

FINAL PRESENTATION

International Summer Course Program
Practical Agricultural Sciences toward Regional Sustainability



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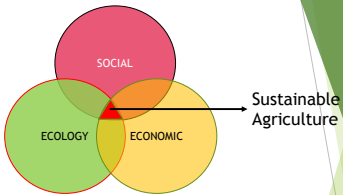


Our current farming condition has resulted in numerous negative side-affects:

- Environmental damages
- Reduced biodiversity
 - Habitat destruction
 - Deforestation
 - Water, air and soil pollution
 - Salinization, desertification
 - Damage the soil fertility

- Human impacts
- Farm land destruction
 - Reduced nutritional value of food
 - Decreased economic, social and cultural values

For the past several years research has looked at sustainable agriculture as a potential solution to correct and prevent these problems



"Sustainable agriculture is the efficient production of safe, high quality agricultural products, in a way that protects and improves the natural environment, the social and economic conditions of farmers, their employees and local communities, and safeguards the health and welfare of all farmed species and continuously"

AGROTOURISM

Kampung Wisata Cinangeng

Kampung Wisata Cinangeng has better management because it's managed by company. Different with Kampung wisata Cinangeng, people kampung that separated by Putang Kampung bridge managed by the society that live there. People kampung have positive and negative side.

Positive:

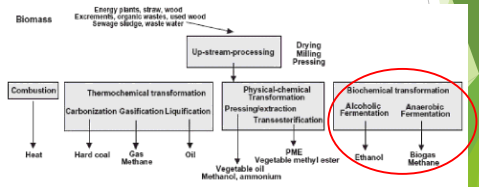
1. People kampung got the benefit from Kampung Wisata Cinangeng because help to promote the home industry
2. Decrease the population of golden snail because nowadays golden snail become edible by people
3. By using multiple cropping, it can be a pest management
4. The waste thing (example: coconut shell) not only become a waste but utilised as something that has benefit.

Negative:

1. Still doing something in traditional way
2. Low sanitation
3. Small area of farming activity caused low income
4. Organic waste dumped to landfill

Economy

- Use the food which produced in the village and distributes to the restaurant or hotel → will be high demand for the village
- Sell the golden snail to become a food to tourist that come to the village



Economy

Multiple cropping



Fertilizer



By using fertilizer from chicken manure or compost and do multiple cropping can increase people's income and more efficient

Social

- Give an education for farmer about good environment
- Good opportunity : how to plant, grow up, and harvest → tourist interest in agriculture, then they think about agriculture
- Teach technique for a farmer → can improve the productivity
- Facility for society



Ecology

- ▶ Adding the nutrients (N, P) so decrease the fertilizer, they will be able to block contamination of river
- ▶ Maintain landscape of village → related to conservation → protect the biodiversity
- ▶ To do a hydroponic
- ▶ No more river pollution by the society because of Communal MCK



Measure the water quality: Biology Oxygen Demand(BOD), Chemical Oxygen Demand (COD), and pH



Hydroponic

Ecology

Create composting facility to recycle domestic (organic) waste, no organic waste dumped to landfill



Ecology

Create Communal MCK or BWT (Bath, Wash, and Toilet) Facilities with fecal and waste treatment into fertilizer.



Urine treatment for fertilizer
Waste water from washing treatment



CIKASUNGKA OIL PALM PLANTATION

Oil palm is one of the plantation commodities which have an important role in generating foreign exchange through the production of palm oil and palm kernel oil. Development of oil palm plantation in Indonesia is supported by the large areal potency, tropical climate and suitable soil. Cikasungka oil palm plantation is a part of PT. Perkebunan Nusantara VIII, has 3520 ha total area. Cikasungka oil palm plantation start to produce from 2013.

