

## Performance of Western Maharashtra in Bare Necessities Index

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### Abstract

*The present study deals with the measurement of the Bare Necessities Index (BNI) of the selected four districts i.e., Sangli, Satara, Solapur, and Kolhapur in the western Maharashtra region of Maharashtra state. The main aim of BNI measurement to assess economic development through 'basic need' approach, it covered five main domains as clean drinking water, sanitation, housing, micro-environment, and other facilities consisting of its different 15 sub-indicators related to basic necessities which were grouped into positive and negative. This study observed that the Kolhapur district (0.552) has the highest BNI value whereas the Sangli district (0.479) has the lowest rank in BNI. While BNI of western Maharashtra region noted 0.531 falls under the medium category, it reveals that the overall progress of BNI of western Maharashtra under medium category in 2020-21.*

**Objectives:** *To measurement district-based Bare Necessities Index (BNI) of selected districts in the western Maharashtra region of Maharashtra state.*

**Method/Statistical Analysis:** *This analytical study covered four selected districts of western Maharashtra region in India to measurement of the Bare Necessities Index (BNI) during 2020-21. Arithmetic mean is used for aggregation indicators. BNI includes five main domains as clean drinking water, sanitation, housing, micro-*

*environment, and other facilities along with its different 15 sub-indicators.*

**Method:** *The present research study is based on both primary and secondary data, but it mostly depends on the primary data sources and field observations that were collected from the sample area of the study. Bare Necessities Index (BNI) is a matrix of different bare necessities and arithmetic mean is used for aggregation indicators, it recently formalized concept that emphasizes quality access of basic/bare necessities. BNI comprises five main domains as clean water, sanitation, housing, micro-environment, and other facilities. The possible proxy variables have been used to calculate this index and secondary data gathered from the Census-2011, Government of India. The sample selection procedure indicates that through the cluster sampling method 4 districts out of 5 and 18 out of 45 tehsils (Sangli 4 out of 10, Satara 4 out of 11, Solapur 5 out of 12, and Kolhapur 5 out of 12) from the western Maharashtra region were selected (which included 1 central and other border tehsils) it covering around 816 households from 90 identified villages through proportionate sampling method in the selected district of western Maharashtra.*

**Findings:** *This study found that according to the estimated BNI of the selected district, Kolhapur district has the highest value of BNI i.e., 0.552, which ranked 1<sup>st</sup> and also medium category. The BNI value of the Sangli district has the lowest 0.479, which ranked 4<sup>th</sup> and it comes under the low category. Other districts as Kolhapur and Solapur have performed the medium category of BNI. Overall BNI value of the western Maharashtra region has 0.531 which is under the medium category. It reveals that the overall performance of western Maharashtra has medium in BNI, it indicated that medium access of bare necessities to people in western Maharashtra during the study period.*

**Novelty:** *This pioneer study deals with the district-based measurement of the Bare Necessities Index (BNI) of selected districts in western Maharashtra. The BNI measurement has covered different types of bare necessities which are needed for each human to sustain their life span. Also, it study successfully attempted to assessing economic development though the basic need approach at grassroots level of western Maharashtra region.*

**Keywords:** Bare Necessities, Micro-environment, Sanitation, Housing, Bare Necessities Index

## **I. INTRODUCTION:**

Western Maharashtra is one of the six administrative divisions of India's Maharashtra state is famous for Sugar production factories. Farmers in the region are economically well off due to productive land, good irrigation facilities. In the study, the Sangli district has a large number of Sugar factories and Sugar processing plants as well. Western Maharashtra is considered an industrially developed area of India because its annual income is higher than the average GDP of the country. The literacy rate of the western Maharashtra region is 83.7%, considering Sangli district it has the highest 86.2% and Kolhapur has the lowest 81.5%. [1] The density of population of the western Maharashtra region is 403 sq. km and the sex ratio is 953 and the per capita income of the western Maharashtra region was ₹115642 in 2019. [2-7] The cropping pattern of western Maharashtra indicates though cereals, pulses, and oilseeds are grown, sugarcane cultivation has lion's share, it can thus be observed that agriculture is the leading activity in the study region.

