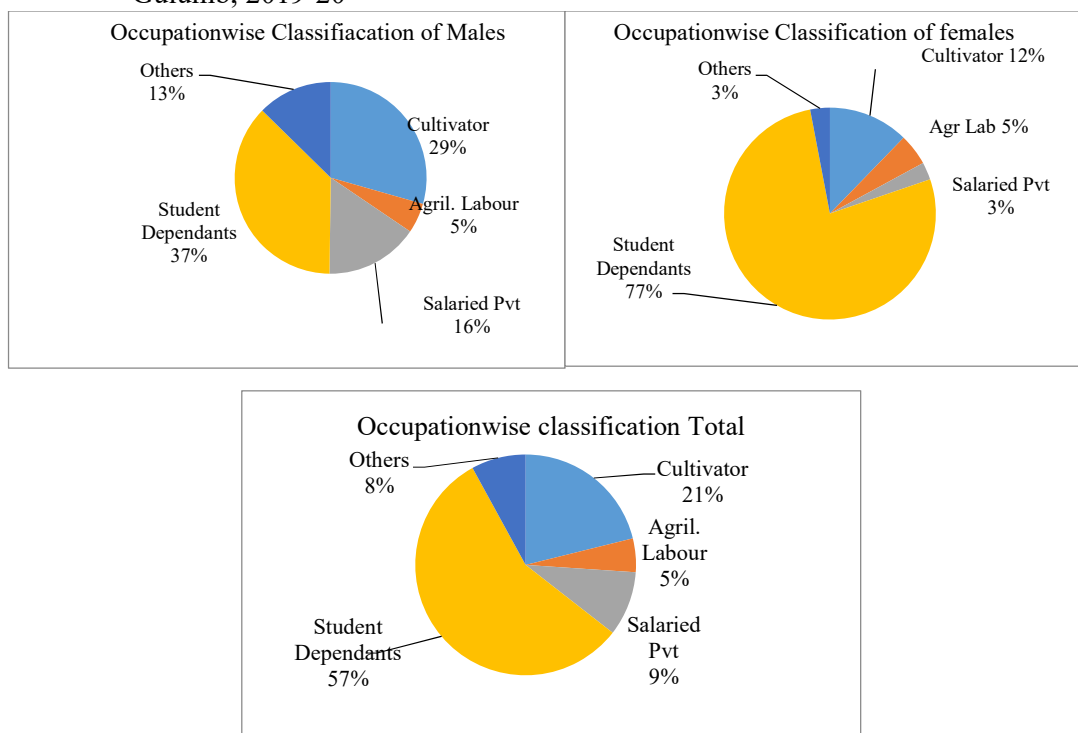
Table 4.2 and figure 4.1 show the occupation of the sample HH members.

Table 4.2: Occupation of Sample Household Members in Gulumb, 2019-20 (In percent)

	Occupation Groups	Male	Female	Total
1	Cultivator	29.40	12.26	21.15
2	Agricultural Labour	5.07	4.79	4.94
3	Dairying / Fishing / Poultry keeping	0.52	0.11	0.32
4	Salaried government	3.00	0.78	1.93
5	Salaried private	15.73	2.68	9.45
6	Pensioner	2.17	0.33	1.29
7	Caste based Profession	0.83	0.22	0.54
8	Trade and Business	2.38	0.00	1.23
9	Entrepreneur	0.52	0.33	0.43
10	Casual Labour	1.66	0.89	1.29
11	Marginal work (construction, rickshaw puller, etc.)	1.55	0.33	0.97
12	Students, dependents	37.16	77.26	56.47
	Overall	100	100	100

Source: Field Survey, 2020

Figure 4.1: Occupation wise Classification of Family Members of Sample Households in Gulumb, 2019-20



Source: Based on table 4.2

It is observed that around 57 percent of the total members were dependents and the rest were earners. Among earners, highest share was that of cultivators followed by agricultural labourers and private salaried workers. In case of males also similar pattern was observed. However, as number of dependents was only 37 percent, share of workers in various occupation was higher than in case of females. Thus, the percentage of dependents was 77 in

case of female members and the livelihood pattern was not as diversified as in case of male members. Overall, out of total male and female HH members, 26 percent were engaged in agriculture as cultivators and agricultural labourers.

Considering only the earning members of the HH, it was observed that around 60 percent of the total members were dependent on agriculture and allied activities for their livelihood. This can be seen from table 4.3. It is also observed that 42 percent of male members, 23 percent of female members and overall 37 percent of the HH members were engaged as other workers or non-farm sector workers.

Table 4.3: Distribution of Main Workers in Sample Households of Gulumb, 2019-20
(In percent)

	Particulars	2019-20		
		Male	Female	Total
1	Cultivator	49.73	55.55	51.23
2	Agricultural Labourer	8.58	21.71	11.96
3	Other workers	41.69	22.74	36.81

Source: Dandekar et al (1976), Field Survey- 2020

The table on average days employed worked by earning members shows that members primarily dependent on agriculture and allied activities as well as those involved in trade and business on an average were employed for more than 300 days. For salary earners, number of days of working were lesser in number. Number of days of working were lesser in case of secondary occupation.

Table 4.4: Occupation wise Average Number of Days Worked by Earning Members of Sample Households of Gulumb, 2019-20

	Occupation Name	Primary	Secondary
		Average Days of Occupation	Average Days of Occupation
1	Cultivator	342.19	284.59
2	Agri. Laborer	313.68	173.15
3	Dairying / Fishing / Poultry keeping	305	343.57
4	Salaried Govt.	273.69	-
5	Salaried Pvt	294.19	363.33
6	Pensioner	-	-
7	Caste based Profession	365	150
8	Trade & Business, Entrepreneur	354.72	293.33
9	Casual Labour	331.07	120
10	Marginal work	321.92	166.15

Source: Based on Field Survey, 2020

The HH were asked about individuals who had migrated permanently outside the village. As per the information gathered 47 members had migrated out of the village in recent few years. Responses showed that out of the total individuals who migrated and set up their HH outside the village, majority i.e. 95 percent migrated in search of livelihood. They were either salaried/ wage earners (91 percent) or had their own business (4 percent). As has been mentioned earlier, many of the individual members of the sample HH were engaged outside the village on daily basis either in factories/ production units or in service sector, however had their base in the village itself.

Table 4.5: Migration of Individuals (Families) from Sample Households in Gulumb in recent Years.

	Reason for migration	No. of individuals migrated	Reason wise %
1	Education	2	4.26
2	Job	43	91.49
3	Business	2	4.26
	Total Migrated	47	100

Source: Based on Field Survey, 2020

Out of those who migrated, 76 percent belonged to general category HH. This mainly indicates dominance of this category in the village population composition. This is also indicative of capacity of these HH to migrate to exploit the opportunities available outside the village.

Table 4.6 shows classification of HH based on number of family members. It can be seen that 3.5 percent of the HH had only one member and 11.75 percent of the HH consisted of 2 members. This is thus indicative of migration of other family members and settlement outside the village.

Table 4.6: Details of Number of Family Members in Sample Households in Gulumb, 2019-20

Number of Family Members	Number of Households	Percentage share (%)
1	14	3.5
2	47	11.75
3	60	15
4	88	22
5	71	17.75
6 and above	120	30
	400	100

Source: Field work, 2020

4.3 Income of the Sample Households

The responding HH were asked about their income from various types of activities i.e. farming, off farm and non-farm. Off farm income includes income from working as agricultural labour and livestock based activities. Following table presents details of the same. It is observed that on an average, almost 78 percent of the income of the HH was derived from non-farm activity. The income from farming was only 18.47 percent of the total income. The income from farming related off farm activities was just 3.21 percent of the total income.

It needs to be noted here that around 15 percent of the HH reported that their major source of income was remittances and sale of farm produce. However, reliable information on remittances could not be obtained.

On an average, HH derived 1.4 lakhs as average annual income and the per capita income was around Rs. 30,000. The table clearly brings out the importance of non-farm income in supporting livelihood of the households. It is observed that on an average, per capita income from non-farm activities was around 4 times that of combined income from farming and farming related non-farm activity. The table also indicates disproportionate share of income earned in farming activities in relation to the number of working days.

Table 4.7: Total Average Annual Income of the Sample Households, 2019-20 (in Rs)

	Type of Income	Distribution of Total Income (%)	Average income Per HH	Per Capita Income
1	Farming	18.47	83038	5577
2	Off Farm	3.21	64138	970
3	Non-Farm	78.32	636517	23640
4	Total	100	140592	30186

Source: Field Survey, 2020

During the 1976 survey, information about the agricultural production and income was not collected through the household schedule. Only the information about non-agricultural incomes was covered in the schedule. The agricultural income was estimated at the aggregate level taking into consideration the area under different crops, average yield, harvest prices and the farm expenditure. The estimate of average village income including the remittances worked out to about Rs. 800 per consumer unit for the year 1976. In real terms, there was a fall by about 15 points if the per consumer unit income in 1942 was taken as 100.

Since the exact methodology used for calculating farm as well as non-farm income was not available, a comparison of incomes earned in 1976 and in 2019-20 was not possible.

4.4 Expenditure Pattern of the Sample Households

To understand the expenditure pattern of the HH, they were asked details of their spending on food items, non-food items and on assets. Table 4.8 shows average expenditure per HH, per capita expenditure and distribution of expenditure items in total expenditure. It is observed that the HH had spent around 38 percent of the expenditure on items of food. The share of non-food expenditure was 55.75 percent. It is seen that the most important item of expenditure under non-food category was medical expenses (15 percent) which was followed by education (12 percent), family festivals (9 percent) and Fuel (5 percent). The average per capita expenditure on food was Rs. 10309.55 and on non-food was Rs. 15,170.45.

Table 4.8: Annual Expenditure Pattern of the Sample Households in Gulumb, 2019-20 (In Rs)

	Item of Expenditure	Percentage share of item in total expenditure*	Average expenditure per household	Per Capita Expenditure
A	Food			
1	Staple food	9.48	12008.98	2578.42
2	Milk/Egg/Fish/Chicken	7.65	9701.25	2082.93
3	Fruits/ Vegetables	5.07	6419.25	1378.26
4	Processed foods (sweets /snacks/ drinks/etc)	1.64	2082.75	447.18
5	Other foods	14.05	17804.50	3822.76
	Total food	37.89	48016.73	10309.55
B.	Non-Food			
1	Clothes	4.83	6123.00	1314.65
2	Education	12.53	15878.38	3409.21
3	Medical expenses	15.89	20142.38	4324.72
4	House rent/repairs	1.26	1596.09	342.69
5	Electricity	3.08	3908.68	839.22
6	Phone	1.90	2413.85	518.27
7	DTH expenses	1.47	1868.83	401.25
8	Family festivals	9.66	12239.25	2627.86
9	Fuel	5.12	6485.95	1392.58
	Total non-food	55.75	70656.39	15170.45
C.	Consumer durables			
2	Livestock	0.85	1075.00	230.81
3	Jewellery	1.47	1865.00	400.43
4	Cycle/Bike/Tractor/etc.	0.74	942.50	202.36
5	Furniture	0.07	92.50	19.86
6	Other Purchase	0.08	107.24	23.03
7	Miscellaneous	3.14	3981.27	854.81
	Total consumer durables	6.36	8063.51	1731.30
	Total Expenditure	100.00	1,26,736.63	27,211.30

Note: * For each expenditure item, calculated for only for HH which have incurred expenditure on those items.

Source: Based on Field work, 2020

Table 4.9 shows the percentage of HH owning various livestock and agricultural as well as non-agricultural assets. It is observed that 26 percent of the HH had milch cattle and

12 percent of the HH had poultry animals. However, as was observed from table 4.1, less than one percent and around 6 percent of the HH reported that dairy /poultry was primary and secondary occupation respectively. Responses relating to agricultural assets shows that the usage of work cattle was also not very extensive and merely 22 percent of the land owning HH had work cattle, around 5 percent had tractors and 9 percent of the HH had wood/ iron plough. Only one percent of the HH had wood/iron plough. Thus, overall, usage of tractors and other modern implements used for major agricultural activities was comparatively lower. Responses relating to non-agricultural assets highlights importance of television sets and two wheeler vehicle. It is observed that majority of the HH – around 81 percent owned television sets and 58 percent owned two wheeler vehicle. However, it is observed that 1.5 percent of the HH had computer.

Table 4.9: Percentage of Sample Households in Gulumb Owning Various Assets, 2019-20
(In percent)

Percentage of Households owning Various Assets					
Livestock	% of HH	Agricultural Assets	% of HH	Non- agricultural Assets	% of HH
Milch cattle	26	Work cattle	22	Bicycle	9.75
Young stock	15.5	Tractor	4.74	Rickshaw	0.50
Sheep, goats, pigs	13	Power tiller	1.09	e-Rickshaw/Auto	0.00
Poultry animals	12	Bullock cart	9.49	Two Wheeler	58.50
		Wood/iron plough	9.12	Four wheeler	5.00
		Water pump	66.06	Any other vehicle	0.75
		Threshers	0.73	Sewing machine	20.50
		Sprayers	21.90	Radio	4.75
		Other farm machines	2.55	TV	81.25
				Computer	1.50
				Refrigerator/ Washing machine	39.75
				AC machines	0.25

Note: Percentages do not add up to 100

Source: Field Survey, 2020

Comparison of income and expenditure of the HH is presented in table 4.10. It is observed that the average and per capita income was higher than the corresponding expenditure figures. Thus, on an average, the sample HH were able to save due to higher average income than average expenditure.

