



A STUDY OF SECTORIAL INEQUALITIES IN ACCES OF BARE NECESSITIES OF SATARA DISTRICT: AN ANALYSIS

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ABSTRACT

The present study examines the sectorial inequalities in the access of bare necessities through the Bare Necessities Index (BNI) in the Satara district at the Tehsil level. This study is pioneer for the study area and it covered all eleven tehsils along with sectorial i.e., rural and urban analysis of BNI. The estimation of BNI of Satara district is based on Census 2011 data. This study observed that BNI of Patan total, rural as well as urban people has recorded highest, it all indicates the very low access of bare necessities to the people of corresponding region, but Lowest to Koregaon total, Man rural and Jaoli urban people, which indicates very low access to the people of related region. Overall estimation of BNI in the Satara district has revealed that the very low access of bare necessities to total, urban and rural people. The main aim of BNI estimation of Satara district is to evaluate access and sectorial inequalities of bare necessities in Satara district across eleven tehsils.

KEYWORDS: Bare Necessities, Bare Necessities Index, Water Index, Sanitation Index, Housing Index, Micro-Environment Index, Other Facilities Index.

1. INTRODUCTION

Satara district is a district of Maharashtra state in western India with an area of 10,480 km² which is about 3.4 % of the state's total geographical area. The district comprises of 11 blocks. Satara had population of 3,003,741 of which male and female were 1,510,842 and 1,492,899 respectively constituting a male / female ratio of 1000: 988. The urban population was 570,378 and rural 2,433,363. The Literacy rate is 82.87% and population density is 287 per sq. km. Population of Satara districts lives in rural areas of villages is 81.01%. [1, 2]

The Bare Necessities Index is firstly introduced in the Economic Survey of India report in 2020-21. It is a recently developed by the Ministry of Finance and Statistics, Government of India, to examine the access of bare necessities to the people. Bare Necessities Index is composite statistics of various bare necessities i.e., clean water, micro-environment sanitation, housing, and other facilities, etc. which needed for everyone to sustain their life. The main aim of Bare Necessities Index is that to examine access to the bare necessities like housing, water, sanitation, electricity and clean cooking fuel which is essential to live a decent life. This research study examines the progress made in providing access to bare necessities by constructing Bare Necessities Index (BNI) at the rural, urban and each tehsils level in Satara district. The BNI estimation summarizes 21 sub-indicators includes 16 positive and 5 negative sub-indicators of 5 main dimensions i.e., water, sanitation, housing, micro-environment and other facilities. [3] The BNI has been created for all tehsils at total, rural and urban base as well as overall Satara district using Census data of Satara district 2011 data. The Bare Necessities Index exercise of Satara district has examined that the tehsils and sectorial i.e., rural-urban-based overall access of bare necessities to the people and their inequalities.



2. OBJECTIVES

The major objectives of this study are

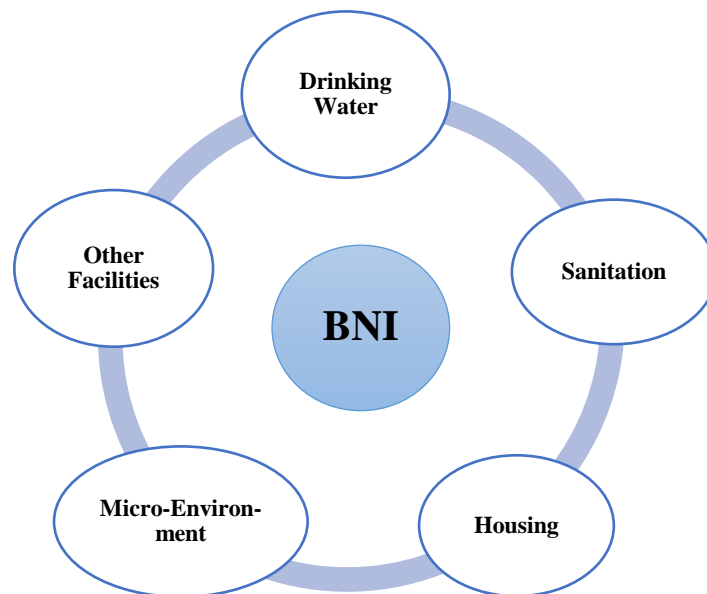
- (i) To estimate sectorial Bare Necessities Index of Satara district
- (ii) To evaluate sectorial i.e., rural and urban inequalities in Bare Necessities Index of Satara district.
- (iii) To suggest measures for improvement if necessary, for the study area.

3. RESEARCH METHODOLOGY AND DATA BASE

The present study is analytical in nature and it's based on purely secondary data and some ethical observations of the researcher. Bare Necessities Index (BNI) is comprehensive and newly introduced approach. It's main focus on minimum necessities of people which have each person to sustain their life. The secondary data is about Bare Necessities dimensions, sub-indicators were collected from the Census of India 2011. The methodology of estimating Bare Necessities Index has adopted from Union Budget, socio-economic review Government of India, which was published in January, 2021. Detailed methodology, dimensions and indicators of Bare Necessities Index estimation of the present study area are as follows.

• About Indicators of BNI

Bare Necessities Index is composite statistic of five dimensions and its 21 sub-indicators which are related to least necessities, which is needed to each people. There are five main dimensions of BNI like, drinking water, sanitation, housing, micro-environment and other facilities. The 21 sub-indicators of the BNIs divided into two categories as positive and negative indicators. Following diagram indicates that Bare Necessities Index (BNI's) main dimensions and its sub-indicator are as follows- [3]





Bare Necessities Index (BNI): Dimension, Indicators, Types and Weightage

Dimensions	Indicators	Types	Weightage
Water (5) 1/5	Tap-Treated	+ve	1/5
	Tube/Borewell	+ve	1/5
	Well -Covered	+ve	1/5
	Within dwelling	+ve	1/5
	Outside dwelling	-ve	1/5
Sanitation (5) 1/5	Access of Latrine	+ve	1/5
	Latrine: Piped sewer system	+ve	1/5
	Latrine: Septic tank	+ve	1/5
	Latrine: Twin leach pit	+ve	1/5
	Latrine: Single pit	+ve	1/5
Housing (3) 1/5	Condition of structure: Good	+ve	1/3
	Type of the dwelling: Owned	+ve	1/3
	Pucca dwelling	+ve	1/3
Micro-environment (3) 1/5	No drainage	-ve	1/3
	Open drainage	-ve	1/3
	Use of Dirt Fuel for Cooking i.e., firewood, etc.	-ve	1/3
Other Facilities (5) 1/5	Access of separate kitchen	+ve	1/5
	No bathroom	-ve	1/5
	Access of Bathroom	+ve	1/5
	Access of electricity	+ve	1/5
	Use of modern fuel for cooking: LPG	+ve	1/5

(Source: Economic Survey of India, 2020-21/ Bare Necessities Index)

