

Biological resources of Silsako Wetland in Kamrup Metro District of Assam: uses of macrophytes and ichthyofauna

A. Kar¹, N. K. Goswami and D. Saharia

The Energy and Resources Institute (TERI), North Eastern Regional Centre, Chachal, VIP Road, Hengrabari, Guwahati-781 036, Assam, India

¹*Corresponding author: E-mail: ashishvision10@rediffmail.com*

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Abstract

Wetlands are ecosystem having rich nutrient status and carrying capacity with immense production potential. Silsako is a wetland which is one of the important natural drainages to carry rain water of Guwahati city. Present investigation documented 96 species of macrophytes and 38 species of fishes from the Silsako wetland. Encroachers on Silsako wetland have started earth filling and thereby blocking the drainage channel

Key words: Silsako Wetland, Macrophytes, Fishes, Resource utilization

INTRODUCTION

Wetlands are unique ecosystem having rich nutrient status and carrying capacities with immense production potential hence are important food and fodder producers for human and its related allies. Ecologically wetlands are of great significance for an area as they support different food chains, food webs, regulate hydrological cycle, recharge ground water, trapping solar energy and provide shelter to large number of flora and fauna having great ecological and economical value (Oglesby 1985). Wetland fishery is an important component of fisheries in Assam (Goswami *et al.* 1999).

Silsako wetland is located in the Guwahati city, Kamrup (Metro) district, Assam within 26° 17' 15" N latitude and 91° 52' 11.63" E longitude (Plate - I). This wetland is bordered by Amchang Wildlife Sanctuary in the east, VIP road in the west, Narengi in the north and Chachal in the west (Fig. 1). Total area of Silsako wetland was 1758.47 ha in the year 1912; in the year 1968 area was 407 ha and in the year 2001 area was reduced to 340.20 ha (Singha & Husain 2005). Government of Assam has demarcated only 133 ha area under Silsako wetland (Anonymous 2012).

Several publications came out on wetland plants of Assam in last two decades and these include Dey & Kar (1989) on aquatic macrophytes of Sone Lake ; Malakar (1995) on systematic studies on the aquatic angiosperm of Cachar district of Assam; Baruah & Baruah (2000) on hydrophytic flora of Kaziranga National Park; Kar & Barbhuiya (2000) on macrophytic diversity in certain wetlands of Barak Valley, Assam; Kar & Borthakur (2007) on angiosperm flora of Gauhati University including aquatic plants; Sarkar *et al.* (2008) on medicinally important wetland angiosperms used by the Bodo tribe of Kamrup District; Sarma & Saikia (2010) on utilization of wetland resources by the rural people of Nagaon district;

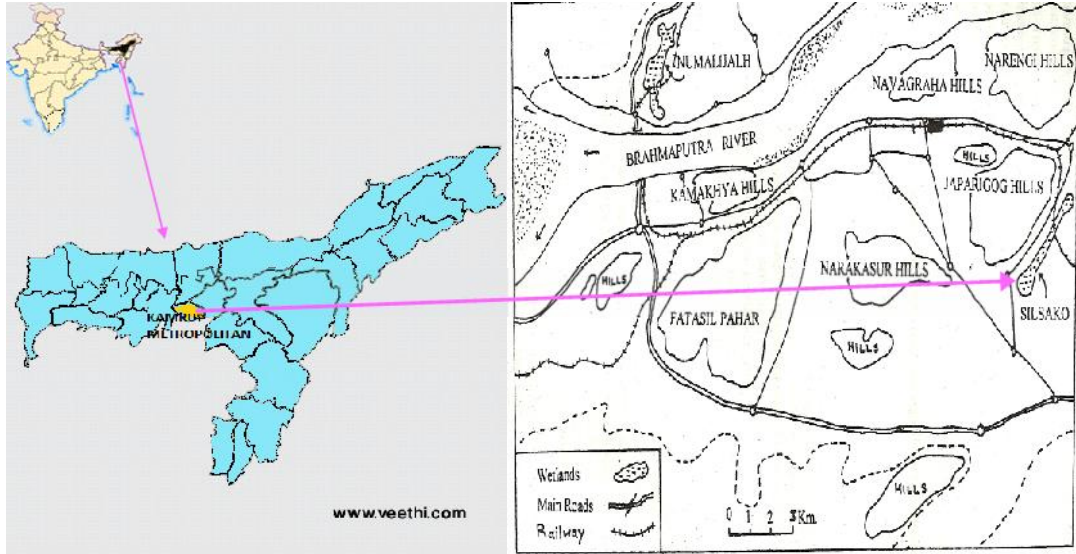


Plate I. Location map of Silsako wetland [Source: www.veethi.com & Singha & Hussain 2005]

