WETLAND PHYTORESOURCES AND THEIR SOCIO-ECONOMIC UTILIZATION

Abstract

Wetlands are the transitional zone between aquatic and terrestrial ecosystem. It includes bog, fen, marsh, peat land, moor, swamp, river, stream banks, bottom land or mangrove forest etc. It is considered as the kidney of the landscape. The wetland flora includes all taxonomic groups that range from algae to angiosperm. These plants play an important role in wetland ecosystem. They have significant socio-economic value. They support millions of people by providing those good and service. These plants are used by local people as food, medicine, fodder, ethno veterinary practice, agriculture, biofertilizers, organic manure, fiber, fuel, food plate, ornamental, ritual works, packaging, thatching of house, preventing soil erosion, bio remediation and making of toy, boat, crown, basket, mat, handicrafts, rope. As these plants have a wide range of utilization, most of them have attained commercial status. They are cultivated and sold in the market. These plants also help to maintain ecological balance and native biodiversity in this area. 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.

Keywords: Wetland plant, Phytoresources, Conservation

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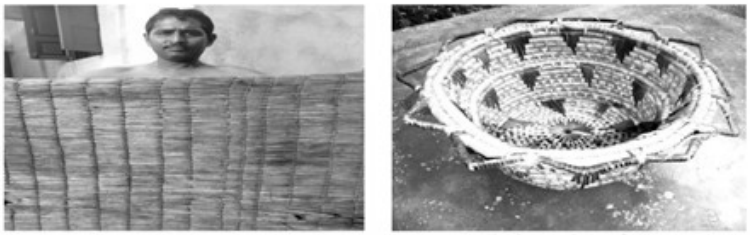
I. INTRODUCTION

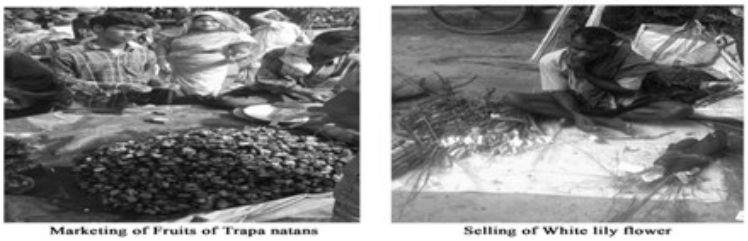
Wetlands are the transitional zone between two habitats i.e. land and water. It is characterized by swampy or marshy areas. It is found in all climatic conditions all over world. It may be fresh water wetland or marine water wetland. Wetlands include bog, fen, marsh, peat land, moor, swamp, river, stream banks, bottom land or mangrove forest areas that may be wet around the year or during certain periods of time (Masarirambi *et al*. 2010). It is estimated that, wetland occupies 8 million Km^2 which is 6.4 percent of the earth's surface. Out of which tropic and subtropic include about 5 million Km^2 (MAweb.org, 2005).Wetlands exhibit enormous diversity according to their genesis, geographical location, water regime and chemistry, dominant plants and soil or sediment characteristics. Because of their transitional nature, the boundaries of wetlands are often difficult to define. Wetland do, however, share a few attributes common to all forms (National Wetland Atlas:Orissa, 2010). Wetlands filter sediments and nutrients from the landscape hence called as kidney of the landscape (Mitch and Gosselink, 2000). It provides shelter for wide range of flora and fauna. The plants grows in such area are called wetland plants. These plants are adapted morphologically and anatomically to water or waterlogged habitat. These plants are the important biotic components which play the role of producer in aquatic ecosystem and as such maintain ecological balance in nature (Sahoo & Nayak 2022).The wetland plants include all taxonomic group that ranges from algae to angiosperm. These plants play an important role in wetland ecosystem. Wetland plants play a vital role in the lives of rural and tribal people. These phytoresources are collected from wetland ecosystem in different time. They have significant socio-economic value. They support millions of people by providing them goods and services. Man depends on wetlands for most of the needs. Hence most of the human civilization arose around the wetland system (Swapna *et al.* 2011).

Handicrafts made out from Aeschynomene aspera (Solo Plant)



Mat made up of *Scirpus grossus*

Basket made out from *Vetiveria zizanioides*



Marketing of Fruits of Trapa natans

Selling of White lily flower

Table 1: Socio economic uses of plants and their parts (Mishra and Panda, 2013)

Sl. no	Purpose	Plant Name	Family	Parts used
01	Biofertilizer	*Azolla pinnata*	Azollaceae	Whole Plant
02	Basket and handicrafts	*Vetiveria zizanioides*	Poaceae	Stem
03	Broom	*Eragrostis ciliaris*	Poaceae	Stem
04	Chain	*Coix aquatica*	Poaceae	Seed
05	Decorative material	*Vetiveria zizaniodes*	Poaceae	Stem
06	Fencing	*Ipomoea carnea*	Convolvulaceae	Stem
07	Food plate	*Nelumbo nucifera*	Nymphaceae	Leaf
08	Fuel	*Aeschynomene indica* *Aeschynomene aspera* *Ipomoea carnea*	Fabaceae Fabaceae Convolvulaceae	Stem Stem Stem
09	Hair darkening	*Eclipta prostrata*	Asteraceae	Leaf
10	Mat	*Cyperus articulates* *Cyperus imbricatus* *Scirpus grossus*	Cyperaceae Cyperaceae Cyperaceae	Stem Stem Stem
11	Ornamental and Ritual works	*Lindernia anagalis* *Nymphaea nouchali* *Nymphaea pubescens* *Leucas aspera* *Nelumbo nucifera* *Sesamum orientale*	Scrophulariaceae Nymphaceae Nymphaceae Lamiaceae Nymphaceae Pedaliaceae	Whole Plant Flower Flower Flower Flower Seed
12	Organic manure	*Alternanthera ficoides* *Eichhornia crassipes* *Isachne globosa* *Spirodela polyrhiza*	Amaranthaceae Pontederiaceae Poaceae Lemnaceae	Whole Plant Whole Plant Whole Plant Whole Plant
13	Phytoremediation	*Lemna minor*	Lemnaceae	Whole Plant
14	Packaging	*Nelumbo nucifera* *Hydrilla verticillata*	Nymphaceae Hydrocharitaceae	Leaf Whole Plant
15	Rope making	*Saccharum spontaneum*	Poaceae	Culm
16	Soil binder	*Alternanthera ficoides* *Cyperus articulates* *Panicum repens*	Amaranthaceae Cyperaceae Poaceae	Whole Plant Whole Plant Whole Plant
17	Thatching	*Typha angustata* *Vetiveria zizanioides*	Typhaceae Poaceae	Whole Plant Whole Plant
18	Toy, boat and crown	*Aeschynomene aspera*	Fabaceae	Stem

II. CONCLUSION

Wetlands are the natural ecosystem which is the only solution of pollution and climate change around the globe. Wetlands are the unique ecosystem in which large number of plants and animals are inhabits. It plays an important role in water purification and provides us. Local people are very much close to the nearest water bodies for daily activities and to meet their needs like food, fodder, fuel etc. Beside this, they are economically dependent on this ecosystem. The water bodies gradually sink due to different activities like pollution load, mushrooming of industries and other socioeconomic developmental activities. Ultimately the socioeconomic status of local people is also affected. Hence their restoration and conservation is very urgent. Further more study and is needed in this context to explore more ideas on these aquatic Phytoresources.

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