• **Statistical Analysis and Index Calculation**

The Bare Necessities Index is constructed by two steps, first step is aggregating the sub-indicators and calculate each sub-indicator index for each dimension. The second step is that each dimension is aggregated using their scores calculated in step first for the Bare Necessities Index of the particular tehsils. There is the arithmetic mean is used for aggregation to each indicator and dimension. The goalpost values of each sub-indicator have fixed at minimum value is set 0 (Zero) and maximum values set is 100 (Hundred). The value of the index ranges between 0 and 1, Higher the value of the index indicates better access to the bare necessities and lower is low. Also, the Bare Necessities Index (BNI) providing access to bare necessities to the people, there are three categories of BNI i.e., above 0.700 indicates ‘High’ level, 0.500 to 0.700 indicates ‘Medium’ level and below 0.500 indicates ‘Very Low’ level of access. The Bare Necessities Index is calculated using the formulae are as below- [3-6]

$$A) \text{ Indicators Index} = \frac{(\text{Actual Value} - \text{Minimum Value})}{(\text{Maximum Value} - \text{Minimum Value})} \quad \text{--- (1)}$$

$$B) \text{ Bare Necessities Index (BNI)} = \frac{(I_{\text{Water}} + I_{\text{Sanitation}} + I_{\text{Housing}} + I_{\text{Micro-Environment}} + I_{\text{Other Facilities}})}{1/5} \quad \text{--- (2)}$$

Whereas;

$$\begin{aligned} I_{\text{Water}} &= \text{Drinking Water Index} & I_{\text{Micro-Environment}} &= \text{Micro-Environment Index} \\ I_{\text{Sanitation}} &= \text{Sanitation Index} & I_{\text{Other Facilities}} &= \text{Other Facilities Index} \\ I_{\text{Housing}} &= \text{Housing Index} & & \end{aligned}$$

4. Data Analysis and Result

The current section of this paper highlighting the access of bare necessities to people at tehsils as well as sectorial i.e., rural and urban in twelve tehsils of Satara district. Important observation at each sub-indicator and dimension based on each tehsil has been made. Analysis of BNI and its indicators of each Tehsil and its inequalities in access to bare necessities i.e., sanitation facilities, clean water, clean and safe cooking fuel, electricity access and other bare necessities in Satara district are as follows-

Table – 01
Tehsils & Sector-wise Access of Water Sources with Location of Satara District *(Values in %)*

Sr. No.	Tehsil/ Sector	Water Sources									Location of Source					
		Tap - Treated			Tube/Borewell			Well -Covered			Within dwelling			Outside dwelling		
		T	R	U	T	R	U	T	R	U	T	R	U	T	R	U
1	Mahabaleshwar	41.7	25.5	76.6	3.5	2.9	5.0	3.3	2.0	6.0	55.8	45.7	77.5	8.1	9.3	5.4
2	Wai	72.5	68.7	89.8	4.8	5.1	3.7	1.5	1.5	1.4	75.6	73.6	84.8	6.6	6.6	6.5
3	Khandala	76.4	74.1	90.8	2.0	2.1	1.0	1.9	2.0	0.9	74.7	73.6	81.6	6.7	7.4	2.8
4	Phaltan	60.1	52.4	94.2	4.2	4.9	1.0	1.2	1.4	0.1	63.0	58.1	84.4	9.1	10.1	4.7
5	Man	36.4	31.6	78.7	7.8	8.6	0.2	0.9	0.9	0.2	44.7	41.3	74.9	17.0	18.2	6.6
6	Khatav	52.3	52.3	-	9.2	9.2	-	1.0	1.0	-	61.6	61.6	-	9.9	9.9	-
7	Koregaon	70.7	68.8	80.7	5.3	4.7	8.4	1.0	1.0	1.0	74.6	71.9	88.9	5.1	5.7	2.1
8	Satara	76.3	69.5	85.2	9.3	9.5	9.2	0.8	1.1	0.4	75.1	66.2	86.9	5.9	7.0	4.5
9	Jaoli	58.0	57.9	60.1	5.7	5.3	14.7	2.2	2.3	0.0	44.7	43.8	66.5	10.0	10.0	8.9
10	Patan	52.5	50.4	97.4	2.6	2.8	0.2	1.1	1.2	0.0	52.1	50.3	91.0	13.1	13.6	0.9
11	Karad	63.3	58.0	81.1	10.1	9.9	11.0	0.6	0.8	0.2	71.1	67.7	82.7	6.7	7.6	3.8
Satara District		62.2	56.9	84.9	6.8	6.7	7.4	1.1	1.2	0.6	65.5	61.0	84.6	8.6	9.6	4.3

Source: Census 2011/Satara District (Note: T- Total, R- Rural, U-Urban)

Table-01 shows sector-wise population covered by the access of water sources and location of water sources used by household in eleven tehsils Satara district. Talking about use of Tap-Treated water sources, Khandala urban and rural have 76.4% and 74.1% respectively and Patan urban has 97.4% of population is covered, it all highest and Mahabaleshwar total and rural have 41.7% and 25.5% respectively and Jaoli urban has 60.1%, it all lowest population. Looking at overall Satara district about 62.2%, 56.9% and 84.9% of population is covered by total, rural and urban respectively. Considering use of tube/Borewell sources in Karad total and rural has 10.1% and 9.9% respectively and Jaoli urban has 14.7%, it all highest and Khandala total and rural has 2.0% and 2.1% and Man as well as Patan urban has 0.2%, it all lowest population. Calculating overall Satara district only 6.8%, 6.7% and 7.4% of population is covered by total, rural and urban respectively. Looking at well-covered tehsils Mahabaleshwar total and urban and Jaoli rural have 3.3%, 6.2% and 2.3%, it all higher and Karad total and rural has 0.6% and 0.6% and 0.8% respectively, it all lowest and Jaoli as well as Patan don't have well-covered population. Looking at overall Satara district about 1.1%, 1.2% and 0.6% of population is covered by total, rural and urban respectively. Talking about the Location of water sources, Patan urban has 91.0% of population within dwelling, it is highest and Man rural has 41.3% it is lowest. Looking at overall Satara district about 65.5 %, 61.0% and 84.6% of population is covered by total, rural and urban respectively. Considering about the outside dwelling Man rural has 18.2%, it is highest and Patan urban has 0.9%, it is lowest as compared to tehsils of Satara district. Looking at overall Satara district only 8.6%, 9.6% and 4.3% of population is covered by total, rural and urban respectively.

