BIOCHAR Technology- Positive linkage between Sustainable Wood Energy and Forest Landscape Restoration

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May 21. 2020

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We have been working since **2009** in developing **Biochar systems** including pellets production from agricultural residues, stove/kiln for efficient production of cooking energy and of biochar, as by-products for soil amendment

Producing Improved Feedstock from Agricultural Waste and Residues

Corn Cob processed into pellets

The relationship between input (biomass) and output (pellets) is very close.

Input - 2kg of Corn Cob

80% Output (Pellets for first time).
98% Output for subsequent feed to the machine.

The micro-gasifier is produced by using simple tools and the technology is easy to replicate

Micro-gasifier stove uses woody and agricultural solid residues (e.g. palm kernel shells) or pellets, locally produced from forestry/agricultural residues, thus avoiding the use of fuel wood and save forest.

Comparatively lower cost of energy for cooking and heating water. Lower energy cost as compared to Charcoal, Wood fuel and LPG Gas

A stove uses 1.5 kg of fuel for cooking between 1-2 hours depending on external air conditions, to cook for a family of 3-12 people.

It cooks faster than other alternative cook stoves thus saves time for other household and economic activities.

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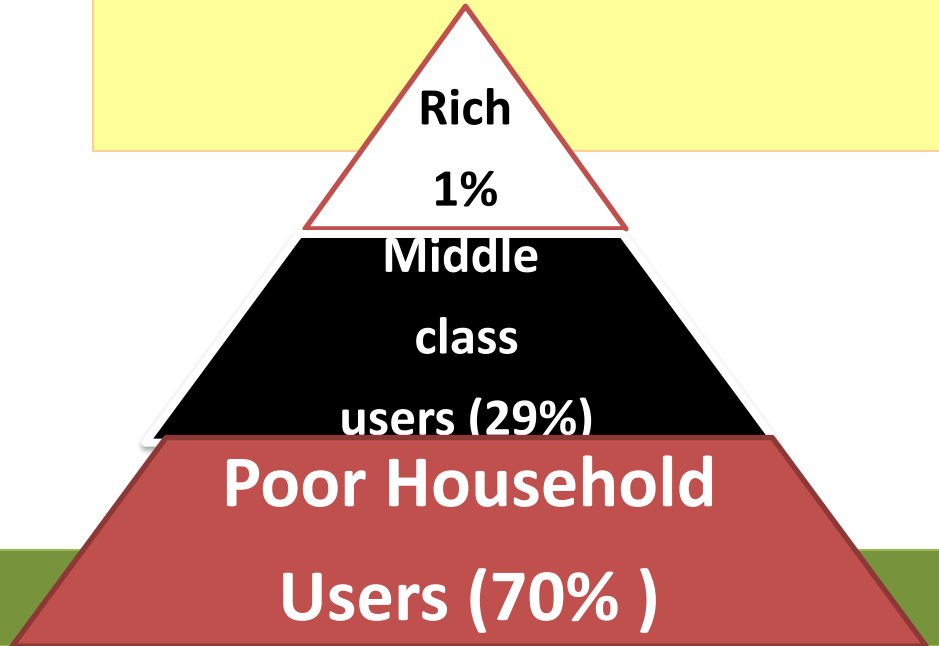
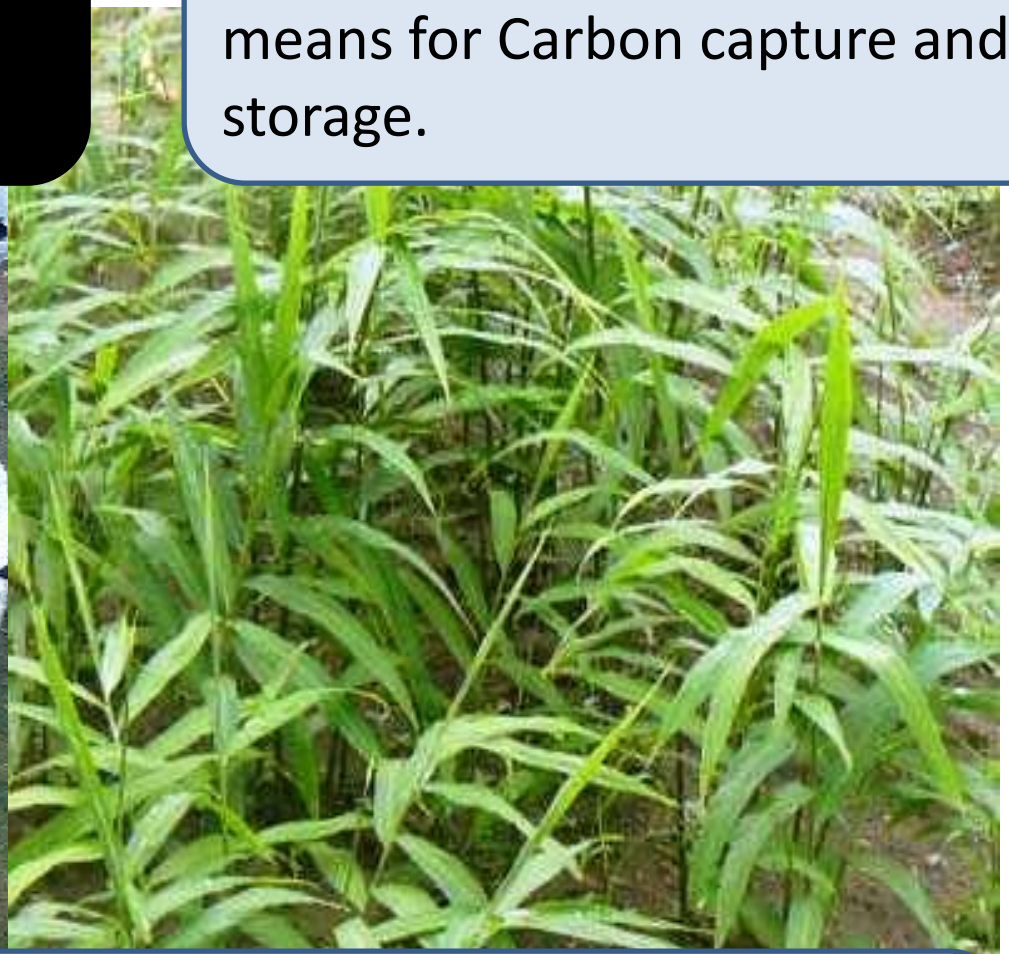
Sale of Microgasfier as a means of contribution to Forest Landscape Restoration

- Engaged in sale of biochar stoves to women for use for cooking energy;
- As a means to contributing to Forest Landscape Restoration



char can be added to soil and it acts soil amendment to improve land fertility and increase yields.

Due to its high content in Carbon, biochar serves as a means for Carbon capture and storage.



•Biochar increases the soil capacity to hold nutrients and water over a long period of time and makes them available to the plants thus allowing for increased yield;

•Biochar is a porous material. The holes enable air circulation in the soil to improve soil fertility;

•Biochar provides platform for micro-organisms to grow in the soil.


Biochar facilitates faster and healthy germination/growth of forest seedlings

Biochar works as soil amendment to restore degraded and polluted soil

Biochar bringing toxic and degraded land back to life

Biochar prevents the plants from absorbing toxic elements including heavy metals from mining activities.

Biochar buried in toxic and degraded forest soil has been proved :

as a successful means to support seed germination, plant and forest growth, thus bringing forest landscape back to life.

Conclusion

Biochar technology enables efficient energy access with less dependence on wood for energy, have value addition to improve soil fertility, crop yield and forest regeneration.

Thank You

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