

**DEMOGRAPHIC DEVELOPMENT PRE AND POST**  
**WATERSHED DEVELOPMENT OF MODEL WATERSHED**  
**VILLAGE HIVREBAZAR IN NAGAR TAHESIL**

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**Abstract:** Water is basic natural resource on the earth for all living organisms including mankind and for development and survival of plant community. People generally say “no water no life”. Water is necessary for every-day life. Availability of water motivates development and absence of water leads to destruction. Recently man has exploited this resource very fast through various activities which had led to quantitative and qualitative deterioration of water resource. As a result, the world has become a hot spot of water crisis.

This quantity of water resource is very high on the earth but only small quantity is useful for mankind. As global population is increasing rapidly, accordingly demand of water for various purposes is increased. This situation is further aggravated by climate change. The changes made by human community demanding water and the uneven distributions of water in nature have made the problem of water resource worst. In the world many more rain fed areas are the hotspot of food insecurity, soil degradation, water scarcity, poverty, out migration, malnutrition and poor social economical and demographical development.

Demography is a science of population which reflects the various characteristics of population in an area. Watershed development leads demographic changes. Watershed development is not only soil and water conservation but also change in overall development of the rural area. Watershed management is not so much about managing natural resources but about managing human activity as it affect these resources. In this way to access the impact of watershed development on demographic characteristics is important.

**Keyword-** Organism, destruction, deterioration, aggravated, malnutrition, human community, demography.



## 1. Introduction

Grampanchayat Hivrebazar is located in Ahmednagar district of Maharashtra. Before 1989, Hivrebazar was a village known for all the wrong things. It was known with problems, crime was high. Infighting frequently and murder were too. Illicit liquor was plenty and most people migrated from the village in search of better earning opportunities. A village famous for the wrestlers has turned to be village gangsters. All the activities in the village were famous around liquor dens.

Educational attainment was very less, whosever wishes to study high was require for 16 Km. The women literacy is too less (5%). The income of the villagers was very less. Near about 95% peoples had to go nearby villages in search of work to earn their daily bread. Health care scenario too was at its worst. All the problems were silently giving rise to the crime rate.

The Beginning of the Success Story in the 1980s, the youth of Hivarebazar began to think about remedying the detectable scenario confronting them. The elections to local Panchayats in 1989 provided the right occasion. In search of a candidate who would be acceptable to all factions, the village youth zeroed in on Pawar, who won unopposed. From here began the village's trust with destiny. Inspired by social activist Anna Hazare, Pawar took up water conservation works year after year. Anna Hazare is a Gandhian who scripted the success story for his village RalegaonSiddi, 40 km from Hivarebazar, in much the same way as Hivarebazar. He too inspired his people to come together and treat the land so as to harness rainwater and put social rules in place to manage the natural resources. His model of development using water as the core and the consequent success of RalegaonSddi has been an inspiration, not only to Hivarebazar but also to a large number of other villages across the country. Even government programmes have been inspired by the success to reemphasize watershed development as a way of holistic natural resource management. The district was brought under the Joint Forest Management (JFM) Programme in 1992. The JFM programme itself was born in 1988 after a law was passed by the central government to include communities in the conservation of forest resources, mainly village forests. By the year 1993, the district's Social Forestry Department reached Hiwarebazar and brought Pawar on board to regenerate the completely degraded 70 ha of village forest and the catchments of the village wells. With local labour donations, the Panchayat built 40,000