Table - 02
Tehsils & Sector-wise Access of Sanitation Facilities with Structure of Satara District (Values in %)

Sr. No.	Tehsil/ Sector	Access of Latrine			Latrine types											
					Piped sewer system			Septic tank			Twin leach pit			Single pit		
		T	R	U	T	R	U	T	R	U	T	R	U	T	R	U
1	Mahabaleshwar	87.8	91.2	80.6	4.9	0.8	13.8	43.3	35.0	61.2	35.3	50.7	2.3	0.2	0.2	0.3
2	Wai	77.2	79.1	68.5	3.2	2.5	6.5	44.3	41.1	59.1	27.8	33.2	2.7	0.2	0.3	0.0
3	Khandala	68.0	67.9	68.4	2.5	2.8	0.5	43.1	40.8	57.8	19.9	21.7	7.8	0.1	0.0	0.2
4	Phaltan	56.7	54.6	66.0	1.7	1.4	3.3	28.5	20.9	62.0	24.9	30.4	0.5	0.1	0.2	0.0
5	Man	55.3	58.3	28.6	1.5	1.2	3.4	12.3	11.0	23.5	40.2	44.6	1.5	0.3	0.4	0.0
6	Khatav	66.6	66.6	-	2.2	2.2	-	19.1	19.1	-	43.0	43.0	-	0.3	0.3	-
7	Koregaon	65.9	67.7	56.7	2.8	2.2	5.7	31.8	28.6	48.4	30.0	35.4	2.2	0.1	0.2	0.1
8	Satara	78.4	75.4	82.4	6.6	3.9	10.2	53.2	41.0	69.4	17.3	28.5	2.5	0.0	0.1	0.0
9	Jaoli	84.7	85.2	73.7	1.7	1.8	0.8	34.9	33.5	67.5	44.0	45.7	2.5	0.1	0.1	0.3
10	Patan	82.6	82.0	94.8	3.0	3.0	4.0	22.6	19.7	83.7	54.7	57.0	6.1	0.1	0.1	0.1
11	Karad	71.2	68.0	81.9	12.9	5.5	37.7	43.5	44.8	39.4	12.0	14.6	3.3	0.2	0.3	0.1
Satara District		71.1	70.1	75.4	5.1	2.9	14.4	35.5	30.3	57.6	28.5	34.5	2.7	0.2	0.2	0.1

Source: Census 2011/Satara District (Note: T- Total, R- Rural, U-Urban)

Table-02: Shows sector-wise population covered by sanitation facilities such as the access of Latrine and various types of Latrine facilities used by household in Satara district. Talking about access of Latrine, Patan urban has about 94.8% of population and urban area of Man has only 28.6% of population. The access of Latrine in Satara district has 71.7%, 70.7% and 75.4% of population is covered by total, rural and urban area respectively. Considering the various types of Latrine used by people have different as Piped sewer system, Septic tank, Twin leach pit, single pit etc. The piped sewer system used by Karad urban has about 37.7% and Khandala urban has only 0.5% of Population. The piped sewer system used by Satara district has 5.1%, 2.9% and 14.4% of population is covered by total, rural and urban area respectively. The Septic tank used by Patan urban has about 83.7% and Man rural has only 11.0% of Population. The Septic tank used by Satara district has 35.5%, 30.3% and 57.6% of population is covered by total, rural and urban area respectively. The twin leach pit used by Patan rural has about 57.0% and Phaltan urban has 0.5% Population. The twin leach pit used by Satara district has 28.5%, 34.5% and 2.7% of population is covered by total, rural and urban area respectively. The single pit used by Satara district has 0.2%, 0.2% and 0.1% of population is covered by total, rural and urban area respectively.

Table – 03

Tehsils & Sector-wise Access of Housing Facilities with Structure of Satara District (Values in %)

Sr. No.	Tehsil/ Sector	Condition of Structure: Good			Type of the dwelling: Owned			Pucca dwelling		
		T	R	U	T	R	U	T	R	U
		1	Mahabaleshwar	71.0	70.7	71.5	78.0	88.5	55.4	90.8
2	Wai	68.6	66.7	76.8	85.2	88.2	71.3	71.9	71.5	73.4
3	Khandala	70.9	70.3	74.4	81.0	82.8	69.4	84.0	84.0	84.0
4	Phaltan	70.5	69.8	73.7	88.6	91.1	77.7	81.4	79.8	88.5
5	Man	70.1	69.1	78.5	91.8	92.5	86.2	87.7	87.2	93.2
6	Khatav	70.6	70.6	-	89.8	89.8	-	82.3	82.3	-
7	Koregaon	65.3	65.2	65.7	87.6	91.2	68.9	73.8	72.3	81.8
8	Satara	72.4	66.6	80.0	78.6	87.3	66.9	80.8	73.5	90.4
9	Jaoli	57.4	57.7	49.3	93.4	94.4	69.7	79.3	79.6	73.3
10	Patan	61.4	60.6	76.5	94.0	95.1	69.5	74.8	74.5	83.3
11	Karad	70.4	68.4	77.2	83.1	88.6	64.4	76.1	72.9	86.9
Satara District		68.8	66.9	76.6	86.0	90.1	68.4	79.0	77.2	87.4

Source: Census 2011/Satara District (Note: T- Total, R- Rural, U-Urban)

Table – 03 shows that tehsils and sector-wise access and situation of housing facilities which is essential to each human and also safe place for everyone, it is also third main dimension of Bare Necessities Index. Speaking about good structure of housing, Satara Urban has about 80.0%, it is highest and Jaoli urban has only 49.3%, it is lowest as compared to all eleven tehsils. Observing overall good structure of houses of Satara district total, rural and urban has 68.8%, 66.9% and 76.6% respectively. The status of owned dwelling, Patan rural has about 95.1%, it is highest and Mahabaleshwar urban has only 55.4%, it is lowest as compared to eleven tehsils. Looking at the status of owned dwelling of overall Satara district total, rural and urban has 86.0%, 90.1% and 68.4% respectively. Talking about the condition of ‘Pucca’ dwelling or house, Mahabaleshwar urban has about 94.2%, it is highest and Wai rural has 71.5%, it is lowest as compared to eleven tehsils. The overall Satara district share of ‘Pucca’ dwelling, Satara district total, rural and urban has 79.0%, 77.2% and 87.4% respectively.

Table – 04

Tehsils & Sector-wise Access of Micro-Environment Facilities of Satara District (Values in %)

Sr. No.	Tehsil/ Sector	No drainage			Open drainage			Use of Dirt Fuel for Cooking		
		T	R	U	T	R	U	T	R	U
		1	Mahabaleshwar	42.1	56.0	12.1	22.3	26.2	13.7	50.6
2	Wai	31.3	36.3	8.4	50.3	48.9	56.7	42.1	48.3	13.6
3	Khandala	41.1	44.3	20.4	43.2	42.1	49.9	51.9	55.9	26.3
4	Phaltan	60.4	70.8	14.4	25.6	20.5	47.9	62.7	72.1	22.0
5	Man	75.5	78.2	51.8	19.1	16.7	40.1	82.6	84.7	63.1
6	Khatav	57.7	57.7	-	34.4	34.4	-	62.1	62.1	-
7	Koregaon	29.5	30.6	23.7	53.1	55.3	41.2	48.9	52.2	31.7
8	Satara	23.3	32.4	11.3	40.7	51.0	27.1	32.2	47.9	11.3
9	Jaoli	47.6	48.0	38.0	40.1	41.0	19.1	73.1	74.3	45.3
10	Patan	46.3	46.6	39.5	45.7	45.9	40.5	83.7	85.9	35.6
11	Karad	29.8	32.6	20.7	49.6	54.4	33.5	50.3	59.4	19.4
Satara District		41.3	46.9	17.3	40.4	41.8	34.6	55.9	64.4	19.3

