

# Study of some Aquatic Plants of Pandaul Block of Madhubani District, Bihar with special reference to their Ethnobotany

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B.R.A.B.U., Muzaffarpur, Bihar, India **Abstract** :-

*Aquatic plants play a very important role in our ecosystem. They are very useful for human beings animals and also for balancing the environment. Many important rivers like Kamla, Koshi, Bhutahi Balan and Jeevachh flow from Madhubani District. So, the district has rich aquatic flora. Besides these many Chauras, Mauns, Ponds and watery low lands are also available in Pandaul Block. Considering the richness of aquatic flora in the district, a survey work has been made for establishing a record of aquatic plants of Pandaul block of Madhubani district with special study of their ethnobotanical importance.*

*Keyword – Aquatic plant, Madhubani, Pandaul, Ethnobotanical.*

## **Introduction** :-

Madhubani is one of the district of North Bihar. This is the centre of Mithila where the main language is Maithili. It is approximately quadrilateral shaped in the north-east corner of the confluence of two important river Kamla and Koshi. Many important rivers flow from Madhubani district as Kamla, Koshi, Bhutahi, Trishulla, Jeevachh and Ghaghar. Besides these, there are many marshy depressions, chauras, Mauns and ponds which are inhabited by many aquatic plants.

Considering the richness of aquatic flora, a survey work has been done for establishing a record of aquatic plants of the district. Here, I am going to discuss about aquatic flora of Pandaul block of Madhubani district. During my survey work I have met with peoples and got knowledge about uses of aquatic plants. The local people utilize different parts of plant like rhizome, root, stem, leaves, flowers, fruits and seeds. So, keeping the ethnobotanical facts of these plants, a data has been made of Pandaul block of Madhubani district.

## **Materials and Methods** :-

- 1) Panchayatwise survey was made in different season and plants were collected.
- 2) Rivers, ponds and chauras were visited for collection of aquatic flora.

- 3) Field observations like habit, habitat, flowering and fruiting period, colour of plant parts, etc have been noted with date and place.
- 4) Specimens were collected at every important stage of plant life cycle.
- 5) Botanical identification was made with the help of Heins flora and other related books.
- 6) Collected specimens was processed for herbarium preparation by standard methods.
- 7) Ethnobotanical study was done with the help of local populace.

### Area where the survey was conducted :-

District - Madhubani

Block - Pandaul

Villages (Plant Collection Centres) :-

Madhepura, Pandaul, Belahi, Bhawanipur, Sagarpur, Salempur, Baragaun, Bhitthi, Gangauli, Sarso, Dahibhat Madhopur, Ruchaul, Brahmotra.

### Observation :-

During survey of Pandaul block, 20 aquatic plants were found. These plants belongs to 8 different families. Most of the ponds and Chauras have rich vegetation of aquatic floras. These aquatic plants are used by local peoples. Ten ethnobotanically important plants of Pandaul are listed below :-

#### Chart

Sl. No	Name of Plants	Common Name	Family	Place of Collection	Month of Collection	Useful Part of Plant	Ethnobotanical Description
01	<u>Euryale ferox</u>	Makhana	Nymphaeaceae	Pond near Pandaul Railway Station	September	Fruit Pops	a) Edible snack, used in cooking especially to make porridge or pudding called 'Kheer'. b) Great source of protein. c) Used in making ayurvedic medicine. d) Main economic crop of farmers
02.	<u>Eichhornia crassipes</u>	Jalkumbhi	Pontederiaceae	Pond of Madhepura village	January	Leaves, Petiole	a) Used as fodder, green manure and compost. b) Cooked leaves and petioles are used as antioxidant. c) Most noxious weed.
03.	<u>Trapa bispinosa</u>	Singhada Pani-phal	Lythraceae	Pond of Baragaun village	October	Fruits	a) Raw and cooked fruits are edible. b) Medically used as treatment of anaemia and urinary disorder. c) Flour of dried fruits are used in festivals d) Good source of energy e) Economically important crop for farmers

