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SOCIO-ECONOMIC DEVELOPMENT IN MAHABALESHWAR AND JAOLI TAHSIL OF SATARA DISTRICT MAHARASHTRA STATE INDIA

Dr. Rajendra S. Suryawanshi*

Mr. Jitendra M. Godase**

Abstract:

The evaluation of economic development for small area is quite important as there has been a growing consensus about the need of micro level planning in the country. Knowledge of the status of development at micro level will help in identifying where a given area stands in relation to others. The study area Mahabaleshwar and Jaoli tahsil located in Sahyadri mountain ranges in north-west side of Satara district. The present study deals with the transformed villages, evaluation of the infrastructural facilities and level of socio-economic developments at village level in Mahabaleshwar and Jaoli Tahsil. A composite index of development has been formulated based on various physical, demographic, social and economic variables. All the selected variables are converted in to a common base indexing and finally they are converted in to a single index of overall development. The lowest composite score indicates less development and highest composite score indicates high development. Since last 50 years there are no tahsil boundary changed but in 2011 censes 55 villages transferred from Jaoli to Mahabaleshwar tahsil. This villages mainly the part of Kandat valley also known as third world of Satara district. This villages shows low (Score 21-27) to very low (score 28-31) status of development because rugged topography, lack of transportation facility, health, education, communication, banking facility. The northeast and east plain region with better physical conditions, irrigated part of

* **Professor, Department of Geography, MES Abasaheb Garware College, Savitribai Phule Pune University, Pune Maharashtra, India**

** **Ph.D Research student, Savitribai Phule Pune University, Pune, Maharashtra, India**

Kudali river of Jaoli tahsil and shadow villages of tourism places in Mahabaleshwar tahsil are favoured the growth of infrastructural facilities. This part shows high (score 37-40) to very high (score 41-54) level of development. If the socio-economic development of these tahsils modelled along human development framework, it can provide better understanding of development and its impact on quality of life of people.

Keywords: socio-economic, level of development, composite index, GIS application

1. Introduction:

Development is defined in terms of technological or industrial development, but development of rural people means raising the standard of their living Singh (2003). Rostow (1960) presents a political theory as well as descriptive economic study of the pattern of growth and development of Nations. An extensive study has been made by Rao (1983), having used thirty years of data from 1950-1980 to observe the change in the Indian economy. The Indian Society of Agricultural Statistics conducted a series of research studies in the direction of level of development at state level for the year 1971-72 and 1981-82. Thereafter a deeper analysis using the district level data on socio-economic indicators was made for the States like Orissa- Narain (1992-93), Maharashtra- Narain (1996).

In 1980 Narottam Shah, a Member of the State Planning Board, published a report on the "Levels of Development of Districts in Maharashtra". In (1992), Seeta Prabhu and P. C. Sarker published their research paper on "Identification of Levels of Development of the Districts in Maharashtra" In 1983, the Government of Maharashtra appointed a "Fact Finding Committee on Regional Imbalance in Maharashtra", under the Chairmanship of the eminent economist Prof. V.M. Dandekar. In 1997, the Government of India had appointed a Committee under the Chairmanship of Mr. E.A.S. Sarma to identify "100 Poorest Districts" in India. In July (2007), M. H. Suryanarayana, has published (2009) a paper on "Intra-State Economic Disparities: Karnataka and Maharashtra". The research studies of Das, (2002); Dholakia, (2003); have been reviewed. Wishlade and Douglas Y. (1997) have described and explained the types of disparities i.e. physical disparities, economic disparities and social disparities. Ziari (2006) also computed

the level of development of Iran based on natural index, socio-economic index and composite index.

All these studies that over the last five decades the micro level study i.e. village level study done by Suryawanshi and Sawant (2011). He has studied the regional disparities of Thane District and in 2013 micro level detailing of Talasari and Dahanu tehsils of Thane district. He also studied level of development in Jawahar, Mokhada, Vikramgad and Vada tahsil of rural Thane district, Suryawanshi (2014)

Economic planning has been used in the country as an instrument for bringing about uniform regional development because main objectives of the developmental programmes has been a progressive reduction in regional disparities in the pace of development. The very important developmental issues in India today include development of human resource, distributive justice and regional disparities in development. The development of different sectors of economy should be in proper direction because it improves the economy of the area and also enhances the level of living of people.

The Satara district is a rugged country stretching about 100 kms from North to South with a considerable regularity in height and presents a panoramic view all around with truncated hill ranges separated by the deep valleys descending to the plains. The district has three natural sub-divisions based on the topographic situations - Hilly area in the west, plains of the Krishna river in the central part, and the plateau area in the east. Mahabaleshwar is the highest place in the district and is located at a height of 1466 m above mean sea level. Mahabaleshwar and Jaoli Tahsil located in hilly areas in the west The Sahyadri (western) range in the extreme west, and the spurs of the Sahyadris chiefly stretching east and south-east. The western or Sahyadri belt includes the hole part of Mahabaleshwar and western parts of Jaoli

2. Study Area:

Mahabaleshwar and Jaoli tahsils are located in north-western part of Satara district. It is surrounded by Wai tahsil to the north, Satara tahsil to the east, Patan tahsil to the south and Ratnagiri District to the west. Raigad district lies to its north-west. As per 2011 censes

