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(54) Title of the invention : IOT BASED SOLAR POWERED WASTE WATER HARVESTING AND IRRIGATION SYSTEM

(51) International classification	:C02F0001040000, C02F0001440000, F28D0020000000, F24S0090000000, C02F0009000000	(71)Name of Applicant : 1)SWAMI VIVEKANANDA UNIVERSITY Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal - 700121, India
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	1)MR. ABHISHEK DHAR
(33) Name of priority country	:NA	2)MS. ANUSMITA BHOWMIK
(86) International Application No	:NA	3)MR. Avirup Chakraborty
Filing Date	:NA	4)MR. SAURABH ADHIKARI
(87) International Publication No	: NA	5)MR. SOURAV SAHA
(61) Patent of Addition to Application Number	:NA	6)MS. BRATI ACHARYA
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(57) Abstract :

Our earth is the only planet that sustains life with 71% part covered with water and 29% part land. The amount of surface and freshwater present for human usage has taken an alarming turn due to its overexploitation. India being an agricultural country needs sufficient amount of water for this sector which is not turning out to be possible due to increasing rate in water pollution. Among this domestic waste water contributes to about 19-20% of polluting freshwater. So we have come up with this innovative project to reuse such domestic water for home or garden plantation, thus avoiding over usage thus harvesting it. In this process we are going to collect waste water from laundry and kitchen sources, then treat them with water softener tablets, which is then forwarded to the filtration tank. This tank is cost effective and made of locally available products such as different layers of sand and gravel, bio char, teff straw. The purified water is then treated with plant rich nutrients and stored for supplying it to the plant. The purified water is carried forward by mobile integrated IOT for gardening. The motor valves that we will use will receive electricity through solar power thus reducing the electricity bill as well. The soil moisture sensors of the garden will transfer information to the mobile app through cloud by which we will be able to determine when and how we need to water our plants. The main theme of this prototype is waste water harvesting and zero carbon footprints towards our social life.

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