ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 05, pp.50974-50978, May, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

TRADITIONAL VEGETABLES WITH MEDICINAL VALUE FROM LOKTAK LAKE SHORE AND THREATS TO THE COMMUNITY AROUND

[1]Sundari Devi, N., [2]Kh. Singhajit Singh, J. R. F. and *,[3]Premila Chanu, O.

[1]Department of Botany, Kakching Khunou College, Umathel
[2]Institutional Biotech Hub, Kakching Khunou College, Umathel
[3]Department of Zoology, Modern College, Imphal

ARTICLE INFO

Article History:
Received 09th February, 2017
Received in revised form
21st March, 2017
Accepted 04th April, 2017
Published online 31st May, 2017

Key words:

Sustainable,
Wetland,
Cuisine,
Bio-resources,
Aesthetic,
Heavy metals,
Biodiversity.

ABSTRACT

Wetlands with its bio-resources are vital to human life and the service provided by wetlands to human kind is tremendous and non-substitutable. The wetland must be considered as the main source of livelihood of sustainable societies and also wetland plant play a significant role in the socio-economy of the people of Manipur. People have been depending upon wetland for food, fodder, medicine etc. and ecological services that people need for survival since ages. The ethnic communities residing around the Loktak Lake collect large varieties of edible and other useful plants and animal bio-resources. A significant number of families depend on this land for their survival and economy. Generally they go out of their home in the morning for fishing and collecting edible plants and in the evening they sale their collected items in the nearby markets located at the logistic and vicinity of the lake. The maximum supply of edible wetland plants and animal bio resources which are of economic value are coming from the Loktak lake (area=289 sq. km.). Some wetland vegetables which are favourite cuisine of Manipur like *Polygonum barbatum* (yelang) *Ipomea aquatica* (Komlamni) *Oenanthe javanica* (Komprek) *Neptunia oleracea* (Ekaithabi) *Eurgale fero* (Thangjing) *Hedychium coronarium* (Loklei), *Alpinia nigra* (Pullei), *Trapa natans* (Heikak) *Nelumbo nucifera* (Thambal) *Nymphaea alba* (Tharo) are not only eaten as vegetable but also used in medicinal purpose. In Manipur most of the wetlands are under impacts (Taft & Haig 205). Many of the wetlands are transformed into other land forms such as paddy fields, human settlement, land modification for developmental projects and indirectly by rainfall shift and global climate change. It is very important to study on identification, documentation assessing the use pattern, validating the nutritional quality and studying the trade of the most common edible wetland plants of Manipur which local communities are extremely knowledgeable. Conservation of wetlands is becoming a global burning issue and much discussed topic. To ensure sustainable, self-reliant socio economic development of wetland area, strengthening community linkages, educating them with the environment through various awareness programs and acknowledging the aesthetic beauty of the place through ecotourism etc. would surely help in conserving these valuable treasure in long time perspectives. Sustainable harvesting of wetland biodiversity should be adopted in order to get long time benefits. Systematic and rotational harvesting mechanism may be adopted to sustain the resources. Now a days the wetland plants are reported to have a comprehensive capacity for accumulation of numerous heavy metals. Fluctuations in water level compounding the deposition of nutrient metals and silt by interfering with wetland hydrodynamic and flushing of pollutants.

Citation: Sundari Devi, N., Kh. Singhajit Singh, J. R. F. and Premila Chanu, O. 2017. "Traditional vegetables with medicinal value from loktak lake shore and threats to the community around", *International Journal of Current Research*, 9, (05), 50974-50978.

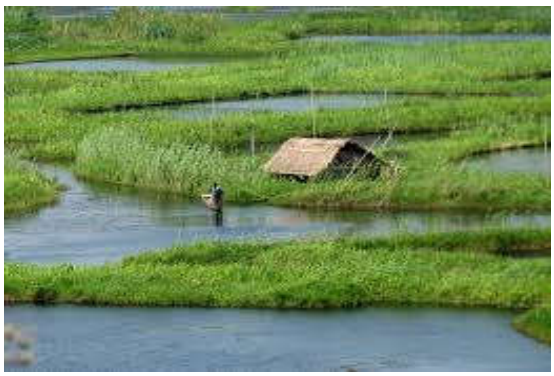
INTRODUCTION

"Loktak is a gold mine" If you go to Loktak you will never come empty handed. The *phum* dwellers, island communities and lakeshore communities inhabit loktak lake and the adjoining areas. All depend on the lake and its resources for various products. Besides fish, including food, fuel, fodder, that ching material, medicinal plants and raw material to make handicrafts. Overall 132 plant species having identified from various parts of the lake. Some of these including *komprek, kolamni, thangjing, ising kundo, kambong, loklei-pulei, ising ekaithabi are not only eaten as vegetables but also used as medicinal purposes.* 23˚80´N-25˚68´N and 93˚03´E-94˚78´E altitude 790 m above the mean sea level and area of 22,327 sq.kms having one of the hotspots of biodiversity and largest freshwater lake Loktak shines like a diamond among the pearls at the center of Manipur.