Nath (2012) on aquatic macrophytes of Laokhowa Wildlife Sanctuary, Assam; Das (2013) on diversity of aquatic and wetland angiosperm macrophytes in the Kamrup district. From these publications it is observed that studies on macrophytes were carried out in some isolated pockets of Assam, but, so far, no publication is available on plant diversity of Silsako wetland and no attempt has been made to explore its biological resources. Therefore, present study aims to record the macrophyte and fish diversity of Silsako wetland along with the utilization status of the available resources.

MATERIALS AND METHODS

Fieldwork was carried out in Silsako wetland of Guwahati city, Assam during January 2011 to February 2014 to document its macrophytic flora. Information regarding utilization of resources was collected from 24 informants, comprising of 18 males and 6 females from the study area (pre planned, open-ended questions asked the respondent to formulate his own answer). Collected plant specimens were processed into the mounted herbarium sheets following the methods of Jain & Rao (1977). Specimens were identified using different floras including Hooker (1872-1897); Kanjilal *et al.* (1934–1940); Bor (1940); Malakar (1995) and Chowdhury (2005). Voucher specimens were deposited in Herbarium of TERI, The Energy and Resources Institute (TERI), Northeastern Regional Centre, Guwahati for future reference. Fish diversity was studied by adopting the method of Baruah & Sharma (2013), and identified by matching at the Fish Museum, Department of Zoology, Gauhati University.

RESULTS AND DISCUSSION

A total number of 96 species of macrophytes under 75 genera and 38 families (Table 3) were recorded from Silsako wetland. Out of these, dicotyledons comprise of 24 families, 46 genera and 62 species and the share of monocotyledons is 8 families, 21 genera and 24 species (Table 1). Plant habitat composition are represented as emergent (60) species, marshy (30) species, free floating (5) species, and submerged (1) species. Among dicots Asteraceae

Table 1. Taxonomic representation of plant taxa in the Silsako wetland

| Taxa | Dicots | Monocots | Total |
|---------|--------|----------|-------|
| Family | 29 | 9 | 38 |
| Genus | 52 | 23 | 75 |
| Species | 68 | 28 | 96 |

Table 2. Uses of bioresources of Silsako wetland by local people

| Type of uses | Number of species |
|------------------|-------------------|
| Medicinal plants | 05 |
| Fodder | 33 |
| Organic compost | 01 |
| Fuel | 01 |
| Fish stupefying | 01 |
| Religious | 02 |
| Thatch | 01 |
| Vegetable | 17 |
| Edible Fish | 38 |

plants (Table 2). Survey for the ichthiofauna of Silsako wetland has recorded 38 species of which 34 species are indigenous and 4 species is exotic. Of the 38 fish species all are edible and one species has ornamental value (Table 4).

with 12 species (11 genera), Polygonaceae with 4 species (3 genera) Euphorbiaceae with 4 species (4 genera) and Convolvulaceae with 4 species (3 genera) are the dominant families. In Monocots Poaceae with 11 species (9 genera) and Cyperaceae with 6 species (4 genera) are the dominants.

Senna R.R. Mill, *Solanum* Linnaeus and *Cleome* Linnaeus are the dominant genera among dicotyledons representing 3 species each, followed by *Ipomoea* Linnaeus and *Ludwigia* Linnaeus with 2 species each. *Cyperus* (Micheli) Linnaeus (3 species) and *Oplismenus* Beauverd (2 species) are the dominant genera in monocotyledons. Out of 96 recorded plant species 63 are used for different purposes and information on remaining 33 species are not available from the study area. As much as 33 species are used as fodder, 17 species as vegetable and five species as medicinal