The Finance Ministry of India in its economic survey-2020-21 has introduced a novel metric to measure the progress of the quality of bare necessities accessible such as drinking water, sanitation, housing, electricity, other micro facilities, and LPG the Bare Necessities Index (BNI). The Bare Necessities Index concept is very comprehensive and it emphasizes and evaluated access of bare/basic necessities to the people and its disparities. It is composite statistics of different bare necessities i.e., clean water, micro-environment, sanitation, housing, and other facilities, etc. which are necessary for each human to sustain their life. The BNI has been developed for measuring economic development using the 'basic needs' approach, its approach has set the smallest specified quantities of 21 basic different necessities to assess for the improvement of BNI of selected districts in the western Maharashtra region. [8]

## II. RESEARCH METHODOLOGY AND DATABASE:

The present research paper is analytical and based on both primary and secondary data. Moreover, it mostly depends on the primary data sources and field observations that were collected from the sample area of the study. Bare Necessities Index (BNI) is a matrix of different bare necessities, it is a recently formalized concept that emphasizes quality access of basic/bare necessities. The BNI comprises five main components like clean water, sanitation, housing, micro-environment, and other facilities. [7,8] The possible proxy variables have been used to calculate this index. The significant secondary data related to BNI's several proxy variables have been assembled from the Census-2011, Government of India. The detailed procedure for estimating the BNI was assumed from the economic survey of India-2021, which was published by the Ministry of Finance and Statistics, Govt. of India. The sample selection procedure indicates that through the cluster sampling method 4 districts out of 5 and 18 out of 45 tehsils (Sangli 4 out of 10, Satara 4 out of 11, Solapur 5 out of 12, and Kolhapur 5 out of 12) from the western Maharashtra region were selected (which included 1 central and other border tehsils) covering total 816 households from 90 identified villages through proportionate sampling method in the selected district in western Maharashtra. [8]

**Fig. – 01: BNI Framework and Procedure**



**Table – 01: Components and Sub-indicators of Bare Necessities Index (BNI)**

<i>Components</i>	<i>Sub-Indicators</i>	<i>Type*</i>	<i>Weightage</i>
<i>Water (3)</i> <i>1/5</i>	<i>Access to clean water</i>	<i>+ve</i>	<i>1/3</i>
	<i>Location: Within Premises</i>	<i>+ve</i>	<i>1/3</i>
	<i>Location: Away</i>	<i>-ve</i>	<i>1/3</i>
<i>Sanitation (3)</i> <i>1/5</i>	<i>Access to Bathing Facility</i>	<i>+ve</i>	<i>1/3</i>
	<i>No-Bathing facility</i>	<i>-ve</i>	<i>1/3</i>
	<i>Access to Toilet Facility</i>	<i>+ve</i>	<i>1/3</i>

<b>Housing (3)</b> 1/5	<i>Kuccha House</i>	-ve	1/3
	<i>Owned House</i>	+ve	1/3
	<i>Pucca House</i>	+ve	1/3
<b>Micro-Environment (3)</b> 1/5	<i>No drainage</i>	-ve	1/3
	<i>Open drainage</i>	-ve	1/3
	<i>Use of Dirt Fuel</i>	-ve	1/3
<b>Other Facilities (3)</b> 1/5	<i>Electricity access</i>	+ve	1/3
	<i>Health Facilities</i>	+ve	1/3
	<i>Use of LPG</i>	+ve	1/3