contour trenches around the hills to conserve rainwater and recharge groundwater. Residents took up massive plantation and forest regeneration activities. Immediately after the monsoon, many wells in the village collected enough water to increase the irrigation area from 20 ha to 70 ha in 1993. "The village was just beginning to get a bit of life back in its veins," remembers Pawar. Hiwarebazar's achievement under the JFM programme is special as it counts among the few successful JFM cases in India. JFM as a programme failed to capture the imagination of the people mainly due to unclear property rights and weak institutional capacities. For any programme to be successful therefore one needs a clear property rights regime, whether defining communal or individual rights, strong institutional support as well as a strong and visionary leadership. In 1994, the residents, along with the Gram Sabha (village council), approached 12 different agencies to implement watershed works under the state's EGS. The village prepared its own five year plan for 1995-2000 that emphasized local ecological regeneration. Implementation of the five year plan then became the objective of the EGS, which was otherwise a wage employment programme. This was to ensure that all departments implementing projects in the village would have a common and integrated work plan. Work began in 1995 building contour trenches across the village hillocks and planting trees to arrest runoff. Simultaneously, in 1994 the Maharashtra government brought Hivare Bazar under the Adarsh Gaon Yojana (AGY), a scheme to replicate the success story of Ralegan Siddhi. The AGY programme was based on five principles: a ban on cutting trees, free grazing, and liquor; family planning; and contributing village labour for development works. The first work it took up was to plant trees on forestland and people were persuaded to stop grazing in these lands. Grazing forms the second most important part of rural-pastoral life with every household owning cattle. Traditionally, common land in the village also doubles as grazing ground. For watershed development to be effective this activity had to be stopped to allow the pasture to regenerate. In Hivarebazar, prior to the implementation of the AGY rules, many people owned more goats than cows. Goats eat plants by pulling them out causing the soil to loosen and leave less scope for the plants/grasses to grow back. Keeping this in mind, the village slowly sold off all its goats in favor of cows.

The village invested all its development money of the five-year plan on water conservation recharging groundwater as well as creating surface storage systems. It laid a tight trap to catch rainwater. The 70 ha of forest helped in treating the catchments for most of the wells, 414 ha of

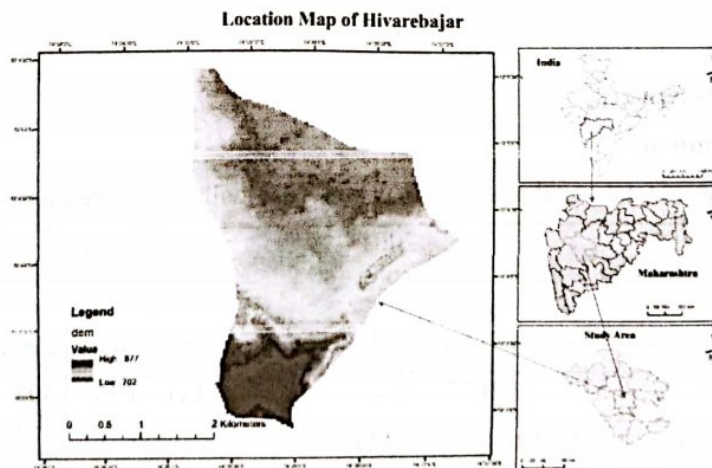
contour bunding stopped run-off and saved farms from silting, and around 660 water harvesting structures of various types captured rainwater. A total of Rs 42 Lakhs was spent through the State government on EGS in the village. Treating 1000 ha of land, the per ha cost of treatment of land was Rs 4000. But the cost benefits in term of raised incomes of village residents were phenomenal (Supriya Singh,2007).

### Objectives of Study

1. To assess the economic import-whether the watershed Development Programme had caused any change in the demographic development of the community at large.

### Study Area

Gram Panchayat Hivarebazar is in Nagar 'tahsil' of Ahmednagar district in western Maharashtra, and is situated at a distance of 28 kms from Ahmednagar city, the district headquarters. The latitudinal extent of Hivarebazar is  $19^{\circ} 02' 18''$  to  $19^{\circ} 05' 21''$  North and longitude extent is  $74^{\circ} 34' 36''$  to  $74^{\circ} 36' 58''$  East. Hivarebazar is situated in a low rainfall drought-prone area of Maharashtra State – 'quoted average rainfall' of about 579 mm, with high variability. Its physiographic setting is the hilly part of the Deccan Traps country at the foot of an escarpment and head of a local watershed with elevation mainly in the range 710-740 m ASL. The population of Hivarebazar in 2011 was 1,233 among it 636 males and 597 females.