Table 3. Macrophytes of Silsako Wetland

| Scientific name [Family]; <i>Exiccatae</i> | Availability | Local name | Habitat | Uses |
|---|--------------|---------------------|----------|-----------|
| <i>Abroma augusta</i> Linnaeus f. [Malvaceae]; <i>Kar - 3247</i> | Rare | <i>Ulat-kambal</i> | Emergent | Medicinal |
| <i>Acacia farnesiana</i> (Linnaeus) Willdenow [Mimosaceae]; <i>Kar - 3286</i> | Rare | <i>Tarua kadam</i> | Emergent | Not known |
| <i>Ageratum conyzoides</i> Linnaeus [Asteraceae]; <i>Kar - 3303</i> | Common | <i>Uchunti</i> | Emergent | Fodder |
| <i>Alternanthera sessilis</i> R. Brown [Amaranthaceae]; <i>Kar - 3310</i> | Common | <i>Mati kaduri</i> | Emergent | Fodder |
| <i>Amaranthus spinosus</i> Linnaeus [Amaranthaceae]; <i>Kar - 3318</i> | Common | <i>Hati khutura</i> | Emergent | Vegetable |
| <i>Amaranthus viridis</i> Linnaeus [Amaranthaceae]; <i>Kar - 3231</i> | Common | <i>Khutura</i> | Emergent | Vegetable |
| <i>Arundo donax</i> Linnaeus var. <i>donax</i> [Poaceae]; <i>Kar - 3305</i> | Common | <i>Nal</i> | Marshy | Fodder |
| <i>Bulbostylis barbata</i> (Rottboell) C.B. Clarke [Cyperaceae]; <i>Kar - 3252</i> | Common | <i>Bon</i> | Marshy | Fodder |
| <i>Calotropis gigantea</i> R. Brown [Asclepiadaceae]; <i>Kar - 3237</i> | Common | <i>Akon</i> | Emergent | Medicinal |
| <i>Cardamine hirsuta</i> Linnaeus [Brassicaceae]; <i>Kar - 3317</i> | Common | <i>Pani sarioh</i> | Marshy | Fodder |
| <i>Centella asiatica</i> (Linnaeus) Urban [Apiaceae]; <i>Kar - 3260</i> | Common | <i>Bor manimuni</i> | Emergent | Vegetable |
| <i>Cleome gynandra</i> Linnaeus [Cleomaceae]; <i>Kar - 3248</i> | Common | <i>Bhutmula</i> | Emergent | Fodder |
| <i>Cleome spinosa</i> Nicholas Jacquin [Cleomaceae]; <i>Kar - 3263</i> ; Fig 4 | Common | <i>Bhutmula</i> | Marshy | Not known |
| <i>Cleome viscosa</i> Linnaeus [Cleomaceae]; <i>Kar - 3250</i> | Common | <i>Athagos</i> | Emergent | Fodder |