\*Note: - +ve: positive, -ve: negative

The BNI is a composite statistic of diverse bare necessities comprised of 5 main domains and its 15 sub-indicators including 9 positives and 6 negative indicators. The procedure to estimate BNI is involved in two steps, the first step is aggregating the indicator and calculate each indicator's index. The second step is aggregated each dimension by their indicators scores which are calculated in step first for creating the BNI, the aggregated BNI is the arithmetic mean of its domains. The goalpost of each indicator has fixed at minimum value is set as 0 (Zero) and maximum values set as 100, the range of the BNI value is between 0 and 1. The value closer to 0 indicates low access to bare necessities, and a value closer to 1 reveals higher or better access to the bare necessities. Moreover, for better understanding the BNI progress of each district, the BNI value is categorized into three groups 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 whole exercise of estimating the Bare Necessities Index is based on the formula below - [8]

$$\text{Indicators Index} = \frac{(\text{Actual Value} - \text{Min.Value})}{(\text{Max.Value} - \text{Min.Value})} \text{-----(1)}$$

$$BNI = \frac{(I_W + I_S + I_H + I_{ME} + I_{OF})}{1/5} \text{--- (2)}$$

Where;

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

### III. RESULTS AND DISCUSSIONS:

This section of the present research study deals with the discussion related to the estimation of the Bare Necessities Index (BNI) through

its domains and different dimensions of the selected districts in the western Maharashtra region. The analysis and important observations related to Bare Necessities Index from the selected study area are given as below-

**Table – 02: District -wise Access of Clean Drinking Water Source with Location in Rural Area in western Maharashtra**

Sr. No.	District/ Indicator	Water Sources	Location of Source	
		Clean Water (%)	Within dwelling (%)	Outside dwelling (%)
1	Sangli	62.4	59.7	13.2
2	Satara	64.8	61.0	9.6
3	Solapur	40.3	41.7	18.3
4	Kolhapur	53.4	69.6	22.9
<b>Western Maharashtra</b>		<b>55.2</b>	<b>58.0</b>	<b>16.0</b>

*Source: Census 2011/*

Table – 02 indicates that the access of clean drinking water sources with the location in the rural area of selected districts in western Maharashtra. Looking at the clean water sources, it is found that Satara (64.8%) has the highest followed by Sangli (62.4%), Kolhapur (53.4%), and Solapur (40.3%) in the study area about 55.2% dwelling in western Maharashtra. Considering within dwelling Kolhapur (69.6%) has the highest followed by Satara (61.0%), Sangli (59.7%), and Solapur (41.7%). Total Western Maharashtra within dwelling goes to 58.0%. Talking about outside dwellings, Kolhapur (22.9%) has the highest followed by Solapur (18.3%), Sangli (13.2 %), and Satara (9.6%). The clean drinking water available outside dwellings in western Maharashtra was 16.0%.

**Table – 03: District -wise Access of Sanitation Facilities in Rural Area in Western Maharashtra**

Sr. No.	District/ Indicator	Sanitation Facilities (%)		
		Access of Bathing	No- bathing	Access of Toilet
1	Sangli	86.1	13.9	60.5
2	Satara	88.7	11.4	70.1
3	Solapur	75.1	24.9	32.1
4	Kolhapur	81.9	7.7	74.4
<b>Western Maharashtra</b>		<b>83.0</b>	<b>14.5</b>	<b>59.3</b>

*Source: Census 2011/*

Table – 03 shows that the access to sanitation facilities in the rural area of selected districts in western Maharashtra. Considering the

bathing facilities, it was found that Satara (88.7%) has the highest access of bathing facilities followed by Sangli (86.1%), Kolhapur (81.9%), and Solapur (75.1%) in the study area. The total number of dwellers having access to bathing facilities in western Maharashtra is about 83.0%. Looking at no-bathing facilities Solapur (24.9%) has the highest followed by Sangli (13.9%), Satara (11.4%) and Kolhapur have only (7.7%). In western Maharashtra total of 14.5% of dwellers were not having access to bathing facilities. Speaking about the access to toilet facilities, Kolhapur (74.4%) has the highest followed by Satara (70.1%), Sangli (60.5%), and Solapur (32.1%). Talking about total western Maharashtra has about 59.3%.