Table 4.10: Annual Income and Expenditure of the Sample Households in Gulumb, 2019-20
(In Rs)

	Type	Average Income	Average Expenditure
1	Household	1,40,592	1,26,737
2	Per capita	30,186	27,211

Source: Based on Field work, 2020

The 1978 report notes that the food items absorbed about 60 per cent of the total consumption expenditure and cereals and pulses accounted for half of this expenditure. For year 2019- 20 the expenditure on food items was around 38 percent of the total expenditure. Also, staple food accounted for 25 percent of the total expenditure. The table 4.8 indicates that rest of the expenditure under food items was on livestock and horticultural products and other food i.e. processed food. In 1976, under nonfood expenditure, clothing claimed about 10 per cent of the total expenditure and fuel and lighting contributed 7 per cent of the expenditure. In 2019- 20, 4 percent and 11 percent of the total was expenditure was on clothing and fuel and electricity respectively. The major two items of expenditure in 2019- 2020 were education and medical. Combined share of expenditure on these was 28 percent.

The above analysis reveals not only diversification in occupations but also the ability of an average village HH to spend on variety of items of expenditure as compared to the earlier survey year.

4.5 Saving and Borrowing of the Sample Households

It is seen from the following table that 89.25 percent of the HH had savings and these HH had saved on an average at more than 1 place. All the HH with savings had savings in banks but only a small number had saved at places other than banks. Majority, i.e. 68 percent of the HH reported that they saved for any of the needs that would arise in future. Old age, sickness, marriage and education were some other major reasons for saving.

Table 4.12 shows category wise responses of the sample households. It is observed that 59 percent of the HH had borrowed from one or the other source. Out of these, majority i.e. 76 percent had borrowed from cooperative banks. This indicates strong preference for borrowing from cooperative bank /credit society for institutional borrowing in the village. Rate of interest faced by the borrowers of cooperative credit society/ bank was found to be very low as compared to other institutional sources. The percentage of HH with borrowings from money lenders/ employers/ friends and relatives was marginal.

Out of those who borrowed, majority, i.e. around 57 percent had taken agricultural loans. Out of these, it was observed that mostly the loans were short term loans i.e. the crop

loans catering to variable expenses of the cultivators. Other major reasons for borrowing were housing and sickness. This is seen from table 4.13

Table 4.11: Details of Savings of Sample Households in Gulumb during, 2019-20

1.	Percentage of households with savings (%)	89.25					
2.	Average number of places of saving per HH	1.10					
		Bank	Post Office	LIC	Chit funds	Relatives	Neighbors Others
3	Percentage of households with different places of saving out of those who have saving (%)	100	4.48	7.84	3.08	1.12	0.28
4.	Average Amount of saving (Rs)	23499	46181	219813	51218	61750	1000
5.	Purpose of saving (% of HH out of those who have saving)	Bank	Post Office	LIC	Chit funds	Relatives	Neighbors Others
	Education	19.05	1.96	3.36	1.68	0.56	-
	Sickness	24.09	1.12	2.8	1.96	0.56	-
	Marriage	7.56	0.84	2.8	1.4	0	-
-	Investment	17.65	0.56	2.24	1.12	0	-
	Old age	26.05	0.84	3.64	1.12	0.56	-
	For Future needs	68.35	2.52	3.64	2.8	1.12	0.28
	Other	1.4	0	0	0	0	-

Source: Field work, 2020

Table 4.12: Details of Borrowings of the Sample Households of Gulumb

	Particulars	Responses of Households with loans (%)	Average Amount of Loan taken (Rs)	Rate of Interest (%)	Amount outstanding (Rs)
1	Commercial bank	12.00	239979	11.70	189604
2	Cooperative bank/ credit society	46.00	109227	8.78	100575
3	Other banks	5.00	134875	14.55	75100
4	Government programme	0.25	100000	14.00	100000
5	Traders/money lenders	0.25	500000	12.00	500000
6	Landlord/employer	1.00	38750	13.00	38750
7	Friends/relatives	2.50	94000	5.40	90000
8	Others	9.00	125569	15.65	87986
	Overall	59	133322	10.40	111616

Note: Individual responses do not add up to 100 as HH have taken loans from one or more sources

Source: Field work, 2020

Table 4.13: Purpose of Borrowing of the Sample Households

	Purpose	Purpose wise percentage of responses from borrowers
1	Agricultural-short term	45.72
2	Agricultural-Medium term	10.53
3	Agricultural-Long term	0.99
4	Educational	4.61
5	Vehicle Purchasing	4.28
6	Housing	13.49
7	Repaying previous loan	0.99
8	Sickness	7.89
9	Family Festivals	1.97
10	Marriage	2.63
11	Other	6.91
	Overall	100

Source: Field work, 2020

1978 report noted that the village had a multipurpose credit cooperative society established in 1930 and that its outstanding loans were to the tune of Rs 1 lakh. These loans were mainly taken for meeting working capital needs. Also, HH had taken loans from Land Development Bank and commercial banks for land development purposes. The report thus concludes that sizable amount of credit was disbursed to cultivator HH in the village from these institutional sources. It was also observed that the cultivating HH satisfied needs for consumption purposes such as marriages festivals etc. mainly from institutional loans as the loans from money lenders were expensive. The non-cultivating HH had to depend on relatives working outside the villages. The 1978 report does not present data on savings of HH with banks. The analysis of the data for the year 2019-20 also indicates the ability of more number/proportion of HH to save and also to save for various reasons such as education and medical which were not very prominent reasons earlier.

Overall, as mentioned earlier, the analysis reveals diversification of economic activities of the HH members, ability of most of the sample HH to save and invest for various needs in 2019-20.

4.6 Economic Status of HH according their PDS Card Status

Based on the information obtained from the HH relating to their ration card status, sample HH were classified as yellow, orange and white card holders. Yellow card holders are below poverty line (BPL) HH. Table below shows economic status of HH categorized on the PDS cards that they hold.

Only around 30 percent of the HH were BPL HH. Most of the HH i.e. around 68 percent were holders of orange card. However, it can be noted that though the income limit for HH to be categorized as yellow, orange and white is specified, the average incomes of the categories is far higher than the stipulated level for categorizing. This thus highlights need for revising the norms used for categorization of card holders.

It is observed that the average income, average expenditure size of landholding are highest for white holders and lowest for yellow card holders i.e. BPL HH. As expected, share of expenditure on non-food items is relatively lower for yellow and orange card holders and indicates that their incomes satisfy mainly food needs and that spending on non-food needs is relatively difficult. All houses had reported that they had savings. However, only 51 and 61 percent of yellow and orange card holders respectively had borrowings. This percentage was 88 percent in case of white card holders. Data suggests that relatively better socio economic status of the white holders and ability of more of these HH to borrow.

Table 4.14: Card Type wise Socio-Economic Status of Sample Households in Gulumb, 2019-20

	Particulars	Card type			
		Yellow (BPL HH)	Orange	White	Total
	% Households	30.25	67.75	2	100
1.	Average size of cultivable land owned (hectare)	0.6	0.7	1	0.7
2.	Average Size of non farm land owned (sq.ft.)*	61127.59	78335.21	104508.12	73653.36
3.	Average Annual Income (Rs)	136520.27	207144.73	776571.4	196946.7
4.	Average Annual Expenditure (Rs)	115071.93	136724.51	204598.8	131647.1
5.	Share of expenditure on food (%)	46.15	48.17	39.49	47.36
6.	Share of expenditure on non-food (%)	53.85	51.83	60.51	52.64
7.	% HH with savings	100	100	100	100
8.	% HH with Borrowing	50.83	61.48	87.50	58.79
9.	Relative status in power structure	Medium	Medium	High	Medium

Note: 1. Income range -Yellow: below Rs15000, Orange – Rs15000 to 1,00,000, White- above Rs 1,00,000 2. * includes residential plot, residential house, commercial land/building, cattle shed/farm house, pond/tank .

Source: Based on Field work, 2020

Due to the typical caste composition in the village, the sample also showed that most of the HH under each card type were from general category. This can be seen from table 4.15. Within each social category, most of the HH were orange card holders.

Table 4.15: Caste Composition of the PDS Card Holder Households in Gulumb, 2019-20

		General	OBC	SC	Other	Overall
1	Yellow	69.42	21.49	7.44	1.65	100
2	Orange	67.90	19.19	10.70	2.21	100
3	White	75.00	25.00	0.00	0.00	100
		General	OBC	SC	Other	Overall
1	Yellow	30.66	32.50	23.68	25.00	30.25
2	Orange	67.15	65.00	76.32	75.00	67.75
3	White	2.19	2.50	0.00	0.00	2.00
		100	100	100	100	100

Note: Other includes 8 Muslim households

Therefore, composition of card holders within caste category was found out. This showed that majority of the HH under all caste categories were orange card holders. There were no SC HH with white card. The two tables together therefore again underline relatively better socio economic status of the white holders.

4.7 Economic Status of Sample HH according their Social Category

It can be seen from table 4.16 that majority of the HH were general category HH. It is interesting to note that the average size of land held, average annual income as well as expenditure, was higher for the SC HH and lowest for 'other' category HH i.e. Muslim HH. It was also observed that the share of expenditure on food was highest i.e. 55 percent in case of 'Other' category HH. Percentage of HH with borrowings were also higher for this category.

Table 4.16: Social class wise Economic Status of the Sample Households

Sr. No.	Particulars	Caste				
		General	OBC	SC	Others	Total
1.	% Households	68.50	20.00	9.50	2.00	100.00
2.	Average size of cultivable land (hectare)	0.6	0.7	0.9	0.4	0.7
3.	Average size of non farm plot (sq.ft)*	887.90	990.48	1582.64	406.25	964.79
4.	Average annual income (Rs.)	140187.68	157064.83	174224.19	111000	140592.01
5.	Average annual expenditure (Rs.)	124760.16	143063.78	161730.94	117800	126737.11
6.	Share of expenditure on food (%)	46.74	43.72	46.89	55.77	46.33
7.	Share of expenditure on non-food (%)	53.26	56.28	53.11	44.23	53.67
8.	% HH with savings	100	100	100	100	100
9.	% HH with borrowing	59.12	58.75	57.89	75.00	59.25
10.	Relative status in power structure	Medium	Medium	High	Medium	Medium

Note: * includes residential plot, residential house, commercial land/building, cattle shed/farm house, pond/tank.

The table indicates overall weaker economic status of these HH and relatively higher economic status of SC and OBC HH based on average annual income data.

4.8 Status of Agriculture

4.8.1 Classification of Landholdings of Sample Households

Out of the total of 400 of sample HH, 76.5 percent were landholder HH. The data shows that most of the landed HH were cultivating their own farms. Only around 12 percent of the HH had leased in land for cultivation and 8 percent of the HH had leased out land. It is also observed that no HH from the landless category had leased in any land for cultivating.

As observed earlier, around 75 percent of the farms were marginal farms. The combined share of marginal and small farms was around 93 percent and only 7 percent of the farms were medium and large sized farms. The distribution of area however shows that 76 percent of the total area was under 93 percent of the farms. Thus, 24 percent of the area was occupied by just 7 percent of the farms. This can be seen from table 4.17.

Table 4.17: Share of Various Category Sample Households Farms and of Area under Farms in Gulumb, 2019-20 (In percent)

	Land size (ha) and Category	Number of Farms	Area operated	Average size of holdings
1	Below 2 (Marginal)	52.92	46.18	1.39
2	2- 4 (Small)	35.04	29.92	3.37
3	Above 4 (Medium and above)	12.04	23.91	7.22
		100	100	2.19

Source: Based on Field work, 2020

4.8.2 Social Status of the Cultivating Sample Households

The caste composition of the total sample HH was also reflected in caste composition of land size wise classes. Table 4.18 shows land size wise social status of sample households.

Table 4.18: Land size wise Social Status of Sample HH in Gulumb (In percent)

		Marginal	Small	Medium & above	Overall
1	General	73.49	61.22	57.14	-
2	OBC	18.60	26.53	19.05	-
3	SC	6.98	12.24	19.05	-
4	Others	0.93	0	4.76	-
		100	100	100	-
1	General	79	15	6	100
2	OBC	70.18	22.81	7.02	100
3	SC	60	24	16	100
4	Others	66.67	0	33.33	100
5	Overall	75.79	17.19	7.37	100

Source: Based on Field work, 2020

It can be seen from the table that general category households was the dominant social group among all land size categories. The table shows that the proportion of the social classes among the sample HH was also reflected in the land size wise distribution of the HH. It is observed that most of the HH were general category HH under all land size groups. Also, within all social categories, most of the sample HH were marginal HH.

4.8.3 Other Characteristic Features of the Cultivating Sample Households

The land size wise characteristic features show that the number of members working on per unit of land and net irrigated area was increasing with size of land (table 4.19). It is observed that for larger farms, the area irrigated was 56 percent.

Table 4.19: Basic Characteristics of Sample Farm Households in Gulumb, 2019-20

Land size Category	Average family size	Average operated area (In Ha)	Land man ratio	Net Irrigated area (%)
Marginal	4.88	1.35	0.36	34.31
Small	4.36	3.38	1.05	37.87
Medium and above	4.47	7.37	1.80	56.24
Total	4.77	2.14	0.59	36.54

Source: Based on Field work, 2020

It can be observed from table 4.20 that average number of kharif crops grown were higher for marginal farmers. Number of perennial crops however increased with farm size. This indicates ability of the larger farm HH to diversify more into horticultural crops (which are high value crops as compared to food grain crops).