| Scientific name [Family]; <i>Exiccatae</i> | Availability | Local name | Habitat | Uses |
|---|--------------|----------------------|---------------|----------------|
| <i>Coccinia grandis</i> (Linnaeus) J. Voigt [Cucurbitaceae]; <i>Kar</i> – 3234 | Common | <i>Kunduli</i> | Emergent | Not known |
| <i>Coix lacryma-jobi</i> Linnaeus [Poaceae]; <i>Kar</i> – 3306; Fig. 2 | Rare | <i>Kauri moni</i> | Marshy | Fodder |
| <i>Colocasia esculenta</i> (Linnaeus) Schott [Araceae]; <i>Kar</i> – 3239 | Common | <i>Kachu</i> | Marshy | Vegetable |
| <i>Commelina benghalensis</i> Linnaeus [Commelinaceae]; <i>Kar</i> – 3307 | Common | <i>Kona simolu</i> | Marshy | Fodder |
| <i>Crotalaria pallida</i> Aiton [Fabaceae]; <i>Kar</i> – 3325 | Rare | <i>Junjuni</i> | Emergent | Not known |
| <i>Cuscuta reflexa</i> Roxburgh [Convolvulaceae]; <i>Kar</i> – 3249 | Common | <i>Akasi lota</i> | Emergent | Medicinal |
| <i>Cynodon dactylon</i> (Linnaeus) Persoon [Poaceae]; <i>Kar</i> – 3266 | Common | <i>Dubori</i> | Emergent | Medicinal |
| <i>Cyperus iria</i> Linnaeus [Cyperaceae]; <i>Kar</i> – 3281 | Common | <i>Gha</i> | Marshy | Fodder |
| <i>Cyperus pilosus</i> Vahl [Cyperaceae]; <i>Kar</i> – 3291 | Common | <i>Bon</i> | Marshy | Fodder |
| <i>Cyperus rotundus</i> Linnaeus [Cyperaceae]; <i>Kar</i> – 3300 | Common | <i>Keya bon</i> | Emergent | Fodder |
| <i>Digitaria ciliaris</i> (Retzius) Koeler [Poaceae]; <i>Kar</i> – 3288 | Common | <i>Bon guti</i> | Marshy | Fodder |
| <i>Eclipta prostrata</i> (Linnaeus) Linnaeus [Asteraceae]; <i>Kar</i> – 3244 | Common | <i>Kesaraj</i> | Emergent | Fodder |
| <i>Eichhornia crassipes</i> (Martius) H.M. Solms [Pontederiaceae]; <i>Kar</i> – 3254 | Common | <i>Pani meteka</i> | Free floating | Organic manure |
| <i>Elacocharis dulcis</i> (N.L. Burman) Trinius ex Hensch [Cyperaceae]; <i>Kar</i> – 3241 | Common | <i>Dol</i> | Marshy | Fodder |
| <i>Elephantopus scaber</i> Linnaeus [Asteraceae]; <i>Kar</i> – 3235 | Common | <i>Hati bon</i> | Emergent | Not known |
| <i>Enydra fluctuans</i> Loureiro [Asteraceae]; <i>Kar</i> – 3246 | Common | <i>Helachi-sak</i> | Marshy | Vegetable |
| <i>Eupatorium odoratum</i> Linnaeus [Euphorbiaceae]; <i>Kar</i> – 3259 | Common | <i>Germani bon</i> | Emergent | Not known |
| <i>Euphorbia elliptica</i> Thunberg [Euphorbiaceae]; <i>Kar</i> – 3275 | Rare | <i>Dudhi</i> | Emergent | Not known |
| <i>Ficus hispida</i> Vahl [Moraceae]; <i>Kar</i> – 3232 | Common | <i>Dimoru</i> | Emergent | Vegetable |
| <i>Ficus religiosa</i> Linnaeus [Moraceae]; <i>Kar</i> – 3240 | Common | <i>Aswatha</i> | Emergent | Religious |
| <i>Fimbristylis schoenoides</i> (Retzius) Vahl [Cyperaceae]; <i>Kar</i> – 3258 | Common | <i>Dol</i> | Marshy | Fodder |
| <i>Floscopa scandens</i> Loureiro [Commelinaceae]; <i>Kar</i> – 3293 | Common | <i>Bor simolu</i> | Marshy | Fodder |
| <i>Garuga pinnata</i> Roxburgh [Bursaraceae]; <i>Kar</i> – 3302 | Rare | <i>Khaimol</i> | Emergent | Not known |
| <i>Helichrysum luteoalbum</i> (Linnaeus) Reichenbach [Asteraceae]; <i>Kar</i> – 3282 | Rare | <i>Bon kopah</i> | Emergent | Fodder |
| <i>Heliotropium indicum</i> Linnaeus [Boraginaceae]; <i>Kar</i> – 3270 | Rare | <i>Hatisur</i> | Emergent | Not known |
| <i>Hydrocotyle sibthorpioides</i> Lamarck [Araliaceae]; <i>Kar</i> – 3312 | Common | <i>Soru manimuni</i> | Emergent | Vegetable |
| <i>Hygrophila polysperma</i> Anderson [Acanthaceae]; <i>Kar</i> – 3285 | Common | <i>Dol</i> | Marshy | Fodder |
| <i>Ipomoea aquatica</i> Forsskal [Convolvulaceae]; <i>Kar</i> – 3277 | Common | <i>Kolmow</i> | Free floating | Vegetable |
| <i>Ipomoea carnea</i> Jacquin [Convolvulaceae]; <i>Kar</i> – 3283 | Common | <i>Amar lota</i> | Marshy | Fuel |
| <i>Lansea coromandelica</i> (Houttuyn) Merrill | Rare | <i>Jia</i> | Emergent | Not known |

