

Government of Nepal Ministry of Energy, Water Resource and Irrigation Alternative Energy Promotion Centre



Food Security Issues and Role of RETs

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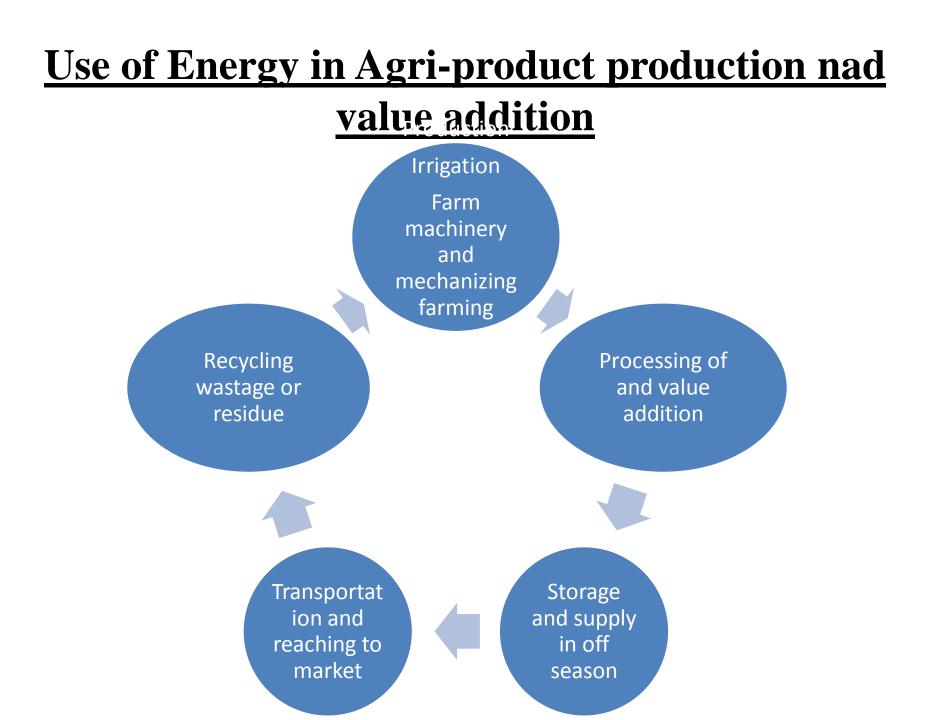
Key Facts

- Food systems currently consume 30% of the world's available energy.
- 70% percent of the energy consumed by food systems occurs after food leaves farms, in transportation, processing, packaging, shipping, storage, marketing, etc.
- Energy is responsible for about **35% of GHG emissions from agrifood chains** (excluding those from land use change).
- An estimated **one-third of the food we produce is lost or wasted**, and with it an estimated 38 percent of energy consumed in food systems.
- Modern agriculture/food systems are heavily dependent on fossil fuels.

Source: energy@fao.org

Advantage of RE in food system

- **Renewable energy** systems have main advantages i.e.
 - reduce the food sector's dependence on fossil fuels
 - reduce greenhouse gas emissions.
 - Portable and modular quick to install and use.
- AEPC has supported through subsidy on following RETs
 - More than 3000 MHPs and PHPs- only used 25% of energy gen.
 - 450,000 Domestic biogas mainly for biogas
 - More than 200 large biogas Organic manure should get priority.
 - Small farmer solar irrigation around 1300 systems
 - Dryers cookers about 500 good for high value product dryer
 - IWMs 10,000 Remote areas technology
 - Inprove ICS/MICS save time and firewood and healthy cooking
 - More than 9 lakh SHS can work longer hours save farm products from damage.



Role of RETs for Food Security

Figure 2.16 Illustration of different entry points for renewable energy into conventional energy supply systems

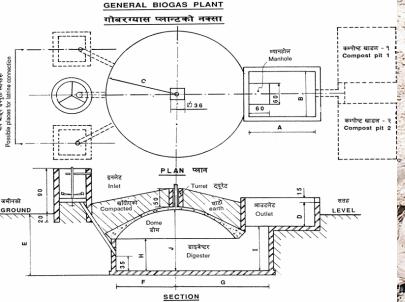
Energy inputs (traction, electricity, mechanical, heat/cooling)

Primary Production	Post-Harvest and Storage	Transport and Distribution	Processing	Retail, Preparation and Cooking
 Solar, wind-based water pumping Biofuels for tractors and on-farm machinery Solar-based desalination, heating and cooling for protected cropping Biomass residues use for on-site energy generation Indirect renewable energy inputs for fertilisers 	 Solar, geothermal food drying Solar cooling and refrigeration 	 Biofuel use for transportation and distribution Solar cooling and refrigeration 	 Solar, wind, hydro-based milling, threshing Renewable energy-based electricity and heat applications 	 Renewable energy-based water purification Modern biomass use for cooking applications

Source: Based on FAO, 2011b; Practical Action, 2012

Domestic Biogas and Agriculture

- More than 4,27,000 plants installed.
- More than 10,000 people employed.
- About 130 companie engaged in the secto



 Bio-slurry a boom for the farmers.



Envipower Selling 8 Metric Tons of Fertilizer Each Day! Waste2Energy





Organic Fertilizer Unit at Khilung kalika Biogas plant





Thank you