Table 4.20: Farm Size Category wise Average Number of Crops Grown by Sample Farming Households of Gulumb, 2019-20

Farm Size Category					
Sr. No.	Season	Marginal	Small	Medium and Others	Overall
1	Kharif	1.83	1.73	1.73	1.79
2	Rabi	1.62	1.70	1.55	1.63
4	Perennial	1.22	1.40	1.33	1.28
	Overall	3.50	3.41	3.34	3.46

Note: Perennial includes sugarcane and horticultural crops.

Source: Field Survey, 2020

4.8.4 Cropping Pattern and Extent of Diversification among Cultivating Sample Households

Table 4.21 shows cropping pattern of the HH. It is observed that area wise jowar and ghevda beans were the two major crops occupying 30 percent of the total cropped area each. These were followed by groundnut (12.25 percent) and sugarcane (13.76 percent).

The table reveals that apart from cereals and pulses and traditional crops like sugarcane, other main crops being cultivated were soybean, ginger and fruits as was already mentioned in chapter 2. Around 85 percent of the area was occupied by major crops. It can be seen that 59 percent of the total cropped area was irrigated and the rest i.e. 41 percent was rain fed. Wheat, moong, vegetable crops and sugarcane were fully irrigated. Other crops were partially rain fed.

Table 4.21: Cropping Pattern of Sample Households of Gulumb, 2018-19 (In percent)

	Crops	Area Irrigated	Area Rainfed	Total (acre)	Distribution of total crop area
A	Cereal Crops				
	Jowar	55.14	44.86	207.29	29.68
	Wheat	100.00	0.00	34.03	4.87
B	Pulses				
	Chana	41.18	58.82	6.8	0.97
	Ghevada beans	37.55	62.45	213.91	30.62
	Moog	100.00	0.00	0.5	0.07
	Other	27.95	72.05	17.35	2.48
C	Oilseeds				
	Groundnut	51.49	48.51	85.57	12.25
	Soybean	64.31	35.69	13.17	1.89
D	Vegetables, Spices, fruits				
	Ginger	100.00	0.00	7	1.00
	Potato	100.00	0.00	1.25	0.18
	Vegetables	100.00	0.00	13.5	1.93
	Turmeric	100.00	0.00	1.5	0.21
	Onion	100.00	0.00	0.5	0.07
E	Other Crops				
	Sugarcane	100.00	0.00	96.15	13.76
	Total area (acres) (%)	409.24 (59)	289.28 (41)	698.52 (100)	100.00

Source: Based on Field Survey, 2020

Table 4.22 relating to yield of the crops cultivated by the responding HH clearly reveals how yield gets adversely affected due to non-availability of adequate water. It shows that yields of the crops were lower when cultivated under rain fed conditions than those under conditions of irrigation. The survey revealed difference in yields of crops on irrigated and unirrigated land thereby also indicating difference in the income that would be earned. Whereas the average yield of jowar on irrigated lands of sample households was 4.2 qtl per acre, the corresponding yield on rainfed areas was 3.37 qtl per acre. The yields in case of groundnut and soybean were 4.35 qtl per acre and 6.25 qtl per acre respectively. In case of rain fed pieces of land, the yields were 2.31 qtl per acre and 3.90 qtl per acre for groundnut and soybean respectively. Thus in case of groundnut and soybean the yields were almost 50% of those under irrigated conditions. This reveals importance of availability of adequate water for improving yields of crops.

Table 4.22: Yield of Crops of Sample Households of Gulumb, 2018-19 (Qtl per acre)

	Crops	Yield	
		Irrigated	Rainfed
1	Cereal Crops		
	Jowar	4.24	3.37
	Wheat	6.17	-
2	Pulses		
	Chana	3.75	3.62
	Ghevada	3.06	2.27
	Moong	2.00	-
	Other		
3	Oilseeds		
	Groundnut	4.35	2.31
	Soybean	6.25	3.90
4	Vegetables, spices		
	Ginger	50.66	-
	Turmeric	27	-
	Onion	100	-
5	Other		
	Sugarcane	579	-

Source: Based on Field Survey, 2020

Diversification of Cropping Pattern- the Simpson Index

For understanding the extent of diversity in cropping pattern, Simpson's diversity index (SI)

(Simpson, 1949) was used. It is defined as,
$$DI = 1 - \sum_{i=1}^S (n_i/N)^2$$

Where, S is the number of crops,

n_i (for $i = 1$ to S) is the area devoted to the i^{th} crop,

N (= Sum of n_i) is the total area across all crops. (T. P. Swarnam, A. Velmurugan, 2016)

For a farm with only one crop and with no diversity, Simpson's diversity index is zero. As farm diversity increases, Simpson's diversity index approaches unity.

Table 4.23 shows distribution of HH as per extent of diversification of HH in each land size category. It is observed that majority of the HH in each land size category had SI above 0.5 indicating high level of diversification. HH with complete specialization were mainly sugarcane cultivating HH.

Table 4.23: Pattern of Crop Diversification across Different Size Groups in 2019-20
(In percent)

Districts	Level of diversification				Total (%)
	Complete specialization (SI=0)	Low diversification (SI=0.1 to 0.25)	Moderate diversification (SI=0.26 to 0.50)	High diversification (SI= >0.50)	
Marginal	6.19	1.03	24.23	68.56	100
Small	7.32	0.00	19.51	73.17	100
Medium	15.00	0.00	15.00	70.00	100
Overall	7.06	0.78	22.75	69.41	100

Source: Field work, 2020

4.8.5 Perception of the Sample Households about Profitability

Table 4.24 shows cropping pattern of major crops cultivated, produce sold and perception of cultivators about profits.

Table 4.24: Disposal of Major Farm Produce by Sample Households in Gulumb, 2019-20

	Particulars	Crop Pattern (%)	% Produce sold	% HH reported profits	
				Irrigated	Rainfed
	Crops				
1	Jowar	29.68	8.5	45	28.3
2	Chana	0.97	20.0	100	25
3	Ghevada beans	30.62	44.9	29.5	12.1
4	Wheat	4.87	12.6	50.9	-
5	Groundnut	12.25	8.4	50.8	34.1
6	Soybean	1.89	78.2	88.9	50
7	Sugarcane	13.76	96.7	100	-
8	Ginger	1.00	60.0	66.7	-
9	Onion	0.07	100.0	-	-
10	Potato	0.18	50.0	50	-
11	Turmeric	0.21	100.0	50	-
	Total	95.5	-	-	-

Source: Based on Field Survey, 2020

It is observed that in case of commercial crops like onion and turmeric, 100 percent of the produce was sold. 78 percent of soybean crop and 98 percent of sugarcane was also sold.

In case of other crops like cereals and pulses, the extent of produce sold was very low either due to demand for home consumption or due to losses incurred in the market. In case of ghevda beans, losses could be the reason for lesser extent of produce sold in the market. Extent of produce sold in case of jowar and groundnut was very low.

It is observed that for crops jowar, ghevda beans, chana, soybean and groundnut, percentage of HH reporting profitability of crops was higher in case of irrigated crops. Profitability of a crop would depend on prices given the costs and the yield realized. Thus given the prices, by lowering costs and increasing yield the HH can realise profits. The table therefore highlights need for increasing yield and provision of adequate irrigation facilities.

4.8.6 Changes in Cropping Pattern in Last 5 Years

The HH were also asked about change in cropping pattern if any during last five years. The table below indicates the details. Overall, 22 percent of the HH changed cropping pattern. It is noted that with land size, the extent of HH which changed cropping pattern has been increasing. This probably indicates that large size farming HH have more information and resources for changing cropping pattern. Similar pattern is observed for HH which have changed crop varieties also. Around 59 percent of medium farming HH have changed varieties. This percentage is relatively lower for marginal and small farming HH. The respondents were also asked about major reasons for crop diversification. Majority of the HH reported that water scarcity was the main reason for diversification.

Table 4.25: Crop Diversification by Sample Households in Gulumb in Last 5 Years

	Household Category			
	Marginal Farms	Small Farms	Medium and above	Overall
% farmers changed cropping pattern during last 5 years	20.4	25.4	31.8	22.2
% farmers changed crop varieties of major crops	36.9	39.0	59.1	38.9
Main three reasons for crop diversification	1. Water scarcity 2. For getting high yield 3. For higher income	1. Water scarcity 2. For getting high yield 3. Labor shortage	1. Water scarcity 2. Climate change 3. Labor shortage	1. Water scarcity 2. For getting high income 3. Climate change

Source: Based on Field Survey, 2020

4.9 Economic Status of Cultivating and Landless Households

Economic status of cultivators classified land size wise is presented in table 4.26. It shows that out of total sample HH, 71.25 percent of the HH were landed HH. The rest i.e. 28.75 percent of the HH did not possess any land. Their income from farming and off farm

activities consisted of mainly income from working as agricultural labourers and livestock activities.

Data relating to income shows that income from non-farm sources contributed largely to the total income of all HH. This pattern was similar to the income pattern of overall HH as almost 75 percent of the sample HH were landed HH. This again reveals role of non-farm income in supporting livelihood of the landed HH. Among the landed HH, this share is highest in case of marginal farmers. The share of income from farming is lowest for this category and the share of non-farm income is proportionately higher among the landed HH.

In absolute terms, average income from farming increased with size of land. Also, non-farm income was highest for medium and large farmers. It was almost 3 times higher than that of the marginal farmers. The number of sources of income have increased with land size.

Table 4.26: Land Size wise Economic Status of the Sample Households in Gulumb, 2019-20

	Particular	Household Category				
		Marginal	Small	Medium and above	Landless	All
	Share of HH (%)	75	12.25	5.25	28.75	400
1	Percentage of Total Income from Farming	15.04	28.17	28.73	-	15.68
2	Percentage of Total Income from off Farming	2.76	3.89	0.56	5.18	3.01
3	Percentage of Total Income from Non Farming	82.20	67.94	70.70	94.82	81.31
4	Total Income	100	100	100	100	100
5	Average income from farming and off farm(Rs)	27,597.21	47,008.16	1,59,795.24	6260.87	30781.25
6	Average income from Non-farm (Rs.)	1,27,420.98	99,638.78	3,85,666.67	114627.81	133897.5
7	Number of Sources of income	3	4	5	6	

Source: Based on Field Survey 2020.

From the responses of the HH, data relating to details of borrowings was analysed. Table 4.27 shows that out of those HH which took loan for agricultural purposes, around 65 percent were marginal farmers. It is also seen that most of the HH which took short term and medium term loans were marginal HH. The share of medium category HH was lowest in case of short term loans and highest in case of long term loans. The data clearly indicates ability of the larger farm size HH to take long term agricultural loans and make investments for improvements.

Table 4.27: Share of Various Category Sample Households in Loans Taken in Gulumb
(In percent)

	Percentage of Cultivating Households -	Marginal	Small	Medium
1	Who have taken loan	64.97	23.57	11.46
2	Who have taken short term loan	65.47	23.74	10.79
3	Who have taken medium term loan	56.25	12.50	31.25
4	Who have taken long term loan	-	33.33	66.67

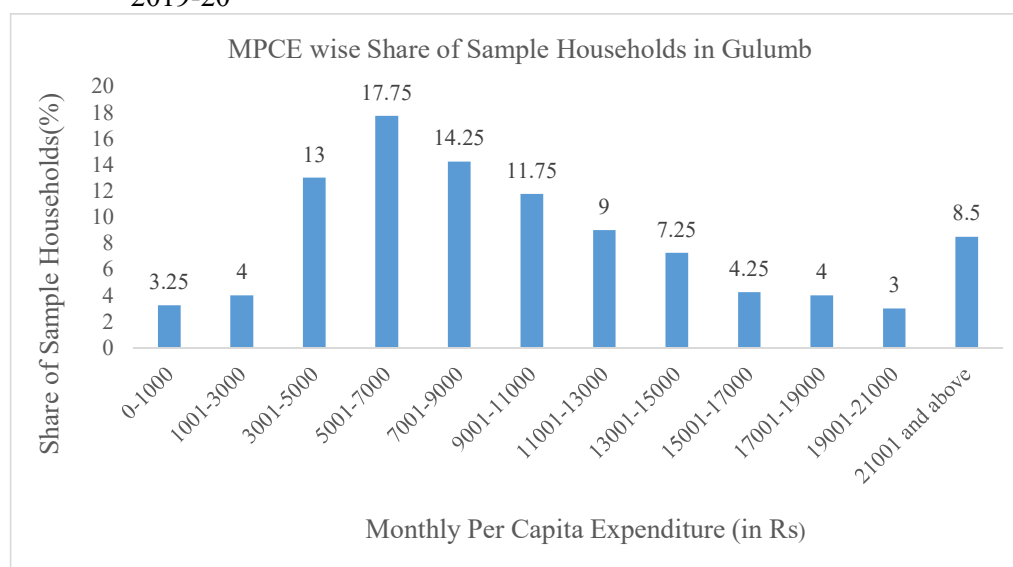
Source: Based on Field Survey 2020.

4.10 Poverty among Sample Households

The poverty line for rural Maharashtra as per the Tendulkar Committee Report, 2012 was fixed at Rs. 967 (<https://www.rbi.org.in/scripts/PublicationsView.aspx?id=16603>). The officially updated poverty lines for recent years are not yet available and NSSO data relating to monthly per capita expenditure (MPCE) for the latest round is also not available. Therefore, for understanding the poverty status of the sample HH, they were classified based on MPCE. This is presented in figures below.

