**Food Yielding Plants With Special Reference to Aquatic Ecosystem**

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**ABSTRACT**

Aquatic ecosystem is a precious gift to the mankind by the nature. It include varieties of aquatic habitats and the vegetations found in such habitats are called hydrophytes. They develop morphological as well as anatomical adaptations to adjust in water or soil covered with water. They are classified in to submerged, floating, amphibious and marsh plants. Hydrophytes include all taxonomic group that ranges from algae to angiosperm. They are producer in aquatic ecosystem and maintain ecological balance in nature. Most of them are used as food by human being. They collect plants or plant parts in different time and used as food. These plants are collected from wild or cultivated and sold in market. It increase the economic status of local people and farmers. Now-a-days aquatic plants become rare in wild condition due to over exploitation, pollution load, mushrooming of industries, interference of invasive and alien species, anthropogenic pressure and other socioeconomic developmental activities. Hence their conservation is very urgent.

***Key Words*: Aquatic ecosystem, Conservation, Hydrophytes**

**Introduction**

Aquatic ecosystem is a precious gift to the mankind by the nature. It include pond, streams, lake, swamp, marshy lands and other aquatic environments. Vegetations found in such habitat are called hydrophytes. They develop morphological as well as anatomical adaptations to adjust in water or soil covered with water. The structural adaptations are correlated with decrease in oxygen supply due to aquatic environment, poorly developed or absence of structures that are needed for water loss in transpiration and also extreme decrease in mechanical and water conducting tissue. With regard to their relation to aquatic environments hydrophytes may be submerged, floating, amphibious and marsh plants. Hydrophytes include all taxonomic group that ranges from algae to angiosperm. These plants are key components of aquatic ecosystemwhich play the role of producer in aquatic ecosystem and maintain ecological balance in nature (Sahoo & Nayak 2022). They play a vital role in the lives of rural and tribal people. Most of them are used as food by human being. They collect plants or plant parts in different time and used as food. The plants are consumed in different forms like fried, cooked, boiled, curry or with other vegetable. Sometimes they are eaten in raw. They are rich in nutrients like carbohydrate, protein, fat, fibre, vitamin, iron, phosphorus, calcium etc. The utility of aquatic plant is described in aquatic and wetland plants of India by Cook 1996. Rice is only the aquatic plant used as staple food in most part of the world. It provide more than one-fifth of the calories consumed by humans worldwide. It improve nutrition, boosts food security, support rural development and sustainable landcare (Thomas 2008).