**Table – 04: District -wise Access of Housing Facilities in Rural Area in western Maharashtra**

Sr. No.	District/ Indicator	Housing Facilities (%)		
		Kuccha dwelling	Type of dwelling: Owned	Pucca dwelling
1	Sangli	57.8	97.5	10.8
2	Satara	51.5	93.1	11.8
3	Solapur	44.6	100.0	9.3
4	Kolhapur	27.9	95.6	42.2
<b>Western Maharashtra</b>		<b>45.5</b>	<b>96.6</b>	<b>18.5</b>

*Source: Field Survey/ 2020-21*

Table – 04 shows that the access of Housing facilities in the rural area in selected districts of western Maharashtra. Looking at the housing facilities having kaccha dwellings, it is observed that Sangli (57.8%) has the highest Kuccha dwelling followed by Satara (51.5%), Solapur (44.6%), and Kolhapur (27.9%) in the study area. The dwellers having kaccha dwelling facilities were 45.5% in the study region of western Maharashtra. Considering owned dwelling facilities Solapur district (100.0%) has the highest followed by Sangli (97.5%), Kolhapur (95.6%), and Satara have (93.1%). Western Maharashtra's total was about 96.6% with respect to owned housing facilities. Talking about Pucca dwelling facilities, Kolhapur district (42.2%) has the highest followed by Satara (11.8%), Sangli (10.8%), and Solapur (9.3%) in the study area. The dwellers having pucca housing facilities in the study region of western Maharashtra were 18.5%.

**Table – 05: District -wise Access of Micro-Environment Facilities in Rural Area in Western Maharashtra**

Sr. No.	District/ Indicator	Micro-Environment Facilities (%)		
		No drainage @	Open drainage @	Use of Dirt Fuel for Cooking §
1	Sangli	54.0	37.8	4.9
2	Satara	46.9	41.8	3.4
3	Solapur	63.9	27.0	1.0
4	Kolhapur	39.1	53.2	23.5
<b>Western Maharashtra</b>		<b>51.0</b>	<b>40.0</b>	<b>8.2</b>

Sources: @ - Census 2011/ § - Field Survey/ 2020-21

Table – 05 indicates that the access of micro-environment facilities of people in the rural area of selected districts in western Maharashtra. Considering the no drainage facilities, it was observed that Solapur (63.9%) has the highest no-drainage, followed by Sangli (54.4%), Satara (46.9%), and Kolhapur (39.1%) in the study area. Speaking about western Maharashtra the total of 51.0% of dwellers were not having drainage facilities in the rural areas. Talking about access to open drainage Kolhapur district (53.2%) has the highest followed by Satara (41.8%), Sangli (37.8%) and Solapur have (27.0%). In western Maharashtra about 40.0% of dwellers having open drainage access. Looking at the use of dirt fuel for cooking e.g., coal, kerosene, firewood, etc. Kolhapur district (23.5%) has highest followed by Sangli (4.9%), Satara (3.4%), and Solapur (1.0%) in the study area. About 8.2% of respondents were having use dirt of fuel for cooking in western Maharashtra.

**Table – 06: District -wise Access of Other Facilities in Rural Area in Western Maharashtra**

Sr. No.	District/ Indicator	Other Facilities (%)		
		Access of electricity	Access of Health Facilities (PHCs)	Use of LPG for Cooking
1	Sangli	100.0	66.2	95.1
2	Satara	100.0	49.5	96.6
3	Solapur	100.0	52.0	99.0
4	Kolhapur	100.0	82.8	76.5
<b>Western Maharashtra</b>		<b>100.0</b>	<b>62.6</b>	<b>91.8</b>

Source: Field Survey/ 2020-21

Table – 06 reveals the access to other facilities available to the people in the rural area of selected districts in western Maharashtra.