Figure 4.2 shows that 3.25 percent of the HH had MPCE below Rs 1000 or below the (non-updated) poverty line of Rs. 967. Assuming that the HH with MPCE below Rs 3000 to be the most vulnerable HH, it is observed that 7.25 percent of the HH were most poor /most vulnerable classes closer to the poverty line.

Figure 4.2: Monthly Per Capita Expenditure wise Share of Sample Households in Gulumb, 2019-20



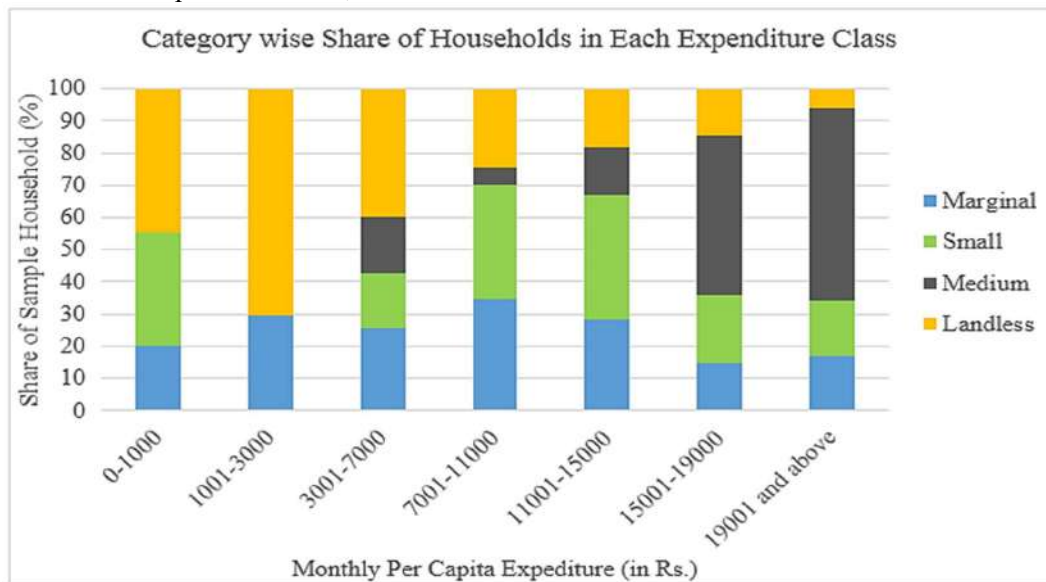
Source: Field work, 2020

It was also observed that around 20 percent or one fifth of the HH have MPCE below Rs.5000. Share of HH in the MPCE category of Rs. 5000-7000 is highest i.e. 17.75 percent.

Share of HH has declined thereafter with each expenditure class. 8.5 percent of the HH belong to very high MPCE class of Rs. 21000 and above.

Figure 4.3 shows expenditure class wise share of various category HH. The figure retains the lowest two expenditure classes from the earlier figure and clubs the remaining classes. It is observed from this figure that marginal HH and the landless HH are the main HH categories in the first two MPCE categories indicating their vulnerable economic status. With each MPCE class above Rs. 7000, their share has been declining and that of the medium size land HH has been increasing.

Figure 4.3: Category wise Share of Sample Households in Gulumb in each Expenditure Class, 2019-20



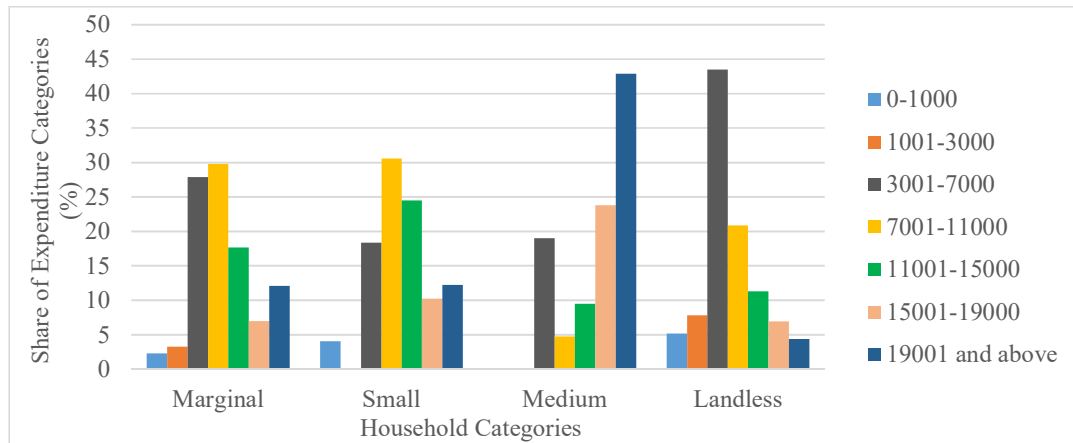
Source: Field work, 2020

Figure 4.4 shows share of households in each expenditure class for each HH category. First two MPCE classes are composed of HH with income less than Rs. 3000. It is observed that in case of marginal HH and landless HH, around 5 percent and 13 percent of the HH respectively belong to the two lowest MPCE classes. It is also seen that the share of HH with higher MPCE classes is lower for these two categories. Similar pattern is observed for HH belonging to small category. This clearly highlights their relatively lower economic status as compared to other categories. In case of medium and above category, the dominant MPCE category is Rs 19000 and almost 43 percent of the HH belong to this category.

The analysis indicates that the marginal farmers and the landless workers in the village mainly survive on the income earned through non-farm activities. This share is 82 percent and 71 percent for marginal and landless categories respectively. However, in absolute terms, the level of total average income earned by these categories is very low as compared to other

categories, especially the highest land size category. The average number of sources of income are lowest i.e. 3 for marginal category and highest i.e. 6 for the landless HH. Around 5 percent of the marginal category and 13 percent of the landless HH respectively belong to the two lowest MPCE classes.

Figure 4.4: Share of HH in Each Expenditure Class for Various Land Size Classes, 2019-20



Source: Field Work, 2020

The analysis indicates that the marginal farmers and the landless workers in the village mainly survive on the income earned through non-farm activities. This share is 82 percent and 71 percent for marginal and landless categories respectively. However, in absolute terms, the level of total average income earned by these categories is very low as compared to other categories, especially the highest land size category. The average number of sources of income are lowest i.e. 3 for marginal category and highest i.e. 6 for the landless HH. Around 5 percent of the marginal category and 13 percent of the landless HH respectively belong to the two lowest MPCE classes. It is indicated that in case of marginal farmers very small size of landholding and limitations to having more sources of income leads to lower income from farming and non-farm sources, lower consumption expenditure and inability to make investments in land. As a result, more percentage of HH are in vulnerable classes of MPCE as compared to other land size classes. In case of landless HH also, in spite of having relatively more number of sources of non-farm income, the average income level for this category is very low and almost 15 percent of the HH from this category have very low MPCE revealing their vulnerability.

For observing the factors that are correlated with land size, coefficient of correlation was found out between size of landholding of the HH and income, expenditure, saving borrowing. The coefficient of correlation was closer to 1 in case of income and expenditure indicating positive but weaker relationship due to factors such as variability in income and

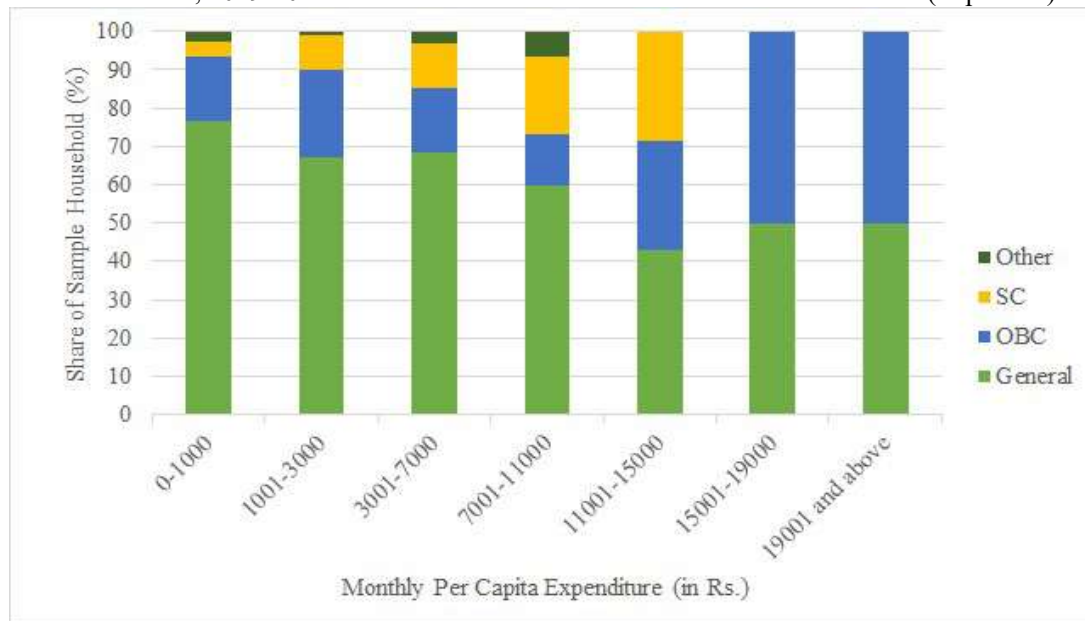
expenditure reported. It was greater than three in case of borrowing and greater than 4 in case of saving and revealed relatively stronger positive relationship as compared to the earlier case. This indicated more possibilities of growth in case of HH with bigger land size.

Social Classes and Poverty

Following figure indicates social category wise share of HH in each expenditure class. It can be seen that general category HH are dominant HH in each expenditure class followed by OBC HH. It can be clearly seen that though annual income of SC HH was higher than other HH (table 4.16), the data on MPCE shows that these HH had MPCE below Rs 15000 and there were no HH in top two expenditure classes. This suggests higher family size of SC HH. HH in category ‘Other’ seem to be the most vulnerable category as was also observed from table 4.16. These HH were concentrated below MPCE category of Rs. 11000 and there are no HH in top 3 MPCE classes. Top two MPCE classes were constituted by Open / General and OBC category HH.

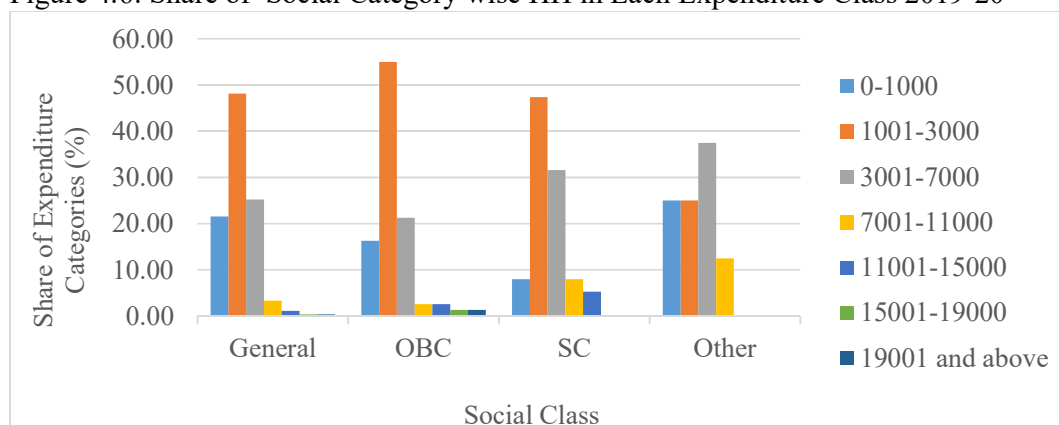
Within each social category, it was observed that share of two lowest MPCE classes was more than 50 percent (figure 4.6). It is also observed that SC and Other category HH did not have top 2 or 3 MPCE classes respectively thereby indicating constraints to generation of high income.

Figure 4.5: Social Category wise Share of Sample Households in Gulumb in each Expenditure Class, 2019-20. (In percent)



Source: Field Work, 2020

Figure 4.6: Share of Social Category wise HH in Each Expenditure Class 2019-20



Source: Field Work, 2020

4.11 Responses of the Sample Households about Food Security Challenges

Apart from analyzing the consumption expenditure levels of the sample HH, their responses about food security challenges faced by them were also recorded. These are presented in table 4.28. The responses of the HH reveal that more than 80 percent of the HH do not seem to have faced food insecurity which is a phenomenon experienced often by poor HH. Around 2 percent of the HH however reveal that they felt food insecure sometimes. This is revealed from their responses to first four questions.

It is also observed that around 80 percent and 90 percent of the HH never or very rarely visited the restaurants and had packed / processed food in excess quantities respectively.

Table 4.28: Responses of the Sample Households regarding Food Security in Gulumb, 2019-20
(% of respondents)

	During last 12 months any member of the household -	Never	Rarely	Sometimes	Often	Total
1	Went a whole day and night without eating due to poverty?	88.0	9.5	2.5	0.0	100
2	Went to sleep hungry due to inability to purchase food?	84.8	13.5	1.8	0.0	100
3	Ever worried that the households would not have enough food?	82.3	15.8	2.0	0.0	100
4	Ate some poor quality food?	72.5	25.5	2.0	0.0	100
5	Were not able to eat the kind of food you preferred?	58.5	35.3	5.8	0.5	100
6	Did you offer food to your neighbors and guests?	6.0	43.5	44.3	6.3	100
7	Went for outside eating in hotel/restaurant?	60.5	28.3	10.3	1.0	100
8	Do you consume too much packed food/ processed purchased food?	45.0	46.0	8.0	1.0	100

Source: Field work, 2020

4.12 Concluding Remarks

The analysis of the data in this chapter reveals that as compared to the earlier survey of 1976, number of sources of income, economic opportunities available and hence the extent of occupational diversification has increased over the years. However, though it was not possible to compare extent of migration as reported in 1976 and in 2020, it was observed that families had migrated in the pre-1976 period as well as in 2020 period. Thus migration appeared to be a continuous phenomenon. The analysis also reveals higher economic status of medium and large landowning HH and white PDS card holder HH. Analysis of MPCE based on classification of HH reveals higher share of economically vulnerable HH among marginal HH, landless as well as HH in SC and Other (Muslim HH) category. Smaller size of land with marginal HH, inadequate income from various non-farm sources with landless HH and socio economic status in case of SC and Muslim HH appear to be the constraining factors. The analysis highlights need for measures focusing on marginal land owning HH, landless HH and socially vulnerable HH.