Positive:

1. Zero waste because all part of oil palm biomass back to the field and factory

Negative:

1. Oil palm fiber difficult to decomposed, need a long time
2. Using herbicide to managed the weeds arround oil palm plantation, it can damaged the soil fertility

Economy



Oil palm fiber

- be addition substance to enhance the power of concrete
- source of energy for the palm oil factory
- Immobilization fungi



Economy



palm oil leaves

Fermentation



Livestock

- Government should aid bonus to farmer
- Income of farmer will be increase

Ecology



Omphalina sp

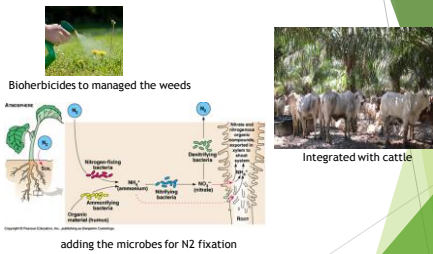


Immobilization fungi

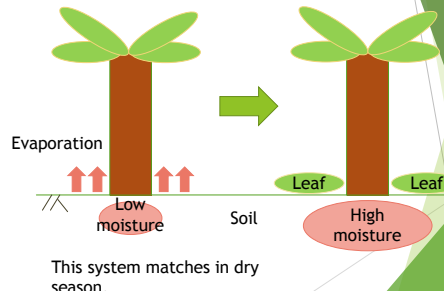


bioremediation

Ecology



Ecology



Social



DAIRY FARMING

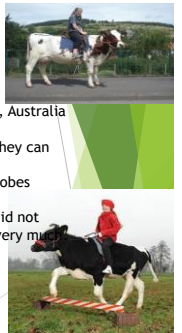
PT. REJO SARI BUMI DAIRY FARM, TAPOS

PT. Rejo Sari Bumi dairy farm is located in Tapos, Ciawi sub-district, Bogor, West Java, located at an altitude of 700 to 1.150 meters above sea level. The company was established in 1974, has 751 ha total area. Land condition based on the science of soil has been significantly degraded soil fertility.

- Physically, barren and dry in the dry season and erosion (landslide) in the rainy season.
- Chemically, poor soil nutrients due to the physical condition above.
- Biologically, organic materials and organic activity in the soil solum already small

Economy

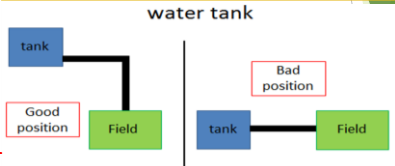
- Planting sorghum near the cattle for feed
ex: Japanese dairy farmers import animal feed from USA, Australia and Canada → expensive, decrease income
- Made silage to the cattle's food (become a probiotic) so they can have healthy body and prevent from disease.
- Process the milk become cheese, yoghurt, kefir with microbes
- Reject cattle utilization for recreational cow riding track.
- Economically value for reject cattle, since reject cattle did not produce milk so the stress level of cattle did not matter very much
- More Recreational area for society
- If cattle be sick, use some **medicine (no killing)**



Ecology

- ❑ Farmer must chose the suitable breed for the environment
- ❑ Fertilizer for grass and sorghum took from cow manure so not necessary input from outside
- ❑ The company provide tree seedling and plant it in the Taman Nasional Gedhe Pangrango near dairy farming to keep environmental sustainability
- ❑ This system are friendly to economy and ecology, because farmer decrease artificial fertilizer and block contamination

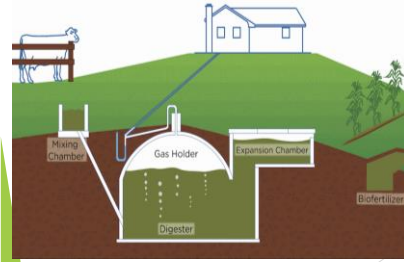
Positive effect



If there are tank in high position, we can deliver low energy. But if there are tank in low position, we have to use high energy.

It is ecology

Ecology



Need to do:

Produce BIOGASS

Social

- Help the government program to spread good bread
- National prosperity
- **Creating job for the local community**
- Research and development about dairy farm

Sustainable



CONCLUSION

The most sustainable place is: PT. REJO SARI BUMI DAIRY FARM, TAPOS. Kampung Wisata Cinangneng and Oil Palm Plantation Cikasungka have a potential to be sustainable but need to correct the problems above.