Talking about the access to electricity, it is observed that all selected districts in western Maharashtra have 100.0% access to electricity in the rural area. Considering access to health facilities (PHC's) Kolhapur district (82.8%) has the highest followed by Sangli (66.2%), Solapur (52.0%) and Satara was (49.5%). Speaking about western Maharashtra, about 62.6% of respondents were having access to health facilities. Looking at the use of LPG for cooking it was found that Solapur (99.0%) has highest followed by Satara (96.6%), Sangli (95.1%), and Kolhapur (76.5%). About 91.8% of people were having access to use LPG as a modern fuel for cooking in the study area of western Maharashtra.

**Table – 07: District -wise Water Index (WI) & Its Components Indices in Rural Area in Western Maharashtra**

Sr. No.	District/ Indicator	Water Index Indices			Water Index (WI)	Rank
		Water Sources	Location of Source			
		Clean Water	Within dwelling	Outside dwelling		
1	Sangli	0.624	0.597	0.132	<b>0.451</b>	2
2	Satara	0.648	0.610	0.096	<b>0.451</b>	3
3	Solapur	0.403	0.417	0.183	<b>0.334</b>	4
4	Kolhapur	0.534	0.696	0.229	<b>0.486</b>	1
<b>Western Maharashtra</b>		<b>0.552</b>	<b>0.580</b>	<b>0.160</b>	<b>0.431</b>	-

Source: Authors calculation from table - 02

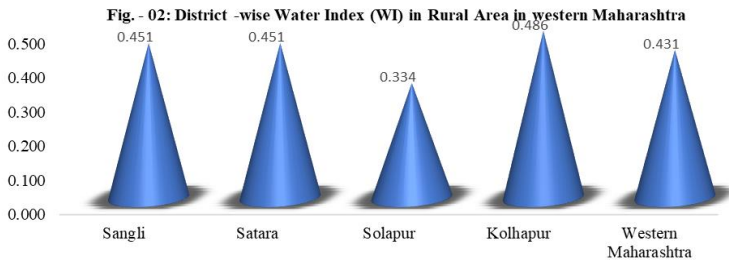


Table – 07 & Fig. 02 explain the estimated values of the various components of the water index in the rural areas of western Maharashtra. The water index of Kolhapur district (0.486) was highest followed by Sangli (0.451), Satara (0.451), and Solapur (0.334) which were all under the low category during assessment period. The overall water index of western Maharashtra was 0.431, which is low as compared with the categorization of the index. Speaking about

various components indices it is understood that the clean drinking water index was 0.552, the index of location source of water within dwelling 0.580, and outside the dwelling 0.160 during the assessment period of western Maharashtra. The clean water index of the Sangli (0.624) and Satara (0.648) districts was in the moderate category. However, the index of source within the dwelling of Satara (0.597) and Kolhapur (0.696) districts was under the moderate category.

**Table – 08: District -wise Sanitation Facilities Index (SFI)& Its Components Indices in Rural Area in Western Maharashtra**

Sr. No.	District/ Indicator	Sanitation Facilities Indices			Sanitation Facilities Index (SFI)	Rank
		Access of Bathing	No-bathing	Access of Toilet		
1	Sangli	0.861	0.139	0.605	<b>0.535</b>	3
2	Satara	0.887	0.114	0.701	<b>0.567</b>	1
3	Solapur	0.751	0.249	0.321	<b>0.440</b>	4
4	Kolhapur	0.819	0.077	0.744	<b>0.547</b>	2
<b>Western Maharashtra</b>		<b>0.830</b>	<b>0.145</b>	<b>0.593</b>	<b>0.522</b>	-