Chapter V

Perception of the Sample Households: Policy, Ecology and Rural Change

5.1 Introduction

This chapter documents perceptions of beneficiary HH about benefits from government schemes, about their status in relative power structure, their views about problems faced and their suggestions, rural change and ecological changes taking place over the years. These institutional, developmental and ecological factors affect activities and livelihood of the HH and hence understanding perception of HH regarding these factors is important.

5.2 Coverage under Government Schemes

Table 5.1 shows coverage under important government schemes implemented in the village. The table covers information relating to HH which were entitled to get the benefit, percentage of HH which were covered and the percentage of HH out of these, which were satisfied with the benefits from the schemes. The two main schemes with larger coverage of the HH were PM Kisan Scheme and ICDS Mid-Day Meal Scheme. It was observed that around 57 of the landed HH were entitled to get benefits under PM Kisan Scheme which is a central sector income support scheme started in 2018. Out of these 98.7 percent got covered and 79 percent of these were satisfied with the working of the scheme. Other important scheme was ICDS -mid day meal scheme for the children. Almost all the eligible HH were covered and they were satisfied with the working of the scheme. It is however observed that only around 15 percent of the landed HH had kisan credit cards under which short term and term loans can be availed at very low rates of interest. This indicates lower coverage of the schemes in the village. The number of persons/ HH entitled for other schemes is also mentioned in the table and shows very low percentage of eligible HH.

Box 5.1: Problem regarding PM Awas Yojana in the Village

During discussion with the villagers and gram panchayat officials it was reported that in the recent 4 to 5 years, houses could not be constructed under Pradhan Mantri Awas Yojana due to scarcity of suitable location and space.

It is observed that majority out of those eligible were covered under the schemes and were satisfied. However, the focus of the study was not on detailed analysis of implementation and impact of the schemes. Hence, information regarding the same was not collected in detail from the HH.

Table 5.1: Coverage under Different Government Sponsored Schemes of Sample Households in Gulumb, 2019-20

	Name of the scheme	Percentage of entitled households/ individuals	% coverage	% of beneficiaries satisfied with the scheme
1	CG Farm Income Support (PM-KISAN)	57 % of the landed HH	98.7	78.7
2	ICDS/ Mid Day Meal	16% of total HH	100.0	98.4
3	KCC Card	15% of the landed HH	70.5	83.9
4	Farm Loan Waiver Scheme	2.7 % of the landed HH	50.0	100.0
5	Farm Pension Scheme (PM-KMY)	1.02 % out of Landed HH	100.0	66.7
6	Widow Pension Scheme	03 members from a total of HH	100.0	100.0
7	MGNAREGA Job Card	2.75 % out of total HH	45.5	80.0
8	LPG scheme (PM UJJALA)	3.5 % out of total HH	85.7	100.0
9	Govt. Housing Scheme (IAY/PMAY)	0.5 % out of total HH	100.0	100.0
10	Ramai Avas Yojana	0.75 % out of total HH	100	100

Source: Field Work -2020

5.3 Perception of the Village Households about their Relative Status in the Village

Following table shows perception of the HH about their relative status in the village.

Table 5.2: Perception of the Village Households about their Relative Status in the village, 2019-20

	Perception	Top	High	Medium	Low	Nil
A.	Perception of sample HH about relative status in power structure in the village (% responses)	6	17	63	11.75	2.25
B	Reasons for status (% responses)	Caste	Qualification	Political affiliation	Economic condition	None
		4.25	7.25	4	27.75	56.75
C.	Whether there is caste/ gender/ political deprivation in the village (% responses)	1				
D.	Whom do you approach for any advice/ consultation?	Livelihood specific	Social	Education	Legal	Others
	Family relatives and Friends	76.5	62.5	64.5	32.5	38.75
	Cannot say	22	36.5	35.5	62.25	61.25
	Others	1.5	1	0	5.25	0
	Total	100	100	100	100	100

Source: Field work, 2020

It is observed that most of the HH – 63 percent viewed their status as medium status. Combined percentage of HH with perception as top and high was around 25 percent. Around

28 percent of the HH thought that major reason for their existing status in the village was the economic condition. Only 11 percent of the HH thought that caste and educational qualifications explained their status in the village. 57 percent of the HH could not respond to the question. To the question as to whether there was any caste, gender or political deprivation in the village only one percent of the HH answered in affirmative. Other HH could not respond to the question. This possibly indicates absence of extreme or obvious casteism or exploitation on the basis of caste or political ideas.

It was observed that if confronted with various livelihood related or social or other problems, the HH mainly consulted relatives or friends.

5.4 Opinion of the Households about Rural Change

The table shows that most of the sample HH perceived that overall, economic condition of the villagers had improved and that there was improvement in the village infrastructure. 64 percent of the HH also thought that there was a positive change in the agricultural sector of the village. 62 percent of the HH felt that economic condition of their family had improved over a period of time. So overall, the perceptions indicate improvements in village life. However, it can also be noted that 6 to 7 percent of the HH opined that the economic condition of the villagers had deteriorated, 15 percent of the HH felt that status of agricultural sector had deteriorated over the years. Finally, 16 percent of the HH also felt that the economic condition of their family had deteriorated over the years. Table also shows percentage of HH which felt that there was no change as far as various dimensions are concerned.

Table 5.3: Responses of Sample Households about Rural Change in Gulumb, 2019-20
(In percent)

		Percentage responses		
		Improved	Deteriorated	No change
1	Change in economic condition of the villagers	86.25	6.25	7.5
2	Change in village infrastructure (Road/Electricity) etc.	82.25	7.25	10.5
3	Change in status of agricultural sector of the village	64	14.75	21.25
3	Change in economic condition of your family	62.25	16	21.75

Source: Field work, 2020

5.5 Major Problems Perceived by the Villagers, Officials and the Sample Households

Problems revealed during group discussion

During group discussions, the villagers and the officials were asked about major problems faced by the village and the required remedial actions or interventions. It was revealed that, non-availability of jobs/ adequate employment opportunities in the village was the major problem which was leading to migration and shortage of agricultural labourers. Drought was another major problem which not only affected incomes but also education of children. Box 2 shows the measures which need to be undertaken for the village and which came out of the group discussion.

Box 5.2: Measures Suggested during Group Discussions in Gulumb

- The village should be included in the category of Drought Prone Areas
- Solar Energy should be used for electricity generation so as to take care of problem of load shedding which affects agricultural and other activities.
- Impetus should be given to farm mechanization and usage of farm implements should be promoted

Problems Revealed during Household Interviews

The sample HH were also asked about major problems faced in the village and the solutions to the problems according to them. It can be seen from table 5.4 that about 11 percent of the HH felt that cleanliness and weak drainage system was the major problem facing the village. It can be noted that the 1978 report also mentions about poor sewage as well as garbage system. Discussions revealed that garbage was not properly carried from HH to public bins as well as from public bins for its disposal and frequently its spillover kept the roads unclean and in unhygienic conditions. This is in spite of implementing schemes such as Nirmal Gram Yojana. This problem existed during earlier survey also and was discussed in the 1978 Gulumb report and still persists even after 45 years also and thus needs attention of the concerned authorities.

As seen from table 5.3 above, 82 percent of the sample HH felt that the village had experienced positive change in infrastructure development. However, around 17 percent of the HH either felt that there was no change or that there was deterioration. This is reflected in table 5.4. Around 14 percent of the HH expressed need for more and better infrastructure such as better roads, continuous electricity supply, hospital in the village, good school etc. Water scarcity for agriculture as well as for drinking was also considered as a problem by around 9

percent of the population. 59 percent of the HH could not think of and report any major problem. Figure 5.1 plots responses of HH which responded to the question on problems faced.

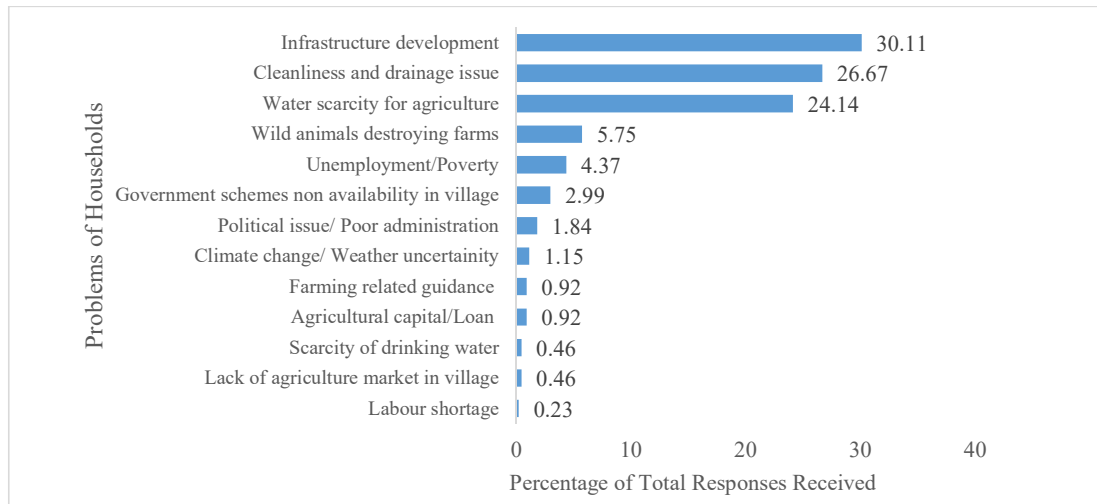
Responses of the HH regarding solutions to the problems were recorded. These are shown in Table 5.5, boxes 5.3, 5.4 and are plotted in figure 5.2 and provide important insights into needs and expectations of the village HH. Out of the total responses, 69 percent could not answer the question and were indifferent about the actions needed for improvement. All other responses revolve around and underline need for development of better infrastructure such as sewage, water electricity, transport hospital, school etc. and relate to problems raised by the HH (table 5.4). The responses also relate to need for employment generating activities.

Table 5.4: Major Problems Faced by the Sample Households of Gulumb, 2019-20

Sr. No.	Problems of households relating to	Percentage of total responses received (%)
1	Cleanliness and drainage issue	11.33
2	Infrastructure development	13.67
3	Water scarcity for agriculture	8.75
4	Wild animals destroying farms	2.08
5	Unemployment/Poverty	1.58
6	Government schemes non availability in village	1.08
7	Climate change/ weather uncertainty	0.42
8	Agricultural capital/Loan	0.33
9	Farming related guidance	0.33
10	Lack of agriculture market in village	0.17
11	Scarcity of drinking water	0.17
12	Labour shortage	0.08
13	Political issue/ Poor administration	0.67
14	Could not respond	59.33
	Total	100.00

Source: Field Survey, 2020

Figure 5.1: Major Problems Faced by the Sample Households of Gulumb



Source: Based on table 5.4

Unclean Roads and Open Sewage



Kachcha Road



As far as development of transport infrastructure is concerned, it was reported that there was only one bus top in Mayureshwar part of the village which is located at a distance of 5 kms from the main village. Some of the villagers therefore expressed inconvenience caused due to non-availability of the bus stop in the main part of the village. It was however also reported that the bus usually stops on request of the passengers in the main part of the village.

Box 5.3 Availability of Drinking Water in the Village

During the survey, one of the female member of a sample HH recalled that around 5 years ago i.e.in 2014-15, villagers received drinking water ones in 8 days. Now, the water is available after every two days for 45 minutes. Thus, though more water is now available than before, it is still not adequate.