## 2. Data Source and Research Methods

Materials of the present study are collected through numerous sources.

### 2.1 Primary Data

Primary data is collected from the sample beneficiaries through personal interviews. For this purpose, questionnaire was prepared. For collection of data field work was done.

### 2.2 Secondary Data

The secondary data information is collected from record of Grampanchayat, Taluka Krushi Offices, Panchayat Samitti and Self Help Groups (SHG). Some data is collected from several published research papers and Ph.D. Theses. For collection of data, topic related books and journals are referred. For the data related to various physical, socio-economic and demographic characteristics District Census Handbooks is referred (1981-2011). Toposheets are also used as a secondary data for study purpose. In addition the researcher discussed with state government departments like Soil Conservation offices, District Groundwater Department and officials of different NGOs, Social workers and Sarpanchs of villages. Various Geographical quantities techniques are used i.e. Population Growth Rate, Population Density, Sex Ratio, Child Sex Ratio, Literacy Rate, Gender wise Literacy, Working and Non-Working Population.

## Result and Discussion

### 3 Demographic Characteristics

#### 3.1 Population Distribution

Table No. 1 Distribution of total population in model watershed village Hivare Bazar.

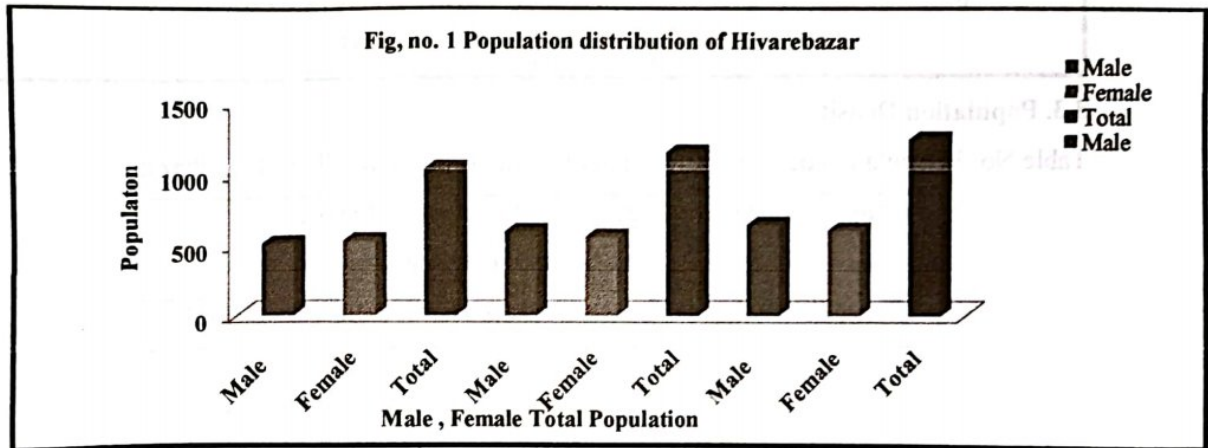
Sr. No.	Name of Village	1991			2001			2011		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Hivarebazar	507	520	1027	589	552	1141	636	597	1233

Source: Computed by researcher (Census 1991-2011).

The table no. 1 shows population distribution in the Hivarebazar. As per the census of India 1991, total number of households and population in Hivarebazar was 226 and 1027. In this

census year female (520) population is more than male (507). According to the census of India 2001 total number of households and population in Hivarebajar was 217 and 1141. In this census year female (552) population is decreases as compare to the male (589). According to the census of India 2011 total number of households and population in Hivarebazar was 246 and 1233. In this census year female (597) population is decreases as compare to the male (636).

According to the above table population of the village is increased according to the increased census years.



### 3.2. Population Growth Rate

Table No. 2 Population growth rate of model watershed village Hivarebazar.