| Scientific name [Family]; <i>Exiccatae</i> | Availability | Local name | Habitat | Uses |
|--|--------------|----------------------|---------------|-----------------|
| <i>Lantana camara</i> Linnaeus [Verbenaceae]; <i>Kar</i> – 3238 | Common | <i>Gophul</i> | Emergent | Not known |
| <i>Lemna perpusilla</i> J. Torrey [Araceae]; <i>Kar</i> – 3316 | Common | <i>Soru puni</i> | Free floating | Not known |
| <i>Leucas aspera</i> (Willdenow) Link [Lamiaceae]; <i>Kar</i> – 3309 | Common | <i>Durun</i> | Emergent | Not known |
| <i>Ludwigia adscendens</i> (Linnaeus) H. Hara [Onagraceae]; <i>Kar</i> – 3251 | Common | <i>Taljuri</i> | Free floating | Vegetable |
| <i>Ludwigia octovalvis</i> (Jacquin) P. Raven [Onagraceae]; <i>Kar</i> – 3257 | Common | <i>Not available</i> | Marshy | Fodder |
| <i>Merremia vitifolia</i> (N.L. Burman) A Hallier [Convolvulaceae]; <i>Kar</i> – 3274 | Common | <i>Anguri lota</i> | Emergent | Not known |
| <i>Mikania micrantha</i> Kunth [Asteraceae]; <i>Kar</i> – 3243 | Common | <i>Premlota</i> | Emergent | Fodder |
| <i>Milletia pinnata</i> (Linnaeus) Panigrahi [Fabaceae]; <i>Kar</i> – 3261 | Rare | <i>Not known</i> | Emergent | Not known |
| <i>Mimosa himalayana</i> Gamble; [Mimosaceae]; <i>Kar</i> – 3301 | Common | <i>Lotalajoki</i> | Emergent | Not known |
| <i>Mimosa pudica</i> Linnaeus [Mimosaceae]; <i>Kar</i> – 3299 | Common | <i>Lajokibon</i> | Emergent | Not known |
| <i>Mollugo pentaphylla</i> Linnaeus [Molluginaceae]; <i>Kar</i> – 3326 | Common | <i>Khetpapri</i> | Emergent | Not known |
| <i>Monochoria hastata</i> (Linnaeus) Solms [Pontederiaceae]; <i>Kar</i> – 3233 | Common | <i>Bhat meteka</i> | Marshy | Vegetable |
| <i>Monochoria vaginalis</i> (N.L. Burman) C. Presl ex Kunth [Pontederiaceae]; <i>Kar</i> – 3304 | Common | <i>Jonaki</i> | Marshy | Vegetable |
| <i>Oplismenus burmannii</i> (Retzius) Beauverd [Poaceae]; <i>Kar</i> – 3313 | Common | <i>Gha bon</i> | Emergent | Fodder |
| <i>Oplismenus compositus</i> (Linnaeus) Beauverd [Poaceae]; <i>Kar</i> – 3322 | Common | <i>Gha bon</i> | Emergent | Fodder |
| <i>Ottelia alismoides</i> (Linnaeus) Persoon [Hydrocharitaceae]; <i>Kar</i> – 3162 | Rare | <i>Panikola</i> | Submerged | Not known |
| <i>Oxalis corniculata</i> Linnaeus [Oxalidaceae]; <i>Kar</i> – 3320 | Common | <i>Tengesi</i> | Emergent | Not known |
| <i>Panicum repens</i> Linnaeus [Poaceae]; <i>Kar</i> – 3308 | Common | <i>Bon</i> | Emergent | Fodder |
| <i>Parthenium hysterophorus</i> Linnaeus [Asteraceae]; <i>Kar</i> – 3236 | Common | <i>Parthenium</i> | Emergent | Not known |
| <i>Persicaria barbata</i> (Linnaeus) H. Hara [Polygonaceae]; <i>Kar</i> – 3267 | Common | <i>Bon gehu</i> | Marshy | Fodder |
| <i>Persicaria hydropiper</i> (Linnaeus) Delabre [Polygonaceae]; <i>Kar</i> – 3242; Fig. 3 | Common | <i>Bihlongni</i> | Marshy | Fish stupefying |
| <i>Phragmites karka</i> (Retzius) C.V. Trineus ex Steudel [Poaceae]; <i>Kar</i> – 3256 | Common | <i>Nol/Khagori</i> | Marshy | Religious |
| <i>Physalis minima</i> Linnaeus [Solanaceae]; <i>Kar</i> – 3245 | Rare | <i>Kopal phuta</i> | Emergent | Not known |
| <i>Pistia stratiotes</i> Linnaeus [Araceae]; <i>Kar</i> – 3269 | Common | <i>Bor puni</i> | Free floating | Not known |
| <i>Polygonum hamiltonii</i> Sprengel [Polygonaceae]; <i>Kar</i> – 3290 | Rare | <i>Potharia gehu</i> | Marshy | Fodder |
| <i>Portulaca oleracea</i> Linnaeus [Portulacaceae]; <i>Kar</i> – 3323 | Common | <i>Malbhog sak</i> | Emergent | Vegetable |
| <i>Pothos scandens</i> Linnaeus [Araceae]; <i>Kar</i> – 3319 | Rare | <i>Not available</i> | Emergent | Not known |
| <i>Pouzolzia zeylanica</i> (Linnaeus) A.W. Bennett & Brown [Urticaceae]; <i>Kar</i> – 3253 | Common | <i>Borali bhakua</i> | Emergent | Not known |
| <i>Ranunculus sceleratus</i> Linnaeus [Ranunculaceae]; <i>Kar</i> – 3284 | Rare | <i>Jaldhania</i> | Marshy | Not known |



