



# AQUATIC AND AMPHIBIOUS WEEDS OF PADDY CROPLAND FIELDS OF CHATTISGARH AREA

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## ABSTRACT

General survey of weed floras in paddy cropland fields of has been carried out in cropping season 2020-21 area situated in district of Chhattisgarh state. Survey done in low-lying paddy fields, water and irrigation channels the weeds are collected identified and classified into five categories namely free floating fixed floating submerged marshland and amphibious on the basis of their habitat. The degree. Of intensity of weeds has been rated in four grades namely trace light moderate and severe obtained free floating weeds are eight fixed floating are five submerged are seven marshland are eighteen and amphibious are fifteen noted.

**Keywords :-** Chaturgarh, Crop Land, Weed, Paddy

## INTRODUCTION

Chaturgarh forest area is a region of korba district which is situated in northern region of Chhattisgarh state.

Paddy is the most important extensively grown food crop in this climatic condition and soil types are favourable for paddy growth in this Approximately 80% of population are dependent in paddy for their food requirement. Weeds create great damage to production of rice the utilize water minerals and other nutrient form soil and compete to crop. Many workers such as Dubey v., Shukla r.v. sharma r.p. ondhia p. etc. has been obtained many weeds associated with paddy field. In session 2020-21 many weeds species are obtained aquatic and amphibious weeds in paddy cropland field are given in this paper.

## METHODOLOGY

For general survey of aquatic and amphibious weeds associated with paddy cropland fields used standard phytosociological methods (Quadrat Method) given by Mishra et.al (1968). The degree of intensity of weeds has been rated in four grands mainly trace light moderate and severe. Their floristic conditions are observed in the help of standard flora.

**OBSERVATION**

Paddy cropland fields more than 38 aquatic and 15 Amphibious weeds are obtained. An extensive survey of low land water and irrigation channels was undertaken in throughout the cropping of standard flora. (Jain and Mudgel 1999) the observation indicate two species 3.77% are algae four species 7.54% are pteridophyte.

| S.No. | Botanical                           | Family           | Habit         | Intensity |
|-------|-------------------------------------|------------------|---------------|-----------|
| 1.    | <i>Azolla Species linn.</i>         | Azollaceae       | Free floating | Light     |
| 2.    | <i>Aponogeton sp. l.t.</i>          | Naiadaceae       | Sub marged    | Light     |
| 3.    | <i>Aneilema scapiflorum br</i>      | Commelinaceae    | Marsh land    | Light     |
| 4.    | <i>Aschynomene indica l.</i>        | papilionaceae    | Amphibious    | Light     |
| 5.    | <i>Alisma plantage l.</i>           | Alismaceae       | Amphibious    | Trace     |
| 6.    | <i>Andropogon pumilis roxb.</i>     | Poaceae          | Amphibious    | Light     |
| 7.    | <i>Astercantha longifolia nee.</i>  | Acanthaceae      | Amphibious    | Light     |
| 8.    | <i>Butomopsis lanceolate kunth,</i> | Alismaceae       | Marsh land    | Light     |
| 9.    | <i>Ceratophyllum</i>                | Ceratophyllaceae | Sub merged    | Trace     |
| 10.   | <i>Chara species</i>                | Characcae        | Sub merged    | Trace     |
| 11.   | <i>Caesulia axillaris roxb</i>      | asteraceae       | Marsh land    | Light     |
| 12.   | <i>Commelina salicifolia roxb.</i>  | Commelinaceae    | Marsh land    | Light     |
| 13.   | <i>Ceratopteris sp brong</i>        | Adiantaceae      | Amphilibious  | Trace     |
| 14.   | <i>Cyperus diffformis l.</i>        | Cyperaceae       | Amphilibious  | Light     |
| 15.   | <i>Cyperus iria l.</i>              | Cyperaceae       | Amphilibious  | Light     |
| 16.   | <i>Cyperus haspan l.</i>            | Cyperaceae       | Amphilibious  | Light     |
| 17.   | <i>Cyperus flavidus l.</i>          | Cyperaceae       | Amphilibious  | Light     |

|     |   |                  |               |          |
|-----|---|------------------|---------------|----------|
| 18. | <i>Cyperus rotundus l</i>               | Cyperaceae       | Amphibious    | Trace    |
| 19. | <i>Digitaria marginate stapf.</i>       | Poeceae          | Marsh land    | moderate |
| 20. | <i>Eichornia crassipes solms.</i>       | pondtedersaceae  | Free floating | Light    |
| 21. | <i>echinochloa crusgalli beavv.</i>     | poaceae          | Marsh land    | Light    |
| 22. | <i>Echinochloa colonum</i>              | poaceae          | Marsh land    | Light    |
| 23. | <i>Eriocaulon quinguanguangulare 1.</i> | poaceae          | Marsh land    | moderate |
| 24. | <i>Hydrocharis ariatia miquel</i>       | Hydrocharitaceae | Marsh land    | moderate |
| 25. | <i>Hydrila jaylanica vahl</i>           | hydrophyllaceae  | Marsh land    | moderate |
| 26. | <i>Hygrophilla angustifolia r br</i>    | acanthaceae      | Marsh land    | Light    |
| 27. | <i>Isoetes coromandelina linn.</i>      | isoetaceae       | Marsh land    | Trace    |
| 28. | <i>Ipomoea aquatica fork</i>            | convolvulaceae   | amphibious    | Light    |
| 29. | <i>Jussiaea repens 1</i>                | Onagracea        | Marsh land    | Light    |
| 30. | <i>Lemna polyrrhiza l</i>               | lamnaceae        | Free floting  | moderate |
| 31. | <i>Limnanthemum indicum thwaites</i>    | gentianaceae     | Free floating | Light    |
| 32. | <i>Lippia nodiflora rich</i>            | verbanaceae      | Marsh land    | Light    |
| 33. | <i>Limnophila conferta benth</i>        | scrophulariaceae | Marsh land    | Light    |
| 34. | <i>Ludwigia purviflora roxb.</i>        | onagraceae       | Marsh land    | Light    |