Source: Authors calculation from table - 03

**Fig. - 03: District -wise Sanitation Facilities Index (SFI) in Rural Area in Western Maharashtra**

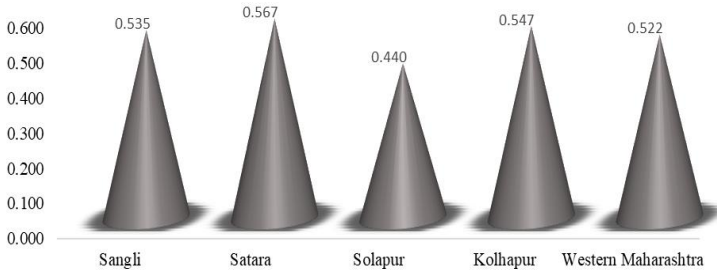


Table – 08 & Fig. 03 indicates the estimated values of the various components of the Sanitation Facilities Index (SFI) in the rural area of western Maharashtra. The Sanitation Facilities Index of Satara district (0.567) was highest followed by Sangli (0.335), Solapur (0.440), and Kolhapur (0.547) which were all under the medium category during the assessment period. The overall improvement in the Sanitation Facilities Index of western Maharashtra was 0.522, which is medium as compared with the categorization of the index for the assessment period.

Speaking about various components indices of Sanitation it is understood that the Access of Bathing Facilities Index (0.830) and

Toilet Facilities Index (0.593) were very high and medium categories during the study period of western Maharashtra. The Access of Bathing Facilities Index of Satara district was highest (0.887) which is also a very high category. While Access of Toilet Facilities Index of Solapur district (0.321) was the lowest and also very low category during the study period.

**Table – 09: District -wise Housing Facilities Index (HFI) & Its Components Indices in Rural Area in western Maharashtra**

Sr. No.	District/ Indicator	Housing Facilities Indices			Housing Facilities Index (HFI)	Rank
		Kuccha dwelling	Type of the dwelling: Owned	Pukka dwelling		
1	Sangli	0.578	0.975	0.108	<b>0.554</b>	1
2	Satara	0.515	0.931	0.118	<b>0.521</b>	3
3	Solapur	0.446	1.000	0.093	<b>0.513</b>	4
4	Kolhapur	0.279	0.956	0.422	<b>0.552</b>	2
<b>Western Maharashtra</b>		<b>0.455</b>	<b>0.966</b>	<b>0.185</b>	<b>0.535</b>	-

Source: Authors calculation from table - 04

**Fig. - 04: District -wise Housing Facilities Index (HFI) in Rural Area in western Maharashtra**

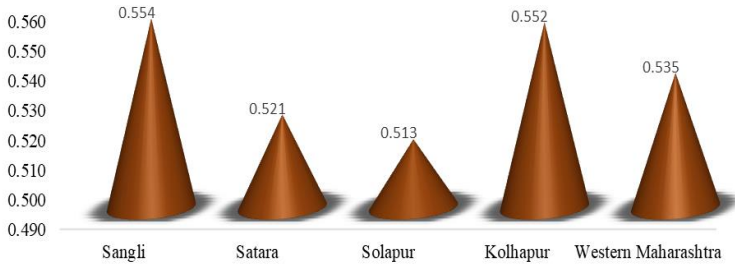


Table – 09 & Fig. 04 shows that the assessed values of the different components of the Housing Facilities Index (HFI) in the rural areas of western Maharashtra. The Housing Facilities Index of Sangli district (0.554) was highest, followed by Satara (0.521), Solapur (0.513), and Kolhapur (0.552) it all consisted under the medium category. The overall progress in the Housing Facilities Index of western Maharashtra was 0.535, which is medium compared with the classification of the index during the study period.

Talking about various components indices of housing facilities it is assumed that the Kuccha house index (0.455) and pukka house index (0.185) were a low and very low category, but Owned house index (0.966) was very high during the study period of western

Maharashtra. The pukka housing facility index of all districts was performed low and very low categories in western Maharashtra.