PLATE II: **Fig. 1.** A view of the Silsako wetland; **Fig. 2.** *Coix lacryma-jobi* population; **Fig. 3.** View of Silsako wetland during winter season; **Fig. 4.** *Cleome spinosa* population; **Fig. 5** *Punitus sarana* (Puthi fish); **Fig. 6.** *Notopterus natopterus* (Kanduli fish); **Fig. 7** *Channa striatus* (Shol fish); **Fig. 8.** Discharge of polluted water in the wetland; **Fig. 9.** Encroachment in the wetland area; **Fig. 10.** Blocked inlet water channel by making small drain; **Fig. 11.** Discharge of mud in the wetland area; **Fig. 12.** Government order erected in several places of the wetland

| Scientific name [Family]; <i>Exiccatae</i> | Availability | Local name | Habitat | Uses |
|---|--------------|---------------------------|----------|-----------|
| <i>Ricinus communis</i> Linnaeus [Euphorbiaceae]; <i>Kar – 3272</i> | Common | <i>Era</i> | Emergent | Not known |
| <i>Rumex maritimus</i> Linnaeus [Polygonaceae]; <i>Kar – 3297</i> | Common | <i>Tor-Boura</i> | Marshy | Fodder |
| <i>Rungia pectinata</i> (Linnaeus) Nees [Acanthaceae]; <i>Kar – 3265</i> | Common | <i>Not available</i> | Emergent | Fodder |
| <i>Sacchanu spontaneum</i> Linnaeus [Poaceae]; <i>Kar – 3268</i> | Common | <i>Kahua</i> | Marshy | Fodder |
| <i>Saccharum arundinaceum</i> Retzius [Poaceae]; <i>Kar – 3292</i> | Common | <i>Meghela kuhiar</i> | Marshy | Not known |
| <i>Saccharum ravennae</i> (Linnaeus) Linnaeus [Poaceae]; <i>Kar – 3255</i> | Common | <i>Ekora</i> | Marshy | Thatch |
| <i>Sagittaria sagittifolia</i> Linnaeus [Alismataceae]; <i>Kar – 3295</i> | Common | <i>Jathipotia</i> | Marshy | Fodder |
| <i>Scoparia dulcis</i> Linnaeus [Scrophulariaceae]; <i>Kar – 3279</i> | Common | <i>Bon dhania</i> | Emergent | Fodder |
| <i>Senna alata</i> (Linnaeus) Roxburgh [Caesalpinaceae]; <i>Kar – 3324</i> | Common | <i>Khorpat</i> | Emergent | Medicinal |
| <i>Senna occidentalis</i> Linnaeus) Link [Caesalpinaceae]; <i>Kar – 3273</i> | Common | <i>Medelua</i> | Emergent | Not known |
| <i>Senna tora</i> (Linnaeus) Roxburgh [Caesalpinaceae]; <i>Kar – 3314</i> | Common | <i>Soru Medelua</i> | Emergent | Not known |
| <i>Sida acuta</i> N.L. Burman [Malvaceae]; <i>Kar – 3278</i> | Common | <i>Not available</i> | Emergent | Fodder |
| <i>Solanum anguivi</i> Lamarck [Solanaceae]; <i>Kar – 3294</i> | Rare | <i>Bhekuri teeta</i> | Emergent | Vegetable |
| <i>Solanum nigrum</i> Linnaeus [Solanaceae]; <i>Kar – 3276</i> | Common | <i>Pokmow</i> | Emergent | Vegetable |
| <i>Solanum torvum</i> Swingle [Solanaceae]; <i>Kar – 3264</i> | Rare | <i>Hati bhekuri</i> | Emergent | Vegetable |
| <i>Spilanthes clava</i> de Candolle [Asteraceae]; <i>Kar – 3280</i> | Common | <i>Bonjaluk</i> | Emergent | Vegetable |
| <i>Spilanthes paniculata</i> de Candolle [Asteraceae]; <i>Kar – 3287</i> | Rare | <i>Bonjaluk</i> | Emergent | Fodder |
| <i>Trewia nudiflora</i> Linnaeus [Euphorbiaceae]; <i>Kar – 3289</i> | Rare | <i>Not available</i> | Emergent | Not known |
| <i>Typha latifolia</i> Linnaeus [Typhaceae]; <i>Kar – 3296</i> | Common | <i>Maduri-bon</i> | Marshy | Not known |
| <i>Urena lobata</i> Linnaeus [Malvaceae]; <i>Kar – 3311</i> | Rare | <i>Not available</i> | Emergent | Fodder |
| <i>Vernonia cinerea</i> (Linnaeus) Lessing [Asteraceae]; <i>Kar – 3315</i> | Common | <i>Not available</i> | Emergent | Fodder |
| <i>Xanthium strumarium</i> Linnaeus [Asteraceae]; <i>Kar – 3321</i> | Common | <i>Agora</i> | Emergent | Vegetable |
| <i>Zizyphus mauritiana</i> Lamarck [Rhamnaceae]; <i>Kar – 3298</i> | Rare | <i>Bogori</i> | Emergent | Not known |

