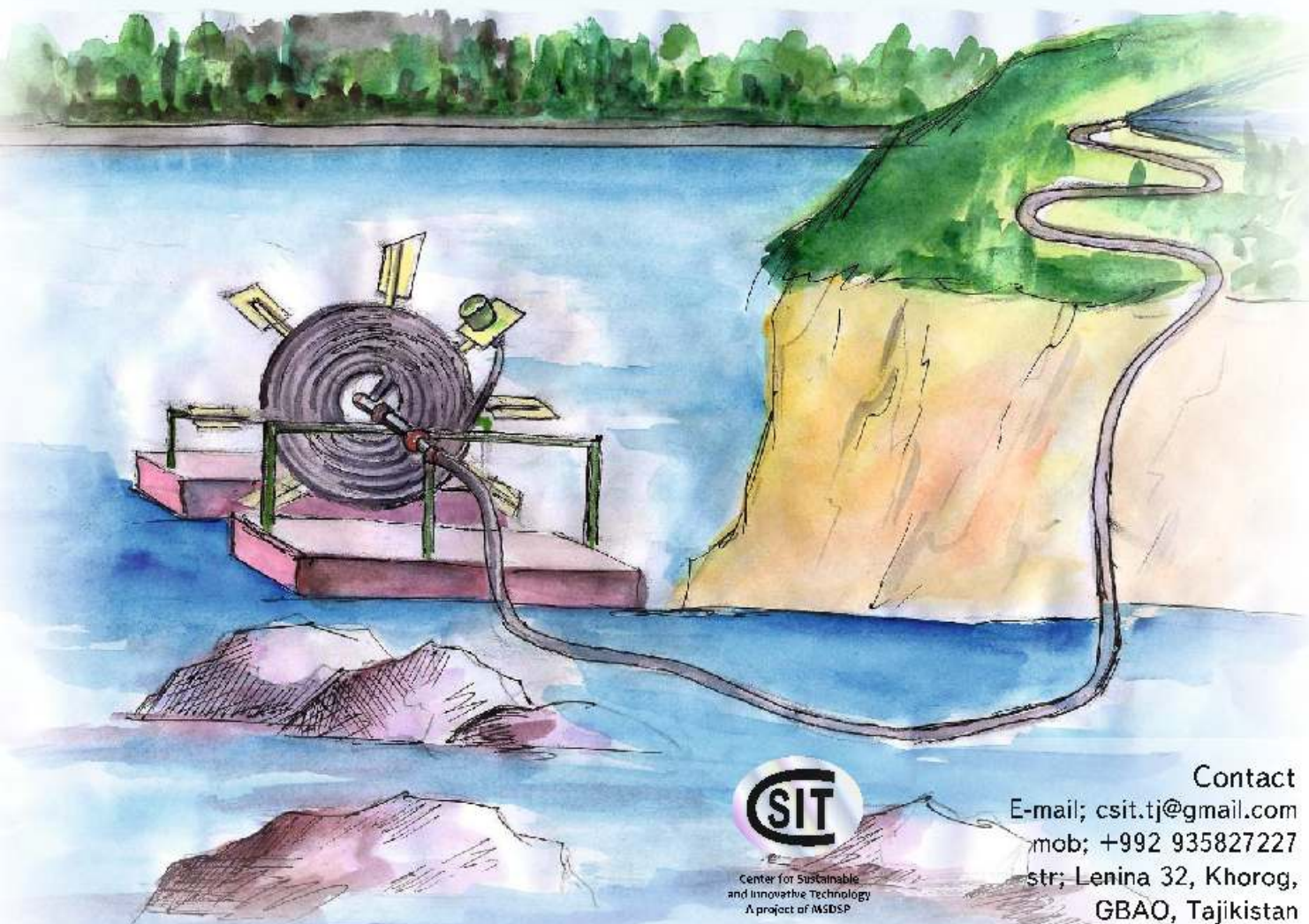


Spiral water pump



Center for Sustainable
and Innovative Technology
A project of MSDSP

Contact
E-mail; csit.tj@gmail.com
mob; +992 935827227
str; Lenina 32, Khorog,
GBOA, Tajikistan



FOUNDATION FOR SUSTAINABLE
DEVELOPMENT OF THE REPUBLIC OF
TAJIKISTAN



Center for Sustainable
and Innovative Technology
A project of MSDSP



Донишгоҳи Давлатии Ҷорӯф
ба номи М. Назарқиев

Supported by The Prince Sadruddin
Aga Khan Fund for the Environment (PSAKFE)

Spiral water pump

Насоси спиралӣ



The Spiral pump is attributed to an Swiss inventor whose last name was Wirtz, it is therefore also known as the Wirtz pump. It pumps water using the power in a moving river that is captured by a undershot water wheel. Attached to the wheel is a spiral made of a rubber or metal tube with a scoop at its end that is fastened to one of the paddles of the water wheel. The other end of the spiral should allow fluids to flow to the axle of the wheel, and then out of one side through a rotary fitting to a tube that carries them to their final destination.

Inside the spiral, alternating columns of water and air are formed by the intermittent introduction of water through the scoop. As these columns progress along the spiral, they have less and less space because the diameter of each ring of the spiral is less than the previous one. Because water does not compress, the air that is trapped in the tube compresses with each turn of the wheel. When these columns of water and air are sent through the axle and then to the delivery tube, the air starts to slowly uncompress.

The power stored in the compressed air that is released as it uncompresses can lift the water to significant heights. Unlike the Nuria (detailed in a separate brochure), the spiral pump can lift water to several times the height of the wheel. A demonstration of the spiral pump is installed in Khorog City Park and in several locations in GBAO. It is particularly useful in situations where water needs to be lifted to heights around 10m or along a fair distance from the river.

Насоси спиралиро ихтирокори шветсари Виртс пайдо намуд. Ин насоси оби қувваи ҷараёни обро истифода мебарад ва обро гирифта ба чарх мерезонад. Ба чарх спирал маҳкам шуда (спирали резинӣ ё оҳанӣ истифода бурда мешавад) бо обкаш (ковш) дар охир чархоро мегардонад. Қисмати дигари спирал обро аз чарх гузаронда бо механизми даврзананда об ба ҷои зарурӣ дохил мешавад. Дар дохили спирал об ва ҳаво ҷамъ шуда аз байни обкаш гузашта ба сағх мебарояд. Азбаски об ва ҳаво дар гирди спирал чарх мезананд ва ҷой барои онҳо дар ҳар муддати чарх задан камӣ мекунад ва аз ин рӯ, диаметри ҳар як чарх нисбати пештара камтар аст. Ҳар вақте, ки обу ҳаво ба хокрез (вал) ва баъдаи ба қубур дохил шуда, фишори ҳаво тағйир мешавад. Қувваи ҳаво фишори обро ниҳоят баланд менамояд. Нисбати насоси чархгардоии (Nuria) насоси спиралӣ қудрат дорад обро то чӣ андоза баланд партояд. Агар шумо хоҳиши гирифтани маълумоти муфассал оиди ин насос дошта бошед метавонед аз боғи истироҳатии ш. Хоруғ ва дигар ҷойҳои видеоямондида намоед.