**Table – 10: District -wise Micro-Environment Facilities Index (MEFI)& Its Components Indices in Rural Area in western Maharashtra**

Sr. No.	District/ Indicator	Micro-Environment Facilities Indices			Micro-Environment Facilities Index (MEFI)	Rank
		No drainage	Open drainage	Use of Dirt Fuel for Cooking		
1	Sangli	0.540	0.378	0.049	<b>0.322</b>	2
2	Satara	0.469	0.418	0.034	<b>0.307</b>	3
3	Solapur	0.639	0.270	0.010	<b>0.306</b>	4
4	Kolhapur	0.391	0.532	0.235	<b>0.386</b>	1
<b>Western Maharashtra</b>		<b>0.509</b>	<b>0.399</b>	<b>0.082</b>	<b>0.330</b>	-

Source: Authors calculation from table - 05

**Fig. - 05: District -wise Micro-Environment Facilities Index (MEFI) in Rural Area in western Maharashtra**

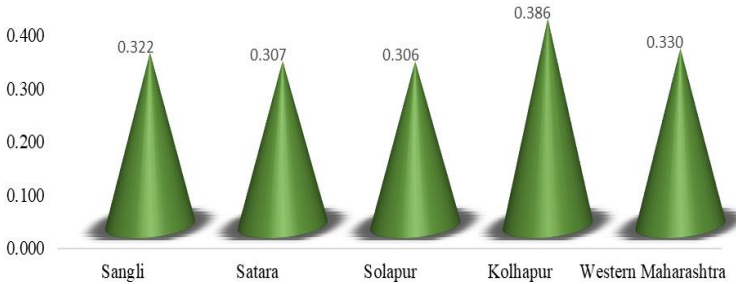


Table – 10 & Fig. 05 reveals the estimated values of the different components of the Micro-environment Facilities Index (MEFI) in the rural area of western Maharashtra. Talking about the progress of Micro-environment Facilities Index of Kolhapur district (0.386) was highest but it under the low category, followed by Sangli (0.322), Satara (0.307), and Solapur district (0.306) was under low category during the study period. The overall Micro-Environment Facilities Index of western Maharashtra was 0.330, which is low as compared with the classification of the index.

Speaking about several components' indices of micro-environment facilities it reveals that the Open drainage index (0.399) and Dirt fuel index (0.082) was a low and very low category, but No connectivity of drainage index (0.509) was medium during the study period of western Maharashtra. While, Dirt fuel index of all districts i.e., Sangli, Satara, Solapur, and Kolhapur were performed very low category of western Maharashtra. Looking at the index of No-

drainage connectivity, except Sangli and Solapur, another district under the low category for the assessment period.

**Table – 11: District -wise Other Facilities Index (OFI)& Its Components Indices in Rural Area in western Maharashtra**

Sr. No.	District/ Indicator	Other Facilities Indices			Other Facilities Index (OFI)	Rank
		Access of Electricity	Access of Health Facilities (PHCs)	Use of LPG for Cooking		
1	Sangli	1.000	0.662	0.951	<b>0.871</b>	1
2	Satara	1.000	0.495	0.966	<b>0.820</b>	4
3	Solapur	1.000	0.520	0.990	<b>0.837</b>	3
4	Kolhapur	1.000	0.828	0.765	<b>0.864</b>	2
<b>Western Maharashtra</b>		<b>1.000</b>	<b>0.626</b>	<b>0.918</b>	<b>0.848</b>	-