Mahabaleshwar and Jaoli tahsil covers an area of 50337.4 hectares and 58707.2 hectares respectively. Mahabaleshwar and Jaoli tahsils consists of 111 villages and 161 villages respectively. At Mahabaleshwar, the mean daily maximum temperature in December is only 28.10^0 C and the mean daily minimum is 13.60^0 C. The South-west monsoon is the main source of rainfall. The Mahabaleshwar and Jaoli tahsils receives average annual rainfall up to 6200 mm and 5000 mm respectively. The total population of Mahabaleshwar and Jaoli tahsil is 44543 and 101828 as per 2011 censes. The tahsil headquarter of Mahabaleshwar is Kshetra Mahabaleshwar and Jaoli is Madha. The physiography of the study region is typical and interesting because the tahsil is located in the Sahyadri mountain ranges. Maximum area of Mahabaleshwar and Jaoli tahsils is mainly covered by the Sahyadris major spurs. The average gradient varies from 30 m to 50 m per kilometre. The top of Mahabaleshwar, the highest point in the district is about 1436 metres from mean sea level Most of the area is under thick forest cover. Most of the villages have foothill location and have strategic importance. (figure 1)

Location Map of the Study Area

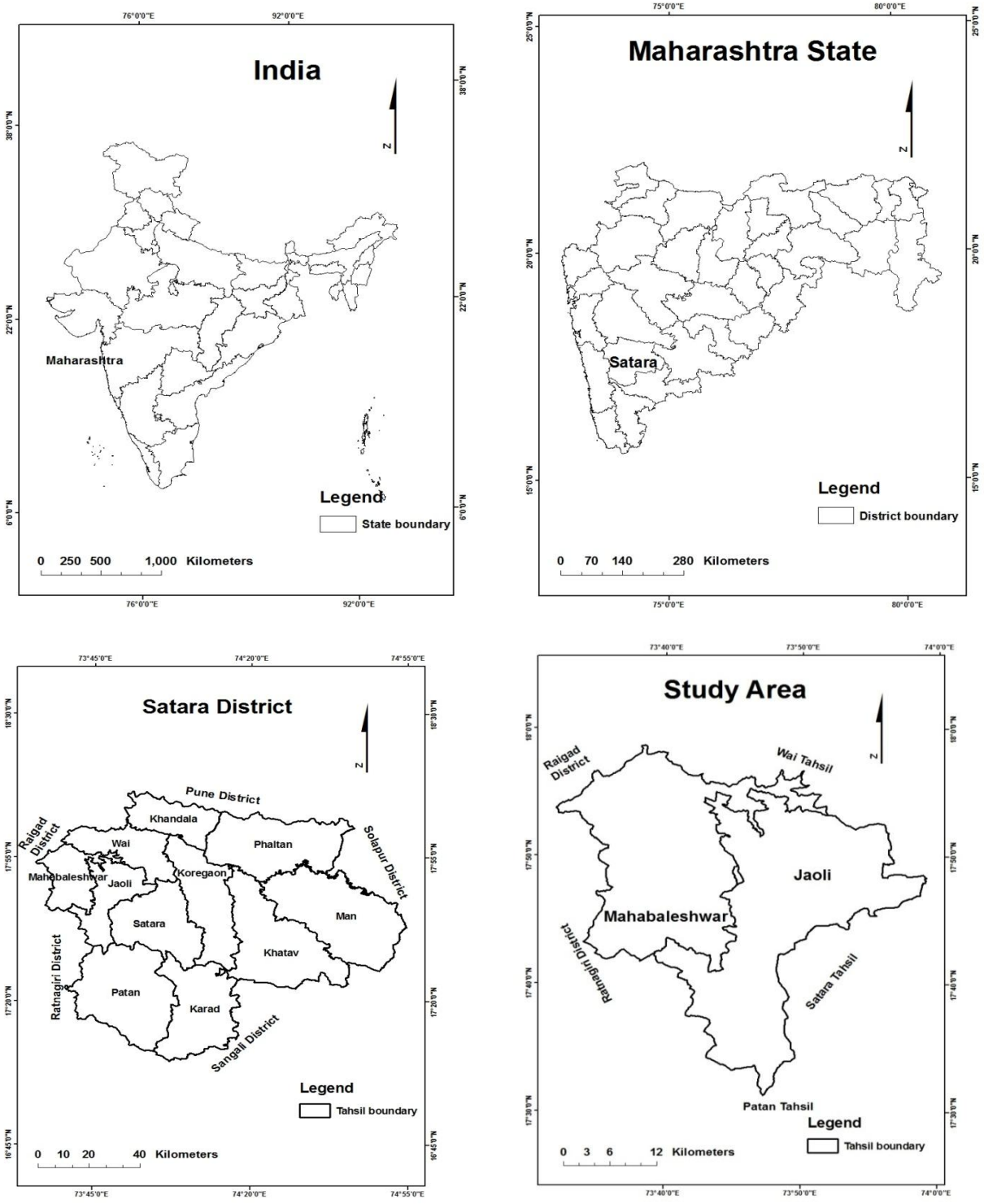


Figure No. 1

3. Objectives: To identify the socio-economic development in rural Mahabaleshwar and Jaoli tahsil

4. Database and Methodology:

The entire research work is based on the secondary data. Census data (Village directory) has been used for preparing village or tahsil boundary of the study area. Besides these, many reports and government publications viz. Gazetteer, Socio-economic Abstracts, periodicals have been also extensively used. Topographical maps 47G/9, 47G/10, 47G/13, 47G/14 at the scale 1:50000 have been used to evaluate the village locations. These village locations have been digitised using GIS software and subsequent GIS platform used. The village polygons for 272 villages were used as the areal units. The vector based GIS technique like Arc GIS, Global Mapper, has been used for analysis of information and presentation of maps, for this the village boundary map of the tahsil has been digitized (Census-2011)

