

CONSTRUCTED WETLANDS



Photo 1



Photo 2

Categorization of Technology

This is a natural treatment system for wastewater treatment. It belongs to phytoremediation category of natural treatment systems. This particular technology has surface-flow vertical beds of wetlands. This is a natural treatment system for wastewater treatment.

Technology Brief

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TECHNOLOGY FACT SHEET - 1

Sr	Criteria	Indicator	Unit	Value
Life Cycle Costing related parameters				
1	Economic	Land area required	m ² /MLD	6000
2		Civil works	INR Lakh/MLD/year	280
3		% Replacement of total cost	%	5
4		Energy consumed	kWh/m ³	0.05
5		Labour/ manpower	INR Lakh/MLD/year	20
6		Chemicals	INR Lakh/MLD/year	30
7		Routine maintenance	INR Lakh/MLD/year	20
8		Revenue generation	INR Lakh/MLD/year	30

TECHNOLOGY FACT SHEET - 2

Sr	Criteria	Indicator	Unit	Value
9	Environmental	Global Warming	kg CO2-eq./p.e./yr	-3.86
10		Eutrophication Potential	kg PO4 3-eq./p.e./yr	3.4
11		Ecosystem services	Scale - 1 to 10	10
12	Circularity	Wastewater recycling	Scale - 1 to 10	8
13		Energy	Scale - 1 to 10	6
14		Products	Scale - 1 to 10	9
15	Social	Unskilled manpower required	% total labour cost	90
16		Acceptability	Scale - 1 to 10	8
17		Participation	Scale - 1 to 10	6
18	Resilience	Reliability	Scale - 1 to 10	8
19		Durability	Scale - 1 to 10	8
20		Flexibility	Scale - 1 to 10	8
21		Replicability	Scale - 1 to 10	8
22	Technical	BOD	Per cent %	60
23		COD	Per cent %	55
24		N	Per cent %	80
25		P	Per cent %	80
26		Pathogen	log removal or %	80
27		Emerging contaminants	Scale - 1 to 10	50
28		Land suitability	Scale - 1 to 10	0.7