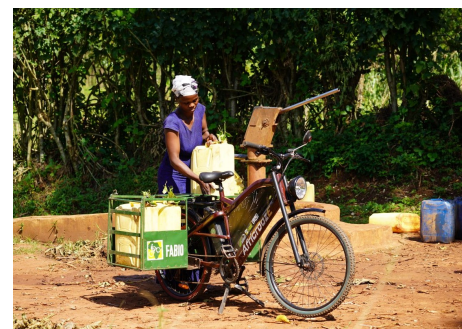


Electric Bicycles - Bicycles Helped with a Motor



Why to choose this solution?

Electric bicycles offer a mobility which is in between bicycles and motorbikes. Changing from combustion engine motorcycles, you reduce the CO2 emission, air pollution, and noise. Compared to a normal bike, the electric motor helps you to drive faster and longer, and the rechargeable battery can be charged at night at home and at other electric outlets. For times or places without electricity to recharge, it is still possible to drive the bike by man power, as a normal bike.

Savings per day or production:

The cost of fuel is reduced by at least 70% compared to combustion engine motorbikes as electricity is cheaper than petrol and diesel.

Cost in money and in own time to construct:

The prices differ according to models for usages like private, cargo, re-used or new, from USD 400 to 1000. They can ride from 40 to 80 km by one charge with up to 25 km/h carrying 120 kg. A model driving 80 km in one charge costs USD 765 in Kenya.

Lifetime:

Bicycles itself last 10-20+ years. The battery lasts about 5 years, when it needs to be changed or you can continue use the bike without motor.

Maintenance needed:

It needs normal maintenance for bikes. You can adjust, how much the battery helps, from 25% to 100%. It is faster than normal bikes, so brakes need to be regularly checked, and helmet is need to be used. When there is no more power in the battery, you need to recharge it, if you want the motor to help.

Resources needed in use:

Electric bikes are normal bikes, which need the user to pedal for it to ride and has a motor helping to ride faster and up hill. Man power is always required and if you need the motor to help, the electricity is from the battery, which can be charged by normal electric plug.

Problems and limits:

The starter price is higher compared to a normal bike, but cheaper than a motorbike. The battery has a limitation of how many km it can power to ride depending on the models, and how much the motor is used. The battery is expensive to change after the 5 years.

Where and how can you get it or make it?

The electric bikes are available in shops and e-bike companies, which are importing, manufacturing or assembling them. There are companies, which convert bikes to electric bikes by attaching motor and battery. There are programs, and associations promoting bicycles and e-bicycles for community use by donating, renting or for reduced price.

Skills needed to produce, install. maintenance, use:**How to use it:****How to maintain it:****Climate effect (if any):**

Using e-bikes reduces greenhouse gas emissions compared to fossil fuel vehicles.

Where it is used and how many users are there?**Why is it successful?**

It is succesful because it is a smart and cheap way of transportation. Cheap because it does not need fuels just energy from the battery, and in times of lack of energy, you can just use the pedals as a normal bike.

If you can make it, a short description, typical problems, materials needed:**How to make it (if possible):****How is it delivered and by whom?****Successful financial model**

Loan, renting or leasing. Battery can be owned by a company with charging stations. Companies using it to employees delivering goods brings savings, and good image. Support and donations to community use as waste collection, water carriage for women, ambulance, and school children during school period, which is increasing school attendance.

What policies and strategies helped the success?**More info:**

First African Bicycle Information Organization (FABIO), AfricroozEs bikes: <https://fabio.or.ug/>; eBee: <https://ebee.africa/> and African Ebike: <https://african-ebike.de/en/>

Sources:

When was the case uploaded?

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*Case from Catalogue of Local Sustainable Solutions
in East Africa. Read more and see partners at
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