Source: Authors calculation from table - 06

**Fig. - 06: District -wise Other Facilities Index (OFI) in Rural Area in western Maharashtra**

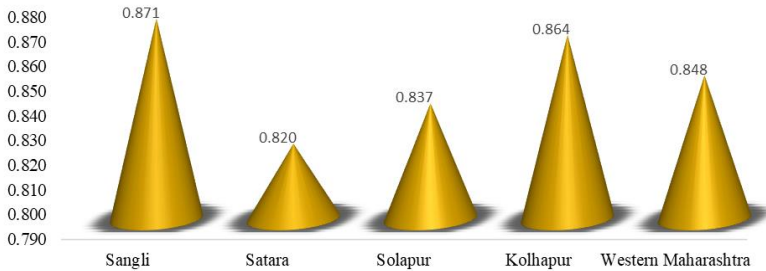


Table – 11 & Fig. 06 indicate that the assessed values of the diverse components of the Other Facilities Index (OFI) i.e., electricity, separate kitchen, cooking fuel, etc. in the rural areas of western Maharashtra. The district-wise Other Facilities Index of Sangli district (0.871) was a highest also very high category, followed by Satara (0.820), Solapur (0.837), and Kolhapur (0.864) district were recorded very high category. Overall Other Facilities Index of western Maharashtra was noted 0.848, which is a very high category as compared with the classification of the index during the study period.

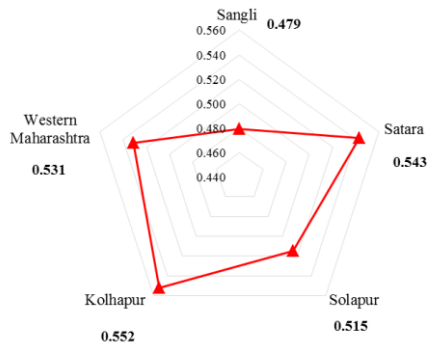
Speaking about several components' indices of Other facilities it indicates that the health Facilities index (0.626) and Cooking fuel index (0.918) were the high and very high categories of western Maharashtra. While, Access to the electricity of all districts with western Maharashtra were very high i.e., 1.000. Looking at the

access of health facilities index, only Satara district under low category and the Cooking fuel index of all district in western Maharashtra where a high or very high category for the assessment period.

**Table – 12: District -wise Bare Necessities Index (BNI) in Rural Area in western Maharashtra**

Sr. No.	District	BNI	Rank
1	Sangli	0.479	4
2	Satara	0.543	2
3	Solapur	0.515	3
4	Kolhapur	0.552	1
<b>Western Maharashtra</b>		<b>0.531</b>	<b>-</b>

Source: Authors Calculation from table – 7 to 11



**Fig. - 07: District-wise Bare Necessities Index (BNI) in Rural Area in western Maharashtra**

Table – 12 & Fig. 07 indicate that the district-wise Bare Necessities Index (BNI) values in the rural area of western Maharashtra. The Bare Necessities Index (BNI) of Kolhapur district (0.552) was the highest and under the medium development category and also ranked 1<sup>st</sup>. While BNI of Sangli district (0.479) was the lowest, it was also under the low category and ranked 4th compared to other districts during the assessment period. Talking about the progress of BNI of another district, Satara (0.543) and Solapur (0.515) districts were under the medium category. Overall BNI of the western Maharashtra region was nearly 0.531, which was under medium development during the study period. According to, assessed values of BNI, it shows the quality access of bare necessities to people in Satara, Solapur, and Kolhapur district with Western Maharashtra region was under moderate, and low access in Sangli district for the study period.

#### **IV. CONCLUDING REMARKS:**

The Bare Necessities Index (BNI) is an innovative matrix of diverse basic necessities, it can exclusively work as a powerful mechanism to assess the quality access of bare necessities i.e., clean drinking water, shelter, sanitation, cooking fuel, etc. which are pre-requisites to attain a minimum standard of living to each human. BNI as a policy mechanism not only identifies quality access to basic necessities but also inequalities in different access to bare necessities from different regions, groups, and areas. The concept of the Bare Necessities Index providing a better way for policymakers the improvement in bare necessities in different areas and assessing economic development. The general observation through the Bare Necessities Index on district-wise quality access of bare necessities of western Maharashtra, the Sangli district was observed lowest and Satara, Solapur, and Kolhapur along with overall western Maharashtra region have medium during the study period.

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