

DEWEEDING IN PONDS BY CHEMICAL TREATMENT: A CASE STUDY

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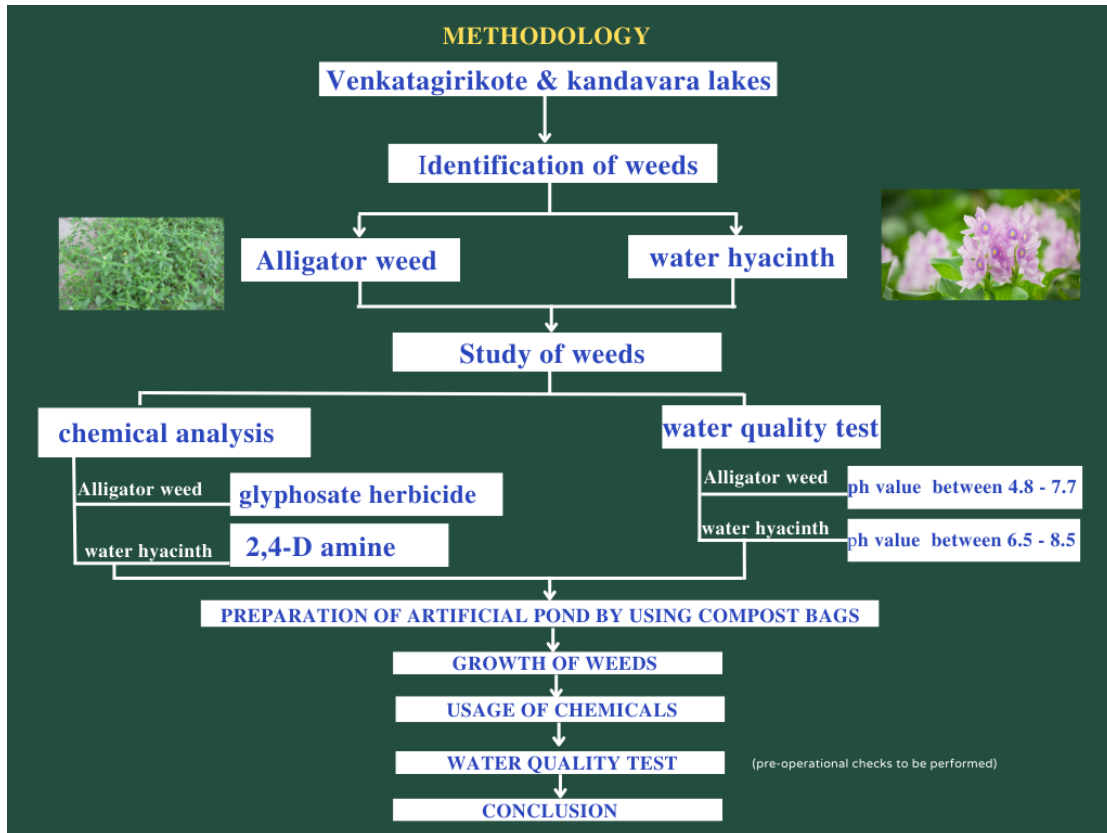
Introduction:

Aquatic weeds are grown in or near the water. The presence of weeds in water poses serious threats to an efficient and effective use of water. Aquatic weeds cause tremendous water loss through Evaporation and Seepage. Weeds are unwanted aquatic plants of uncontrolled growth. Larger algae and plants provide habitat for fish. Aquatic weeds can cause fish kills. This usually occurs because oxygen is taken out of the water, plants at night respire without producing oxygen. Aquatic weeds influence the oxygen level in the water bodies which is critical for a healthy lake ecosystem. Aquatic weed growths provide quiet water areas ideal for mosquito breeding. The growth of aquatic weeds interferes with the storage and delivery systems of Irrigation water, Maintenance of canals, drains, barrages, lakes, ponds etc. It plays various ecological roles and helps to keep specific water quality parameters in check which is safe for aquatic life.

Objectives:

1. The study of Water Quality which influences the growth of weeds.
2. Characterization of Weeds in study Area.
3. Model setup for Artificial Pond in Deseeding applications.
4. Study the effect of Chemicals in Deseeding.

Methodology:



Result and Discussion:

Table: Analysis for Parameters of Water Sample

PARAMETERS	UNITS	KANDAVARA LAKE	VENKATAGIRIKOTE LAKE
PH	----	7.53	7.7
Turbidity	NTU	20.1	18.5
Conductivity	S/m	850	740
Alkalinity	mg/L	380	360
Chlorides	mg/L	180.2	155.3
Hardness	mg/L	234	215

Nitrates	mg/L	35	31
DO	mg/L	7.5	7.2
BOD	mg/L	44.0	39.0
COD	mg/L	200.0	176.0
Solids	mg/L	552.12	486.4
Phosphates as PO ₄	mg/L	1.0	1.0
Sulphates as SO ₄	mg/L	47.0	36.0

Table: Analysis for parameters of water sample after chemical treatment

PARAMETERS	UNITS	KANDAVARA LAKE	VENKATAGIRIKOTE LAKE
PH	----	7.1	6.9
Turbidity	NTU	19.5	17.5
Conductivity	S/m	790	710
Alkalinity	mg/L	320	290
Chlorides	mg/L	175.2	145.3
Hardness	mg/L	214	202
Nitrates	mg/L	33	30
DO	mg/L	7.2	6.9
BOD	mg/L	42.1	38.2
COD	mg/L	195.0	166.0
Solids	mg/L	532.12	436.4
Phosphates as PO ₄	mg/L	1.0	1.0

Sulphates as SO ₄	mg/L	42.0	32.0
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Results and Discussions:

1. From the deweeding technique we came to know that chemical treatment can be a better compelling method of growth of weed and also not affecting the ecological equilibrium of the use of chemical is applied in recommended rate.
2. Chemical treatment is the earliest weed removal technique which is economical and less risky.
3. The herbicide 2-4-D Amine is used for water hyacinth it is not affected to water quality and weeds are completely dried. We can say that using 2-4-D Amine for water hyacinth in Kandavara lake is effective to weeds and not toxic to aquatic life when applied according to label directions.
4. The herbicide glyphosphate is used for alligator weed it is observed from the experiment that slightly effected to water quality but weeds are completely dried. We can say that using glyphosphate for alligator weed in venkatagirikote is effective to weeds but slightly effective to aquatic life when applied according to label directions.

Scope for future work:

1. This can be further extended with the help of government permission for case study in lakes.
2. The work can also be continued observing and analyzing the physico-chemical parameters, lake water can be used as source of water supply to nearby areas if properly maintained, restored and protected. This is an eye opener for the water crisis problem in Chickaballapur city.
3. This deweeding technique can also be used in large open drainage areas where weeds are grown. Eg: Raja kaluve