Table 5.5: Remedial Measures for Problems Suggested by the Sample Households in Gulumb, 2019-20

	Remedial Measures for Problems	Percentage Households
1	Proper sewage required	8.92
2	Infrastructure development required	5.50
3	Canals required	5.00
4	Proper implementation of government schemes	2.00
5	Good transport facility/bus stop required	1.92
6	Improvement in schools	1.50
7	Hospital Required	1.25
8	MIDC or employment schemes required	1.00
9	ATM facility needed	0.83
10	Continuous supply of electricity	0.75
11	Wild animals issue in agriculture needs to be solved	0.75
12	Good administration required	0.50
13	Toilet required	0.42
14	Filtered water required	0.17
15	Provision of loan	0.08
16	Farming guidance are required	0.08
17	Could not respond	69.33
	Total	100.00

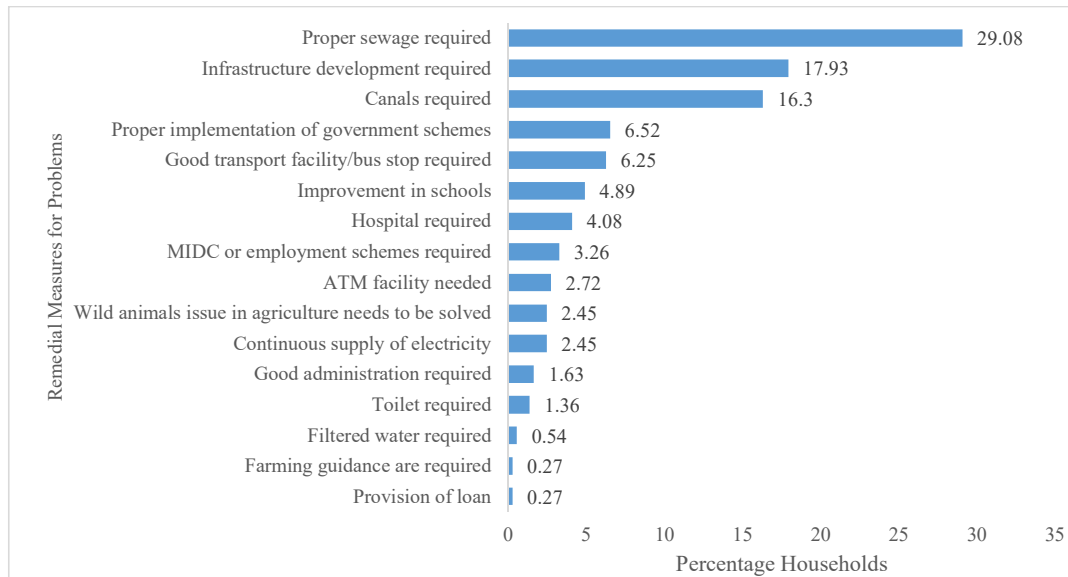
Source: Field Survey, 2020

Box 5.4 Problem relating to Quality of Drinking Water supplied to Households

The main source of drinking water in Gulumb is wells. Water from wells is collected in a storage tank and distributed through pipelines to village households. This water however is not filtered and it has come to the notice of the villagers that this has led to a number of health problems. Hence there is a demand for filtered drinking water.

One of the suggestions to improve working of administration related to putting up of village notices in Mayureshwar section also for the benefit of the HH residing in that part of the village.

Figure 5.2: Responses of Households Relating of the Sample Households relating to Remedial Measures to Problems (%)



Source: Base on table 5.5

5.6 Ecological Phenomena in the Village

Following table shows the extent of extreme events/ natural calamities in the village. This information was collected during HH survey as well as through group discussion with a group of villagers as well as village officials. During the HH survey, the HH were asked whether any change in rainfall pattern or heat/cold waves or air pollutions in village was noticed during last 10 years. More than 90 percent of the HH felt that such a change was definitely noticed. This was reflected during group discussion with villagers and officials also.

Through group discussions, it was revealed that the occurrences of drought, erratic rainfall and heat wave had increased. During the 5 years preceding the reference year in fact, drought was experienced 4 times. It was felt that almost all the farmers and all the crops had suffered due to the drought. Drought had not only affected crops and the farm income but also education of children as scarcity/ non availability of water had affected daily routine of the HH. However, the village has not experienced any suicide of due to distress caused by recurrent droughts.

In one of the years, it was reported that the village experienced erratic rainfall which caused damage to around 17 houses and one of the anganwadis. The accident of one of the villagers serving in army led to physical disability during the cyclone and erratic rain.

Table 5.6: Frequency of Extreme Events during Last 5 Years and Exposures to Shocks in Gulumb

Extreme Events	Change in occurrence (Increased/ Decreased/ No change)	Frequency during last 5 years	Most vulnerable groups	Least vulnerable groups*	Most vulnerable crops or enterprises	Least vulnerable crops or enterprises
Drought	Increased	4	All Farmers	Job holders	All Crops	-
Erratic Rainfall	Increased	1	All	NA	All	NA

Source: Group discussion, Field survey, 2020.

Drought was reported as the phenomenon causing maximum hardships. On a scale of 0 to 5, the degree of hardship caused to crops livestock, ranged between 3 and 4 and indicated moderate and high level of hardship caused.

Table 5.7: Degree of Hardship Faced (vulnerability) during last 5 years (in 0-5 scale)

Climate Extremes	Damages to crops	Hardship to cattle	Hardship to small ruminants	Hardship to poor	Hardship to children	Hardship to aged people	Hardship to women
Drought	4	3	3	4	3	3	4
Erratic Rainfall	4	2	2	4	2	2	2

Note: Rank (0=Nil; 1=Negligible; 2= Low; 3=Moderate; 4=High; 5=Extreme)

5.7 Strategies Used for Coping with Drought

The villagers were asked about various strategies used by them for coping with various calamities. Discussion with the villagers revealed that the coping strategies adopted especially by the lower income groups were borrowing, using savings or temporary migration in search of livelihood opportunities, taking loans for satisfying consumption expenditure. Some of the HH also resorted to leaving livestock with relatives when it was absolutely impossible financially to feed the animals.

At the village level however, three major strategies were adopted. One was to get water tankers to tide over the contingency created by drought. Second was acquisition of private wells in Gulumb with water, for temporary periods of draught. Discussions with the villagers revealed that a few years ago, the village had one public well which satisfied needs of water for usage. Over the years however, need for having more wells increased due to recurring droughts. It was recalled that in the recent past two wells were acquired temporarily during

summer. During one of the drought years, water from Kavthe – Kenjal irrigation project was released for Gulumb for satisfying its water needs. However, it was made clear by the Sarpanch that the village had become now tanker free and adhigrahan (acquisition) free in recent years.

The third strategy was a long term project of stream linking taken up by the village in collaboration with the government and private sources. The villagers reported that due to adequate monsoon during the survey year, i.e. in 2019-20 (after successive years of droughts/ inadequate rainfall) Gulumb village received adequate water. It was hoped by the villagers that this water and recharge of groundwater due to this would be helpful in providing adequate water to the village at least for next two years. This has been already discussed in chapter 2.

The villagers were also asked as to whether incidence of diseases and medical expenses had increased in last 5 years. 76 percent of the HH replied that the incidence and therefore expenses had increased over a period of time. Responses reveal (table 5.5), need for having proper sewage treatment and maintenance of cleanliness in the village as well as hospital. It is felt that this may have positive effect on health of the villagers.

5.8 Individual Initiatives for Socio Economic Development of the Village

Discussions were held with a number of knowledgeable and key persons as well as village representatives to get insights into socio economic changes taken place in the village over a period of time.

Box 5.5 Individual Initiatives for *Social Change* in Gulumb

Sustained efforts through individual initiative have led to reduction in incidence of number of social customs/ superstitions followed by villagers especially womenfolk. It was informed that dedicated efforts were made by *Guruji* against the phenomena of women being possessed by supernatural power, the practice of killing animals for religious purposes and against liquor addiction. Through discussions and counselling, around 60/70 women stopped getting possessed. As mentioned in chapter 2, the village is a liquor shop free village.

Box 5.6 Initiatives for *Women Empowerment* in Gulumb

Efforts have been taken by one of the ex-Sarpanch of Gulumb for women empowerment through organisation of various programmes. Vocational training programmes included organisation of training programmes relating to computer operating, tailoring, fashion designing, chulha making, candle making etc. Various other programmes such as lectures on various topics, health camps were also arranged. The efforts have been appreciated especially by women members of the sample HH.

Box 5.7 Initiatives for *Development* of the Village

The current Sarpanch of the village also has been involved actively in initiating various developmental and welfare activities. The Sarpanch was actively involved in construction of Smashanbhoomi of a convenient size where the most of the HH members could be accommodated. The other major contribution of the Sarpanch was widening of streams and initiative taken for construction of a number of bunds due to which the village became tanker free.

The leadership and initiatives have played an important role in development of infrastructure in the village.

5.9 Concluding Remarks

The analysis of the qualitative data collected reveals perception of the sample HH as well as village authorities about nature of problems faced by the village. According to majority of the sample HH, over a time period, the village has experienced considerable expansion and improvement in infrastructure as well as economic status of village HH. Increased incidence of droughts during was also reported. Scarcity of water for drinking as well as irrigation, poor quality of drinking water, inadequate systems for maintaining cleanliness and sewage management, open drainages and inadequate infrastructure were the major civic problems reported by the villagers. Therefore, steps for provision of better infrastructure, adequate and clean water, maintaining cleanliness in the village, declaration of village as drought prone area, promotion of solar energy were major suggestions of the villagers. General problem of lack of job opportunities was also revealed and hence villagers felt that establishment of industrial estate nearby or provision of other employment opportunities was essential.

Discussions with the villagers revealed contribution of village representatives and their initiatives which has played an important role in bringing about socio economic change in the village.

Chapter VI

Conclusions and Policy Implications

6.1 Introduction

A major phenomenon observed across the globe is increasing level of urbanization. According to one of the reports, the world population in the last forty years has grown by 3.2 billion and has nearly doubled and for the first time more people live in cities than in rural areas. This has not only raised concerns about urban living but also about rural change and changing structure and nature of village economies. The above report also estimates that despite continued urbanization, 2.8 billion people, mainly residing in South Asia and Sub-Saharan Africa would be still living in rural areas in 2050 and would earn their living primarily from agriculture. Thus, villages still would be sustaining a large section of population in country like India and depending upon the stimuli received would gradually experience change in their basic structure. The share of rural population in India which was 80 percent of the total population in 1960s has been reducing gradually over the time period, however still a massive proportion of the total population – around 65 percent- still resides in more than 6 lakh villages of rural India. This population constitutes largely the agrarian population of the country. Study of villages therefore reveals working of various existing agrarian and other associated socio economic institutions governing the village life, drivers of change and provides insight into the pace with which villages transform and adapt to changing environment and developments.

The available literature suggests that a large number of studies have been undertaken by social scientists which have analysed specific aspects of working of villages based on data collected from sample households. Studies based on population surveys and resurveys also have been carried out. These sample / population based surveys were undertaken with the objective of understanding the erstwhile stagnant and largely self-sufficient nature of villages, the agrarian dependence, nature of socio economic life and activities of households and various institutions which governed village life. One of the earlier resurvey studies was undertaken by The Indian Society of Agricultural Economics for comparing the village surveys undertaken in 1915 and 1955 of village Bhadkad in Gujrat (erstwhile Bombay state) (ISAE, 1957). It revealed the stark reality of very low progress in economic as well as social sphere and very slow pace of change during the period of nearly 40 years of pre independence era. The studies undertaken in the later part of the decade analysed the changes taking place on the backdrop of overall increasing scale and extent of commercialization, expanding services of government

institutions and development of village infrastructure and made an attempt to understand the drivers of change, various survival strategies of village HH and overall structure of the village economy (Gajrajan, 1983; Rao and Nair, 2003; Kumar, 2016). These studies noted changes in institutional and infrastructure facilities, land ownership and land use patterns, population size and migratory patterns, gender equations, income levels etc. and reveal rise of rural non-farm economy, growing educational opportunities and increasing mobility across caste and community. Some of the socio economic village surveys have also been undertaken for collecting baseline information for implementation of a programme or a scheme and with the objective of finding the impact or progress due to the scheme over a period of time at a later date (Apte, 1979; NIRD, 2010).

The village surveys have thus attempted to capture various phenomena associated with rural change and to understand how rural transformation takes place. Apart from having historical value due to documentation of information relating to the village concerned, the village studies are important as they assess the socio economic status of the households and overall progress and developmental status of the village at a particular point of time.

The recent literature as well as government policies discuss importance of developing villages in a smart way. Major features of a smart village revealed through the literature are usage of information and communication technologies (ICT), energy efficient technologies and green initiatives. Recently, the Government of India, initiated Shyama Prasad Mukherji Rurban Mission (SPMRM) in 2016. The scheme aim at developing rural areas by provisioning of economic, social and physical infrastructure facilities.

6.2 Background of the Present Study

The present study is the study of village Gulumb based on the selected sample and was conducted after almost after 45 years after the population survey was conducted in the year 1976. The village with a population of more than 3000, Gulumb is situated in Wai taluka in Satara district of Maharashtra and houses more than 700 HH and has a history of repeated surveys – sample as well as population conducted by Gokhale Institute of Politics and Economics, Pune. During 1936-37 and 1976 i.e. over a period of 40 years, the village households were studied through more farm household surveys as well as comprehensive population surveys. The current report studies the report based on the last survey conducted published in 1976 and makes an attempt with the help of comparable data, to understand the type and extent of change that has taken place in the overall level of development of the village as well as in the economic status of the households.

Located in the north eastern part of Wai taluka of Satara district, village Gulumb lies about 2 miles west of village Vele situated on the Pune Bangalore highway and can be reached in 5 to 10 minutes by car or a two wheeler from the highway. As per the reports, the village settlement is six to seven hundred years old and mainly comprises of households of Yadavs and Jadhavs belonging to Maratha caste which is the major caste in Maharashtra. However, it is not known clearly as to when and wherefrom these groups came to Gulumb for settlement.

Over a period of time the isolated and self-sufficient nature of Gulumb went on changing and by 1976, the dependency on outside world and monetization of transactions increased. It was also observed at that time that due to improved transport and crop diversification, the nature of the village economy had changed.

The village has now close ties with urban centres like Pune and Satara and depicts relatively more diversified livelihood pattern as compared to 1976. Therefore, based on the available literature and comparable data, this study tries to understand the changes that have taken place in the structure of the village broadly during last 45 years. The focus of the study is on agricultural change and changing pattern of rural livelihoods and its implication for future development. The study tries to analyse the perception of village HH about the efficacy of government interventions in rural areas and key drivers of changes in village economy.