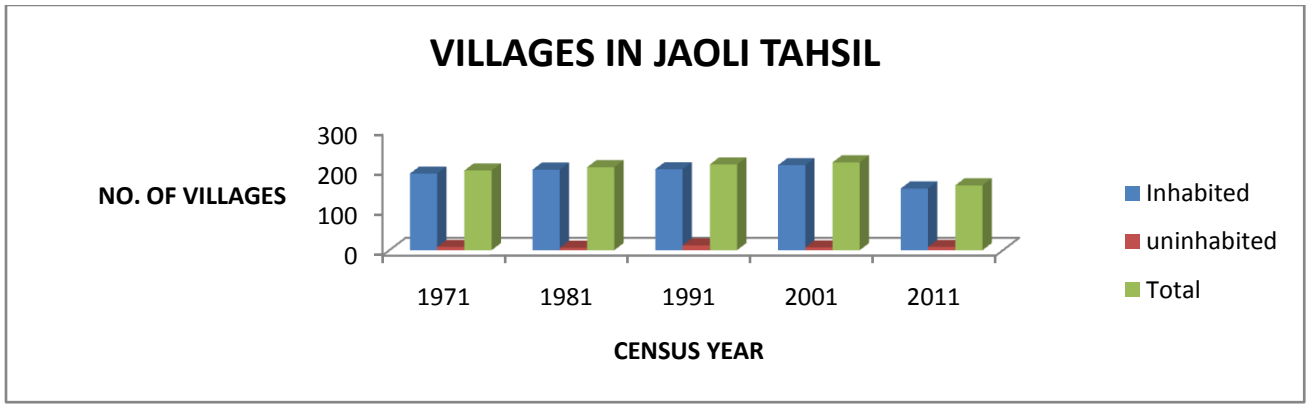
The composite Index has been prepared as per 2011 census for all the physical, demographic, social and economic variables by denoting score of 1-5. Based on the variable supporting socio-economic development of the population, the lowest score indicates less development and highest score indicates high development. This has enabled to analyze the regional disparity lucidly (Suryawanshi and Sawant, 2013). **Indicators of Level of Development:** The following indicators have been chosen: **Physical factors**: (a) Relative relief (b) Slope (c) Forest Cover. **Demographic factors:** (a) Population Density (b) Sex Ratio (c) Literacy **Social factors**: (a) Education (no. of total unites) (b) Health (no. of total unites) (c) Communication & Transportation (no. of total unites) **Economic factors**: (a) Income (b) Non Agriculture workers (c) Banks, ATM , ACS, SHG, PDS, Mandis & Weekly Haat (no. of total unites) (d) Facilities in villages (Table 1)

5. Transferred villages Jaoli to Mahabaleshwar tahsil:

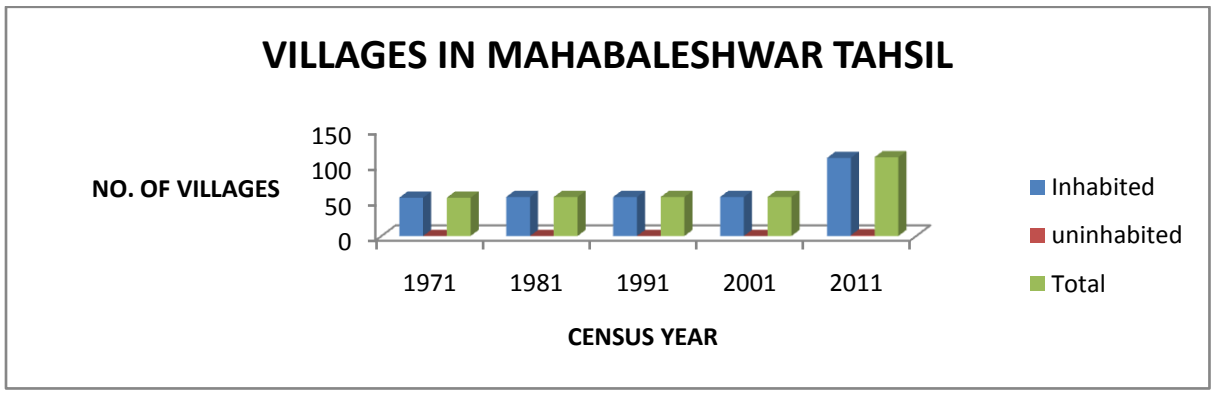
At the time of 1971 census, the district had 11 tahsils comprising of 1167 villages (including 25 uninhabited) Since then the number of tahsils in the district has remain unchanged till the reference date of 1 march 2011. However there have been certain changes as

to the number of villages within the tahsils during the previous decade. In 2011 Census Satara district has 11 tahsils comprising of total 1745 villages (including 26 uninhabited).