Table 4: Fish diversity of Silsako wetland

| Scientific name [Family]; <i>Exiccatae</i> | Local name | Uses |
|---|------------|--------|
| <i>Amblypharyngodon mola</i> Hamilton [Cyprinidae]; <i>Kar,f-21</i> | Moa | Edible |
| <i>Amphipnous cuchia</i> Hamilton [Synbranchidae]; <i>Kar,f-35</i> | Kuchia | Edible |
| <i>Anabas testudineus</i> Bloch [Anabantidae]; <i>Kar,f-31</i> | Koi | Edible |
| <i>Aorichthys seenghala</i> Sykes [Bagridae]; <i>Kar,f-26</i> | Arii | Edible |
| <i>Aspidoparia jaya</i> Heckel [Cyprinidae]; <i>Kar,f-34</i> | Bariala | Edible |
| <i>Bagarius bararius</i> Hamilton [Sisoridae]; <i>Kar,f-17</i> | Garua | Edible |

| Scientific name [Family]; <i>Exiccatae</i> | Local name | Uses |
|---|----------------|------------------------|
| <i>Botia dario</i> F. Hamilton [Botiidae]; <i>Kar</i> ,f-29 | Botia | Ornamental |
| <i>Catla catla</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-15 | Bahu/Katla | Edible |
| <i>Chanda nama</i> Hamilton [Ambassidae]; <i>Kar</i> ,f-2 | Chanda | Edible |
| <i>Chanda ranga</i> Hamilton [Channidae]; <i>Kar</i> ,f-38 | Chanda | Edible |
| <i>Channa gachna</i> Hamilton [Channidae]; <i>Kar</i> ,f-28 | Cheng | Edible |
| <i>Channa punctatus</i> Bloch [Channidae]; <i>Kar</i> ,f-33 | Goroi | Edible |
| <i>Channa striatus</i> Bloch [Channidae]; <i>Kar</i> ,f-18 [Fig. 7] | Sol | Edible |
| <i>Cirrhinus mrigal</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-10 | Mirika/Mrigal | Edible |
| <i>Clarias batrachus</i> Linnaeus [Clariidae]; <i>Kar</i> ,f-20 | Magur | Edible |
| <i>Clupisoma garua</i> Hamilton [Schilbeidae]; <i>Kar</i> ,f-8 | Neria | Edible |
| <i>Colisa fasciatus</i> Schneider & Bloch [Anabantidae]; <i>Kar</i> ,f-5 | Khsliona | Edible |
| <i>Ctenopharyngodon idella</i> Valenciennes [Cyprinidae]; <i>Kar</i> ,f-12 | Grass carp | Edible |
| <i>Cyprinus carpio</i> Linnaeus [Cyprinidae]; <i>Kar</i> ,f-30 | Common carp | Edible |
| <i>Eutropiichthys vacha</i> Hamilton [Schilbeidae]; <i>Kar</i> ,f-23 | Bacha | Edible |
| <i>Glossogobius giuris</i> T.N. Gill [Gobiidae]; <i>Kar</i> ,f-24 | Patimutra | Edible |
| <i>Heteropneustes fossilis</i> Bloch [Heteropneustidae]; <i>Kar</i> ,f-7 | Singhi | Edible |
| <i>Hypophthalmichthys molitrix</i> Valenciennes [Cyprinidae]; <i>Kar</i> ,f-22 | Silver carp | Edible |
| <i>Labeo bata</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-13 | Bhagone | Edible |
| <i>Labeo calbasu</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-32 | Mali | Edible |
| <i>Labeo gonius</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-16 | Kori/Gonia | Edible |
| <i>Labeo rohita</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-27 | Row/Raw | Edible |