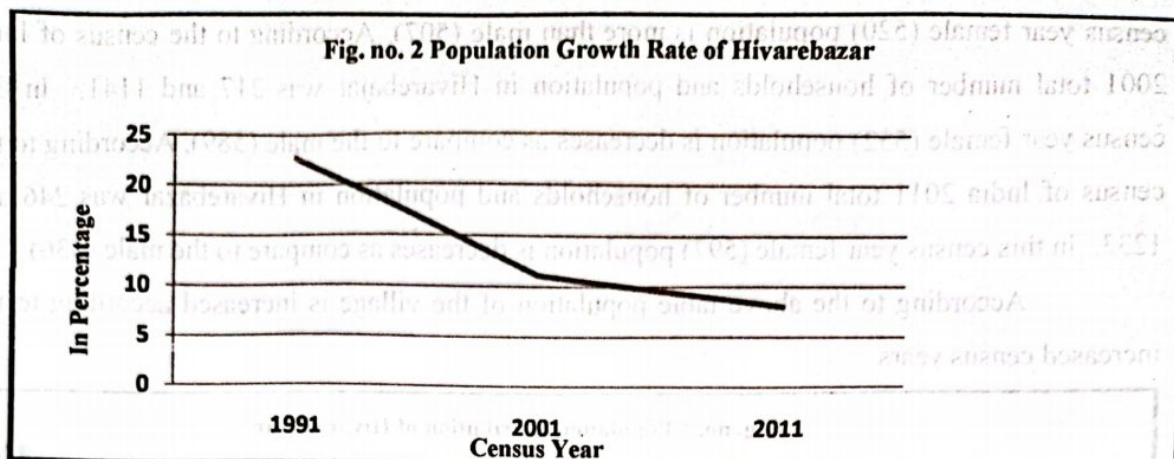
Sr. No.	Name of Village	Population Growth ( Percentage)		
		1991	2001	2011
1	Hivarebazar	22.70	11.10	8.06
2	Ahmednagar District	24.35	19.80	12.44

**Source:** Computed by researcher (Census 1991-2011).

Table no 2 represents population growth rate of study area. Declining trend of population growth rate is important characteristics of Indian population. This was followed by Hivarebazar average growth rate. Population growth rate of Hivarebazar was decline continuously from 1991 to 2011. Population growth rate of study area also declined continuously and rapidly in villages Hivarebazar 1991 (22.70) to 2011 (8.06), but it declined very rapidly from 1991 to 2001.

In general the village Hivarebajar shows rapid declining trend of population growth rate





### 3.3. Population Density

Table No. 3 Population density distribution of model watershed village Hivarebazar.

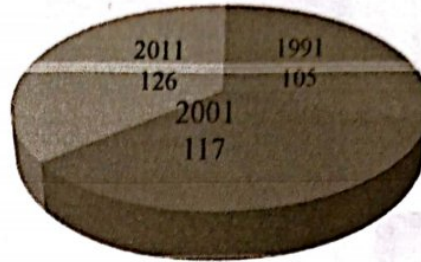
Sr. No.	Name of Village	Population Density ( Person /Sq. Km)		
		1991	2001	2011
1	Hivarebazar	105	117	126
2	Ahmednagar District	198	237	266

**Source:** Computed by researcher (Census 1991-2011).

Table no. 3 represents population density that is land man ratio of study area. As per the data population density village Hivarebazar increased in the last three decades, but if compared with district average density of villages, it is less.

It is clear from the data that proportion of population to the land is Hivarebazar show very less density of population. It is only 12 Person/ Sq.Km. is increased in 2001 census and 21 Person/ Sq.Km. in Hivarebazar in the last three decades.

It is found from the data that decadal increase in population density is high from 2001 to 2011 as compare with increase in density from 1991 to 2001.

**Fig. No. 3 Population Density (Per.Sq. Km's) of Hivarebazar**

### 3.4 Sex Ratio

Table No. 4 Sex ratio of model watershed village Hivarebazar.

