chapter IX
SUMMARY AND CONCLUSIONS

The present floristic account is the result of three years extensive and intensive studies on the vegetation of Dhulia district forests under the auspices of Department of Environment, Man and the Biosphere Project.

It was thought to inventory the plant wealth of the forests of this district to bring out a comprehensive floristic account of the district. It appears from the previous literature that there is no complete account of any forest range or division of this district. This warrants an intensive exploration of as many areas of the three forest divisions of the present district as possible, to prepare an up-to-date floristic account on modern lines which would serve in time
to contribute materials for the district, state and national floras.

Geographically this area lies between 20°38' and 22°03' north latitudes and 73°47' and 75°11' east longitudes. The total forest area of the present district is 3,67,214.23 hectares, and have been divided into three administrative charges viz. North Dhulia, West Dhulia and Mevasi forest divisions. Toranmal plateau is the highest peak (1031 m above M.S.L.) in the area. The area is drained by two main rivers, the Tapi and the Narmada, with their tributories.

The average annual rainfall in the district is 718.6 mm. The maximum and minimum temperatures are 40.4°C (May 1983) and 11.5°C (February 1985) respectively.

The vegetation of the area is classified in different groups for a better understanding of its pattern. The forests are of 'Dry tropical forests' type and are explained in detail under different sub-heads. Hardwickia, Tectona and Terminalia are the dominant species. Biotic influence on the vegetation from various angles is also explained in detail.

Synoptic analysis of the flora reveals that there are 748 wild angiosperm species belonging to 442 genera spread over 108 families. About 43 cultigens met with in escape condition, are also mentioned in the text.
The monocot – dicot ratios at family, genus and species ranks are 1:5, 1:4.1 and 1:3.4 respectively. The family-genus-species ratio is 1:4.1:6.9.

Members of Poaceae dominate the flora followed by Fabaceae. The first 10 dominant families in the present area as well as adjacent areas are almost similar except some slight variations which may be due to size, topography and biotic interference. Monotypic families and monospecific genera are dominating the floral elements at family and generic ranks respectively.

The number of families with 10 or more genera and number of genera with 8 or more species are 7 and 5 respectively. The following 8 species: Baliospermum raziana, Conyza japonica, Clerodendrum serratum var. dentatum, Cymbopogon oliveri, Dalechampia scandens var. cordofana, Sophora wightii, Stylosanthes fruticosa and Vicia sativa are new reports to Flora of Maharashtra state.

Baliospermum raziana was collected for the second time in the world, the first report being from Karnataka. Amorphophallus sylvaticus having been reported from only one locality in the entire state (Karthikeyan and Kumar, 1983) is collected from the present district, confirming the occurrence and distribution.

The following endemic species of Bombay Presidency also collected from the present area: Asystasia mysurensis, Clioria biflora, Dendrobium ovatum and Iphigenia pallida.
342 species are reported from the present area for the first time from Dhulia district. 42 rare or little known plants of Maharashtra state also reported. In addition to that 76 species which were collected by earlier workers of more than 40-100 years, back from the present area have also been collected either from the same locality or from other localities in the district.

It is also found that in the present area several species are showing either restricted or extending distribution occurring rare to very rare in the area. Notes based on critical studies on distribution, identity and taxonomy are provided for a number of species wherever felt necessary.

In the present area, there are a good number of medicinally and economically important plants growing wild/cultivated. A brief account of all these medicinally and economically important plants are dealt with separately.

The results are supported by 10 tables, 57 scientific illustrations and 48 field photographs.

One set of the specimens of all the species collected are deposited in the herbarium, Department of Biosciences, Sardar Patel University.

Thus, the present floristic account would enrich the existing botanical knowledge of the Dhulia district forests, which would serve in time to contribute materials for the district, state and national floras.
Plate 1

A. Dense forest view; Navapur

B. Open forest view; Ranipur

C. A view of grass land; Toranmal
Plate 2

A. Open forest view; Akkalkuma

B. Extended cultivation in the forest

C. Vegetation along water stream in forest
Plate 3

A. Forest view near human habitation
B. Lake at Turanmal
C. View from the top of Turanmal plateau
Plate 4

A. Hot water spring at Dhara (Shahada)
B. Teresmal temple
Plate 5.

A. View of soil erosion observed in the forest
B. A view of showing stunted growth of vegetation due to grazing.
C. Intentional fire caused by tribals in the forest.
Plate 6.

A. Damage caused by the drug manufactures

B. Road passing through the forest
Plate 7

A. Forest view; Nandurbar

B. Illicit cutting of trees observed in the forest.