SUMMARY AND CONCLUSIONS

The present work was undertaken with a view to make an humble contribution towards the preparation of the flora of Gujarat State in particular and the revision of the flora of the Presidency of Bombay in general on modern lines. In this thesis, therefore, a floristic account supplemented by phytosociological analysis of the vegetation by quadrat method of Chhotaudapur, Kawant, Naswadi, Pavijetpur and Jambughoda ranges of Chhotaudapur forest division is given.

These ranges were selected for botanical explorations because three of the ranges were untouched by botanists of Gujarat though the first two ranges are explored by Thaker et al. who listed 636 species from both the ranges. In this thesis 721 wild species have been accounted.

The explorations have yielded tangible results: (a) 185 species are added to the existing information on the flora of Chhotaudapur forest division. (b) 75 and 105 species are added to the published flora of Kawant and Chhotaudapur ranges respectively. (c) Seven species have been reported for the first time from Gujarat of which 3 are records for erstwhile Bombay Presidency. (d) The nomenclature of a number of plants published on the flora of Kawant and Chhotaudapur ranges has been corrected and reasons for such corrections have also been advanced. (e) The nomenclature of some of the plants adopted by Indian taxonomists has also been discussed in light of the Rules of International Code of Botanical nomenclature. (f) The study also showed that certain plants
are found only in one area in a range of the Chhotaudpur forest division. This information is carefully brought out by preparing a list. (See list No. V). The study has also been helpful to prepare a list of rare plants for the whole forest division (List. XI). (f) During the course of the study, an information on the local uses of plants, wherever possible, is collected and it is also given in the form of list (List XIV). (h) Phytosociological studies showed that, though Teptona in general is a member of the community in all ranges, yet other members in this community composition differ in different ranges and it is also shown that the community composition in different parts in a range also differs.

Out of 721 species collected during the tenure of this work, dicotyledons are 368 and Monocotyledons are 153. The largest number of species, found in the Papilionaceae among Dicotyledons and Gramineae among monocotyledons, is 74 and 62 respectively.

In my collection seven species Luffa tuberosa Roxb., Begonia orenata Dryand., Nepeta hindostane Haines var. woodrowii Sant., Cyperus atkinsonii Cike, Cyperus humilis Kunth, Cymbopogon olivieri (Boiss.) Bor and Triponem purpureascens Duthie are recorded for the first time from Gujarat, the last three being species for the first time for erstwhile Bombay Presidency, and about 39 species not listed in Cooke's flora. This data are given in separate lists.
The additions are obvious on two counts; (a) diversity in floristic compositions in the area selected, dry deciduous and scrub forest types and (b) intensive exploration of different areas in different seasons. For intensive exploration I had often to walk several kilometers either in the interior of the dry deciduous forests or scrub forests which at some places are impermeable. I have, therefore, been able to collect a few interesting plants from the view of point of their distribution in Gujarat State e.g. Cochlospermum religiosum Alst., Indigofera parviflora Heyne, Didymocarpus pygmaea Clke., Tremas politoria Linn. A reference to them is already made in the text at appropriate places. Further I have been able to correct or supplement some information given in Cooke's flora, Wealth of India etc., as a result of a critical study of my plants and comparing my observations on them with those in published literature.

All the identifications of plants have been confirmed by matching the plants with authentic herbarium specimens or relevant illustrations published in taxonomical literature. The identifications given by authorities of different herbaria in India have been accepted only after careful rechecking of such plants. In some cases the vegetative characters of certain plants are distinctive and helpful in the identification of plants even in absence of flowers and fruits. Such a list is carefully prepared after a critical study (See List XV). A note on critical identification of some of our plants is given on pp. CXXXVf. Thus I have reasons to believe
that my identifications are correct and authentic. Further, the place of original publication and the synonymy are taken from reliable literature.

The exotic weeds after being naturalised become a part of indigenous flora. A list of exotic weeds with a mention of their native country is also given. (See List VIII)

The vegetation of the areas studied is described under different heads: (1) Vegetation of forests; (2) Vegetation of river beds; (3) Vegetation of ponds, puddles and ditches; (4) Flora of cultivated fields with a list of plants escaped from cultivation. Under each head, as far as possible, elaborate information is given. This has been possible only after careful observations on the plants collected and ample field notes taken during outings. My observations are also supplemented by (black and white) photographs of forest views and close ups of some species.

Each species is provided with a short but diagnostic description, followed by notes on its relative abundance, habit, habitat, etc. The description was short on two grounds, (a) to reduce the bulk of the text and (b) to accommodate phytosociological data supplemented by 50 tables which are a must to support our observations and conclusions. Pertinent attention was paid to the seeds and colour and texture of bark because these characters often serve as reliable diagnostic characters. This information is either incomplete or lacks for most species in Cooke's flora.
The nomenclature of all the plants is accepted after a careful study. I have expressed my opinion by way of nomenclatural notes. All the names adopted in this thesis as far as I can ascertain, are now consistent with the modern researches in taxonomy carried out in many parts of the world and Rules of International Code of Botanical Nomenclature (1966).

The simple artificial keys to the families, genera and species are provided. Such keys are as far as possible based on macroscopic characters and they can be used in most cases without resorting to microscopic dissections. Such keys are possible only after a detailed study of each plant incorporated in the thesis.

Moreover the phytosociological analysis of the forest division has also been studied with the quadrat method. With the help of Raunkiaer formula, the frequency percentage, density and abundance have also been calculated piecewise, rangewise and the whole forest division. As a result of this study I could find the dominant, common and rare components of forest.

After having taken into consideration all the published literature on the flora of Chhotaudepur forest division, I humbly beg to state that all the data incorporated in this thesis is original, first hand and authentic, based on critical study of all the plants collected. In my opinion the present thesis not only makes a valuable contribution to
Our knowledge on the flora of Chhotaudepur forest division by way of adding much more information to the existing one, but also fulfills the aims with which the present work was undertaken. It is sincerely hoped that the information embodied in the thesis will be helpful at the time of the preparation of the flora of Gujarat State, a project already in progress under U.G.C. Book writing scheme in this laboratory.