CHAPTER-I

INTRODUCTION

Aquatic plants are those which normally grow in water or soil covered with water. Due to the presence of borderline species, it is difficult to define an aquatic plants. Different authors have put forward different definitions of hydrophytes. According to Weaver and Clements (1938), typical hydrophytes grow in water, in soil, covered with water, or in soil that is saturated. Muenscher (1944) considered aquatic plants as the species which normally stand in water and must grow for at least a part of their life cycle in water, either completely submerged or emerged. According to Reid (1961), hydrophytes are those “whose seeds germinate in either the water phase or the substrate of a body of water and which must spend part of their life cycle in water”. Wetzel (1983) defined aquatic macrophytes as the macroscopic forms of aquatic vegetation. However, this definition includes floating, submerged and emergent species also.

Diverse aquatic vegetation like algae, bryophytes, pteridophytes and angiosperms live in various wetlands such as ponds, beels, rivers and streams. According to Ramsar Convention (1971), “Wetlands are areas of marsh, fen, peat-land or water wheather natural or artificial, permanent or temporary, with water that static or flowing, fresh, brackish or salt including areas of marine water, the depth of which at low tide does not exceed six meters. Further, wetlands may incorporate riparian and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands”. According to Denny (1985) ”A wetland is a shallow seasonally or permanently waterlogged area which normally supports hydrophytic vegetation”, while, Cook (1996), has defined wetlands as ”a place where inundation must occur for atleast fourteen days and saturation for sixty consecutive days”.

The aquatic plants are potential source of human food and animal feed, medicine, biofuel, pulp, paper, fibre, green manure, pharmaceutical and industrial raw materials and aesthetic values (Naskar, 1990, Raju, 1996, Majid, 1998-99, Ramachandra et al., 2003). Moreover, Aquatic plants have the capacity to purify waste water through the uptake of dissolved nitrogen, phosphorus and undesirable excessive minerals including heavy metals (Gupta et al., 2012; Shardendu et al., 2012; Xiaoyun F & Xingyuan He,
Aquatic systems are known as ‘Kidney of the Landscape, and also as ‘Biological Super Market’ because they support all life forms through extensive food webs and biodiversity (Mitsch and Gosselink, 1993). In many geographical locations, wetlands play a vital role in supporting for some people who have no other option but to draw sustenance from them. Unfortunately such water bodies in many developing countries are increasingly threatened by ever expanding population and various related factors. Water is the most important and essential abiotic factor of all kinds of ecosystems and it also forms the rich heritage of biological diversity, a genetic pool and link between transitional aquatic ecosystems (Kulshrestha, 2005).

Except the two hilly districts viz. Karbi-Anglong and North Cachar Hills, Assam is by and large comprises of valleys of the river Brahmaputra and Barak which include mostly low lying flood prone areas. The natural water of these valleys is locally known as beels, ponds, rivers, streams etc. Among the beels of Assam, Goalpara, District reported to comprise of large number of beels, marshlands and swamps that provide ideal luxuriant growth of hydrophytes ranging from phytoplankton to macrophytes. Rural people with their traditional knowledge are engaged in protecting and caring their wetlands for their own existence.

AIM AND OBJECTIVES

AIM:

To prepare a comprehensive account on “Aquatic Flora of Goalpara District, Assam”.

OBJECTIVES:

1. To carry out systematic study of Aquatic macrophytes of Goalpara District, Assam.

2. To investigate seasonal changes in vegetation of Aquatic macrophytes.

3. To document local use pattern of plants and plant parts used by the people inhabiting therein.

4. To record rare, endangered and threatened (RET) species.