Source: Census 2011/Satara District (Note: T- Total, R- Rural, U-Urban)

Table -04, shows that tehsils and sector-wise access of sanitation facilities to the people, which is important to each human and it is fourth main dimension of Bare Necessities Index. Speaking about the No-connectivity of drainage facility, Man rural has 78.2%, it is highest and Wai urban has 8.4%, it is lowest, as compared all eleven tehsils. Looking at the status of the No-connectivity of drainage facility of overall Satara district total, rural and urban has 41.3%, 46.9% and 17.3% respectively. Considering Connectivity of Open-drainage, Wai urban has 56.7%, it is highest and Mahabaleshwar urban has 13.7%, it is lowest, as compared all eleven tehsils. Looking at the status of the Connectivity of Open-drainage facility of overall Satara district total, rural and urban has 40.4%, 41.8% and 34.6% respectively. Use of dirt fuel i.e., firewood, kerosene, charcoal, etc, Patan rural has 85.9%, it is highest and Wai urban has 8.4%, it is lowest, as compared all eleven tehsils. Observing the use of dirt fuel in the overall Satara district total, rural and urban has 55.9%, 64.4% and 19.3% respectively.

Table – 05
Tehsils & Sector-wise Access of Other Facilities of Satara District

Sr. No.	Tehsil/ Sector	<i>(Values in %)</i>														
		Access of separate kitchen			Bathing Facility						Access of electricity			Use of modern fuel for cooking: LPG		
		T	R	U	No bathroom			Access of Bathroom			T	R	U	T	R	U
1	Mahabaleshwar	75.0	72.8	84.3	3.4	4.4	1.2	96.6	95.5	98.8	94.7	93.6	97.2	47.0	28.5	86.7
2	Wai	73.7	70.6	80.2	9.9	11.0	4.9	90.1	89.1	95.1	91.5	90.9	94.6	56.4	50.2	84.5
3	Khandala	77.7	75.4	87.8	9.9	10.6	5.5	90.1	89.4	94.5	89.7	89.5	91.5	46.9	42.8	73.3
4	Phaltan	75.1	74.5	79.0	19.4	22.4	5.9	80.6	77.6	94.0	81.3	78.2	94.9	35.3	26.0	76.3
5	Man	61.5	57.2	80.3	22.4	23.5	13.2	77.6	76.5	86.8	71.0	69.8	81.8	16.8	14.7	35.8
6	Khatav	51.5	51.3	-	12.3	12.3	-	87.7	87.7	-	83.1	83.1	-	36.9	36.9	-
7	Koregaon	53.7	72.1	72.1	7.4	7.6	6.7	92.6	92.5	93.2	88.9	88.5	91.1	49.0	45.7	66.6
8	Satara	76.8	75.3	84.4	4.9	6.8	2.3	95.1	93.2	97.7	93.9	91.7	96.9	66.3	50.3	87.4
9	Jaoli	83.7	80.9	87.5	8.4	8.4	9.4	91.5	91.6	90.6	90.0	90.0	87.8	23.6	22.3	53.6
10	Patan	76.4	76.5	73.5	7.0	7.3	1.7	93.0	92.8	98.3	88.4	88.0	97.2	13.9	11.6	62.2
11	Karad	76.7	75.9	94.0	7.3	7.9	5.3	92.7	92.1	94.7	91.6	90.7	94.8	47.3	38.0	78.5
Satara District		82.6	81.7	85.6	10.0	11.4	4.4	90.0	88.7	95.7	87.9	86.3	94.8	42.4	33.7	79.2

Source: Census 2011/Satara District (Note: T- Total, R- Rural, U-Urban)

Table -05, indicates that tehsils and sector-wise access of Other facilities, i.e., separate kitchen, bathrooms, electricity access, and clean cooking fuel in Satara district across eleven tehsils. Other facilities which explained above is the fifth key dimension of the Bare Necessities Index. Speaking about the access to separate kitchen, Man rural has 78.2%, it is highest and Wai urban has 8.4%, it is lowest, as compared all eleven tehsils. Looking at the overall Satara district total, rural and urban has 82.6%, 81.7% and 85.6% respectively. Access to no-bathroom facility Man rural has 23.5%, it is highest and Mahabaleshwar urban has 1.2%, it is lowest. Looking at the overall Satara district total, rural and urban has 10.0%, 11.4% and 4.4% respectively. Looking to access of bathroom facility Mahabaleshwar urban has 98.8%, it is highest and Man rural has 76.5%, it is lowest. Considering the overall Satara district total, rural and urban has 90.0%, 88.7% and 95.7% respectively. Looking to access of electricity facility Mahabaleshwar urban has 97.2%, it is highest and Man rural has 69.8%, it is lowest. Considering the overall Satara district total, rural and urban has 87.9%, 86.3% and 94.8% respectively. Looking to the use of LPG access Mahabaleshwar urban has 86.7%, it is highest and Patan rural has 11.6%, it is lowest. Considering the overall Satara district total, rural and urban has 42.4%, 33.7% and 79.2% respectively, as compared all eleven tehsils.

Table – 06
Tehsils & Sector-wise Water Index & its Indices of Satara District

Sr. No.	Tehsil/ Sector	Water Sources									Availability						Water Index		
		Tap - Treated			Tube/Borewell			Well -Covered			Within dwelling			Outside dwelling			T	R	U
		T	R	U	T	R	U	T	R	U	T	R	U	T	R	U			
1	Mahabaleshwar	0.42	0.26	0.77	0.04	0.03	0.05	0.03	0.02	0.06	0.56	0.46	0.78	0.08	0.09	0.05	0.22	0.17	0.34
2	Wai	0.73	0.69	0.90	0.05	0.05	0.04	0.02	0.02	0.01	0.76	0.74	0.85	0.07	0.07	0.07	0.32	0.31	0.37
3	Khandala	0.76	0.74	0.91	0.02	0.02	0.01	0.02	0.02	0.01	0.75	0.74	0.82	0.07	0.07	0.03	0.32	0.32	0.35
4	Phaltan	0.60	0.52	0.94	0.04	0.05	0.01	0.01	0.01	0.00	0.63	0.58	0.84	0.09	0.10	0.05	0.28	0.25	0.37
5	Man	0.36	0.32	0.79	0.08	0.09	0.00	0.01	0.01	0.00	0.45	0.41	0.75	0.17	0.18	0.07	0.21	0.20	0.32
6	Khatav	0.52	0.52	-	0.09	0.09	-	0.01	0.01	-	0.62	0.62	-	0.10	0.10	-	0.27	0.27	-
7	Koregaon	0.71	0.69	0.81	0.05	0.05	0.08	0.01	0.01	0.01	0.75	0.72	0.89	0.05	0.06	0.02	0.31	0.30	0.36
8	Satara	0.76	0.70	0.85	0.09	0.10	0.09	0.01	0.01	0.00	0.75	0.66	0.87	0.06	0.07	0.05	0.33	0.31	0.37
9	Jaoli	0.58	0.58	0.60	0.06	0.05	0.15	0.02	0.02	0.00	0.45	0.44	0.67	0.10	0.10	0.09	0.24	0.24	0.30
10	Patan	0.53	0.50	0.97	0.03	0.03	0.00	0.01	0.01	0.00	0.52	0.50	0.91	0.13	0.14	0.01	0.24	0.24	0.38
11	Karad	0.63	0.58	0.81	0.10	0.10	0.11	0.01	0.01	0.00	0.71	0.68	0.83	0.07	0.08	0.04	0.30	0.29	0.36
Satara District		0.62	0.57	0.85	0.07	0.07	0.07	0.01	0.01	0.01	0.66	0.61	0.85	0.09	0.10	0.04	0.29	0.27	0.36