In 2011 Census Jaoli tahsil has total 161 villages (including 08 uninhabited) villages. As compared to 218 villages in 2001 census, number of villages has decline up to 161 in 2011 census. (Graph 1) In 2011 Census Mahabaleshwar tahsil has total 111 villages (including 01 uninhabited) village. As compared to 55 villages in 2001 census, number of villages has gone up to 111 in 2011 census. (Graph 2) 55 villages has transferred from Jaoli to Mahabaleshwar seen in figure 2. This includes mainly part of Kandat valley, which is very undeveloped part of satara district.

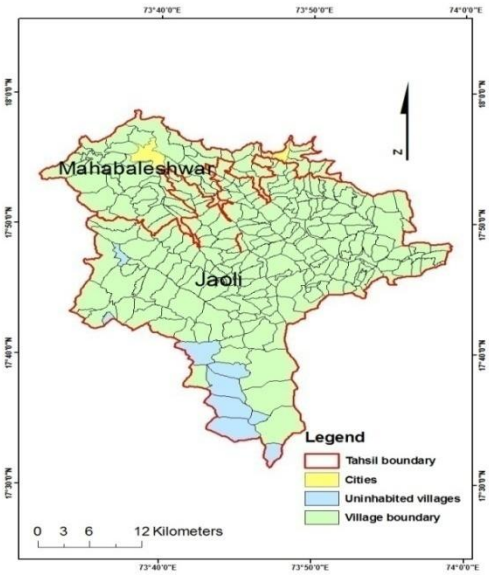


Graph No. 1



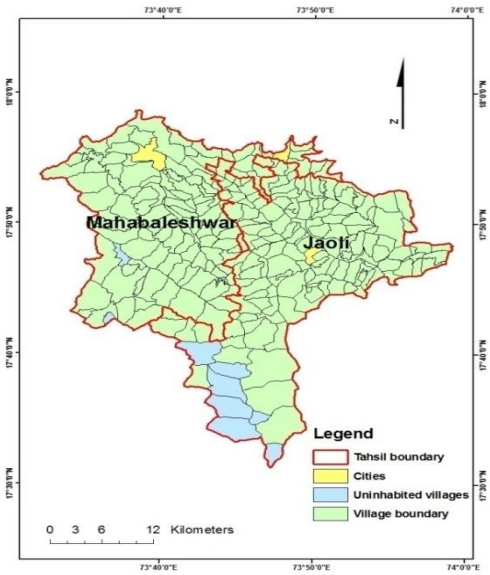
Graph No. 2

Tahsil boundary – 2001



(Source: Census of India 2001)

Tahsil boundary - 2011



(Source: Census of India 2011)

Transferred villages

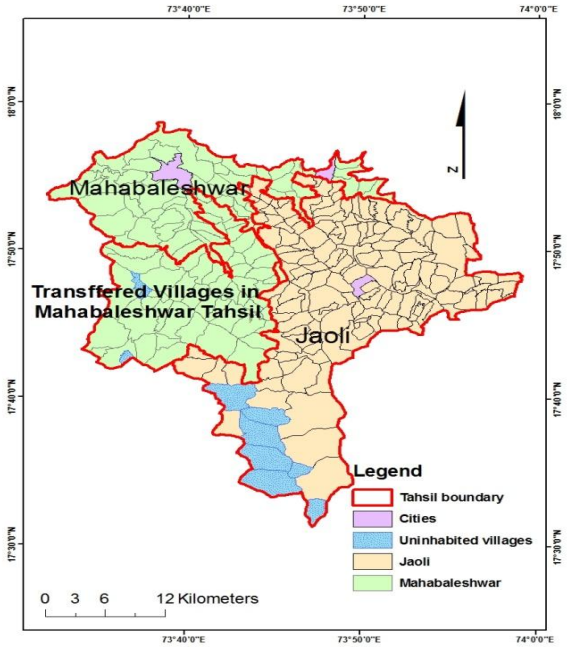


Figure No. 2 (Source: Census of India 2001 & 2011)

6. Level of development in Mahabaleshwar and Jaoli tahsil:

The composite Index has been prepared for all the physical, demographic, social and economic variables by denoting score of 1-5. Based on the variable supporting socio-economic development of the population, the lowest score indicates less development and highest score indicates high development. This has enabled to analyze the regional level of development of study area.