Manipur at the North-East corner of India has so many endemic plants, animals, scenic beauties and socioeconomic importance. During 1979 femine in Manipur the fruits of *Trapa natans (heikak),* and *Euyale ferox (thangjing)* were the only sources of livelihood for thousands of people. According to Montreux Record of March 1990 and June (1993) a site of Loktak whose ecological character has changed, is changing or is about to change as a result of human interfere. 'The most serious proximate threats on medicinal plants and vegetables

Corresponding author: Premila Chanu, O.,
Department of Zoology, Modern College, Imphal

on Lotak shore are generally due to habitat loss, habitat degradation and over harvesting. Conservation of medicinal plants in its bio-cultural perspectives not only implies conservation of biodiversity but also places and equal emphasis on conservation of cultural diversity.' *A study by "Meitei and Prasad 2015" reported a total of 27 wild edible plants and 25 medicinal plant species are used by locals of Loktak lakeshore community*



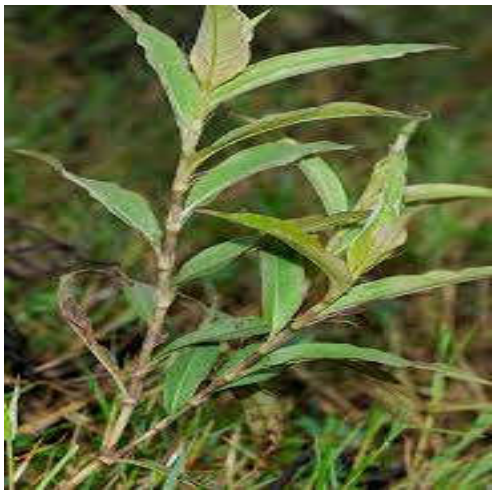
METHODOLOGY

Interactions with the village people around Loktak Lake.

RESULTS AND DISCUSSION

Some of the edible plant species from Loktak lakeshore are discussed below with their medicinal purposes:

***Polygonum barbatum (Linn)* (yelang):**



Family- Polygonaceae

Uses-curing stomach diseases, ulcer tonic, purgative and colic. Shoots and leaves cooked eaten as vegetable and raw eaten as singju (Vegetable mixture).

Ipomea aquatica (Forsk) (kolamni):

Family-Convolvulacecae

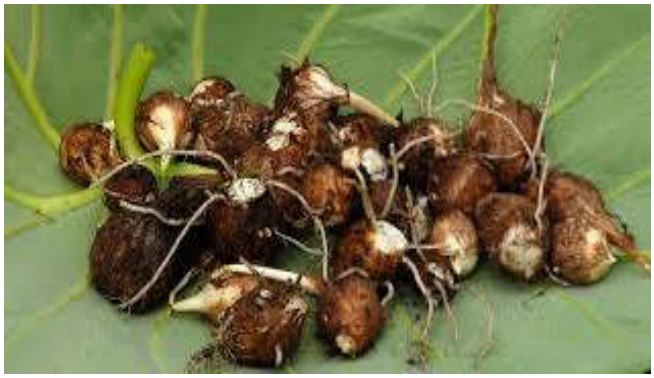
Uses- rich in iron and protein, used in stomach trouble. Shoot cooked or raw eaten, best for singju (Vegetable mixture).

Zizania latifolia (Turcz.ex stapf) (kambong):

Family-Poaceae

Uses- used for digestive purposes, rich in amino acids. It is best fodder for brow-antlered deer (*Cervus eldi eldi*). Cooked or raw eaten with molasses & rice.