Source: Authors Calculation/ from table-01 (Note: T- Total, R- Rural, U-Urban)

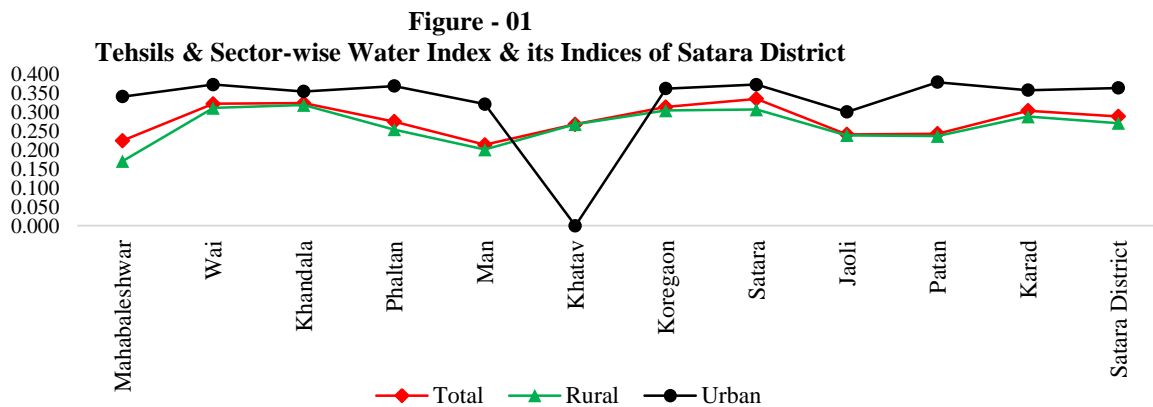


Table – 06 & Fig. 01 shows the Tehsil and sector-wise water index and its sub-indicator indices of Satara district. The high-water index indicates high access of water sources, medium index has medium and very low index has very low access of water sources to the people respectively. The Water Index of the Wai, Phaltan and Satara urban has 0.37 and Patan urban has 0.38, it all higher as compared to eleven tehsils and it also reveals all the tehsils comes under very low category. Mahabaleshwar rural has noted lowest that is 0.17 followed by Man total is 0.21 as compared eleven tehsils, and it also lies in the very low category. The overall achievement of the Water index of Satara district total, rural and urban noted 0.29, 0.27 and 0.36 respectively, it all comes under the category of very low development. Shortly, the Water Index of Satara district indicates that most of the population has facing struggle to get clean water and the inadequate access of water sources in Satara district.

Table – 07
Tehsils & Sector-wise Sanitation Index & its Indices of Satara District

Sr. No.	Tehsil/ Sector	Access of Latrine			Latrine types												Sanitation Index (SI)		
					Piped sewer system			Septic tank			Twin leach pit			Single pit					
		T	R	U	T	R	U	T	R	U	T	R	U	T	R	U	T	R	U
1	Mahabaleshwar	0.88	0.91	0.81	0.05	0.01	0.14	0.43	0.35	0.61	0.35	0.51	0.02	0.00	0.00	0.00	0.34	0.36	0.32
2	Wai	0.77	0.79	0.69	0.03	0.03	0.07	0.44	0.41	0.59	0.28	0.33	0.03	0.00	0.00	0.00	0.31	0.31	0.27
3	Khandala	0.68	0.68	0.68	0.03	0.03	0.01	0.43	0.41	0.58	0.20	0.22	0.08	0.00	0.00	0.00	0.27	0.27	0.27
4	Phaltan	0.57	0.55	0.66	0.02	0.01	0.03	0.29	0.21	0.62	0.25	0.30	0.01	0.00	0.00	0.00	0.22	0.22	0.26
5	Man	0.55	0.58	0.29	0.02	0.01	0.03	0.12	0.11	0.24	0.40	0.45	0.02	0.00	0.00	0.00	0.22	0.23	0.11
6	Khatav	0.67	0.67	-	0.02	0.02	-	0.19	0.19	-	0.43	0.43	-	0.00	0.00	-	0.26	0.26	-
7	Koregaon	0.66	0.68	0.57	0.03	0.02	0.06	0.32	0.29	0.48	0.30	0.35	0.02	0.00	0.00	0.00	0.26	0.27	0.23
8	Satara	0.78	0.75	0.82	0.07	0.04	0.10	0.53	0.41	0.69	0.17	0.29	0.03	0.00	0.00	0.00	0.31	0.30	0.33
9	Jaoli	0.85	0.85	0.74	0.02	0.02	0.01	0.35	0.34	0.68	0.44	0.46	0.03	0.00	0.00	0.00	0.33	0.33	0.29
10	Patan	0.83	0.82	0.95	0.03	0.03	0.04	0.23	0.20	0.84	0.55	0.57	0.06	0.00	0.00	0.00	0.33	0.32	0.38
11	Karad	0.71	0.68	0.82	0.13	0.06	0.38	0.44	0.45	0.39	0.12	0.15	0.03	0.00	0.00	0.00	0.28	0.27	0.32
Satara District		0.71	0.70	0.75	0.05	0.03	0.14	0.36	0.30	0.58	0.29	0.35	0.03	0.00	0.00	0.00	0.28	0.28	0.30

Source: Authors Calculation from table-02 (Note: T- Total, R-Rural, U-Urban)