6.3 Objectives of the Study

Specifically, following objectives were set forth:

Specifically, following objectives are set forth:

1. To understand the basic structure of the economy of village Gulumb and study socioeconomic and cultural features of the village.
2. To analyse household level responses to capture demographic and socioeconomic status of various categories of sample households.
3. To evaluate perceptions of the villagers about problems and challenges faced, changes they have experienced in the village and benefits from government schemes.
4. Based on the data collected during past survey and the current survey as well as secondary data, to observe changes that have taken place in the socio economic status of the village households over a period of time.
5. To suggest policy measures keeping in view implications for future changes arising from the analysis.

6.4 Selection of the Village, Methodology and Sampling

Selection of Village

The objective of the study was to select a village which was already surveyed before and was a moderately developed village. Therefore, village Gulumb which had a history of repeated surveys being conducted by Gokhale Institute of Politics and Economics was selected. Before beginning the current survey, the village was found to be a moderately developed village- it had all the basic public infrastructure and regular contact of the villagers with the urban centres.

Methodology and Sampling

As per the guidelines, a village which was already surveyed before and was a moderately developed village was to be selected. Village Gulumb which had a history of repeated surveys being conducted by Gokhale Institute of Politics and Economics and was found to be a moderately developed village was selected. The study was based on secondary as well as primary or field level data. The former was collected mainly from Census of India and the field level data was collected from 400 sample households. The household level information was collected through a structured schedule and was analysed for various categories of households based on social status, public distribution card type and land size. The village level information was collected from the office of Gram Panchayat as well as experienced and knowledgeable villagers with the help of structured questionnaires through group discussions. The information collected was analysed and compared over census years and two survey years. Also, socio economic status of the village households was studied for the year 2018-19. Data was collected during December 2019 and February 2020.

The information was collected at two levels.

Village level information: Village level information was collected from the office of Gram Panchayat as well as experienced and knowledgeable villagers. This included information about infrastructure of the village, geographical and ecological aspects, schemes implemented by the GP, about unique features of the village and various socio other economic aspects. The information was collected through a structured questionnaire through group discussion.

Household level information: A structured schedule was prepared with the objective of collecting information relating to socio economic status of the households and their perception about socio-economic and political phenomena. Major focus was on understanding occupational and livelihood pattern and perception of the households about problems faced by them.

Additional information about cultivator households: Apart from the general information collected, additional information relating to crop cultivation was collected from cultivator households with the help of a separate schedule.

The information collected from the households pertained to their occupational/livelihood pattern, educational status, migration, employment, earnings and expenditure, savings and borrowing. Information was also collected on perception of the HH on their social status, participation in government schemes and on problems faced by the villagers. The information is analysed for categories of households based on social status, PDS card type and land size.

With the help of census data, 1976 population survey and current 2020 sample survey, village level information was analysed and compared over census years and two survey years. Also, socio economic status of the village households was studied for the year 2018-19.

Statistical tools used

The study tries to analyse the data collected during 2020 survey and make a comparison with the quantitative / qualitative data documented for the year 1976 in an effort to observe whether and in what way the village has transformed. Simple statistical tools such as percentage change and percentage share have been used and presented in tabular and graphical format. For understanding inequalities in land holding and comparing these at the given two points of time, Gini coefficient is calculated and Lorenze curve is plotted. For analysing diversity in cropping pattern, Simpson Index is calculated for each category of farm category based on land size.

Survey 1976 and Resurvey 2020:

This report attempts to compare the information collected during 1976 with that collected during 2020. However, it has to be noted that the 1976 report mainly focusses on historical evolution of various village institutions/ phenomena such as distribution of landholdings or land tenure pattern, details of migration, changing status and role of cooperative credit society. The survey has also collected data on demographic, occupational, and educational and migration and agriculture related issues from all the households in the village and provides an excellent account of changes taken place 1930 onwards. The discussion in this report is largely qualitative in nature. For data relating to income and expenditure, sample was selected during this survey. Also, for a number of variables, which were not relevant or existing at the time of survey, data was not collected. As a result, all the data/information collected has not been strictly comparable with that collected during the current 2020 survey. For the 2020 survey, guidelines provided by the coordinating centres were largely

used. Therefore, comparison of information collected was wherever comparable data was available.

In each chapter, we compare the results of both the surveys with the help of available information and observe the changes that have taken place in village / household characteristics over a period of 45 years.

6.5 Organisation of the Report

Chapter one provides background to the study. Besides stating objectives and discussing methodology, it also presents a brief review of literature and historical background of village Gulumb. Chapter two discusses demographic and socio economic profile of the village based on the secondary data available. Chapter three focusses specifically on household level data on the demographic characteristics, the educational status, and distribution of landholdings and access of the HH to various civic amenities. The next chapter i.e. chapter four discusses economic status of the village households. The perception of the households about government schemes major problems faced in the village and about rural change are discussed in chapter five. The last chapter presents summary and policy implications.

6.6 Limitations of the Study

This study makes an attempt to compare the village level information collected during 1976 survey with the information collected during sample survey conducted for the year 2019 and 2020 As has been already mentioned, the nature of data/ information collected during the two surveys differs on many counts the former (1976) being more of an analysis of evolution of village institutions. Though the current survey (2020) is a resurvey, the variables for which data was collected and the methodology used in the year 1976 are different. Also, the 1976 survey included the village population in some respects and sample some times. On this background, an attempt is made to compare the village life in 1976 and in 2020. This is the major limitation.

Secondly, as per the guidelines of the study, educational status of the school going children had to be assessed through ASER toolkit. However, in view of onset of covid pandemic and due to the requests from villagers, the scheduled visit to the village was cancelled and hence the survey of school going children in the village could not be conducted. Also, post survey visit to the village for cleaning of the data and for confirming broad trends revealed from the data collected.

6.7 Major Findings of the Study

Major finding emerging from analysis of the secondary data are as follows

- Village Gulumb belongs to taluka Wai in district Satara of Maharashtra. For the year 2011, the HDI for Satara was above 0.7 and therefore is categorised as district with high HDI. However, the per capita income of the district (Rs. 1.36 Lakh) was lower than the state average (Rs. 1.47 lakhs)
- Major features observed for taluka Wai were higher rate of literacy (84.22 percent) and higher sex ratio (1010) than the district and the state average for the year 2011.
- Overall, it is observed that village Gulumb belongs to developed region of the state. The information relating to Gulumb as revealed from the Primary Census Abstract census data- 1981 and 2011- indicates that a number of changes have taken place at the village level in terms of demographic characteristics, industrial classification of workers, civic amenities, development infrastructure and agricultural sector.
- It is observed that the total population of Gulumb increased by about 23 percent during the two census periods. Though there was increase in the total workers, it was mainly the marginal workers which registered the increase and the main workers registered a slight decline.
- A notable feature of the population structure was decline in the share of females in population. The number of females as well as their share in the total population declined during the two census periods. As a result, the sex ratio in Gulumb registered drastic decline from 1200 in 1981 to 999 in 2011. Workforce participation of females also registered a decline over the census years.
- The industrial classification of workers reveals that the share of cultivators declined from 76 percent to 53 percent registering a decline of 26 percent. Simultaneously, share of other workers increased from around 6 percent to 26 percent registering an increase of 352 percent.
- The social structure of Gulumb reveals that the HH belonging to Maratha caste dominate the social structure which is one of the dominant open caste in Maharashtra. The census data shows that the share of SCs and STs in total population which was around 2 percent increased to around 9 percent in 2011. Out of the rest, around 70 percent of the HH belong to Maratha caste, 15 percent to OBCs and rest belong to other religion.

- The settlement pattern in Gulumb reveals social fabric of the village based strongly on caste and perhaps limitations to having mixed settlement given the lower extent of increase in the village population over the years and space constraints.
- The village had basic water, electricity, roads, education and credit infrastructure in 1981 which developed and further got expanded over the concerned period. Basic health facilities got developed and the village also got pucca approach road. The village now has a ration shop, anganwadis, sports ground and public library which did exist in 1976. The village now has ICICI bank ATM machine which was instituted in the village after the field survey and in the month of August 2020.
- Over the period, percentage of irrigated land expanded from 15 percent in 1976 to 52 percent in 2018-19. The extent of gross cropped area was 74 percent. The traditional crops -sugarcane, beans and jowar are still cultivated in Gulumb. In addition to these, new crops such as soybean, maize, ginger, green peas, fruits are also now cultivated. The data reveals yield increase in case of jowar, gram and summer groundnut during the two survey years.
- The data shows that the percentage of literates increased from 54 percent in 1981 to 86 percent in 2011. Specifically, the percentage of literates among females can be noted, which increased during this periods from a mere 44 percent to 81 percent.
- The village has received a number of awards such as Vanashree Puraskar, Nirmal Gram Puraskar, Sarva Shiksha Abhiyan Puraskar etc. It is also an Open Defecation and Tantamukta village, There is no liquor shop in the village.
- Villagers have constructed a Smashan Bhumi, which can accommodate 5-6 thousand people. Villagers shared the cost of this project.
- The unique feature of Gulumb has been the stream linking project which was recently undertaken for getting over the problem of recurrent droughts. This is perhaps one of its kind in the state and in the country as well.
- Telephonic interview with the Sarpanch in the first week of November 2020 revealed that the village remained Corona free village till then due to strict measures followed during lockdown as well as later on too.
- The villagers have been traditionally growing sugarcane. Also, a cooperative credit society was established in the village in 1930. Thus, cultivation of commercial crop like sugarcane and availability of credit for agriculture traditionally have been the two major features of the village and perhaps these have provided the needed stimulus for remaining integrated with the urban centres and for diversification of the occupational structure. The analysis

of the field level data relating to various HH / population reveal attributes which tend to change very gradually over a period of time to make any positive difference. A comparison of various attributes over the years highlights important changes in demographic characteristics.

- A comparison of demographic characteristics of HH over the concerned period reveals higher share of member above 06 years of age, lower average size of the family, higher average age of family members, lower sex ratio and reduced share of female members during current survey in comparison with the survey of 1976.
- The analysis of the age structure of also highlights higher share - around 50 percent- of productive (16 to 55 years) population in the year 2019-20 as compared to the earlier survey year. The data is indicative of decline in birth rates, increased life expectancy and increase in the age of marriage especially for females and withering away of the practice of having co-wife. These are welcome changes. Data also reveals higher share of members above 60 years of age in the year 2019-20.
- The age structure of population also revealed that 82 percent and 17 percent of the married population belonged to age groups 7-16 and 17-36 respectively in 1976. In 2019-20, none from the former age group had got married and only 10 percent of the married population belonged to the next i.e.16-30 age group.
- Percentage of illiterates was 32 in 1976, however during 2019-20 survey, it was only 13 percent. The corresponding figures for females were 50 percent in 1976 and 18 percent in 2020.
- In 2019-20, only 31 percent of the HH members were educated up to secondary level as against 10 percent in the year 1976. Higher rate of enrolment of female children was also noted during current survey. Out of the total enrolled children, in 1976-77, only 44 percent and 23 percent were female children. During the current survey, 55 percent of the children in primary as well as secondary school were female children.
- The occupational distribution of the HH members showed decline in the share of cultivators as well as labourers from 74 percent and 15 percent to 51 percent and 12 percent respectively from 1976 to 2020. Share of other workers increased from 11 percent to 37 percent during the same period.

The indicators reveal capacity of the HH to contribute more in terms of workforce in the long run and also to make productive investment in female children due to their higher enrolment in school and higher age of marriage. It is felt that these are the most important

changes experienced by the village over the concerned period. It may be said that that increasing level of education over a period of time might have been one of the reasons for withdrawal of females from the workforce as was observed from the census data relating to the village.

- The analysis shows that the distribution of landholdings in Gulumb has almost remained same over the concerned period. The value of Gini coefficient of 0.79 and 0.78 in 1976 and in 2019-20 respectively reveals very high inequality in land distribution in both the years. The Lorenze curves however cross and therefore it is difficult to label one distribution as more unequal than the other.
- The comparison indicates considerable progress in terms of civic amenities / infrastructure available, number of HH with access to basic civic amenities, technology used in the village for communication and construction and definitely points at improvement in living conditions of the village HH.
- The analysis of the data relating to economic status of the sample HH reveals that as compared to the earlier survey of 1976, number of sources of income, economic opportunities available and hence the extent of occupational diversification have increased over the years.
- Occupational / livelihood pattern of the HH revealed that majority of the HH were primarily dependent on agriculture. Around 52 percent and 12 percent of the HH were primarily cultivator and agricultural labour HH respectively. 5 percent and 3.5 of the HH were salaried HH and HH engaged in trade/ business/ entrepreneurship respectively.
- Occupational pattern of the members of the sample HH showed that around 56 percent of the members were dependents. Out of the earning members, 60 percent of the members were dependent on agriculture and allied activities. The livelihood pattern was more diversified in case of male members of the HH.
- The available data well as discussions relating to extent of migration as reported in 1976 and in 2020, showed that families had migrated in the pre1976 period as well as in pre 2020 period. Thus migration appeared to be a continuous phenomenon. Out of the total migrants, 95 percent migrated in search of jobs/ for business, remaining 5 percent were students.
- It was observed that on an average, sample HH annually earned Rs. 1.4 lakh and per capita income of sample HH was Rs. 30, 000. Around 78 percent of the income was earned from non-farm activities, 18 percent from farming and 3 percent from off farm activities.