6.1 Physiographic Composite Index:

In preparing, Physiographic composite index three variables have been taken and an index values has been calculated. These three variables are slope, relative relief and forest cover. The calculated composite index of physical indicators clearly shows that the ruggedness in the topography of study area, Mahabaleshwar and Jaoli Tahsil located in hilly areas in the west. Due to gentleness and low angle of slope, the plain have their natural advantage. This promoted faster socio-economic growth e.g. Kudal, Mhasave, Khrshi, Aanewadi, Humgaon. The Sahyadri range in the extreme west, and the spurs of the Sahyadris chiefly stretching east and south-east. This Sahyadri belt includes the hole part of Mahabaleshwar and western parts of Jaoli. Relative relief in this hilly part of villages has 400 meters or more High altitude of areas have constraints for demographic, social, economic functioning due to ruggedness in topography, steep gradient, faster degradation and rainfall e.g. hole of south Mahabaleshwar and western part of Jaoli tahsil but this potentials are important for tourism development in Mahabaleshwar and Jaoli tahsil. These potentials are the Table Land in Mahabaleshwar is the second highest mountain plateau in Asia after the Tibetan plateau. Lord Mahabaleshwar Temple, Aati Baleshwar temple, Panchganga temple, view of the Koyna valley, backwaters of Dhom Dam, Pratapgad Fort, Elphinstone Point, Sydney point, Lodwick Point, Elephant's Head point, Parsi point, The stupefying sunset in the backdrop of Sahyadri Range, Rajapuri Caves, Vasota fort, Mini Kashmir or Tapola is a rustic hamlet with a beautiful lake adorning it, called the Shivsagar Lake, The Lingamala waterfall, Mapro Garden and the Strawberry Festival held where the visitors can eat strawberries to their heart's delight and enjoy the folk performance of Shivkalin Dhol & Lezim, World Natural Heritage site of Kaas plateau also known as 'valley of flowers' e.g.- Kshetra Mahabaleshwar, Nakinda, Dare, Jaoli, Haroshi, Met taliye, Metgutad, Bhekawali, Bhilar, Bhose,

Pangari, Taighat, Ruighar, Katavali, Godavali, Dandeghar, Khengar, Taldev, Tapola, Kasbe Bamnoli, Kas, Kusumbi, Andheri, Vasota, Yekiv, Phalani villages. (Figure 3)

6.2 Demographic Composite Index:

Demographic composite index is based on population density, sex ratio and literacy rate. Literacy is essential for poverty reduction, mortality, curbing population growth, achieving gender equality and ensuring sustainable development, peace and democracy. (Godase, 2014) The high development of demography is shown in hole of the Mahabaleshwar tahsil mainly a part of north-west i.e. Jaoli, Birmany, Parpar. Density of population increases from west to east because of the plain and irrigated region in east side of Jaoli i.e. Kudal, Bhiwadi, Kharshi. Sex ratio increases from east to west because male out flux for better economic prospects to urban centres. The less development of demography is shown in mountain and hilly region of Mahabaleshwar and Jaoli tahsil. This is spatially part of Kandat valley villages. Low literacy rate and high sex ratio is shown less development in this villages e.g. Shindi, Morani, Arav, Uchat etc. (Figure 4)

6.3 Social Composite Index:

Social Composite Index has been measured through education facility, health services, communication and transportation. It shows high degree of polarised development (score 9-15) in and around eastern Jaoli tahsil e.g. Aanewadi, Kudal, Sarjapur. Aarde because of the NH4 passes from Aanewadi village and also this part is irrigated and plain. Second polarised development shown in Kshetra Mahabaleshwar and Pachagni region in Mahabaleshwar tahsil. **Bhilar** is situated between the picturesque hill stations of Panchgani and Mahabaleshwar. This village, spread over two kilometres, is located at a distance of eight kilometres from the hill station Panchgani. Bhilar village has been known for long for its strawberry cultivation. But the hamlet has suddenly turned into a hotspot for the bibliophiles after it was declared India's first 'Pustakanche Gaav' (the village of books) by the Maharashtra government on 4th may, 2017. The concept has been inspired by Britain's Hay-On-Wye, a Welsh town known for its book stores and literature festivals. Education facility, health services, communication and transportation is less in kandat valley and south Jaoli, so in this part villages are very low developed (score 3-4) (Figure 5)

6.4 Economic Composite Index:

Economic Composite Index of Mahabaleshwar and Jaoli tahsils shows that the large disparities in economic development. Economic Composite Index is based on the income of every village, availability of Commercial & Co-operative Banks & ATM, Agricultural Credit Societies, Mandis / Regular market & Weekly Haat & Agricultural marketing society and non agriculture population of the talukas. Very high economic development(score-12-18) is shown in Jaoli tahsil e.g. Kudal, Bamnoli tarf Kudal, Sartale, Mhasave, Aakhade, Humgaon, Saygaon, Kharshi etc. and shadow villages of truism places of Mahabaleshwar, Pachagani and Tapola e.g. Bhilar, Bhose, Dandeghar, Rajpuri, Khengar etc. in mahabaleshwar tahsil . Kandat valley shows very less economic development (score-4-6) e.g. Nivali, Lamaja, Morni, Araw, Kandat, Saaloshi, Dodani, Ranoshi, Adoshi, Tambi, Kargaon ect. (Figure 6)

