

- It puts an end to children and women carrying heavy water jugs to and from the spring;
- Its time saving;
- It improves general health of the villages;
- It makes laundry washing near the houses possible;
- Fishponds become possible, as well as vegetable growing, and animal husbandry.

Some of the advantages of installing this system of obtaining water are listed below:

- Zero pollution;
- Operates 24 hours a day, 7 days a week without supervision;
- Pumps 20+ more its own fall, with the record of 200 meters up without a motor;
- No fuel or electricity cost;
- Low maintenance and repair cost;
- Repairs are done locally;
- Installation is up to 80% cheaper than other water system models;
- Local manufacturing and training generates employment.

References

- [1] Bates L., Hunt S., Khennas S., Sastrawinata N., (2014), *Expanding Energy Access in Developing Countries: The Role of Mechanical Power*, Warwickshire: Practical Action Publishing Ltd
- [2] Calvert N.G., (1997), *Hydraulic Ram*, The Engineer.
- [3] Graham F.D., (1998), *Audels Pumps, Hydraulics and Air Compressors. Theo*, Audel & Co. 49 West 23rd St, New York.
- [4] Harrison D.S., (1990), *Hydraulic ram pumps*, Fact Sheet No.AE 19, Extension division, Agricultural Engineering, University of Florida.
- [5] Hofkes E.H., Visscher J.T., (1986), *Renewable Energy Sources for Rural Water Supply in Developing Countries*, International Reference Centre for Community Water Supply and Sanitation. The Hague, The Nederland.
- [5] Lopez A., (2014), *Water Related to Biorefinery and Agriculture*, Conference on the Indo-European Research and Innovation Partnership, Brussels.
- [6] Prakha M., (2014), *Sustainable energy solutions for irrigation and harvesting in developing countries*, PhD thesis, California Institute of Technology, Pasadena, California.
- [7] Privette C., (1989), *Hydraulic Ram*, Irrigation Fact Sheet No.4, Agricultural Engineering Department, Clemson University.