B-132: Construction and performance test of a low cost water lifting device for crop irrigation

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An appropriate Floating Coiled Tube Pump was designed and tested as a suitable device to lift water from irrigation canals, reservoirs and other sources where few meters of lift will be needed. Pump works on the principle of the Archemedian screw where PVC tubing with a diameter of 7.5 cm was used as the coil.

Field tests were conducted to test the discharge of the pump is respect to number of rotations per minute and pump inclination. Discharge measurements were conducted at three different rotational speeds (30, 40 and 50 rpm) at inclination angle of 20°, 21° and 22° angles. Increase of the angle of inclination helps to increase the total head of water lift. Nevertheless pump with inclined angle of 21° appeared to be the optimum angle of inclination to obtain the maximum discharge of 108 l/min. at 40 rpm.