6.5 Developmental Composite Index:

Each composite index has been summed up for each village to compute aggregate composite index to show the overall status of development. The aggregate score ranges from 21 to 54. Based on this, five categories of development status have been identified, as follows a) **very low** (21 - 27)- e.g- Valawan, Niwali, Hatlot, Adoshi, Tambi, Vele b) **low** (28 - 31)- e.g.- Kandat, Uchat, Ahire, Chaturbet, Maldev c) **moderate** (32 - 36) e.g.-Birmani, Nakinde, Soundari, Nizare, Kaswand d) **high** (37 - 40)- e.g- Machutar, Kedambe, Taldev, Hateghar, Somardi and e) **very high** (41 - 54)- e.g.- Kudal, Aakhade, Mhasave, Kelghar t. Medha, Bhilar (Table 2). The region showing poor or very poor development is located in the middle and south part in Mahabaleshwar and south part of the Jaoli tahsil, which is physiographically rough with poor accessibility. Thus, villages along the national highways with lack of facilities in respect of transport, communication, health and education are and shadow villages of tourism places of Mahabaleshwar, Pachagani are developed. (Figure 7)

7. Conclusion:

. Thus it is clear that the socio-economic differences between the physiographic micro divisions of district are closely linked up with physical character of a region. The north east and east plain region with better physical conditions, national highways with lack of facilities in respect of transport, communication, health and education of Jaoli tahsil has favoured the growth

of development also the shadow villages of tourism places of Mahabaleshwar, Pachagani and Kaas are favoured for infrastructural facilities, Shadow villages are important for tourism development in Mahabaleshwar and Jaoli tahsil. The potentials are the Table Land in Mahabaleshwar which is the second highest mountain plateau in Asia after the Tibetan plateau. Lord Mahabaleshwar Temple, Aati Baleshwar temple, Panchganga temple, view of the Koyna valley, backwaters of Dhom Dam, Pratapgad Fort, Elphinstone Point, Sydney point, Lodwick Point, Elephant's Head point, Parsi point, The stupefying sunset in the backdrop of Sahyadri Range, Rajapuri Caves, Vasota fort, Mini Kashmir or Tapola is a rustic hamlet with a beautiful lake adorning it, called the Shivsagar Lake, The Lingamala waterfall, Mapro Garden and the Strawberry Festival held where the visitors can eat strawberries to their heart's delight and enjoy the folk performance of Shivkalin Dhol & Lezim, World Natural Heritage site of Kaas plateau also known as 'valley of flowers' e.g.- Kshetra Mahabaleshwar, Nakinda, Dare, Jaoli, Haroshi, Met taliye, Metgutad, Bhekawali, Bhilar, Bhose, Pangari, Taighat, Ruighar, Katavali, Godavali, Dandeghar, Khengar, Taldev, Tapola, Kasbe Bamnoli, Kas, Kusumbi, Andheri, Vasota, Yekiv, Phalani villages. (Figure 9) The inverse physical character the western and southern hilly region has reduced the development activities. This is mainly part of Kandat valley, which is transferred from Jaoli to Mahabaleshwar. Jaoli tahsils administrative burden of high number of villages has been reduced. This villages affects the socio economic development. Therefore, if the socio-economic development of these tahsils modelled along human development framework, it can provide better understanding of development and its impact on quality of life of people.

Variables and Weightage of Composite Index for Mahabaleshwar and Jaoli Tahsil

Indicators	**Variables**	**1**	**2**	**3**	**4**	**5**
Physical	Slope (degrees)	>25	15-25	7-15	3-7	<3
	Relative Relief (m)	>400	250-400	100-250	50-100	<50
	Forest Cover (%)	>80	50-80	30-50	0-30	0
Demographic	Density (per./sq km)	>400	300-400	200-300	100-200	<100
	Sex Ratio (females/'000 males)	<750	750-850	850-950	>1050	950-1050
	Literacy (%)	<45	45-60	60-75	75-80	>80
Social	Education (no. of total unites)	0-2	2-3	3-6	6-14	14-45

	Health (no. of total unites)	0-2	2-3	3-5	5-10	10-31
	Communication & Transportation (no. of total unites)	0-2	2-5	5-8	8-11	11-16
Economic	Income ('000 Rs.)	<100	100-500	500-2000	2000-5000	>5000
	Banks, ATM , ACS, SHG, PDS, Mandis & Weekly Haat (no. of total unites)	0	0-2	2-3	3-4	4-8
	Facility (no. of total unites)	0	0-1	1-2	2-4	4-7
	Non Ag. Workers (%)	<5	5-7	7-13	13-25	>25

Table 1 (Source: Suryawanshi R.S. and Sawant N.N. (2013))

Development Status for Mahabaleshwar and Jaoli Tahsil

Range of Scores	**No. of Villages**	**Percentage**	**Development Level**
21-27	**41**	**15.59**	**Very Low**
28-31	**86**	**32.70**	**Low**
32-36	**72**	**27.38**	**Moderate**
37-40	**38**	**14.45**	**High**
41-54	**26**	**9.88**	**Very High**
	263	**100.00**	

Table 2 (Source: Suryawanshi R.S. and Sawant N.N. (2013))

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Tourism Potential Villages in Mahabaleshwar and Jaoli Tahsil

