# Chapter VI

# SUMMARY

- The present investigation was undertaken from April 2018 to March 2019 to study the algal diversity of four fish ponds from the historically important North Guwahati area, Kamrup District.

- The present investigation revealed a total of 151 algal taxa belonging to 33 families and 55 genera under 7 taxonomic groups viz. Cyanophyta (9 genera and 13 species), Euglenophyta (6 genera and 48 species), Pyrrophyta (1 genus and 1 species), Chrysophyta (1 genus and 1 species), Xanthophyta (3 genera and 3 species), Bacillariophyta (6 genera and 10 species) and Chlorophyta (29 genera and 75 species).

- The present study site North Guwahati is depot of diverse forms of Algae. Of all the taxa reported so far, 107 algal taxa are new reports from Assam.

- Chlorophyta was the dominant group among all the other group enumerated. Of Chlorophyta the highest genus reportedwas *Scenedesmus* with 18 species.

- Euglenophyta was the second most dominant group with *Phacus* reported as highest genus with 19 species.

- The pH of the study site raised to an alkaline range from a slightly acidic range i.e. 6.79 – 8.

- The conductivity range recorded was 139 - 465 µs/cm.

- The 4 study sites *viz*. S1, S2, S3 and S4 varied in species richness. S1 harbored 53 species followed by S2 (21 species), S3 (44 species) and S4 (48 species)

respectively. The ponds can be arranged according to their richness as S1>S4>S3> S2. The Study site S2 harbour comparatively less algal species.

- The similarity index calculated was observed highest between S1 and S3 (0.103) and lowest between S2 and S4 (0.029).

- Palmer's pollution index calculated for the study sites showed that S4 was highest with a score of 22 and minimum with a score of 9 in the study site S2. The other study sites S1 and S3 had a score of 19 and 18 respectively. This indicates high organic pollution in S4 which needs management interventions. The status of pollution in study site S1 and S3 is presence of probable organic pollution. Whereas, Study site S2 indicated no organic pollution.