

IMPLEMENTATION OF SELF SUFFICIENT FOOD AND ENERGY ALTERNATIVE IN THE BUFFER ZONE OF BETUNG KARIHUN NATIONAL PARK



Sri Wahyuni, SE, MP

Why biogas?

1. Local communities around the Park (Dayak tribe) lives in group. They live at long house or “Rumah Betang”, which means, a great potential for human feces Biogas development as alternative energy resources



2. Pigs as livestock



- ❑ Almost each family in Sadap village on average raising ± 5 pigs
- ❑ Pigs are raised in a cage located behind the long house

3. The availability of many organic waste such as hay and dried leaves



Challenges



Betung Karihun NP is in **remote area** and located at border between Indonesia-Malaysia in West Kalimantan

Challenges

- Most of household have no electricity
- *Gas for cooking is obtained from the border*



**Most of the
communities depend on
firewoods**



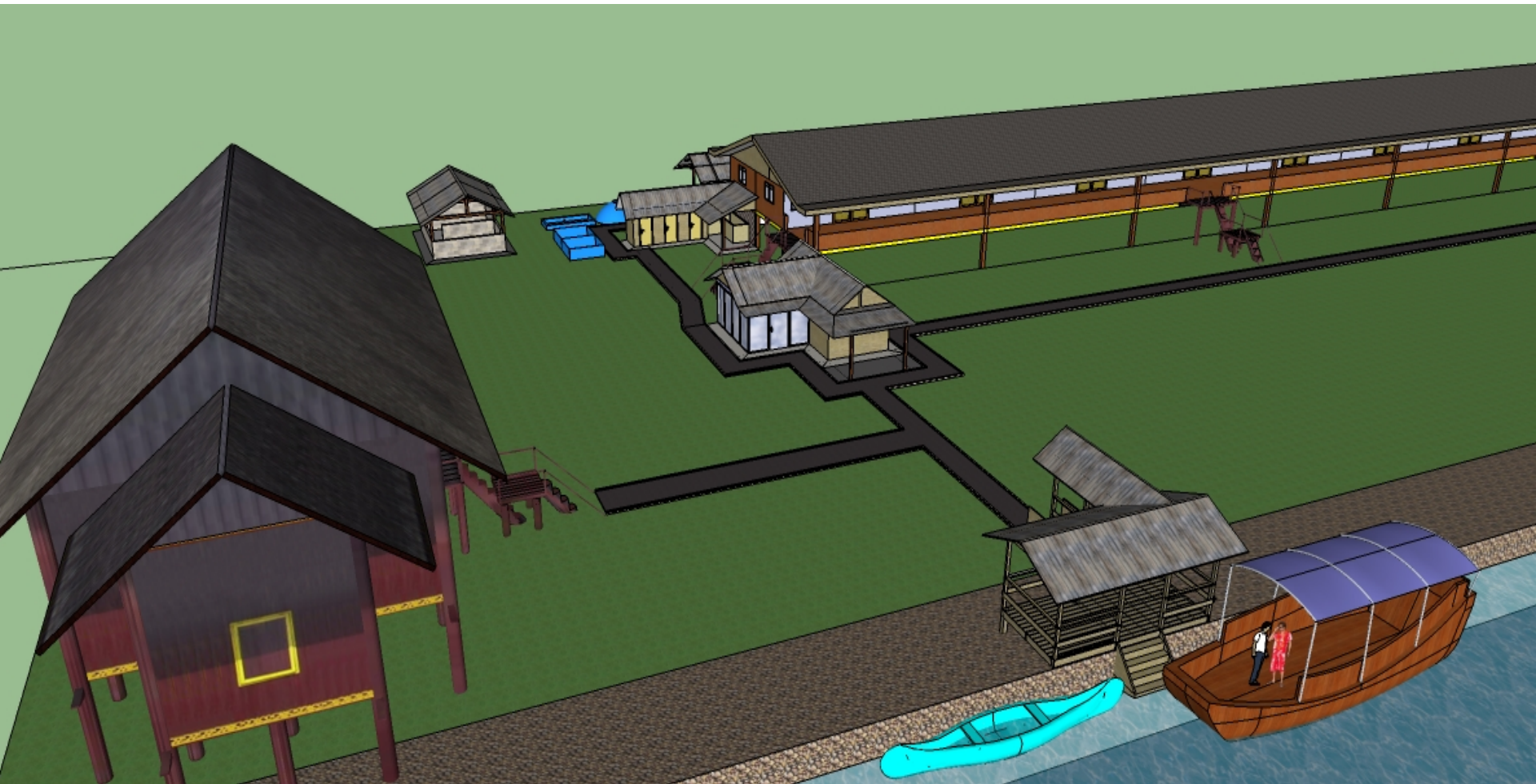


Limited resource of
firewood from the forest





Layout of *Rumah Panjang* (Long House), Piggens, and Digester Biogas implemented at Sadap village (buffer zone of Betung Karihun National Park⁽¹⁾)



Layout of *Rumah Panjang* (Long House), Piggpens, and Digester Biogas implemented at Betung Karihun (2)

Self Sufficient Food and Energy

- Self Sufficient Food and Energy concept are important for being implemented at buffer zone so that the local community will be able to fulfill their everyday needs of livelihood without damage of the forest
- Biogas digester utilization as energy and organic fertilizer resources have been implemented in Sadap Village, Embaloh Hulu of Kapuas Hulu.