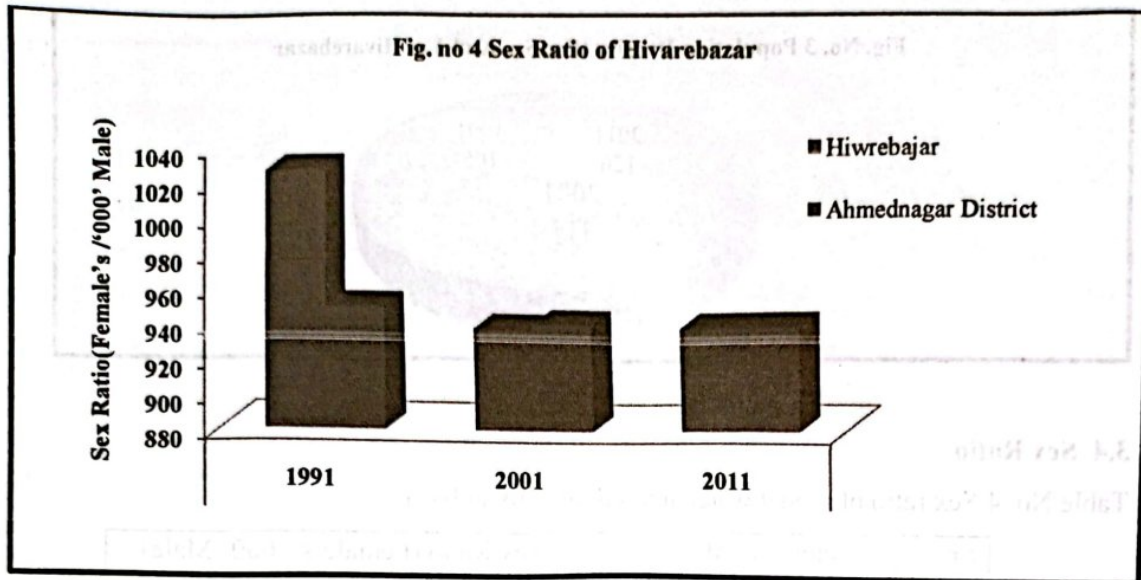
Sr. No.	Name of Village	Sex Ratio (Female's /'000' Male)		
		1991	2001	2011
1	Hivarebazar	1026	937	939
2	Ahmednagar District	949	940	939

**Source:** Computed by researcher (Census 1991-2011).

Table no 4 represents sex ratio of study villages which is important indicator of socio-economic development in the region. From the data it is clear that in Ahmednagar district sex ratio is declined by 10 females/ 000' males. The same trend is also found in the village Hivarebazar where it declined very rapidly in 1991 to 2001(87 females/ 000' males) and again it increased in 2011 by 2 females/ 000' males.

In general the rapidly declining sex ratio of the study area is an alarm to socio-economic health in the near future.





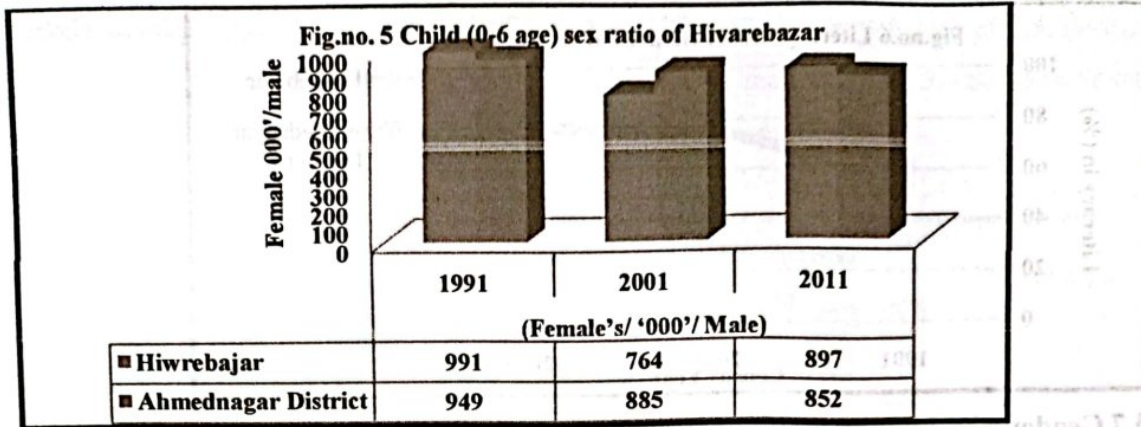
### 3.5 Child Sex Ratio (0 to 6 ages)