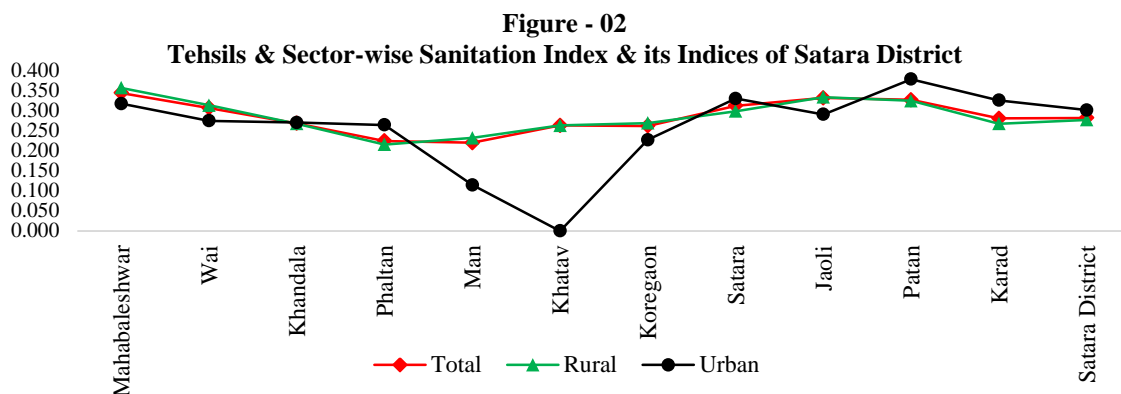


Table – 07 & Fig. 02 reveals that the tehsil and sector-wise sanitation index and its sub-indicator indices of Satara district. Criterion of Sanitation Index is the high-sanitation index indicates high access of sanitation facilities, medium index has medium and very low index has very low access of sanitation facilities to the people of Satara district respectively. Looking at the tehsil-wise and sectorial Sanitation Index, Mahabaleshwar total and rural recorded 0.34 and 0.36 and Patan urban recorded 0.38, it all noted higher as compared to eleven tehsils but it all has indicated very low category. Sanitation Index of Man urban 0.11, has noted lowest as compared to eleven tehsils, and also noted under the very low category. Seeing overall Sanitation index of Satara district total, rural, and urban has calculated 0.28, 0.28 and 0.30 respectively, it all treated under very low category. In brief, the Sanitation Index of entire tehsils with sector as well as overall Satara district denoted the very low category; hence it reveals that the inadequate access of bare sanitation facilities to the people of Satara district.

Table – 08
Tehsils & Sector-wise Housing Index & its Indices of Satara District

Sr. No.	Tehsil/ Sector	Condition of Structure: Good			Type of the dwelling: Owned			Pucca dwelling			Housing Index (HI)		
		T	R	U	T	R	U	T	R	U	T	R	U
1	Mahabaleshwar	0.71	0.71	0.72	0.78	0.89	0.55	0.91	0.89	0.94	0.80	0.83	0.74
2	Wai	0.69	0.67	0.77	0.85	0.88	0.71	0.72	0.72	0.73	0.75	0.75	0.74
3	Khandala	0.71	0.70	0.74	0.81	0.83	0.69	0.84	0.84	0.84	0.79	0.79	0.76
4	Phaltan	0.71	0.70	0.74	0.89	0.91	0.78	0.81	0.80	0.89	0.80	0.80	0.80
5	Man	0.70	0.69	0.79	0.92	0.93	0.86	0.88	0.87	0.93	0.83	0.83	0.86
6	Khatav	0.71	0.71	-	0.90	0.90	-	0.82	0.82	-	0.81	0.81	-
7	Koregaon	0.65	0.65	0.66	0.88	0.91	0.69	0.74	0.72	0.82	0.76	0.76	0.72
8	Satara	0.72	0.67	0.80	0.79	0.87	0.67	0.81	0.74	0.90	0.77	0.76	0.79
9	Jaoli	0.57	0.58	0.49	0.93	0.94	0.70	0.79	0.80	0.73	0.77	0.77	0.64
10	Patan	0.61	0.61	0.77	0.94	0.95	0.70	0.75	0.75	0.83	0.77	0.77	0.76
11	Karad	0.70	0.68	0.77	0.83	0.89	0.64	0.76	0.73	0.87	0.77	0.77	0.76
Satara District		0.69	0.67	0.77	0.86	0.90	0.68	0.79	0.77	0.87	0.78	0.78	0.77

Source: Authors Calculation/ from table-03 (Note: T- Total, R- Rural, U-Urban)

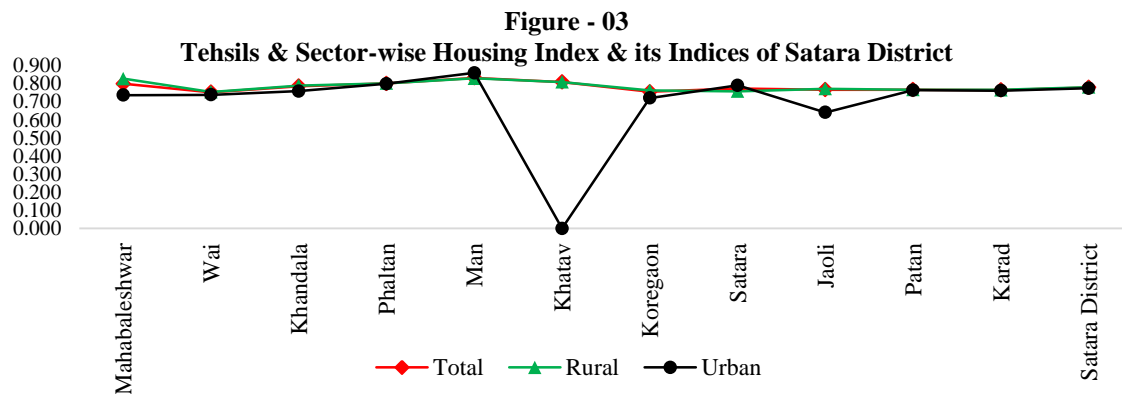


Table – 08 & Fig. 03 indicates that the tehsil and sector-wise Housing Index and its sub-indicator indices of Satara district. Measures of Housing Index are, the high-housing index reveals high access of satisfactory and good condition housing facilities, medium index has medium and very low index has very low to the people of Satara district respectively. Observing the tehsil-wise and sectorial Housing Index, Man total and Mahabaleshwar rural has 0.83 and Man urban has 0.86, all these have higher as compared to eleven tehsils and also it all treated under the high category. Wai total and rural has recorded 0.75, it has lower as compared eleven tehsils and also come under the high category. Looking at the Jaoli urban has recorded 0.64, it comes under the medium category. The overall progress of Housing index of Satara district total, rural, and urban has counted 0.78, 0.78 and 0.77 respectively, it all comes under high category. In brief, the overall progress of Housing Index of entire tehsils with sector and also Satara district denoted in high category, therefore it shows that the decent access of satisfactory and good condition housing facilities to the people in Satara district.

Table – 09
Tehsils & Sector-wise Micro-Environment Index & its Indices of Satara District

Sr. No.	Tehsil/ Sector	No drainage			Open drainage			Use of Dirt Fuel for Cooking			Micro-Environment Index (MEI)		
		T	R	U	T	R	U	T	R	U	T	R	U
1	Mahabaleshwar	0.42	0.56	0.12	0.22	0.26	0.14	0.51	0.69	0.11	0.38	0.50	0.12
2	Wai	0.31	0.36	0.08	0.50	0.49	0.57	0.42	0.48	0.14	0.41	0.45	0.26
3	Khandala	0.41	0.44	0.20	0.43	0.42	0.50	0.52	0.56	0.26	0.45	0.47	0.32
4	Phaltan	0.60	0.71	0.14	0.26	0.21	0.48	0.63	0.72	0.22	0.50	0.54	0.28
5	Man	0.76	0.78	0.52	0.19	0.17	0.40	0.83	0.85	0.63	0.59	0.60	0.52
6	Khatav	0.58	0.58	-	0.34	0.34	-	0.62	0.62	-	0.51	0.51	-
7	Koregaon	0.30	0.31	0.24	0.53	0.55	0.41	0.49	0.52	0.32	0.44	0.46	0.32
8	Satara	0.23	0.32	0.11	0.41	0.51	0.27	0.32	0.48	0.11	0.32	0.44	0.17
9	Jaoli	0.48	0.48	0.38	0.40	0.41	0.19	0.73	0.74	0.45	0.54	0.54	0.34
10	Patan	0.46	0.47	0.40	0.46	0.46	0.41	0.84	0.86	0.36	0.59	0.59	0.39
11	Karad	0.30	0.33	0.21	0.50	0.54	0.34	0.50	0.59	0.19	0.43	0.49	0.25
Satara District		0.41	0.47	0.17	0.40	0.42	0.35	0.56	0.64	0.19	0.46	0.51	0.24