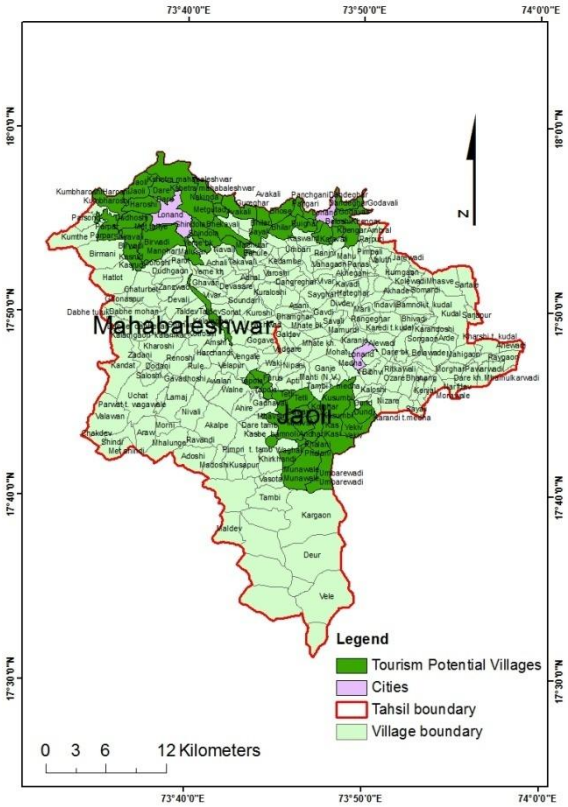
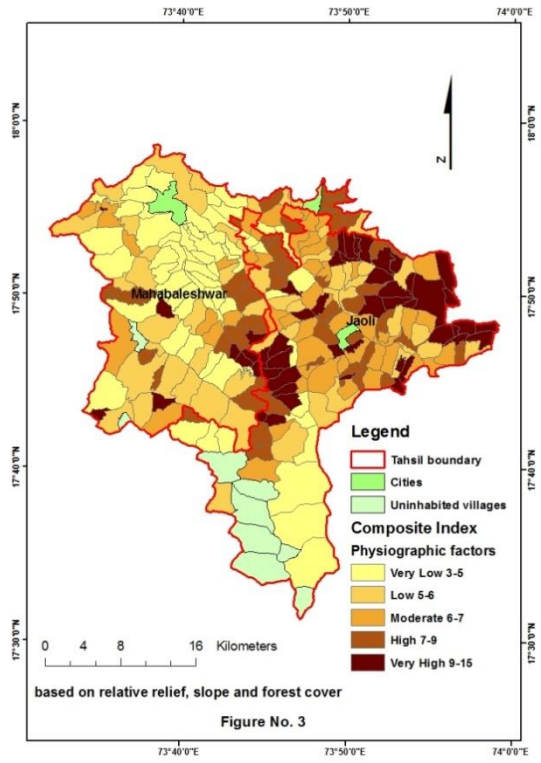


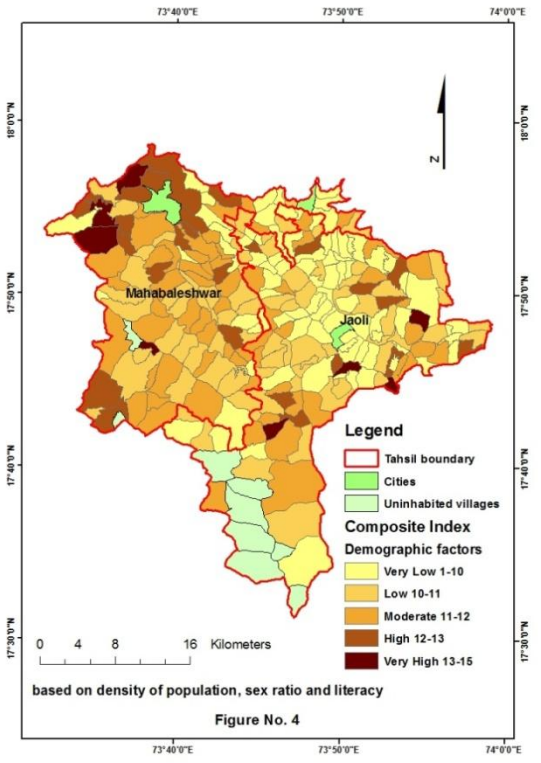
Figure No. 8 (Source: Computed by the author)

Physiographic composite index



(Source: Censes of India 2011)

Demographic composite index



(Source: Censes of India 2011)

Social composite index

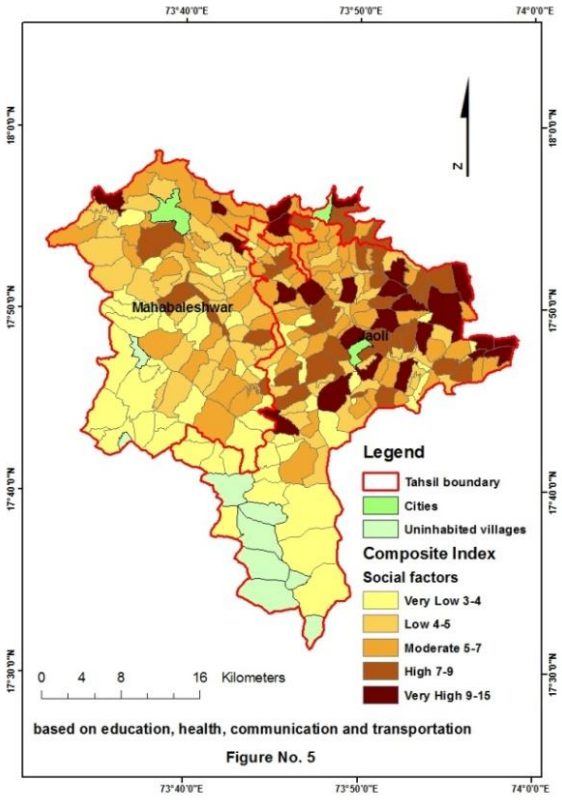


Figure No. 5

(Source: Censes of India 2011)

