



Lavanya lake cleaning machine to remove hyacinth from water bodies

Godasu Narasimha
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Godasu Narasimha, belongs to fishermen community of Muktapur village. He identified the pain and drudgery experienced by his community to deal with the disposal of hyacinth growing in the village lake meant for growing fishes. He decided to solve this problem by innovating a hyacinth removal machine.

Innovation Details:

Narasimha has been working as a teacher in a private school of his village. Besides working as teacher, he has to do his part as a member of the local fishermen group which grows and catches fish every year in the tank of the village for the contractor from Hyderabad. Local fishermen community supplies the fish to the contractor

and the profits are distributed amongst the fishermen community of the village. The fish catch depends upon the health of the tank which, like many other tanks, is affected by a dense growth of hyacinth. This hampers the growth of the fish. Fishermen continuously have to take turns to go into the lake, remove the hyacinth and dump it on to the bund. This task requires work by 50 fishermen for a period of 60 days in a year. The process is strenuous, slow and continuous exposure to water results in snake bites and fungus growth on the fishermen's legs and feet. Around Muktapur at least another 10 villagers are facing similar problem. According to Mr Narasimha, the cost of removing the hyacinth in this way works out to Rs 1 lakh per year for his lake which has a water spread area of about 2 acres.. This amount, though paid by the contractor eventually gets deducted from the sale of fish.

Narasimha wanted to mitigate the pain of his community and conceived a device which cuts the hyacinth into pieces. When he sought financial help, the fishermen community doubted his abilities and rejected his suggestion. Eventually after discussions with his wife Mr Narasimha decided to make one with his own funds and some borrowed from friends. He spent almost Rs one lakh during the development stage of this machine.

Mr Narasimha used a 5 hp motor to rotate a shaft with eight cutters positioned diametrically. A grill at the bottom of the cutter provides a platform for cutting and the pieces drop down from the grill. Hyacinth is supplied to the cutter through a conveyer belt positioned in front of the cutter towards the water. Hyacinth plants are manually pushed on to the conveyer then on to the cutter. It is cut to pieces of 3-4 inches length by the cutter and it flows down with water downstream. The device is installed adjacent to the pier in the water, over which the water flows downwards in to the stream. The cut water Hyacinth is then removed from the site. Four men are

required for a period of 5 days to perform the same job of hyacinth removal by 50 people over 30 days. Compared to manual process, the cost incurred was Rs.2000 for labour and Rs.1500 for diesel to run the motor. In a year the total cost using this device was Rs 7000 against 3 lakhs manually. He christened the machine as Lavanya Water Hyacinth Cutting Machine, after his wife who stood by him through thick and thin. This was the first machine made by him. From then till now Lavanya is his able assistant supported by their 15 year old child Ajay.

He was connected to the officials of Greater Hyderabad Municipal Corporation by Palle Srujana – a member of Honeybee Network and they commissioned him to clean the city water bodies. Mr Narasimha has used the improved device which disposed the debris of hyacinth at a designated location with the help of a conveyer which conveyed the debris to waiting tractors and its trolleys. He effectively cleaned 8 to 9 water bodies till now. A working model of this machine was displayed in the “Festival of Innovations -2015” at Rashrapathi Bhavan during March 2015.

Mr Narasimha has improvised this machine by changing the width of the conveyer belt depending on the area of water body to be cleaned. The cost of the machine comes anywhere between Rs 25 lakh to Rs 35 lakh, depending upon the design and material used. There is also an amphibian machine that works both in water and land. This machine costs Rs 25 lakh and does not require any manual power. However, the debris are to be deposited on the bund periodically.

A serial innovator that he is, he solved many other local problems. Recently he developed a 'Godown lifter' and a simple, low cost 'Separator and grader' meant for paddy for farmers. Narasimha lost his parents one after another at a young age of 8 years and his brother supported him to



study up to tenth standard. Although he went on to do his diploma in civil engineering, he could not complete it. Innovation is his passion and he understands technology with aplomb.. He married Lavanya in 1994 and they have a daughter and a son. Presently, his daughter is in her Post graduation in Engineering and his son in 10th class.

Recent developments:

1. Pragati Nagar village Panchayat within the Greater Hyderabad urban area bought a set from Narsimha to clean their lake.

2. The present Chairman of Vizakhapatnam Port Trust who had seen Narsimha's machine while he was Commissioner, Greater Hyderabad Municipal Corporation, invited him to Vizag Port to suggest a solution for the problem of urban waste entering the port area. Narsimha innovated a new technique to remove the

waste which includes plastic and presently he is assembling the unit.

3. He has received an order from GoI, MEA for making one unit to be presented by GoI to Government of Kenya, as a goodwill gesture. Recently, important officials from Kenya visited his workshop and were pleased with his innovative thinking. The order is now being executed and in all probability, Narsimha will be visiting Kenya some time in July 2019 to assemble and demonstrate the working of the machine.

4. There were many enquiries from various Government Departments from various states such as Collectorate, Mahbub Nagar dist. in Telangana, Irrigation Department of GoAP, Orissa Power Corporation, Forest Department, Orissa. Some private contractors involved in cleaning of lakes, etc. have shown interest in buying of his machines.