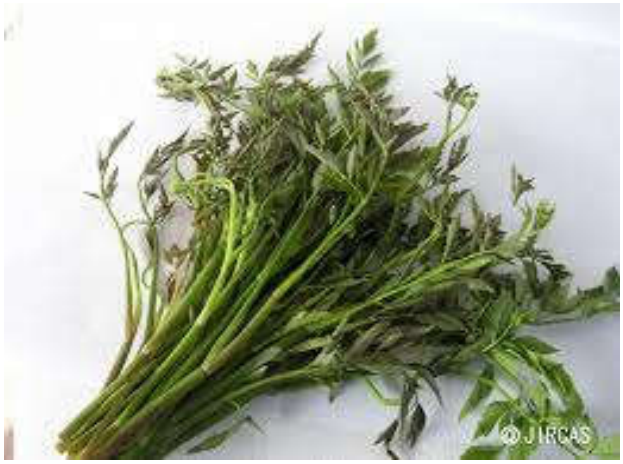
Colocacia esculanta (L) Schott(pan):



Family-Araceae

Uses- used for scorpion sting, snake bite. Corm used for curry and eronba after cooking Leaves are used for ooti, Manipuri cuisine.

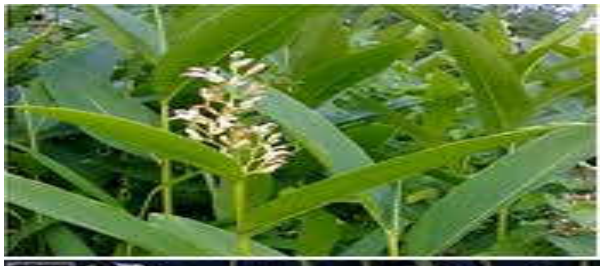
Oenanthe javanica (Blume) DC(komprek):



Family-Apiaceae

Uses: Ulcer tonic, for stomach trouble, rich in iron. Shoot and leaf used for preparation of singju. Cooked eaten as eronba.

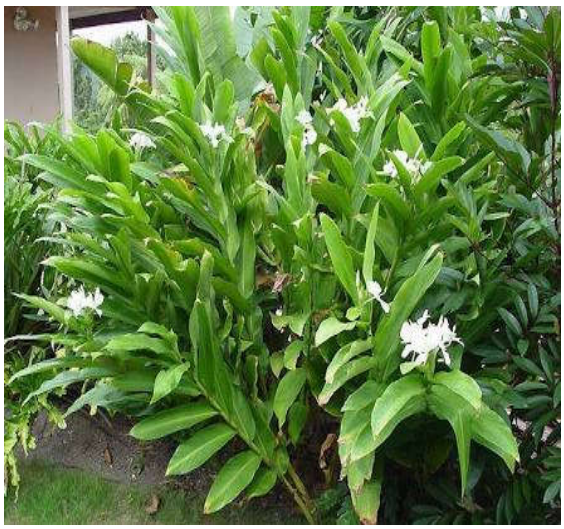
Alpinia nigra (Gaertn) Burtt (pulei):



Family- Zingiberaceae

Uses-used for gout, colic and cuisine. Rhizome and petiole boiled and eaten as eronba and chutney.

Hedychium coronarium (Koenig)(loklei):



Family- Zingigeraceae

Uses-used for stomach, liver troubles, tonic, inflamation, snake bite, and stimulant. Rhizome cooked and prepared eronba.

Trapa natans (Linn)(heikak):

Family- Trapaceae

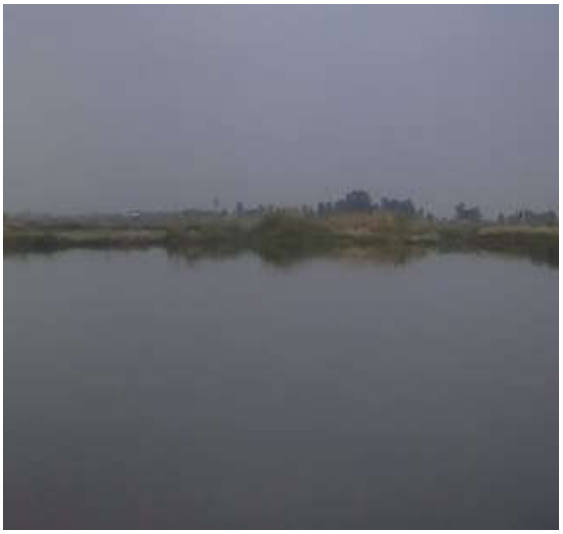
Uses-rich in carbohydrate, stomach troubles. Fruits cooked eaten or as raw, petiole eaten as eronba (Cooked vegetable mixture with fish) & singju.