Economic composite index

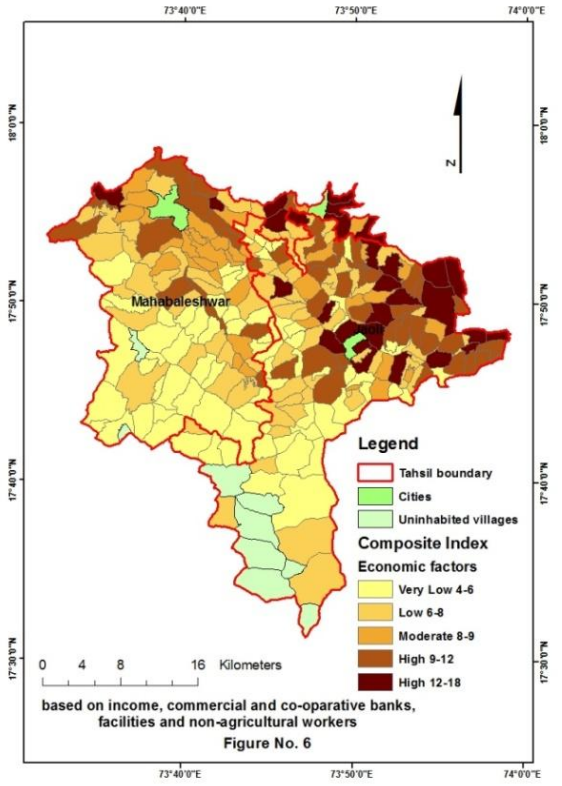
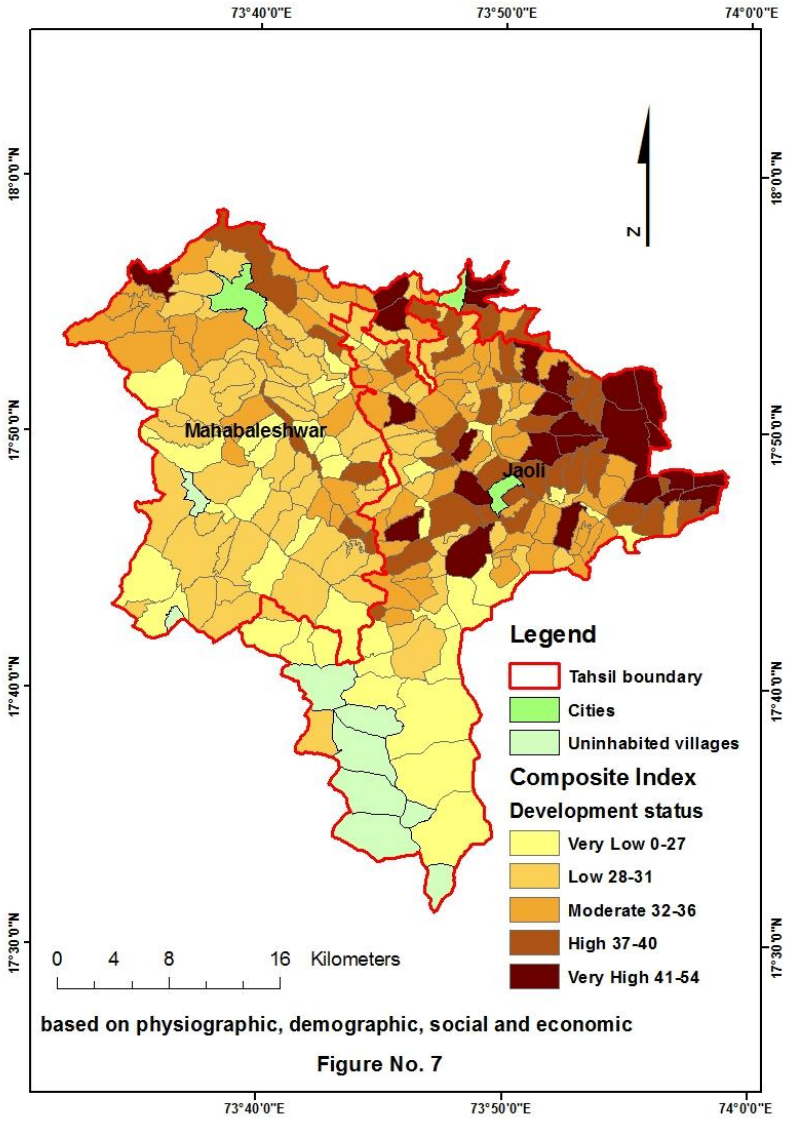


Figure No. 6

(Source: Censes of India 2011)

Composite index for development status



based on physiographic, demographic, social and economic

Figure No. 7

(Source: Censes of India 2011)