

Calcutta Notebook

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IN THE AGE OF CLIMATE CHANGE what happens when a villager tries to prevent avoidable use of vast quantities of diesel? Is he helped, or his work is hindered?

The Mangal Water Wheel invented and patented by Mangal Singh, an award-winning rural scientist, can save millions of litres of diesel but so many hurdles have been placed in the path of this promising but frustrated innovator that instead of devoting himself to promoting his work he has to face numerous injustices, including loss of his ancestral land.

Recently in Bhailonilodh village, Lalitpur district (UP), this writer met this rural scientist and innovator Mangal Singh who has invented a low-cost and efficient fuel-less Mangal Water Wheel Turbine pump-cum-PTO Machine (patent no. 177190, dated 13-11-97). This can be used to harness the energy of flowing water to lift water for irrigation purposes and also carry out many other rural works such as operating various cottage industries. It requires low water heads up to one metre which can be done by creating low cost check dams, or existing check dams can be used.

Mangal Singh said, the cost of lift irrigation can be reduced drastically by using this device. Any machine that helps to avoid the use of diesel and electricity should be greatly welcomed in these times of energy crisis and climate change.

When large-scale afforestation work was carried out in Lalitpur district as compensatory afforestation for Tehri Dam Project, this device was put to good use for irrigation. He has also been called to instal the device or demonstrate its effectiveness in Dehradun, Jhabua, Tehri Garhwal and other districts.

Using this device water can be lifted many times more than available head. It can be used for several works relating to cottage/rural industries such as operating atta chakki, sugarcane crushing, threshing, oil expelling, chaff cutting etc.

Here it may be useful to quote from the comments written by some senior officials and political leaders about this device.

B K Saha, former Chief Secretary, Govt. of Madhya Pradesh, wrote, "This is to certify that I have studied the working of the Mangal Water Wheel located near the village of Bhailonilodh in the Lalitpur district of Uttar Pradesh in June/July 2002. I also made a detailed analysis of the economic viability of the 'Wheel' and its comparative advantage vis-a-vis alternative methods of pumping water from streams and small rivers for irrigation. The system is extremely cost effective even after taking into consideration the cost of the Stop Dam. Where the Stop Dam is already available the system is even more cost effective. Installation of this device is strongly

recommended wherever there is flowing water in small streams by constructing a stop dam and installing one or two water wheels as designed and developed by Shri Mangal Singh. It saves on energy like electricity or diesel and is ecologically completely benign.”

Similarly Dr T P Ojha former Deputy Director General (Engineering) of the Indian Council of Agricultural Research wrote that “Mangal Singh’s device offers great promise and possibility of lifting river water for irrigation, fisheries, forestry and drinking purposes. The water head created by putting a check dam across the river or perennial water course generates enough force to rotate the water wheels to operate one or two centrifugal pumps in series... The designer of the system Mangal Singh deserves appreciation and support to install few more units in different parts of the country for demonstration purposes.”

These are only two of the many commendations that Mangal Singh and his device have received from several experienced and eminent persons, including those holding senior official posts. Despite this Mangal Singh, who has a knack for speaking very frankly and fearlessly particularly when he comes across any irregularities or injustice, did not get the due encouragement from the government. Instead he was harassed to such an extent that his ancestral land had to be auctioned. Today he is a shattered man who has a bag full of documents to prove how badly he was treated by various officials and government agencies.

If Mangal Singh had received the help and encouragement that was rightly his, then by this time he would have saved the country billions of Rs and what is even more important, massive amounts of energy in these days of energy crisis, apart from contributing to reduction of global warming by avoiding the use of vast quantities of diesel and electricity.

Even now it is not too late to undo the injustice that has been done to him so that his tremendous creativity can contribute to the country’s development. The bigger challenge is to create a system so that other ‘farmer scientists’ or ‘barefoot scientists’ like Mangal Singh don’t have to suffer in future. □□□