GIT REKT

IOT BASED DECENTRALIZED WATER TREATMENT PLANT

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The Issue

80% OF WORLD'S WASTEWATER DISCHARGED WITHOUT TREATMENT: UN

"In India only eight per cent of industrial and municipal wastewater undergoes treatment of any kind," the report said,

This damages numerous coastal, river and marine ecosystems and triggering the transmission of contagious diseases among people

THE ISSUE AT HAND

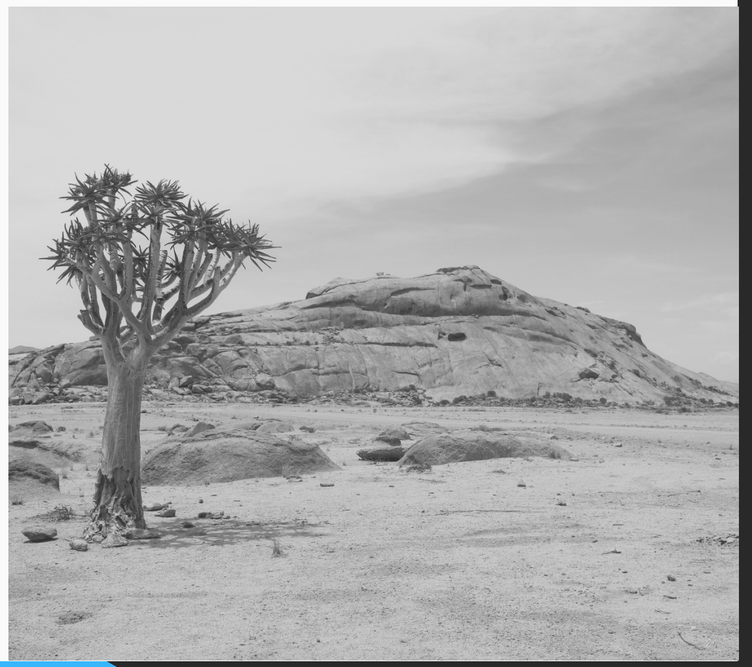
Cost Division

Item	Description	Calculation	Cost	Percentage
Water discharge fee	$0.02/m^3	**0.02*100,000*30**	$60,000	18%
Electricity fee	$0.1 per KWh	0.30 Kwh*0.10*100,000*30	$90,000	27%
Chemical fee	PAC and Cl_2	**(0.0001*4000*10+0.003*1)*100,000*30**	$21,000	6%
Sludge transport and disposal	20% solid content, $30/ton	**0.0001/0.2*100,000*30**	$45,000	13%
Staff cost	24 staffs, average $2500/month salary	**24*2500**	$60,000	18%
Administration cost	50% of staff cost	**24*2500*50%**	$30,000	9%
Maintenance and replacement cost	yearly 1% of total construction cost	**400*1%/12*100,000**	$33,333	10%
Total monthly cost			**$339,333**	100%
Costs per m^3 wastewater treated			**$0.11**	

Water Scarcity

We're at a real inflection point where, if we're not careful, we may actually get out ahead of our ability to manage it.

