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Maturity index of of Pimpalner Forest of Dhule District, Maharashtra (India)

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Abstract: *In this present work 3 stands of about 33 quadrates randomly sampled to collect varied species from Shendvad forest. Maturity index provides the information about the maturity of the forest community and species dominant within the community. From the study it can be observed that the degree of maturity is less or high in forest.*

Key Words: *Maturity Index, Pimpalner forest, Dhule, Maharashtra*

1. INTRODUCTION:

Phytosociological studies deal with qualitative study of the structure of the vegetation with an emphasis on quantitative relationship of few species which are to be dominant on the belief that these largely control the community and there by occurrence of a large number of a rare species. As author aware, their detailed account on the phytosociology of Chotadeupur forests, (Shah, Yadav and Parabia, 1979): Pachamahalas (Shah and Bhatt, 1980) Dangs forests (Yadav, 1979): From Maharashtra Talegaon (Jadhav 2016), Sapgaon (Jadhav 2018) Trymbakeshwar (Jadhav, 2018) Saptashringi Forest (Jadhav 2020) similar investigation is carried out in 3 stands of Shendvad forest with view to study the maturity of the forest community, Species dominant within the community and the degree of maturity is less or highest in forest.

2. MATURITY INDEX: As suggested by Pichi-Sermoli (1948), an index for the establishment of the maturity in plant communities based on the frequency percent of all species in the stands of a community. The principle is the long-accepted nation that higher the frequency percent of each species and smaller the number of sporadic species, the more mature is the community. The index of maturity of each stand is compared with each other stands to establish the general maturity of the community.

3. AREA OF STUDY: Pimpalner is a Village in Sakri Taluka in Dhule District of Maharashtra State, India. It belongs to Khandesh and Northern Maharashtra region. It belongs to Nashik Division. It is located 80 KM towards west from District headquarters Dhule. 13 KM from Sakri. Pimpalner Latitude is 20.92928 and Longitude is 73.99107. The vegetation is dry deciduous or mixed type, sometime scrub forest is also observed. The vegetation is rich in the localities like Saltek, Kalgaon , Sayane, Pimpalner, Kondaibari etc.

4. METHODOLOGY: Three stands' area located randomly throughout the study area in the Shendvad forest. Quadrates of 10 x 10 m were laid down in different directions in forest. So that quadrates represented almost all species in the area. All together 33 plots (3300 Sq m.) are laid down. Frequency (%) was calculated by the formula given by Raunkiaer (1934). Maturity index is based on the frequency percentage of all species in the stands of community. it is obtained by number of species in the stand (Pichi- Sermoli, 1948).

5. OBSERVATION: Maturity index provides information about the maturity of the forest community. It also impresses up on the dominance of specie within the community. From Table I, it can be seen that the stand No-3 showing maximum maturity index where as other stands are within much less maturity index. This can be attributed due to the factors operating upon the vegetation on some patches and stands which are showing highest maturity index are under the control of forest department.

From fig. 1: showing the histogram of Maturity Index. It can be seen that highly matured vegetation is in the stands of 2 and 3. The average Maturity Index (57.37) is higher.

6. DISCUSSION AND CONCLUSION: The Maturity Index value at Shendvad forests shows that as a whole these are of two types.
1. Still under the process of succession: At stand No.3 maturity values are 51.11 respectively.
2. Moderately mature: Stand No 3 shows the maturity index values is 60.5

Table 1. Showing the three (3) stands and Their Maturity Index with Average maturity Index of a whole forest.

Localities	Sr. No	Maturity Index (M.I.)
Stand 1	`1	51.11
Stand 2	2	56
Stand 3	3	60.5
Total		172.11
Average M. I		57.37

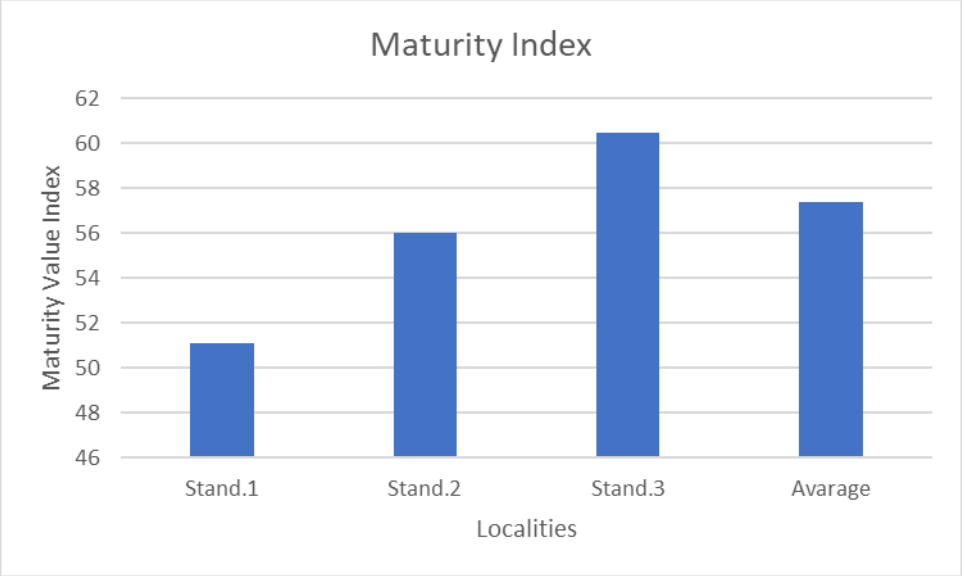

Figure 1.

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