|     |                                   |                   |                |          |
|-----|-----------------------------------|-------------------|----------------|----------|
| 35. | <i>Marshila minuta l.</i>         | marsiliaceae      | Fixed floating | Light    |
| 36. | <i>Nelumbium speciosum willd.</i> | nymphaeaceae      | Fixed floating | Trace    |
| 37. | <i>Nymphaea spl</i>               | nymphaeaceae      | Fixed floating | Trace    |
| 38. | <i>Nitella sp</i>                 | characeae         | Sub merged     | Trace    |
| 39. | <i>Ottelia alsomoides pers</i>    | hydrocharitaceae  | Fixed floating | Trace    |
| 40. | <i>Oxalis sp l wood sorrel</i>    | geraniaceae       | Fixed floating | Trace    |
| 41. | <i>Pistia stratiotes!</i>         | aracaceae         | Free flouting  | moderate |
| 42. | <i>Potamogeton indicus roxb</i>   | naiadaceae        | Sub merged     | Light    |
| 43. | <i>Polygonum glabrum willd</i>    | polygonaceae      | amphibious     | Light    |
| 44. | <i>Scripus gressus !</i>          | cypeeraceae       | Marsh land     | severe   |
| 45. | <i>Scripus gressus !</i>          | cypeeraceae       | Marsh land     | severe   |
| 46. | <i>Saccharum spontaneum l</i>     | cypeeraceae       | amphibious     | Light    |
| 47. | <i>Sphaeranthus indicus!</i>      | asteraceae        | amphibious     | moderate |
| 48. | <i>Trapa bispinosa roxb</i>       | onagraceae        | Free floating  | moderate |
| 49. | <i>Typha elephantina roxb</i>     | typhaceae         | Marsh land     | Trace    |
| 50. | <i>Tamarix ericoides rott!</i>    | Tamari aceae      | amphibious     | Trace    |
| 51. | <i>Utricularia stellaris l.s</i>  | lautibularitaceae | Sub merged     | Light    |
| 52. | <i>Vallisneria l</i>              | hydrocharitaceae  | Sub merged     | Trace    |
| 53. | <i>Wolffian arrhizal wimm</i>     | lemnaceae         | Free floating  | Light    |

**Table- 2 – Weeds on the basis of plant group**

| Plant Group  | No. of species | Percentage |
|--------------|----------------|------------|
| Algae        | 02             | 3.77%      |
| Bryophyte    | nil            | -          |
| pteridophyte | 04             | 7.54%      |
| Gymnosperm   | Nil            | -          |
| Angiorperm   | 47             | 88.67%     |

**Table- 3 – Weeds on the basis of Habitat**

| Habitat        | No. of species | Percentage |
|----------------|----------------|------------|
| Free Floating  | 08             | 15.0%      |
| Sub Merged     | 07             | 13.2%      |
| Fixed Floating | 05             | 9.4%       |
| Marsh land     | 18             | 33.96%     |
| Amphibious     | 15             | 28.30%     |

**Table- 4 – Weeds on the basis of intensity**

| Intensity | No. of species | Percentage |
|-----------|----------------|------------|
| Light     | 29             | 54.70%     |
| Moderate  | 09             | 16.98%     |
| Trace     | 13             | 24.52%     |
| Severe    | 02             | 3.77%      |

And species 88.67% are belonging to angiosperm. Then free floating species are 15% belonging to 08 species. Sub merged are 13.2% belonging to 07 species, fixed floating are 9.4% belonging to 05 species, marsh land 33.96% belonging to 18 species and amphibious are 28.30% belonging

to 15 species, light intensity species are 54.7% belonging to 29 species, moderate intensity species are 16.98% belonging to 09 species trace intensity species obtained. Cyperaceous and Pinaceae are most dominating weed families belonging to 08 and 05 species. Other important obtained families are Hydrocharitaceae, Marsiliaceae, Characeae, Typhaceae, Lamnaceae, Commalinaceae, Azollaceae, Convolvaceae, Onagraceae, Geraniaceae etc. Obtained species their family, botanical Name, habitat and their intensity are given in table.

## **DISCUSSION**

Aquatic and amphibious weeds play very important role in rice production, Cyperaceae and Pinaceae are dominating equating weeds families, Maximum aquatic weeds are angiospermic (88.67%), on the basis of their habitat 33.96% are marsh land, amphibious are 28.30% maximum 54.7% species belong to light intensity. Similar result obtained in Shukla R.V. (1973) and other taxonomist.

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