# Chapter 7
# Conclusion

## 7.0 Conclusion:

The sustainable development of natural resources involves maintaining a fragile balance between exploitation and regeneration of the resources within the carrying capacity of the ecosystem through monitoring and identification of problem areas. It occurs only when management goals and actions are ecologically viable, economically feasible and socially desirable. As demonstrated in this study, the utility of advanced technology like remote sensing and GIS makes this task easy by their cost effective, synoptic view, repetitive coverage & modeling nature. These techniques have become useful in generation of a reliable spatial and non spatial information data base which helps immensely in the efficient and scientific decision making. Through these measures, the productivity of the resources could be enhanced to meet the demand of ever increasing population. With multi disciplinary approach, sustainable development plan can be generated and implemented to derive the desired benefit from that particular resource in an effective manner.

The present approach of ecologically sustainable development planning, through the use of high resolution of remote sensing data, can provide a model methodology for similar research programmes elsewhere if adopted by the forest department.

Geospatial tools utilized during this study have aided in mapping the magnitude, rate, and spatial patterns of forest cover change of Pavagadh forest area. It has been observed from the study that the areas like Palanpur, Kanteli, Amarapur, which were covered by dense forest in the early 1970s are now completely devoid of trees. Forest areas of villages Jayalikuwa, Bhikhapura areas have been converted either in to degreded land or other land forms. At the same time, forest area which was rich in

terms of diversity and a habitat of several animals also is under threat. The study has identified areas with various levels of biological richness. These results and maps have been useful in the identification of ecologically sensitive areas and planning for sustainable development of forest resources of Pavagadh. It may be said that only with this level of understanding of biodiversity can a long-term success of conservation policies be assured. Disturbance is one of the major factors for biodiversity loss. Biodiversity of forest patches depends on the existing environmental conditions. The suitability analysis done in GIS domain using remotely sensed data and information from other ancillary data revealed that majority of the area is moderately suitable (31%), and therefore it is a matter of great concern for biodiversity conservation. The approach of this study is unique due to representation of the results in spatial form that may help in baseline study, planning of qualitative & quantitative plant species inventory, and act as a prime input for species diversity evaluation, etc. Protection of such a diverse forest resource from further depletion should be prioritize and its sustainable use emphasized for the posterity. In this context, ecologically sustainable development plan generated based on assessing various components of the study can prove fruitful. In addition, massive and concentrated effort should be exerted by various stake holders, as well as the society at large that dwell in the Pavagadh area in order to conserve, manage and use the remaining forest resources in a sustainable manner.

Land use- land cover classification for the time period of 2007 -2012 showed that the main change was observed in the built up & agriculture which were increased by 4% whereas forest area was decreased by 6%. It can be estimated that, if this shifting continue at the same pace then, to accommodate all the land features approximately 63 sq.km. land will be required in addition to the current land area.

# Conclusion

For the conservation of forest, a comprehensive approach is needed which incorporate the sustainable management of land outside forest areas this requires an understanding of how human activities impact on forest resources. In the Pavagadh forest area, this is essential to prevent further expansion of forest area into the other land use category, as the protection of existing forests here is crucial for biological conservation of the species. The quantitative biodiversity data of Pavagadh will be useful in forest management and conservation. Presently, there is a need for increased legal protection, well designed management practices and intensive afforestation at selected altitudes especially foot- and mid-hill areas for the sustainable utilization of the dry deciduous forests.