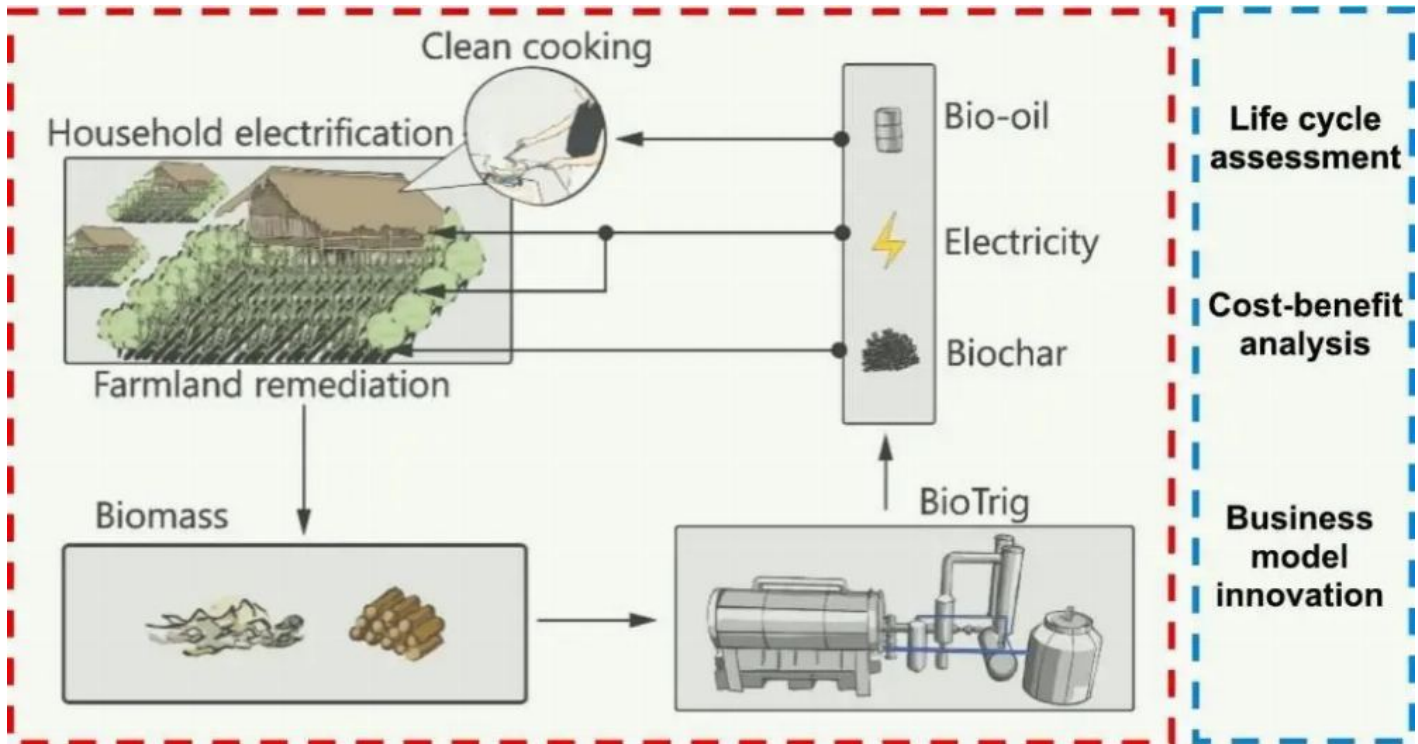


What is BioTRIG?

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About BioTRIG

- It is a new waste management technology based on the pyrolysis system.
- It works by sealing the waste inside an oxygen-free chamber and heating it above 400 degrees Celsius. Useful chemicals are produced in the process.
- In the study, the researchers outlined that three products of pyrolysis — bio-oil, syngas and biochar fertiliser — could help rural Indians live healthier and greener lives.
- Significance
 - The syngas and bio-oil facilitate heat and power the pyrolysis system in future cycles and surplus electricity is utilized to power local homes and businesses.
 - The clean-burning bio-oil to replace dirty cooking fuels in homes and using biochar to store carbon, while improving soil fertility.
 - Computer simulations showed that the BioTRIG system could also be effective in real-world applications.
 - It could help reduce greenhouse gas emissions from communities by nearly 350 kg of CO₂-eq per capita per annum.
 - It could help rural Indians cut indoor air pollution, improve soil health, and generate clean power

What is Pyrolysis?

- It is a kind of chemical recycling that turns leftover organic materials into their component molecules.
 - It works by sealing the waste inside an oxygen-free chamber and heating it to more than 400 degrees Celsius, producing useful chemicals in the process.
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Q1) What is Combustion?

It is a chemical process in which a substance reacts rapidly with oxygen and gives off heat. The original substance is called the fuel, and the source of oxygen is called the oxidizer. The fuel can be a solid, liquid, or gas, although for airplane propulsion the fuel is usually a liquid.

Source: [New waste management technology could improve life in rural India, claims study](#)

Source: <https://vajiramandravi.com/current-affairs/biotrig/>

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