| <i>Mystus blukeri</i> Valenciennes [Bagridae]; <i>Kar</i> ,f-36 | Singori | Edible |
| <i>Mystus vittatus</i> Bloch [Bagridae]; <i>Kar</i> ,f-14 | Tingora/Tengra | Edible |
| <i>Notopterus chitala</i> Pallas [Notopteridae]; <i>Kar</i> ,f-1 | Chital | Edible |
| <i>Notopterus natopterus</i> Pallas [Notopteridae]; <i>Kar</i> ,f-11 [Fig. 6] | Kanduli | Edible & Ornamental |
| <i>Punitus sarana</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-25 [Fig. 5] | Cheniputhi | Edible |
| <i>Puntinus daruphangii</i> Bleeker [Cyprinidae]; <i>Kar</i> ,f-3 | China puthi | Edible |
| <i>Puntinus sophore</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-19 | Puthi | Edible |
| <i>Rasbora</i> sp. Hamilton [Cyprinidae]; <i>Kar</i> ,f-37 | Darikona | Edible |
| <i>Rita rita</i> Hamilton [Bagridae]; <i>Kar</i> ,f-6 | Rita | Edible |
| <i>Salmostoma bacaila</i> Hamilton [Cyprinidae]; <i>Kar</i> ,f-9 | Sulekona | Edible |
| <i>Wallago attu</i> Bloch & J. G. Schneider [Siluridae]; <i>Kar</i> ,f-4 | Barali | Edible |

The existence and the environment of Silsako wetland is now threatened mainly with the dumping of wastes from the municipality area including household garbage, discharge of mud (Fig. 11) and polluted water (Fig. 8); lifting of water for different construction works, blockage of inlet (Fig. 10) and outlet channels to control the free movement of water; encroachments (Fig. 9) and neglecting all bylaws of conservation [Guwahati wetland conservation Act, 2008, point 6(1)] (Fig. 12), etc.

CONCLUSION

Although, Silsako wetland is rich in plant and indigenous fish diversity but certain factors have threatened the existence of the wetland itself. In recent years, approximately 10.66 ha of land of the Silsako wetland have been illegally occupied by the encroachers (Anonymous 2012). To conserve Silsako wetland strict vigilance for the enforcement of laws for wetland conservation; monitoring and restricting encroachment by both Government and civil society; excavation of beel bed at regular interval (5 – 6 years); demarcation of the beel area and restriction in further expansion of settlement; drainage line treatment to regulate inflow and outflow of water are important steps. Moreover, garbage dumping, earth filling, washing of cloth, release of contaminated water to the beel water should be avoided to preserve the beel and its biological resources.

It is the responsibility of all the concerned citizen, Government machinery and local people to conserve the beel ecology and the habitat of aquatic flora and fauna of the Silsako wetland. This will also help in reducing inundation problem in some parts of the Guwahati city.

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