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# Study on Energy Usage and Quality of Life for Rural Community Through Rural Electrification using Renewable Energy

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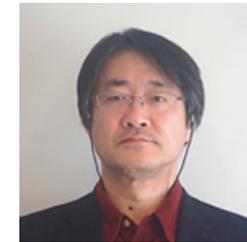
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# Introduction



Prof Ohgaki



Prof Nasrudin



Prof Hew WP



Dr Che HS



A.Prof Amran

# Introduction

- **Poor Accessibility**
- **Not economically viable to electrify!?**



## Rural Iban Communities in Sarawak

- **Some still stay in traditional “Long House”**
- **Close-knit community**



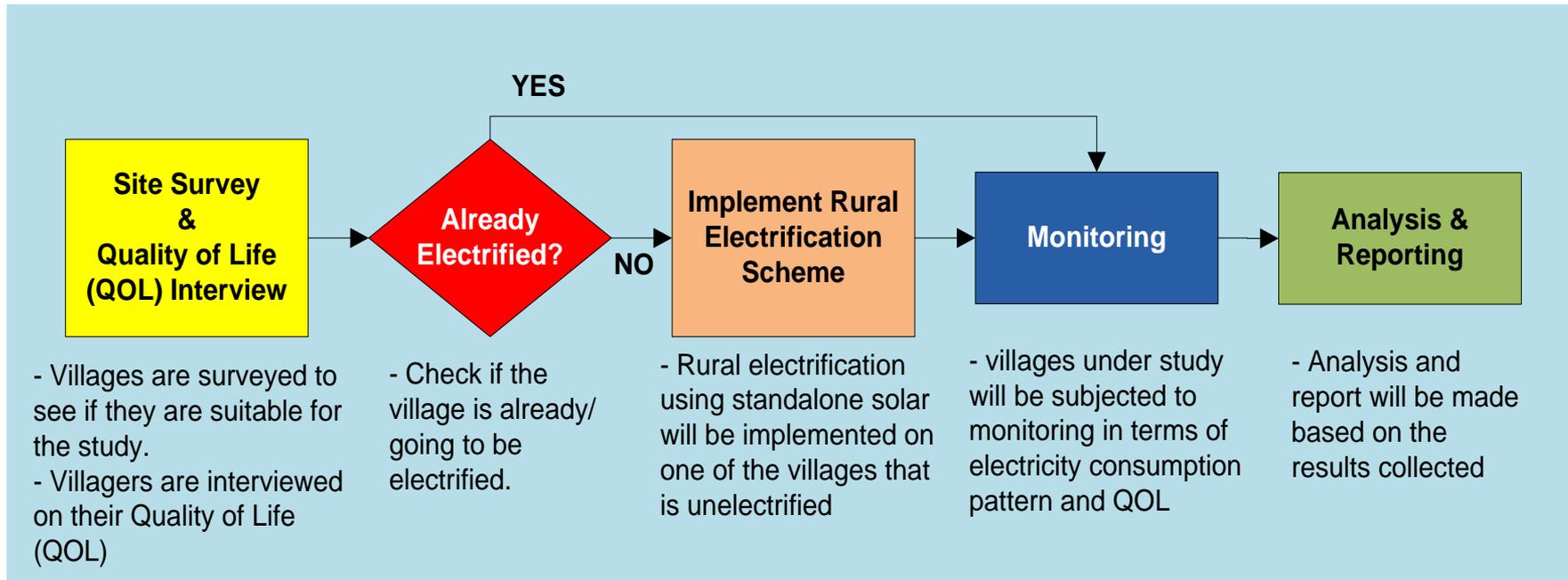
# Objectives

## Objectives

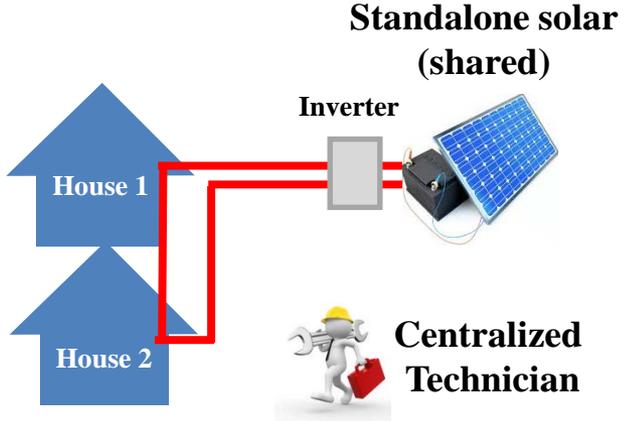
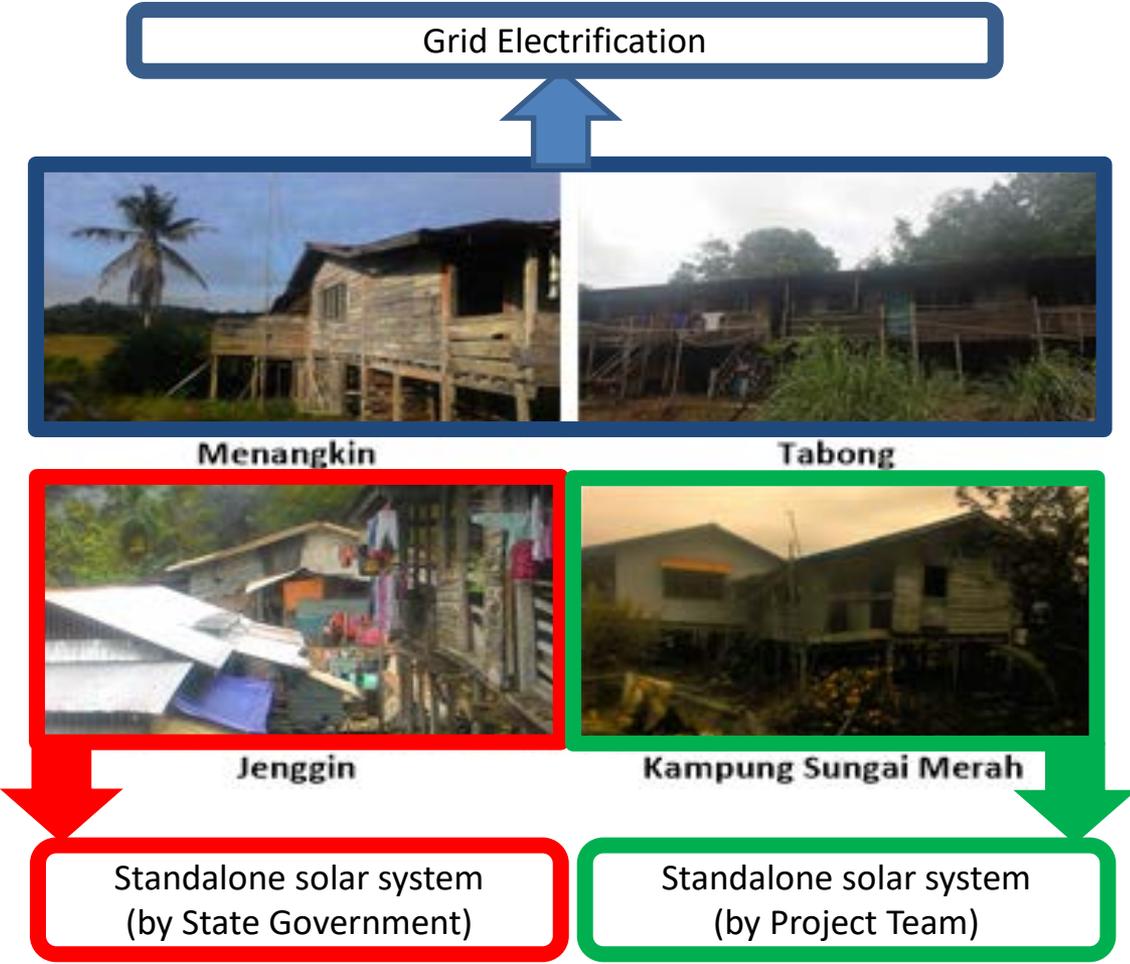
- to study the **energy usage pattern** and **lifestyle** (Quality of Life, QOL) before and after rural electrification of rural community in interior Sarawak, Malaysia.
- to find the **effective approach of implementing rural electrification** by survey on the differences and/or similarities between the energy usage pattern and life style of the villages under different rural electrification schemes.

