

## E.C.E.X.A PROJECT



## WATER AND ELECTRICITY TOGETHER

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Unclean water, lack of sanitation and poor hygiene cause more than 80% of all disease and kill more people every year than all forms of violence, including war. Alone in the Sub-Saharan countries in Africa 40 billion working hours are so wasted to procure water each year. Children and women are on these often arduous paths to victims of sexual violence and abuse.

Life without water is not only a problem of distance. A major cause of disease and subsequent emergency situations is precisely the unsatisfactory quality of the water. The inferior water quality and unprotected water sources, which are also used by livestock as potions, are the cause of many diseases (eg, dysentery, diarrhea, worms ...) and even deaths. Especially in these water points are waiting for their victims and the mosquitoes transmit malaria. But a well in the village brings not only a health improvement, it also means a relief for the situation of women and children who are responsible for procuring the water.

The easy access to clean drinking water is the foundation for other forms of development, he not only saves lives, it can change a whole life. There can be no economic development, no prosperity, no health and no formation without healthy water. Water is life.



Projects for sanitary fittings, construction of schools, hospitals and agricultural development are also included. And for all the "water" is the prerequisite. There are several ways to design manually dug wells or deep wells and build. Designs vary, depending on local preferences and conditions. Manually dug wells or deep wells are easy and quick to install and very durable. A fountain can supply more than 260 people for 20 years with clean, safe drinking water.



Solar pumping systems make a major contribution to "help themselves". The idea is that the people who are suffering are you the ability to help themselves and to build a better quality of life.

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Our offer covers the water and electricity supply of army or rural areas.



Due to the overpopulation of the big towns the surface waters in Africa are polluted and their purification costs very much. In the rural areas the population mainly drinks from wells what they dig and their depth is not enough to prevent surface waters and sewage to penetrate. The hygienic and health problems are permanent, malaria, cholera, dysentery and other water transmitted diseases cause severe damage in human lives. The water transmitted diseases represent about 30% of the total diseases therefore the local authorities have to allocate huge amount of money in order to control them.



The only secured solution is the establishment of boreholes which are deep enough to get healthy potable water where surface waters and sewage are excluded. In our proposal the borehole is operated by solar energy what is generated by a special solar element. This element can generate electricity for operating the water pump and the excess electricity can be used by public services of the rural population. In our proposal the borehole and the solar element is supplemented by batteries.



In Africa people find thousands of ways how they get away from payments. They steal electricity and find the way to drain out water from the central system. In our proposal they can not get rid of payment. The counter is installed on the borehole. **The counter shows the amount of money what they have to pay for the water and the electricity together.** So it doesn't show the consumption of only the water or only the electricity. The electricity consumption for communal use is also has to be calculated in the water consumption as a value. In other words it means: who doesn't pay for electricity he can not drink even water.

If people cause any damage in the system they can not drink water any more. The bad quality water of the existing water wells can be used for agriculture as irrigation.

We are planning to drill a deep as necessary well in the arid regions of any country in Africa and promote daily with a solar-powered high-performance pump up to 15,000 liters or more of water. This water is used for irrigation purposes in a sophisticated irrigation system for big area under cultivation. It will hold about 70 new jobs. The agricultural cultivation is trained and implemented in organic form. The most fertile soil of African countries provides numerous fruits and vegetables, such as: millet, beans, bananas, sweet potatoes, yams, cassava, watermelons and potatoes. Through the creation of jobs about 70 families are nourished and protected lives.

Who controls the system? **A contract has to be signed between the authority and the contractor.** The contractor is responsible for the establishment of the system while the authority is responsible for the control of the system and the payments. The authority can also be a beneficiary of the contract and it will get the system according to authority standard. In case the system is established in rural areas, villages, also the authority is the partner who controls the counters of the boreholes and collects the fees or payments from the chiefs of the villages. The chiefs of the villages collect payment from the citizens. The chiefs are responsible with their own property when they settle the bill with the authority according to the consumption showed by the counters. The authority and the contractor will agree how to share on the payments of the water. From part of these payments a fund has to be created for the maintenance of the system. On long term the rest of the income will enrich the budget of the authority and on the other hand the contractor will establish its own budget for further investment or expanding the system.

Water will play strategic role in the life of Africa. In order to save life the authority has to be involved in the strategy of drinking water in rural areas.

The above system shows how citizens can be saved from water transmitted diseases. The amount of money what they have paid for medical services now they can give it for healthy water and can get closer to the flow of information by TV channels and internet. The gap between cities and villages can be eliminated.

All other big plans like agricultural development can come after the first step: healthy water and basic electric supply...