Table No. 5 Child sex ratio (0 to 6) of model watershed village Hivarebazar.

Sr. No.	Name of Village	(Female's / '000' / Male)		
		1991	2001	2011
1	Hivarebazar	991	764	897
2	Ahmednagar District	949	885	852

**Source:** Computed by researcher (Census 1991-2011).

Table No 5 shows the child sex ratio of 0-6 age. The table of child sex ratio of Hivarebazar shows serious problem of very deficient child sex ratio. Child sex ratio of Ahmednagar District declined regularly in the last three decades, it is 949 females /000' male children in 1991 to 852 females /000' male children's in 2011, which is 97 females /000' male children. It is very serious social problem in the study area. In Hivarebazar child sex ratio was rapidly declined in 2001 census year, which is 227 females /000' male. As compare to 2001 census year again in 2011 it is increased i.e. 897 females /000' male. It is better sign of socio-economic development of Hivare Bazar but still it is less. Declining child sex ratio of Hivarebazar is one of the problems of serious concern. In order to overcome this serious problem, schemes such as save girl child, ban on sex determination, sex equality etc. need to be implemented urgently.



**3.6 Literacy Rate**

Table No. 6 Literacy rate of model watershed village Hivare Bazar.

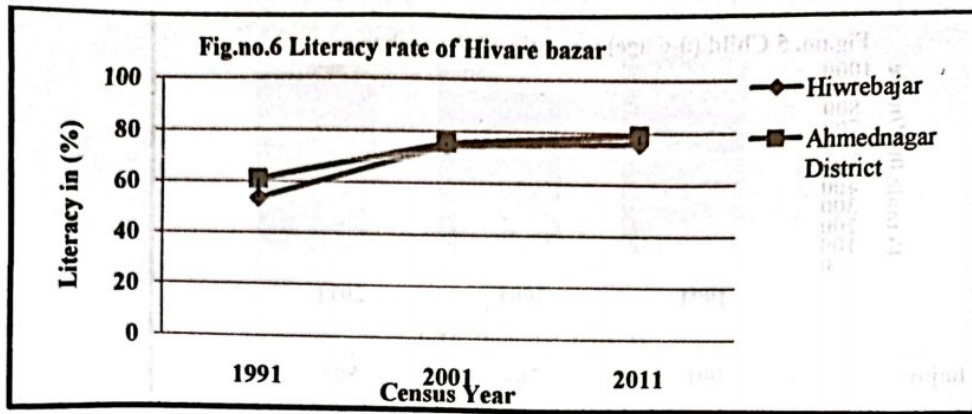
Sr. No.	Name of Village	Population literacy ( Percentage)		
		1991	2001	2011
1	Hivarebajar	53.56	74.38	75.82
2	Ahmednagar District	61.03	75.30	79.05

Source: Computed by researcher (Census 1991-2011).

Table no 6 shows average literacy rate of model watershed village Hivarebajar and the Ahmednagar district. Literacy rate of Ahmednagar district is continuously increased from 1991 (61.03) to 2011 (79.05). The same trend is found in model watershed village Hivarebazar . In the span of two decade (1991 to 2011) literacy rate of Hivarebazar increased from 53.56 to 75.82, Moreover, the table shows greater awareness about literacy in-between 1991 to 2001 than in-between 2001 to 2011 in model watershed village.

In general the literacy rate is increased from 1991 to 2011, but the growth rate of literacy is higher in-between 1991 to 2001 as compared 2001 to 2011.





