

## Water Bag

It is well known and recognized that women and girls in villages of India make enormous efforts to get enough water to the house for the whole family and for all the household chores. The time burden of water fetching has been suggested to influence the volume of water collected by households as well as time spent on income generating activities and child care. However, little is known about the potential health benefits of reducing water fetching distances. Women & girls have to walk a number of times up and down to the water source, with a bucket on her head. Health Surveys carried out in India as well as in different countries were used to assess the relationship between household walk time to water source and child health outcomes. To estimate the causal effect of decreased water fetching time on health, geographic variation in freshwater availability was employed as an instrumental variable for one-way walk time to water source in a two-stage regression model. Time spent walking to a household's main water source was found to be a significant determinant of under-five child health. A 15-min decrease in one-way walk time to water source is associated with a 41% average relative reduction in diarrhea prevalence, improved anthropometric indicators of child nutritional status, and a 11% relative reduction in under-five child mortality. There is a need to evolve means and ways so that water fetching can be made less time consuming and less drudgery prone. The water bag developed helped and reduces the time spent on heavy task of fetching water from hilly terrains. This will add to the technological empowerment of women folk also.

### **Advantages:**

1. Energy expenditure reduces from 13.93 kJ/min. to 12.18 kJ/min. in improved method.
2. TCCW reduces from 794.6 beats to 725.25 beats over conventional method.
3. PCW reduces from 132.43 beats to 120.87 beats in improved method.
4. 20 liter water can be carried in one time by using improved method whereas only 9-10 liter water was carried by conventional method.
5. Elimination of head load of the worker
6. Equal distribution of the of the load carried by the worker so that the task is perceived less tiring.