Source: Authors Calculation/ from table-04 (Note: T- Total, R- Rural, U-Urban)

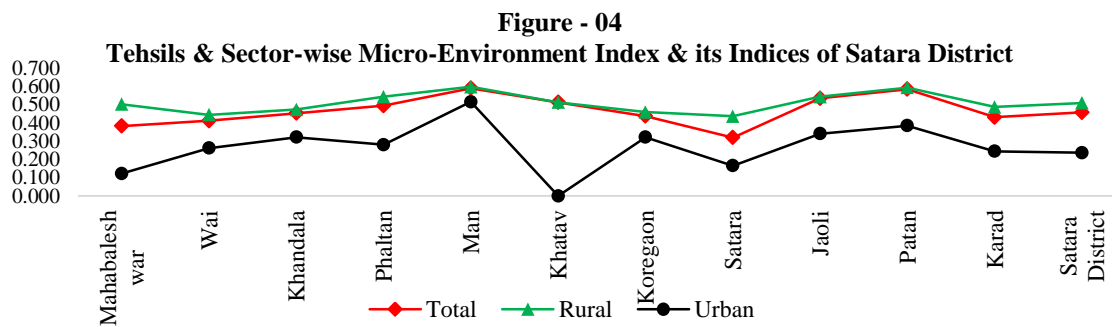


Table – 09 & Fig. 04 shows that the tehsil and sector-wise Micro-Environment Index and its sub-indicator indices of Satara district. Measures of Micro-Environment Index is the high Micro-Environment Index shows high access of satisfactory and good condition of micro-environment facilities i.e., drainage, cooking fuel etc., medium index has medium and very low index has very low to the people of Satara district. Considering the tehsil-wise and sectorial Micro-Environment Index, Man total, rural and urban has 0.59, 0.60 and 0.52 respectively, it all has higher as compared to eleven tehsils and has medium category and Mahabaleshwar urban has recorded 0.12, it has lower as compared to eleven tehsils which comes under very low category. Seeing the overall progress of Micro-Environment Index of Satara district total and urban has reported 0.46 and 0.24 respectively, both comes under very low category. The MEI of Satara district rural has 0.51, which has under medium category. In brief, the overall progress of Micro-Environment Index of entire tehsils and also Satara district reveals that very low access of micro-environmental facilities in total and urban areas people and medium access in rural areas people in Satara district.

Table – 10
Tehsils & Sector-wise Other Facilities Index & its Indices of Satara District

Sr. No.	Tehsil/ Sector	Access of separate kitchen			Bathing Facility						Access of electricity			Use of modern fuel for cooking: LPG			Other Facilities Index (OFI)		
					No bathroom			Access of Bathroom											
		T	R	U	T	R	U	T	R	U	T	R	U	T	R	U	T	R	U
1	Mahabaleshwar	0.75	0.73	0.84	0.03	0.04	0.01	0.97	0.96	0.99	0.95	0.94	0.97	0.47	0.29	0.87	0.63	0.59	0.74
2	Wai	0.74	0.71	0.80	0.10	0.11	0.05	0.90	0.89	0.95	0.92	0.91	0.95	0.56	0.50	0.85	0.64	0.62	0.72
3	Khandala	0.78	0.75	0.88	0.10	0.11	0.06	0.90	0.89	0.95	0.90	0.90	0.92	0.47	0.43	0.73	0.63	0.62	0.71
4	Phaltan	0.75	0.75	0.79	0.19	0.22	0.06	0.81	0.78	0.94	0.81	0.78	0.95	0.35	0.26	0.76	0.58	0.56	0.70
5	Man	0.62	0.57	0.80	0.22	0.24	0.13	0.78	0.77	0.87	0.71	0.70	0.82	0.17	0.15	0.36	0.50	0.48	0.60
6	Khatav	0.52	0.51	-	0.12	0.12	-	0.88	0.88	-	0.83	0.83	-	0.37	0.37	-	0.54	0.54	-
7	Koregaon	0.54	0.72	0.72	0.07	0.08	0.07	0.93	0.93	0.93	0.89	0.89	0.91	0.49	0.46	0.67	0.58	0.61	0.66
8	Satara	0.77	0.75	0.84	0.05	0.07	0.02	0.95	0.93	0.98	0.94	0.92	0.97	0.66	0.50	0.87	0.67	0.63	0.74
9	Jaoli	0.84	0.81	0.88	0.08	0.08	0.09	0.92	0.92	0.91	0.90	0.90	0.88	0.24	0.22	0.54	0.59	0.59	0.66
10	Patan	0.76	0.77	0.74	0.07	0.07	0.02	0.93	0.93	0.98	0.88	0.88	0.97	0.14	0.12	0.62	0.56	0.55	0.67
11	Karad	0.77	0.76	0.94	0.07	0.08	0.05	0.93	0.92	0.95	0.92	0.91	0.95	0.47	0.38	0.79	0.63	0.61	0.73
Satara District		0.83	0.82	0.86	0.10	0.11	0.04	0.90	0.89	0.96	0.88	0.86	0.95	0.42	0.34	0.79	0.63	0.60	0.72

Source: Authors Calculation/ from table-05 (Note: T- Total, R- Rural, U-Urban)