04	<u>Nelumbo nucifera</u>	Kamal Lotus	Nelumbonaceae	Chaur of Sarsovillage	August	Rhizome, Leaves, Flowers, Stem	<ul style="list-style-type: none"> <li>a) Sacred flower used in religious festivals and for decoration.</li> <li>b) Flower juice is recommended as cardiac tonic and also in treatment of liver disease.</li> <li>c) Also used in making of cosmetics</li> <li>d) Rhizome and stem are also consumed as vegetables.</li> <li>e) Pest of seed is used in skin treatment.</li> </ul>
05	<u>Ipomoea aquatica</u>	Karmi, Morning water glory	Convolvulaceae	Low land of Salempur Village	July	Leaves, stem	<ul style="list-style-type: none"> <li>a) Used as popular vegetable dish in Mithila known as 'Karmi ke saag'.</li> <li>b) Medically used as laxative.</li> <li>c) If harvested from contaminated areas, it can also transmit parasite to human</li> </ul>
06	<u>Vallisneria spiralis</u>	Pater, Tape grass	Hydrocharitaceae	Chaur of Belahi village	July	Leaves	<ul style="list-style-type: none"> <li>a) Used in treatment of women disease like leucorrhoea.</li> <li>b) Dry leaves are used by local people for making house.</li> <li>c) Plants leaves with sesame is made into tea to improve appetite.</li> </ul>
07	<u>Nymphaea nouchali</u>	Blue water lily	Namphaeaceae	Pond near Gangauli village	June	Leaves, Flower, Rhizome, tubers	<ul style="list-style-type: none"> <li>a) Flower stalk and tubers are used as food materials</li> <li>b) Medicinal plant in Ayurveda under the name 'Ambal' used in treatment of indigestion.</li> <li>c) Also used as ornamental plant.</li> <li>d) Boiled or roasted rhizome can be also used as food.</li> </ul>
08	<u>Salvinia natans</u>	Water moss water butterfly	Salviniaceae	Pond of Dahibhat village	July	Leaves	<ul style="list-style-type: none"> <li>a) It is helpful for many freshwater fishes for providing them safe space to breed. So, useful in fish pond.</li> <li>b) Common aquatic weed used as bioindicator</li> </ul>
09	<u>Lemna minor</u>	Duckweed, Pancha	Lamnaceae	Ditches near Pandal Market	August	Leaves	<ul style="list-style-type: none"> <li>a) Food supplement for animals like duck</li> <li>b) Used as compost in agriculture</li> <li>c) Used in preparation of ayurvedic and homeopathic medicine.</li> <li>d) Leaf paste is useful in skin problems.</li> </ul>
10	<u>Ottelia alismoides</u>	Duck Lettuce	Hydrocharitaceae	Chaur near	March	Leaves	<ul style="list-style-type: none"> <li>a) Used in treatment of fever as antibacterial medicine.</li> </ul>
				Belahi Village			<ul style="list-style-type: none"> <li>b) Plant leaves paste is also used in the treatment of haemorrhoids and applied to arms and legs as poultice against fever</li> </ul>

### Conclusions :-

- 1) Ethnobotanical survey of aquatic plants growing in Pandaul block of Madhubani district has been made.
- 2) During survey of Pandaul 20 species were recorded out of them 10 plants have been described above.

- 3) Makhana and Singhara are the main economically important crops of local farmers.
- 4) Local peoples are using these plants and its parts as food, fodder, medicine etc.
- 5) However young generation does not have much knowledge about the usefulness of these plants. So, awareness should be needed.
- 6) Growing population, using of land and lack of rain are some common causes of the unrecoverable harm of aquatic diversity. So, needful steps should be taken.
- 7) It is important to popularize and preserve the traditional method of using these plants.

### **References :-**

- 1) Deb, D.B., 1976 – A study on the Aquatic vascular plants of India. Bull. Soc. Bengal / 29 : 155 – 170.
- 2) Hains, H.H., Botany of Bihar and Orissa.
- 3) Subramanyam, K. 1962 Aquatic angiosperms. Bot. Monogar, No. CSIR, New Delhi.
- 4) Jain, S. K., and Mudgal, V. 1999, A hand book of ethnobotany.
- 5) Kirtikar, K.R. and Basu, B.D. 1935, Indian Medicinal plants vols. 1-4, Allahabad.

