

Aiding Water Flow in Irrigation Technology with a Pedal Operated Manual Pump

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Abstract : The research was set to design a manually pedal operated water pump to aid water flow technology for irrigation activities for rural farmers. The development was carried out first by a prototype design to guide the fabrication. All items needed for the fabrication were used for the final product. The machine is operated manually by pedaling. This engages all the parts of the machine into active motion. Energy is generated and transfer finally to the pumping unit which is wired with plastic pipes. The pumping unit which is wired with PVC pipes, both linked to the water source and the reservoir respectively. The (rpm) revolution per minute of the machine is approximated at 3130 depending on the pedaling speed of the user. The machine does not have gear arrangement yet can give high (rpm) for effective performance. The pumping performance of the machine is 125 liters in one minute and can sustain small scale irrigation farming activities and to supplement water management system to sustain crop growth.

Keywords : pump, development, manual, flywheel, sprocket, pulley, machine, v belt, chain, hub, pipe, steel, mechanism, irrigation, prototype, fabrication

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