Figure - 05

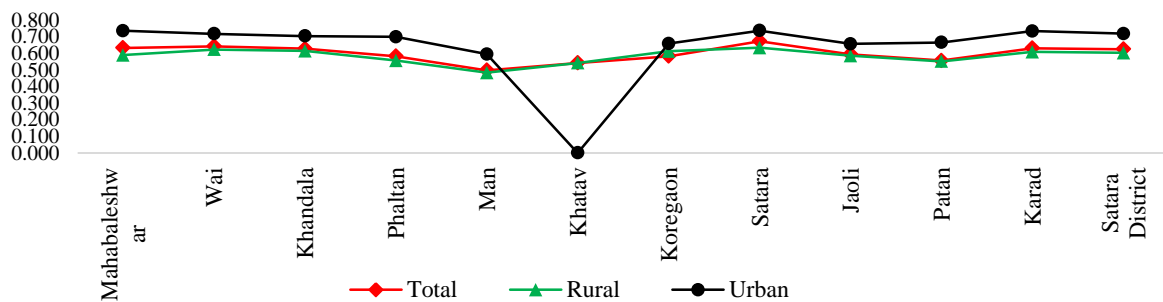


Table – 10 & Fig. 05 shows that the tehsil and sector-wise Other Facilities Index (OFI) and its sub-indicator indices of Satara district. Measures of Other Facilities Index (OFI) is the high, Other Facilities Index (OFI) indicates high access of Other Facilities i.e., separate kitchen, bathing, electricity and modern cooking fuel etc., medium index has medium and very low index has very low to the people respectively. Speaking about tehsil-wise and sectorial Other Facilities Index, Satara total and rural has 0.67 and 0.63 respectively, it has under medium category and Satara urban has 0.74 and Mahabaleshwar urban has 0.74, it treated under high category and all have higher as compared to eleven tehsils. On the other hand, Man total and urban has 0.50 and 0.60 respectively, both in medium category and Man rural has 0.48, it has very low category, all have lower as compared to eleven tehsils. In shortly, the overall progress of Other Facilities Index of all tehsils and Satara district indicates the medium access to Satara total and rural, and high access to Satara urban of other bare necessities i.e., separate kitchen, bathing, electricity and modern cooking fuel etc. in Satara district.

Table – 11
Tehsil & Sector-wise Bare Necessities Index (BNI) of Satara District (Total/Rural/Urban)

Sr. No.	Tehsil	Total	Rank	Rural	Rank	Urban	Rank
1	Mahabaleshwar	0.477	4	0.489	7	0.451	2
2	Wai	0.487	8	0.489	8	0.473	4
3	Khandala	0.492	9	0.493	9	0.482	7
4	Phaltan	0.476	3	0.475	2	0.483	8
5	Man	0.471	2	0.469	1	0.481	6
6	Khatav	0.479	5	0.479	3	-	-
7	Koregaon	0.470	1	0.482	4	0.458	3
8	Satara	0.483	7	0.487	6	0.479	5
9	Jaoli	0.494	10	0.495	10	0.446	1
10	Patan	0.496	11	0.495	11	0.514	10
11	Karad	0.482	6	0.484	5	0.485	9
Satara District		0.487	-	0.488	-	0.479	-

Source: Authors Calculation/ From Table-6 to10

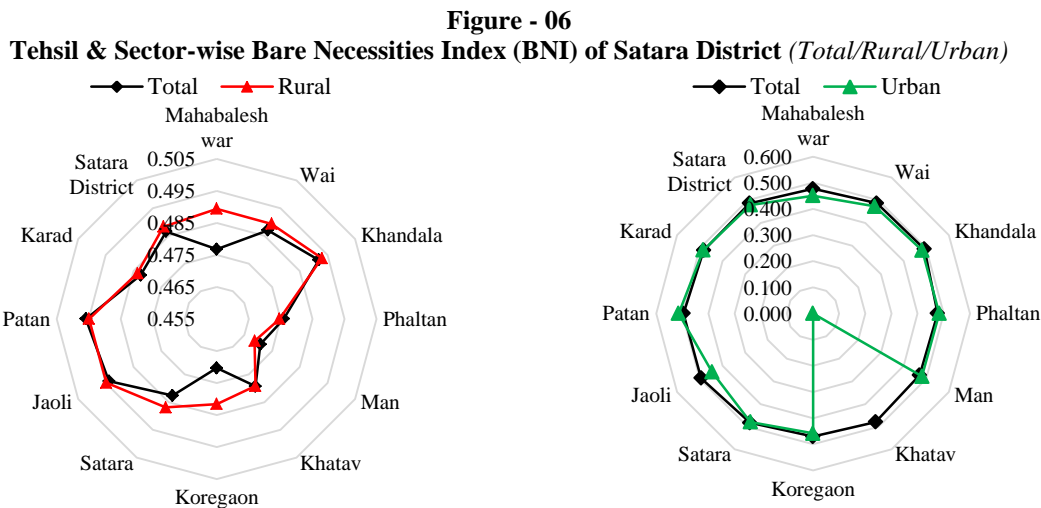


Table – 11 & Fig. 06, indicates that the tehsil and sector-wise Bare Necessities Index (BNI) of Satara district across eleven tehsils. This study of Bare Necessities Index (BNI) categorized into three categories which indicates that high Bare Necessities Index (BNI) has high access of bare necessities, medium has medium and very low has very low access to the people of Satara respectively. Considering tehsil-wise and sectorial Bare Necessities Index (BNI), Koregaon total, Man rural and Jaoli urban has calculated 0.470, 0.469 and 0.446 respectively, it all higher and ranked 1st as compared to eleven tehsils and also all total, rural as well as urban BNI treated under very low category.

Followed by Man total, Phaltan rural and Mahabaleshwar urban has 0.471, 0.475 and 0.451 respectively, it all also treated as very low category and it ranked 2nd in the tehsils of Satara district. Considering the BNI of Patan total and urban has counted 0.496 and 0.495 respectively, which is lowest and treated under very low category, ranked 11th and Patan urban has 0.514, treated under medium category and ranked 10th, as compared to eleven tehsils of Satara districts.

Observing the sectorial overall progress of Bare Necessities Index (BNI) of Satara district total, urban and rural has reported 0.487, 0.488 and 0.479 respectively, it all comes under very low category. In shortly, based on overall progress of Bare Necessities Index (BNI) of all tehsils and also Satara district all tehsils along with Satara district the access of bare necessities to people is very low in Satara district. Also, sectorial evaluation indicates that the access of bare necessities to total, rural and urban has very low category in the Satara district.



5. FININGS AND CONCLUSION

This study area deals with the important findings and some observations of this study which is based on statistical results. According to Tehsils and Sectorial estimation of Bare Necessities Index (BNI) of Satara district across eleven tehsils, the major findings and observations of this study are as follows-

1. Bare Necessities Index of Koregaon total, Man rural and Jaoli urban indicates the lowest access of bare necessities to people, it all has very low category.
2. Bare Necessities Index of Patan total, rural and urban has the highest access of bare necessities to rural people but very low access to Patan total and rural people, and urban people in Jaoli has medium access.
3. Bare Necessities Index of Patan total and urban indicates the highest access of bare necessities, but very low access to urban people in Jaoli and Mahabaleshwar tehsils.
4. Bare Necessities Index of overall Satara district total, rural along with urban has very low category, hence it is treated very low access of bare necessities or facilities to the overall Satara district including total, rural and urban people.

CONCLUSION

Human's ability to access to bare necessities like clean water, housing, sanitation, electricity, and clean cooking fuel has therefore been regarded as an important segment for fulfillment of basic needs of people, to improve their standard of living and promote to economic development. The estimation of the Bare Necessities Index of all mostly tehsils including rural-urban of Satara district has recorded very low category. Overall Bare Necessities Index of Satara district has recorded under very low category including total, rural and urban. Hence, it reveals in all tehsils along with Satara district the access of bare necessities to the people is medium. But according to the sectorial evaluation of BNI, it indicates that the access of bare necessities to total and rural people is higher than urban people, and it indicates little inequality between rural and urban people to access bare necessities.

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