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**Floating pumpset: an innovation well suited for all seasons**



During heavy rains it is a common sight to see two wheelers parked outside mechanic shops to get their spark plugs cleaned.

“Similarly electrical shops in villages are usually flooded with farmers bringing their pumpsets for changing the coil due to water seepage. But once if they get to know about fixing their pumpsets on a movable floating platform inside wells this small but significant problem can be solved,” says Mr. M. Parthasarathy, from Polyene Film Industries group in Chennai.

Innovator award

The innovative floating platform for surface mounted electrical pump sets developed by the company won the L-RAMP 2007 awards under the Grassroots Innovator category.

“It is a holistic solution to several compartmentalized problems like periodic shifting of pumps with seasonal change,” says Mr. Parthasarathy.

Usually farmers have to keep changing the height of the pumpsets inside the wells. During

summer when the water table goes down the farmer needs to shift the pump deep into the well near the water surface.

“What we have done is to fix a galvanized cage on two floats with a platform in the middle on which the pump set and the self priming chamber are mounted.

“By doing so, the energy efficiency is greatly enhanced due to absence of a long suction pipe and foot valve saving 30 per cent of energy. No need to relocate the pump or worry during the rainy season as the float automatically adjusts its level with the water level, explains Mr. Parthasarathy.

Big change

This innovative floating pump is bound to benefit the farmer in an extraordinary manner bringing about a big change in the small irrigation sector.

This invention is targeted mainly towards the agricultural sector where it can be seen as a panacea for the problems faced by the poor farmer on a day to day basis in the maintenance and running of the conventional pump sets.

The basis of this invention is targeted towards enhancing the water to water efficiency of existing open well pump sets which are running in the field.

“The severe changes in the water table in open wells often necessitates establishment of pump mounting platforms at more than one level in the wells. The plumbing and reconnection at each shift in location is both expensive and time consuming,” he adds.

Often any delay in upward shifting especially during monsoon season when water levels rise unexpectedly and alarmingly may result in motor getting submerged in water.

Dry running

Majority of the pumpsets require priming and this becomes increasingly difficult in the case of surface mounted pumpsets where the suction pipe length is several metres Every surface

mounted agricultural pumpset is provided with a shed to protect the switchgear and pumpset from rain.

The floats are specially shaped and high molecular density polyethylene blow moulded with a mild steel cage holding the two floats and the pump set is mounted on this cage between the floats and the self priming chamber is also supported on the mild steel cage.

The entire floating pump set assembly is tied to a polypropylene rope and the top end of the rope is tied to an A-frame (galvanized mild steel founded in concrete at the edge of the open well). The 4-core electric cable for the motor is also intertwined with the rope for proper earthing.

#### Constant buoyancy

A dancing pulley with a counterweight helps to keep the floating pump from tilting and also ensures constant buoyancy. The floating pump assembly rises and lowers with the changes in water level in the well.

The suction is a rigid PVC bend attached to the self priming chamber and the other end dips into water with a blow moulded filter basket. No foot valve is required.

#### Protection from rain

The delivery pipe is a flexible single length HDPE pipe and water discharges at ground level. The motor is protected from rain by a plastic cowl. By shifting the existing surface mounted pump, the discharge becomes double as assessed by the Centre for Water Resources of Anna University.

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