- During 2019-20 survey, food items absorbed 38 percent of the total expenditure as against 60 percent 1976 survey. It was observed that over the concerned period, consumption basket has diversified due to consumption of varied food (such as livestock products) and non-food (education and medical services) items.
- 89 percent of the HH had savings. Also, 59 percent of the HH had borrowed from one or the other source. Majority out of these had borrowed from cooperative banks/ credit society. Out of those who borrowed, 57 percent of the HH had availed of agricultural loan.
- *The analysis of the data collected during the current survey indicates diversification of economic activities of the HH members and their ability to save and invest in financial assets as compared to the earlier survey.*
- Analysis of the data relating to PDS card wise distribution of the HH reveals that majority of the sample HH (68 percent) belonged to Orange card category. The share of HH with Yellow card / BPL status was 30 percent and the share of White card holders was around 3 percent. The data suggested relatively better socio economic status of white card holders.
- Due to the typical caste composition in the village, the sample also showed that most of the HH under each card type were from general category. Composition of card holders within caste category was found out. This showed that majority of the HH under all caste categories were orange card holders.

Based on the data collected from land holding HH, analysis was carried out to observe the economic status of various HH classified into various land size categories for the year 2019-20.

- Out of the total of 400 of sample HH, 76.5 percent were landholding HH. The data shows that most of the landed HH were cultivating their own farms. Only around 12 percent of the HH had leased in land for cultivation and 8 percent of the HH had leased out land. It was also observed that no HH from the landless category had leased in any land for cultivating.
- Around 76 percent of the HH were marginal farm owners, 17 percent were small hand owners and the rest 7 percent were medium and large farm owners. The distribution of area however showed that 76 percent of the total area was under the 93 percent of the farms. Thus, 24 percent of the area was occupied by just 7 percent of the farms.
- It was observed that general category (Maratha caste) households was the dominant social group among all land size categories. Thus, the proportion of the social classes among the sample HH was also reflected in the land size wise distribution of the HH. *It was observed*

that most of the HH were general category HH under all land size groups. Also, within all social categories, most of the sample HH were marginal HH.

- The land size wise characteristic features show that the number of members working on per unit of land, number of crops grown and net irrigated area was increasing with size of land. *It was observed that for larger farms, the area irrigated was 56 percent. The data indicated higher resource richness of the HH with larger land size as compared to other HH.*
- *The survey revealed difference in yields of crops on irrigated and unirrigated land thereby also indicating difference in the income that would be earned.*
- The overall cropping pattern of the HH shows that jowar and ghevda beans were the two major crops occupying 30 percent of the total cropped area each. These were followed by groundnut (12.25 percent) and sugarcane (13.76 percent.). Apart from cereals, pulses and traditional crops like sugarcane, other main crops being cultivated now were soybean, ginger and fruits. 59 percent of the total cropped area was irrigated and the rest i.e. 41 percent was rain fed. Wheat, moong, vegetable crops and sugarcane are fully irrigated. Other crops were partially rain fed.
- *The Simpson Index calculated for understanding diversity in cropping pattern showed that around 70 percent or more HH in each category had value of index more than 0.5 indicating higher extent of diversification.*
- During the last five years, around 22 percent and 39 percent of the overall HH changed cropping pattern and crop varieties respectively mainly to tide over the problems of water scarcity and for getting higher yield.
- *Category wise analysis of the HH reveals higher economic status of larger size land holding HH and lower economic status of marginal farm size HH and landless HH.*
- *The analysis indicates that the marginal farmers and the landless workers in the village mainly survive on the income earned through non-farm activities. This share is 82 percent and 71 percent for marginal and landless categories respectively. However, in absolute terms, the level of total average income earned by these categories is very low as compared to other categories, especially the highest land size category.*
- The average number of sources of income are lowest i.e. 3 for marginal category and highest i.e. 6 for the landless HH.
- Around 5 percent of the marginal category and 13 percent of the landless HH respectively belong to the two lowest MPCE classes (less than Rs 3000).

- HH in category Other (i.e. Muslim HH) seem to be the most vulnerable category as was also observed from table 4.16. These HH were concentrated below MPCE category of Rs. 11000 and there were no HH in top 3 MPCE classes. Top two MPCE classes were constituted by Open / General and OBC category HH.
- *It is indicated that in case of marginal farmers very small size of landholding and limitations to having more sources of income leads to lower income from farming and non-farm sources, lower consumption expenditure and inability to make investments in land. As a result, more percentage of HH are in vulnerable classes of MPCE as compared to other land size classes. In case of landless HH also, in spite of having relatively more number of sources of non-farm income, the average income level for this category is very low and almost 15 percent of the HH from this category have very low MPCE revealing their vulnerability.*
- Overall, analysis of MPCE based on classification of HH reveals higher share of economically vulnerable HH among marginal and landless HH as well as HH in SC and Other (Muslim HH) category. Smaller size of land with marginal HH, inadequate income from various non-farm sources with landless HH and socio economic status in case of SC and Muslim HH appear to be the constraining factors. The analysis underlines better off economic status of HH with larger size of landholding and need for measures focusing on marginal land owning HH, landless HH and socially vulnerable SC and Muslim HH.
- The analysis of the qualitative data collected revealed perception of the sample HH as well as village authorities about nature of problems faced, remedial measures suggested by them and their the overall perception about rural change.
- *According to majority of the sample HH, over a time period, the village has experienced considerable expansion and improvement in village infrastructure.*
- More than 80 percent of the HH perceived that there was improvement in the economic condition of the village and village infrastructure of a period of time
- 62 percent of the HH also felt that there was improvement in economic condition of their HH.
- Majority of the HH also reported that there was increased incidence of droughts in last 5 years
- *Scarcity of water for drinking as well as irrigation, poor quality of drinking water, inadequate systems for maintaining cleanliness and sewage management, open drainages and inadequate infrastructure were the major civic problems reported by the villagers.*

- *Therefore, steps for provision of better infrastructure, adequate and clean water, maintaining cleanliness in the village were major suggestions of the villagers.*
- *General problem of lack of job opportunities was also revealed and hence villagers felt that establishment of industrial estate nearby or provision of other employment opportunities was essential.*
- *Group discussions with the village authorities revealed their demand for Inclusion of the Village under Drought Prone areas, Promoting usage of Solar Energy in the Village and Promotion of farm Mechanisation.*
- *Sustained efforts through Individual Initiatives have played important role in socio economic change in the village.*

Establishment and presence of cooperative credit society in the village since 1930, cultivation of commercial crop of sugarcane and proximity to urban centres of Pune and Satara have provided stimulus to the village to gradually get integrated with the urban world. Individual initiatives of the leadership have helped in bringing about positive socio economic changes for the individuals and village as a whole. These seem to be the major drivers of change for the village.

6.8 Policy Implications

The village depicts reducing role of agriculture in supporting livelihood, reducing workforce participation rate, increased share of marginal workers, increasing extent of education, increasing share of elderly population and demand for employment opportunities and migration. These changes would influence future course of development of the village and without interventions, may increase extent of migration, problems faced by elderly population and higher rates of unemployment and vulnerabilities. In order to tackle these problems, therefore, following policy initiatives arising from the analysis are suggested-

1. *Data revealed that majority of the HH were marginal HH and also their vulnerable economic status. Hence, efforts need to be concentrated on provision of adequate water for increasing yield and market intelligence for marketing of the produce.*
2. *The village has been facing recurring droughts and has adopted several strategies for coping up with the problem of water scarcity during summer and throughout the year as well. Therefore, the suggestion of villagers to include the villager under Drought Prone Areas may be considered.*

3. The villagers receive water from the wells. As per the suggestion of the villagers, *water needs to be supplied after filtration to avoid and eliminate incidence of borne diseases. Thus, water filtration plant needs to be constructed.*
4. For making an effort towards becoming a drought free village, the *villagers need to shift cropping pattern gradually away from sugarcane* towards other traditionally grown crops / new crops introduced during last few years such as soybean and other high value crops such as vegetables and fruits
5. *Proper systems for garbage collection and disposal* need to be instituted. *Awareness programmes* about garbage disposal and maintenance of cleanliness need be organised by the authorities *for the villagers*
6. The village has open channels for sewage water. This could lead to spread of diseases. It is extremely *important to have closed drainage system for carrying sewage water in the village. Underground sewage pipes need to be laid.*
7. *Usage of solar energy for electricity generation and other purposes* by the village authorities needs to be promoted.
8. In view of general opinion by members of sample HH about need for employment generating activities, it is felt that *opportunity specific training programmes, capacity development programmes may be organised.*
9. *Technology training programmes may be organised and imparted specifically to women* involved in various livelihood supporting activities such as production of various items through activities of SHGs. Such training programmes would provide platforms for communication and marketing of the produce and instil sense of empowerment.
10. Special strategies for healthcare of elderly population may be devised.
11. Overall, it may be said that for bridging the developmental gap between the village and urban areas, reducing out migration towards urban areas and for improving standard of living of the villagers, focus needs to be on quality education, vocational guidance, health care, sanitation facilities, usage of environmental friendly technologies and local area development for creation of job opportunities. Usage of digital technologies especially for agriculture linked activities, communication and governance would greatly enhance pace and quality of outcomes and improve overall living of the households in the village.

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Annexure I

Agro-Economic Research Centre (For the States of West Bengal, Sikkim and Andaman & Nicobar Islands) Visva-Bharati

Comments on the Draft Report received from AERC, Pune

1. **Title of report** Village Survey Study in Maharashtra
(Gulumb Village)
2. **Date of receipt of the draft report** 7 December 2020 (Through e-mail)
3. **Date of dispatch of the comments** 27 December 2020 (Through e-rmail)

4. **Comments on the Title of the Study**

The title of the study is in line with the title proposed by the coordinating centre.

5. **Comments on the objectives**

The overall objectives of the study are appropriate and kept unchanged as supplied by the Coordinating Centre (AERC, Visva-Bharati). Since, it was neither changed nor any specific objectives included, the report is reviewed based on stated objectives.

6. **Comments on the methodology**

Methodology followed in the study is, by and large, in tune with the stated objectives. However, the sampling design could have been a stratified random sample with proportional allocation towards respective social groups or land size classes or both adding up to a total sample of 400 households, rather than “selecting every alternate household for survey”.

Moreover, ASER tool kit for assessing the educational attainment of children, though optional, was not used.

5. **Comments on analysis, organization, presentation etc.**

- a. Detailed and worthy presentation is undertaken as to the overview of the Gulumb village.
- b. Detailed analysis is undertaken and organized as required to satisfy the objectives of the study.

However, following corrections are needed

1. There are quite a few typographical errors in write-up that needs correction. Here are a few -

- i. Executive Summary – Page vii – Bullet 3 – “The available data well as...” - Please check.
 - ii. Chapter II – Page 14 – Table 2.3 – Year 2011/Child (0-6) (% in total) – 102.28 – Please check.
 - iii. Chapter III – Page 38 - Table 3.1 – Year 2019-20/Total no. of HH – 7 – Please check.
 - iv. Chapter III – Page 45 – 3.4 Educational Progress – Paragraph 2 –“As far as gender wise ... were illiterate” – Please check.
 - v. Chapter IV – Page 53 – Paragraph 2 – “Based on the data, an attempt is made to fine out...” – Please check.
 - vi. Chapter IV – Page 63 – Table 4.14 – Card Type Orange/Row 4 & 5 – Percentages adding up to 101.99 – Please check.
 - vii. In Chapter IV – Page 66, its not Table 4.19 overall number of crop grown is 2.05 not 1.05.
 - viii. In Chapter IV – Page 68, its not Table 4.14 rather 4.19 deals with no of crops grown.
2. The measurement of SID (Simpson Index of Diversification) is scale/level dependent. SID at individual farm level is a different concept than at group/category level thus cannot be compared. The average SID value of individual farmers and overall SID values are not the same. In table 4.19, average number of crops grown should consider only farm households not all the households. Further, a value of SID more than 0.75 is too high, where average number of crops grown is less than two only(Table 4.19 vs Table 4.22).
 3. Income and expenditure pattern of the sample households (Chapter IV) could be analyzed across social groups and size-class of land holding for further insight.
 4. Chapter IV Table 4.14 – Average size of landholding includes residential plot as well as the farm land. These two could be separated and farm size could be presented in hectares.

6. Overall view on acceptability of report

The overall quality of the report is good and covered many issues decided during the Initiation Workshop held at IEG, Delhi and in the Methodology Workshop held at AERC, Visva- Bharati, Santiniketan. The report provides many insights and it is valuable. The report may be accepted after inclusion of changes suggested above.

Annexure II

Action Taken Report

Comments on Methodology

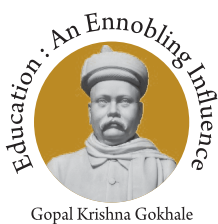
1. Discussions with the village officials revealed that majority i.e. more than 50 percent of the households were marginal and small land holders with less than 2 hectares of land. Also, a detailed house list revealing farm size was not available. Besides this, a number of households were locked due to seasonal or permanent migration. However, exact information about number of households which had migrated permanently was not documented by the Gram Panchayat and could not be made available. Hence, every alternate household was selected for survey as this would represent characteristics of the village HH.

2. ASER tool kit for assessing the educational attainment of children could not be used due to onset of covid pandemic and requests from some of the villagers/ officials to cancel the planned visit in the second week of March 2020 and lockdown thereafter.

Comments on analysis, organization, presentation etc.

1. Typographical errors in write-up corrected
2. Changes were made in the tables concerned.
3. Income expenditure pattern of the sample households analysed. The report has already analysed socio economic status based on various land size classes.
4. Average size of farm and residential and other non-farm plot mentioned separately.

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