**Table- 1. List of food yielding plants and their parts in aquatic ecosystem**

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| **Sl. No** | **Name of the Plants** | **Family** | **Parts used** |
| 01 | *Alocasia macrorrhiza* | Araceae | Tuber |
| 02 | *Alternanthera philoxeroides* | Amaranthaceae | Leaf |
| 03 | *Alternanthera sessilis* | Amaranthaceae | Leaf |
| 04 | *Amorphophallus paeoniifolius* | Araceae | Rhizome |
| 05 | *Aponogeton natans* | Aponogetonaceae | Bulbil |
| 06 | *Aponogeton undulates* | Aponogetonaceae | Bulbil |
| 07 | *Bacopa monnieri* | Scrophulariaceae | Leaf |
| 08 | *Boerhavia diffusa* | Nyctaginaceae | Leaf |
| 09 | *Centella asiatica* | Apiaceae | Leaf |
| 10 | *Coix aquatica* | Poaceae | Seed |
| 11 | *Colocasia esculenta* | Araceae | Leaf and Tuber |
| 12 | *Commelina benghalensis* | Commelinaceae | Leaf |
| 13 | *Crinum asiaticum* | Amaryllidaceae | Rhizome |
| 14 | *Echinochloa colona* | Poaceae | Grain |
| 15 | *Echinochloa crus- gali* | Poaceae | Grain |
| 16 | *Eclipta prostrata* | Asteraceae | Leaf |
| 17 | *Eleocharis dulcis* | Cyperaceae | Tuber |
| 18 | *Eleusine indica* | Poaceae | Grain |
| 19 | *Enydra fluctuans* | Asteraceae | Leaf |
| 20 | *Euryale ferox* | Nymphaceae | Fruit and Seed |
| 21 | *Glinus oppositifolius* | Molluginaceae | Leaf and tender shoot |
| 22 | *Hydrolea zeylanica* | Hydrophyllaceae | Young Shoot |
| 23 | *Hygrophila auriculata* | Acanthaceae | Leaf |
| 24 | *Hygroryza aristata* | Poaceae | Grain |
| 25 | *Ipomoea aquatica* | Convolvulaceae | Leaf and tender shoot |
| 26 | *Ischaemum rugosum* | Poaceae | Grain |
| 27 | *Leucas aspera* | Lemnaceae | Leaf |
| 28 | *Limnophila indica* | Scrophulariaceae | Leaf |
| 29 | *Ludwigia adscendens* | Onagraceae | Leaf |
| 30 | *Ludwigia prostata* | Onagraceae | Leaf |
| 31 | *Marsilea minuta* | Marsiliaceae | Leaf |
| 32 | *Monochoria hastate* | Pontederiaceae | Inflorescence |
| 33 | *Monochoria vaginalis* | Pontederiaceae | Leaf |
| 34 | *Nelumbo nucifera* | Nymphaceae | Seed |
| 35 | *Neptunia oleracea* | Mimosaceae | Leaf |
| 36 | *Nymphoides hydrophylla* | Menyanthaceae | Stem,leaf and fruit |
| 37 | *Nymphoides indica* | Menyanthaceae | Fruit |
| 38 | *Nymphaea nouchali* | Nymphaceae | Seed |
| 39 | *Oryza rufipogon* | Poaceae | Seed |
| 40 | *Oryza sativa* | Poaceae | Grain |
| 41 | *Ottelia alismoides* | Hydrocharitaceae | Leaf and Flower bud |
| 42 | *Oxalis corniculata* | Oxalidaceae | Leaf |
| 43 | *Phoenix paludosa* | Arecaceae | Fruit |
| 44 | *Pistia stratiotes* | Araceae | Young leaf |
| 45 | *Polygonum glabrum* | Polygonaceae | Leaf |
| 46 | *Polygonum plebeium* | Polygonaceae | Leaf |
| 47 | *Sagittaria sagitifolia* | Alismataceae | Root |
| 48 | *Sphenoclea zeylanica* | Campanulaceae | Young plant |
| 49 | *Solanum nigrum* | Solanaceae | Fruit |
| 50 | *Sonneratia apetala* | Sonneratiaceae | Fruit |
| 51 | *Sonneratia caseolaris* | Sonneratiaceae | Fruit |
| 52 | *Trapa natans* | Trapaceae | Fruit |
| 53 | *Trianthema portulacastrum* | Aiozaceae | Leaf |
| 54 | *Typha dominingensis* | Typhaceae | Young Inflorescence |
| 55 | *Vallisneria natans* | Hydrocharitaceae | Leaf |
| 56 | *Vallisneria spiralis* | Hydrocharitaceae | Leaf |
| 57 | *Wolffia globosa* | Araceae | Leaf |

(**Source :** Cooke, 1996, Mishra and Panda, 2013, Mishra *et al*. 2016, Swapna *et al.* 2011, Usher, 1984)

**Conclusion**

Aquatic plants provide food to the local people who depend on them. Beside this these plants are medicinally and socioeconomically important. Many plants grow vigorously in aquatic ecosystem and are considered as weed plant. Some of them can be effectively used as food. Popularization of these plants has changed their status from weed to important food yielding plants. Mostly they are collected from the wild and sold in market. As a few of them are cultivated and marketed.It is an additional income of poor rural people. Now the aquatic habitats gradually sinks due to different anthropogenic activities like pollution load, mushrooming of industries, other socioeconomic developmental activity and interference of invasive and alien species. It ultimately affects the livelihood of local people. Hence, their restoration and conservation is very urgent.



**Figure 1. Food yielding plants in aquatic ecosystem**

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