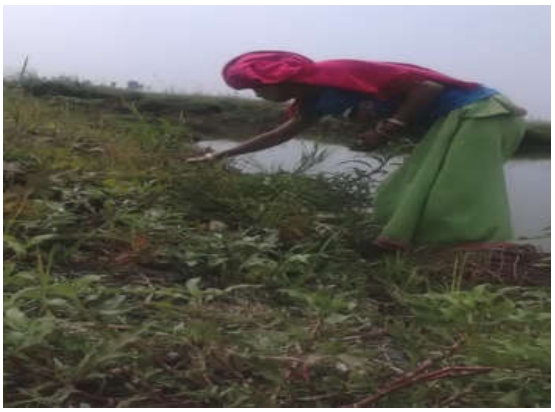
Neptunia oleraceae (Lour)(ekaithabi):

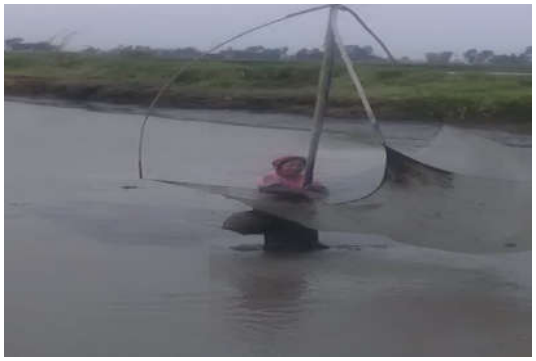
Family-Fabaceae

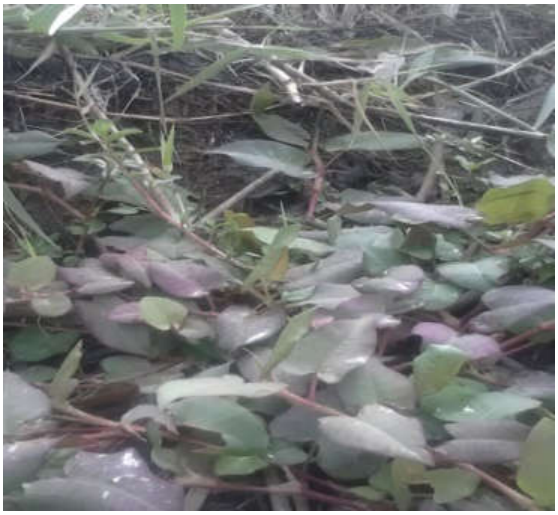
Uses-urinary troubles, piles, sinusitis, earache, Necrosis of bones of nose. Shoot cooked as eronba a famous Manipuri cuisine and eaten raw as singju.

Loktak lakeshore vegetables over exploited by the harvesters which need to be controlled and conserved for the future generation.









Further Phumdi is the heterogenous mass of soil vegetation and organic matter in different stages of decay. Communities living around the wetland lakeshore are directly or indirectly dependent upon the wetland resources for sustenance. However, wetland plants are reported to have a comprehensive capacity for accumulation of numerous heavy metals. Fluctuations in water level compounding the deposition of nutreints metals and silt by interfering with wetland hydrodynamics and flushing of pollutants. Further lack of proper sanitation metal concentration is found to be higher. Disease caused by heavy metals like Fe is *hemorrhagic necrosis*, excessive Mn leads to neurological disorder and brain damage, high concentration of Zn cause muscular stiffness, loss of appetite, nausea and irritations, high Cu leads to metal fume fever, fair skin discoloration, irritation of upper respiratory tract, and nausea.

Conclusion

Thus a joint holistic approach by the authority concern, researches, NGOs and Locals should be done for the conservation and protection of such precious treasure to increase the population of the threaten edible vegetable in their natural habitat. Government and LDA needs to pay a serious attention to look upon and try solving or minimising the various possible threats that haunt the locals and the wetland Loktak.

Acknowledgement

This work is funded by Department of Biotechnology, New Delhi, Government of India.

REFERENCES

Jain A and Singh HB. 2005. “Many vegetables put together make a yummy dish called eronba”. Down to earth March 15, p-52.

Jain A, Rashinibla S, Kanjilal PB, Singh RS and Singh HB 2007. “Aquatic and semi aquatic plants as herbal remedies in the wetland of Manipur, Northeastern India”. *Indian Journal of Traditional Knowledge*, 6(2), 346-351.

Jain A. 2007. “Edible aquatic biodiversity from the wetland of Manipur”. Final technical report-submitted to CSIR. New Delhi.

Jain *et al*. 2011. “Common wetland edible plants, their habitat.

****