### 3.7 Gender wise Literacy

Table No. 7 Gender wise literacy rate of model watershed village Hivarebazar.(Percentage).

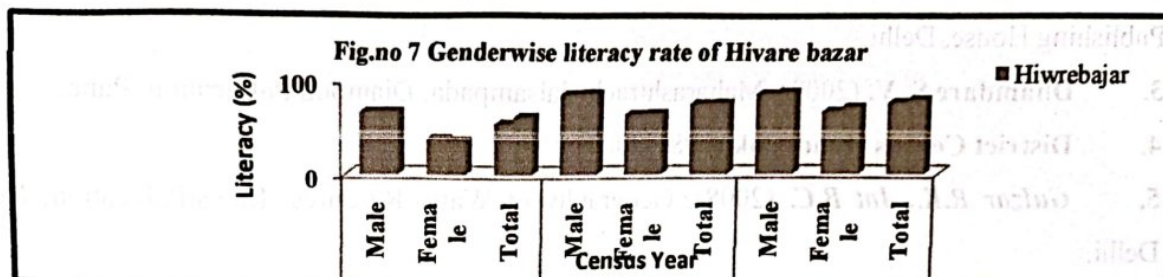
Sr. No	Name of Village	1991			2001			2011		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Hivarebazar	66.42	38.58	53.5	84.8	63.56	74.38	85.0	66.04	75.8
2	A. Nagar	66.50	35.84	61.0	85.7	64.35	75.30	86.8	70.89	79.0

**Source:** Computed by researcher (Census 1991-2011).

The table no 7 shows gender wise literacy rate. From the table it is clear that literacy rate amongst both gender is increasing regularly in Ahmednagar district and village Hivarebazar. However, it observed that the growth rate of male literacy is higher than female literacy. In Ahmednagar district gap between male female literacy rates is declined by 25.17 percent in the last three decades and female literacy rate is almost doubled from 37.35 percent (1991) to 67.48 percent (2011) in the span of three decades.

In model village gap between male female literacy rates was less as compared with district average in 1991 and 2001 census year but this gap widened in villages Hivarebazar, in 2011 than district average. In these villages gap amongst male female literacy is more than 20 percentages. There is urgent need to improve female education. This less female literacy rate as compared with male reflect several social problems, such as imbalance in child sex ratio, high proportion of

female unemployment, low standard of living etc. Though the growth rate of female literacy shows increasing trend, it is less than the growth rate of male literacy. So the growth rate of female literacy should be increased to avoid socio-economic problems.



#### 4. Finding

1. In the Hivare Bazar percentage of population increased from census 1991(1027) to 2011 (1233). In general Hivare Bazar has less population growth rate (8.06 %) as compare with the average population growth rate of Ahmednagar district (12.44 %) in 2011 census.
2. Population density of Hivare Bazar has is increasing continuously in all census year. Density of Hivare Bazar has increased by 21 persons per sq.km. in that last three decades.
3. Declining sex ratio in study area is serious social and demographic problem. It is found that Hivare Bazar has shows declining sex ratio at the alarming rate. From 1991 (1026/000'males) to census 2011 (976/000'males) it decreased in 97 females within two decades. In Hivarebazar child sex ratio was rapidly declined in 2001 census year (227 females /000' male). As compare to 2001census year again in 2011 it is increased i.e. (33 females /000' male). It is better sign of socio-economic development of Hivare Bazar but still it is less.
4. Rate of literacy always increased as increased census year due to awareness of education through Gramsabha and socio-economic development of the village. Though the growth rate of female literacy shows increasing trend, it is less than the growth rate of male literacy. So the growth rate of female literacy should be increased to avoid futures socio-economic problems.

#### 5. Suggestion

Though watershed development and social-economic development goes hand with hand. But present study investigate that in model and ideal watershed village Hivrebazar also necessary social awareness about several demographic characteristics such as declining sex ratio and child sex ratio, , increased density. This creates several social problem s in future.



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