Concept

- Human and Animal feces as inputs on biogas digester
- The biogas being produced are turned into lighting and cooking resources
- The residual of biogas output will be re-processed and turned into fertilizer for fruits and vegetable plantations
- The fruit and vegetables will fulfill people's everyday needs, while the rest of the product can be sold for additional income



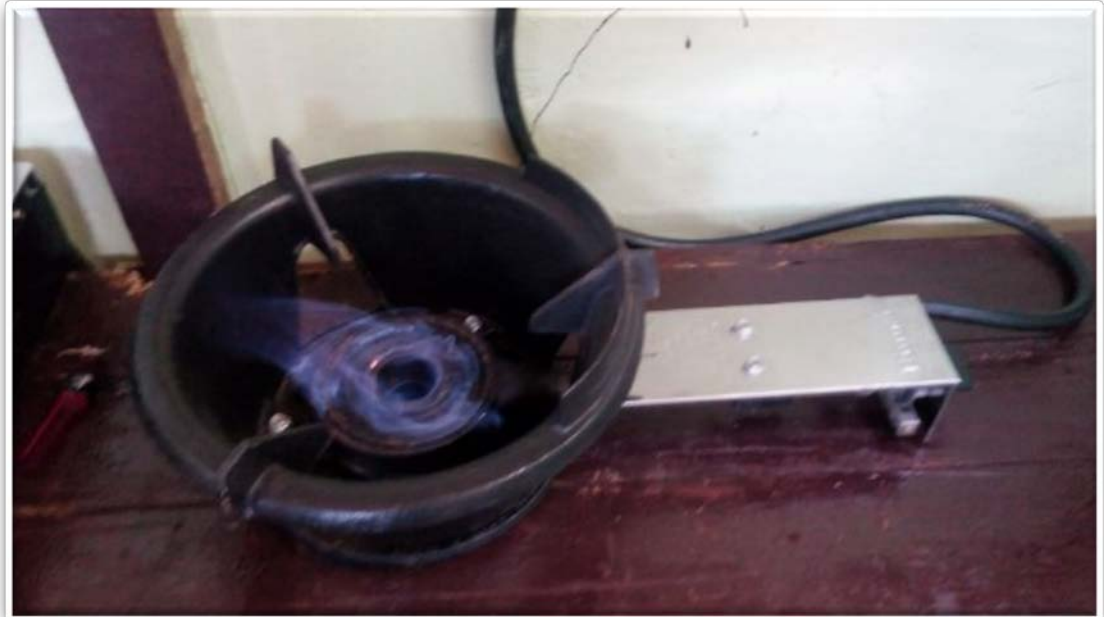
**Documentation of Biogas Energy Generator Construction and
Installation Process
Sadap Village, Embaloh Hulu of Kapuas Hulu**











Biogas to create a “self sufficient food and energy village”

Energy for home consumption, eg. cooking, gas light and electricity. Mainly used to develop home industries with raw materials of NFTP

Organic/liquid fertilizer to develop organic farming and fish farming (catfish, dll)

