**Discussion**:

The floristic composition of the island was found to be quite rich. It is observed that the flora of Umananda River Island has distinct affinity with the Indo-Malayan floristic elements by representing species like *Albizzia procera, Barringtonia acutangula, Bombax ceiba, Cassia fistula, Costus speciosus*, etc. Although the island is a rocky terrain, but family Poaceae was found to be one of the largest families of the island.

The vegetation and flora of the island have significant utilitarian value as the island is inhabited by one of the endangered langur species of India i.e. Golden langur (*Trachypithecus geei*) which is also endemic to Assam and Bhutan. Apart from golden langur various species of rare and endangered birds also depend on the plants of the island for food and shelter. The area is abundant with many economically important plant species. Apart from timber yielding trees, the island also harbours many well known medicinal (*Capparis zeylanica, Plumbago zeylanica*), ornamental (*Butea monosperma*) and other fruit plants. Scientific conservation of these resources may open new vista of study. All total 118 species of vascular plants within a comparatively smaller area of 4.9 hectares indicate the species richness and diversity of the plant species of the island.

The basic concept of biological spectrum is that the same life form will occur in regions having similar environmental conditions. In the climax vegetation or even in developing communities, dominant species are at equilibrium with their environment. Thus biological spectra help in delimiting the broad phytogeographic regions. Here, biological spectrum of Umananda River Island deviates significantly in case of hemicryptophytes and therophytes with that of normal spectrum of Raunkiaer. However, in other categories no major deviations have been observed. This indicated that the vegetation is a relic of tropical evergreen/semievergreen forest. The deviation of occurrence of hemicryptophytes and therophytes from the normal spectrum may be due to the anthropogenic pressure as a large number of devotees and tourists visit the island every day.

From the study it is evident that phanerophyte and therophyte constitute the highest percentage of life forms. Among phanerophytes, mesophanerophytes were well represented followed by microphanerophytes. Nanophanerophytes and megaphanerophytes are

comparatively poorly represented. In most of the cases, phanerophytes and therophytes are dominant when compared to other life forms and the bioclimate of Umananda river island can be termed as therophanerophytic. The therophanerophytic spectrum has been discerned for disturbed areas. Cain (1950) reported that therophytes occupy an area where native vegetation has been disturbed. In Umananda island also, the vegetation is severely affected due to anthropogenic disturbances mainly because of large number of tourists and pilgrims. Again lack of proper management of the vegetation contributed towards a thero-phanerophytic spectrum.

Presence of rare and endangered plant species in the flora has added to the value of floristic diversity of the island. Some rare and threatened plant taxa of the island are *Capparis zeylanica, Costus speciosus* and *Plumbago zeylanica*.

**Conclusion**:

The floristic composition of the island is quite rich in diversity within a small area of 4.9 hactares. Although there is no major threat to the vegetation in respect of logging and felling of trees, erosion etc. yet anthropogenic disturbance is identified as one of the main threats to the vegetation and flora of the area. Apart from this, uprooting of trees, shrubs due to windstorm is a menace to the vegetation of the island.

Northeast India, including Assam contains a great diversity of forest types and other natural ecosystems. It is critical to preserve samples of these, which are large enough to be self perpetuating. Maintenance of plant animal genetic material in the wild (in situ) is one of the important aspects of managing the human use of genetic diversity. The present management system to the island should be improved to protect the vegetation of the island as after the installation of rope way in the island the number of pilgrims and tourist to the island is surely going to be increased. Thus it is necessary that district administration along with the department of environment & forests, Govt. of Assam should formulate a common strategy action plan so that the disturbance to the vegetation and golden langur population in the island could be minimized.