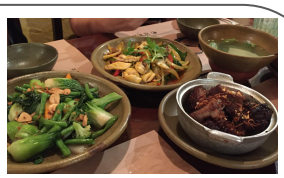
Power management × Food loss

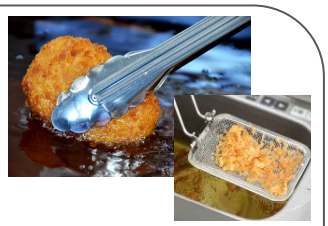
W201905 Shizuoka Prefectural Mishimakita Senior High School

Food loss



More food to be served than you can eat (in Hanoi)

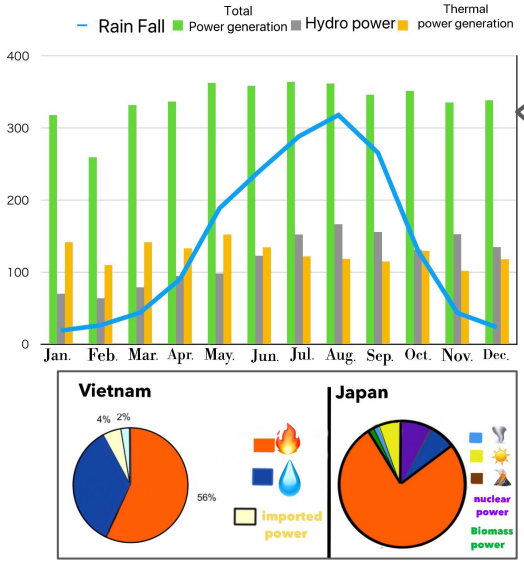
↳ If eaten up, the food was not enough, as a sign.



“Mishima Croquette” a specialty of Mishima

↳ A large amount of fry waste

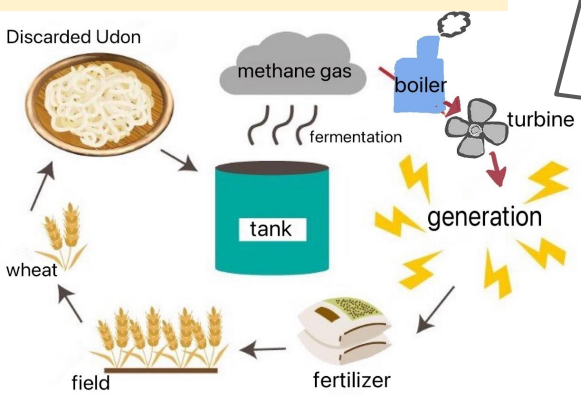
Electricity



【In cold months】
Rainfall
↓
Hydropower generation
↓
Total power generation

Heavily relying on hydropower

UDON Power Generation

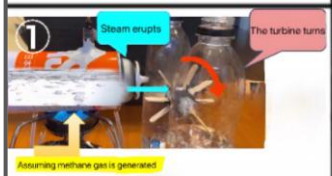


Merits
No greenhouse gas emissions
Does not change with weather
Food loss can be utilized.

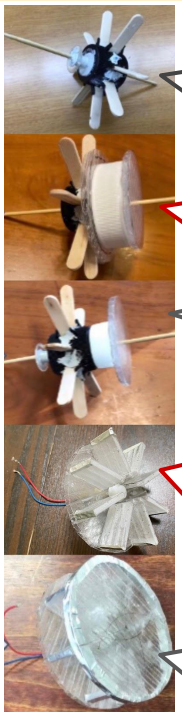
Demerits
Many process stages
Requires dedicated equipment
Takes a lot of time

Model experiment

Verification of the possibility of generating electricity assuming the generation of methane gas.

	Good point	Bad point	Consideration
① 	The turbine turned	No power generation	Not enough RPMs
② 	Steam was produced	Turbine did not turn	• The new parts are too heavy. → Large radius → Large tension • Rubber is in the way.
③ 	The turbine turned	Generated a little power	50mA Generation → midget lamp ✕ To light midget lamp → 100mA or more

Modification of turbine



A turbine made of a plastic bottle lid and an ice stick.

A larger radius helps the RPM go up.

Lighter

Connect directly to a motor.
↓
Higher rotational efficiency.

Entrapping vapor inside with a cover.

Reference

https://news.yahoo.co.jp/byline/iderumi/20180803-00091687 JETRO

https://www.psinvestment.co.jp/small_talk/renewable-energy/ EVN https://galapagonia.net