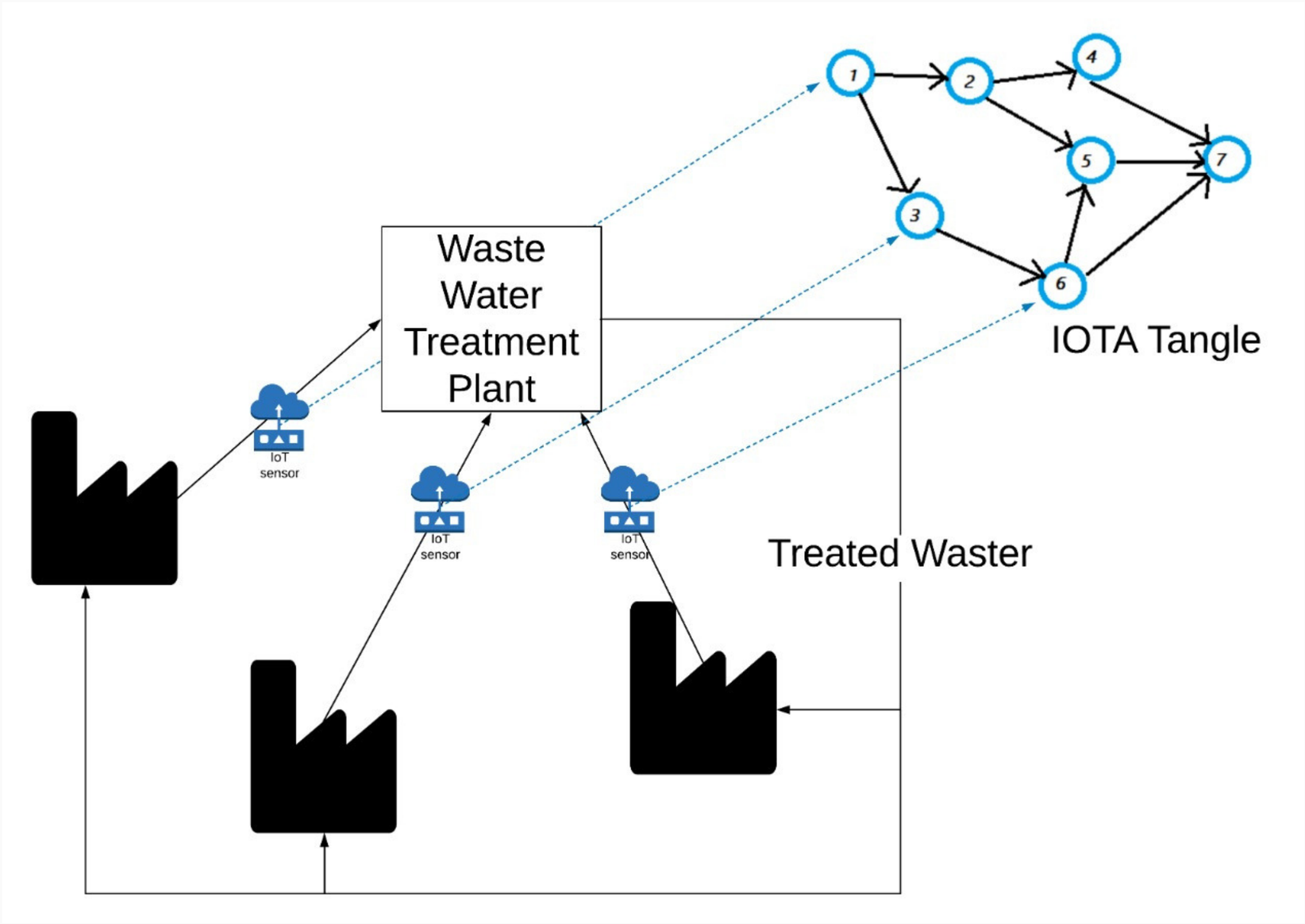
In the face of ever-growing demand, wastewater is gaining momentum as a reliable alternative source of water, shifting the paradigm of wastewater management from ‘treatment and disposal’ to ‘reuse, recycle and resource recovery’. In this sense, wastewater is no longer seen as a problem in need of a solution, rather it is part of the solution to challenges that societies are facing today.



Our Solution

DECENTRALIZED TREATMENT PLANTS TO LOWER THE COSTS AND ENSURE WATER TREATED PROPERLY

We propose a system in which industries are connected to a common water treatment plant through a distributed ledger system, Various IOT sensors are put at the outlet pipe to measure various factors like pH, sulphide concentration, etc. All of this data is stored securely on an IOTA tangle. Analytics can be performed on this data. The companies would pay an amount proportional to the quantity and type of waste produced, which would lower the cost of waste treatment and would help in reducing the running cost of all industries.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2
3
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IOTA Tangle
Waste
Water
Treatment
Plant
IoT
sensor
IoT
sensor
IoT
sensor
Treated Waster

Expected Outcomes

Through our proposal, we can not only reduce the stress on our limited water resources but also reduce the costs incurred by an individual industry and increase the efficiency of the wastewater management system.

The water released by the common water treatment plant can reused by all industries and help recycle and conserve water.

On top of it, all the data could be tracked and any issues, whether it is suspicious data or whether the pollutants have crossed a certain safety level, etc. and any such events would raise a flag to the concerned authorities, so that they could take the necessary actions;