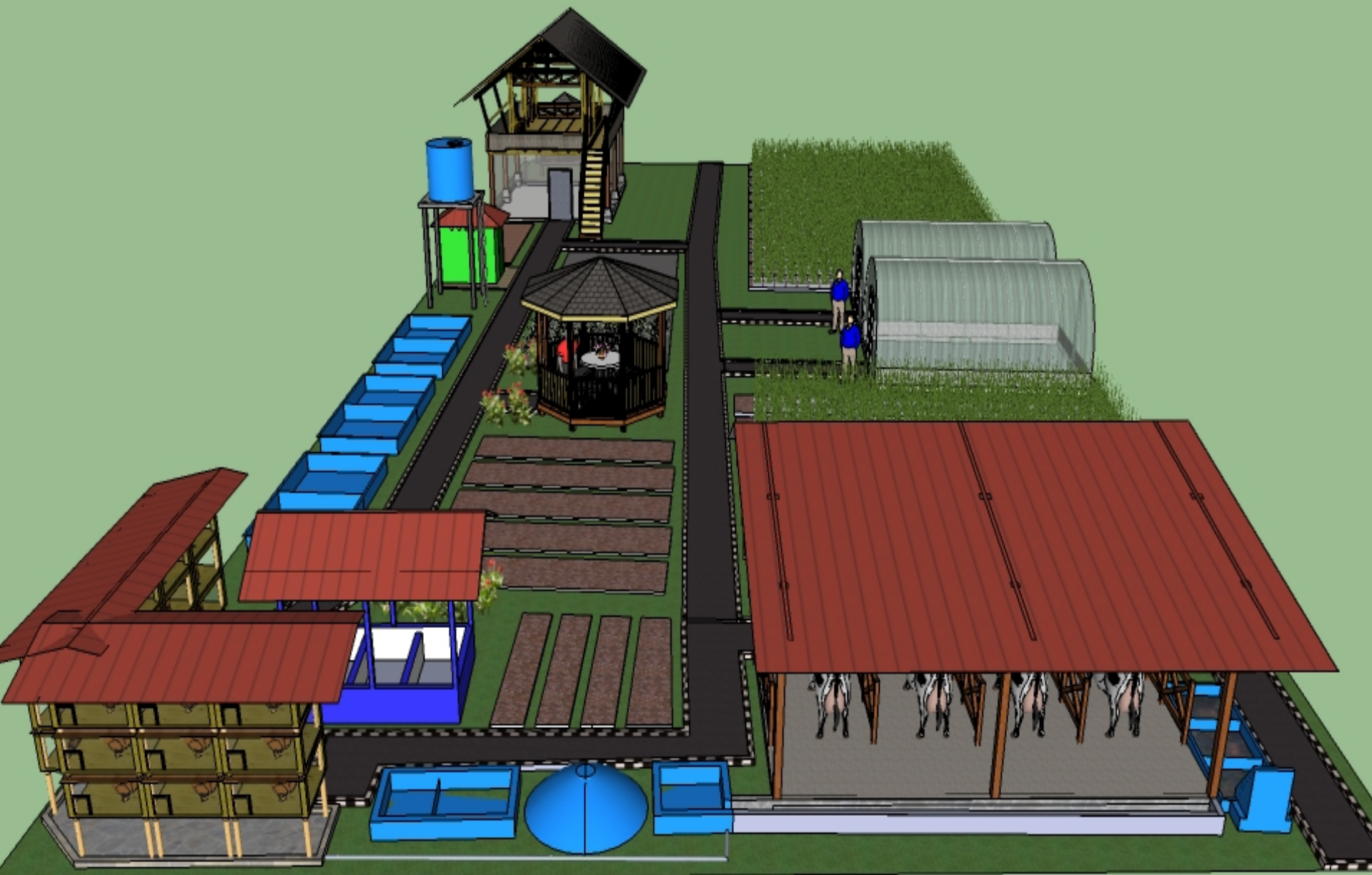




Self Sufficient Food and Energy with Integrated Farm System

- ❑ Land Area : 1000 – 1500 meter
- ❑ 4 cows
- ❑ 6 sheep
- ❑ 40 chickens
- ❑ 2000 catfishes
- ❑ Organic vegetables
- ❑ 3500 baglog mushroom
- ❑ Biogas digester
- ❑ Biourine





Layout of Integrated Farm System at Kab. Kampar



Example of Self Sufficient Food and Energy Houshold (1)
Location : Ciomas-Bogor



Example of Self Sufficient Food and Energy Houshold (2)
Location : Ciomas-Bogor

Organic Plantation



Organic vegetable farm







Fertilizer Processing Unit



Catfishes Cultivation





Biourine

Onion, Animal, and Catfish integrated farm in Kab Kampar



Biogas digester as energy and organic fertilizer resources

Biogas Implementation at Kab. Kampar



Example of Integrated Farm at Buru Island

Intergated : Cows, Eucalyptus, Rice, Legume (Nuts)



Biogas digester as energy and organic fertilizer resources

Another Biogas Digester Implementation, at Transmigration area, Buru Island



Biogas Digester Implementation Team, Buru Island





**Another attempt to
decrease inorganic
waste**



Handicrafts made from plastic bottle waste





This Presentation brought by:
Independent Innovative Woman Foundation
(YAYASAN PEREMPUAN INOVASI MANDIRI - YPIM)



PROSES PENGOLAHAN BULU Domba

2. Pemukuran

3. Penyortiran

4. Perendaman
Pencucian/Pemutihan

5. Penjemuran

Kunjungan, Kerjasama dan Pen...

8. Pemintalan

Bulu domba setelah dipintal
Bulu domba setelah dicuci
Bulu domba setelah dikur

-Wool / Fleece Processing Center-

We process raw fleece into wool, then turn the wool into doll and other handicrafts

(property of YPIM)

-Catfishes Tub-

A tub for catfishes cultivation made of fiberglass.

(property of YPIM)



-Chicken Cages-

The chicken cages are placed on top of the custom-made catfishes tub, so the chicken feces will fall directly to the tub, and become food source for the catfishes.

(property of YPIM)



-Natural Resources and Environment Development Center-

We utilize the scraps and inorganic waste then turn it into more beneficial things, from a simple plant's pot to hydroponic media.

(property of YPIM)





**-Natural Resources and Environment
Development Center-**

We build an outdoor meeting area, so
the guest may experience a serious but
calming green surrounding

(property of YPIM)

THANK YOU



*Education make us smart,
while Experience built our character*