It is anticipated that the findings from this project can provide better understanding on the impacts of rural electrification schemes to rural communities and methods to improve the **sustainability of such schemes**.

# Methodology

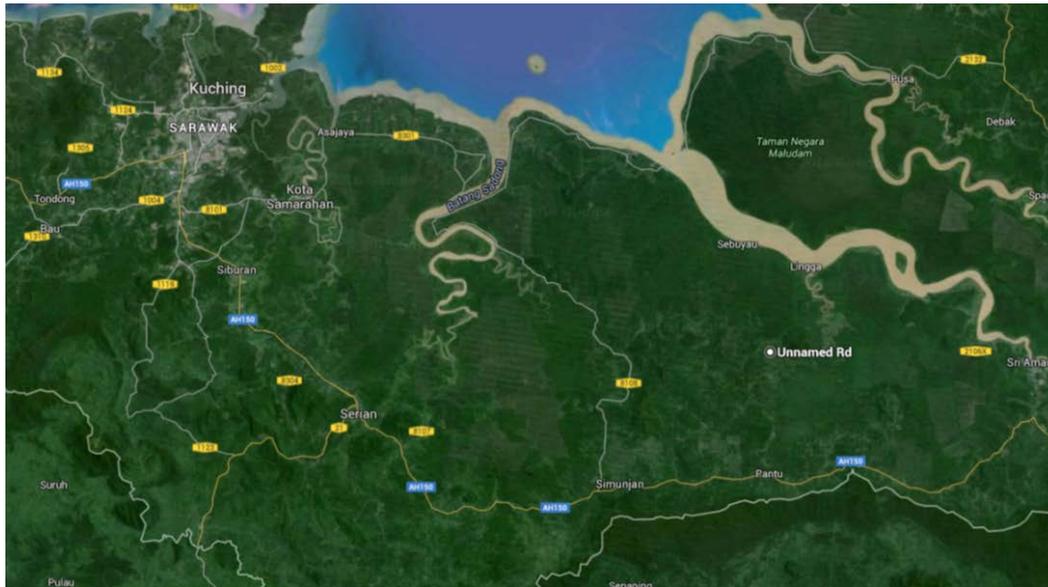


# Progress/Findings



# Progress/Findings

## Menagkin & Tabong



# Progress/Findings

## Menagkin



## Tabong



# Progress/Findings

## Batang Ai - Jenggin



**Standalone solar**



# Progress/Findings

## Batang Ai - Jenggin

Freezer powered by the 1600Wp/2000VA solar system



1. Already been provided with standalone solar system by SEB.
2. The current request from the villagers in Jenggin is for a larger PV system each in each household, so that they can run larger electrical appliances.
3. With the existing standalone systems given free of charge, the villagers are not willing to pay for any additional system (as reflected in the surveys conducted).

# Progress/Findings

## Kampung Sungai Merah



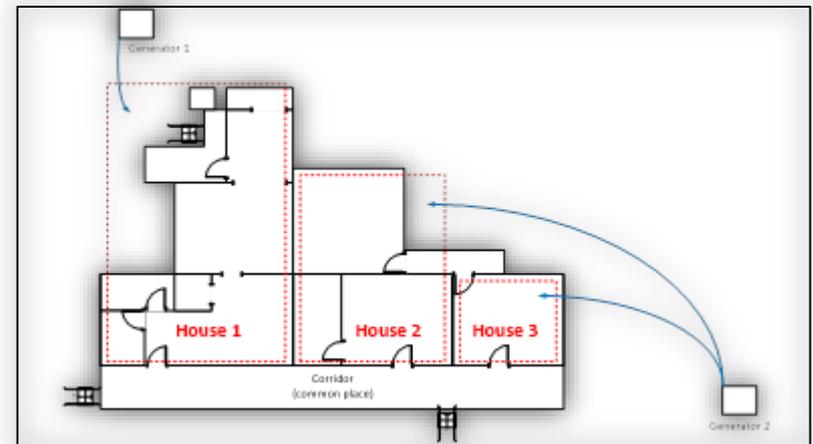
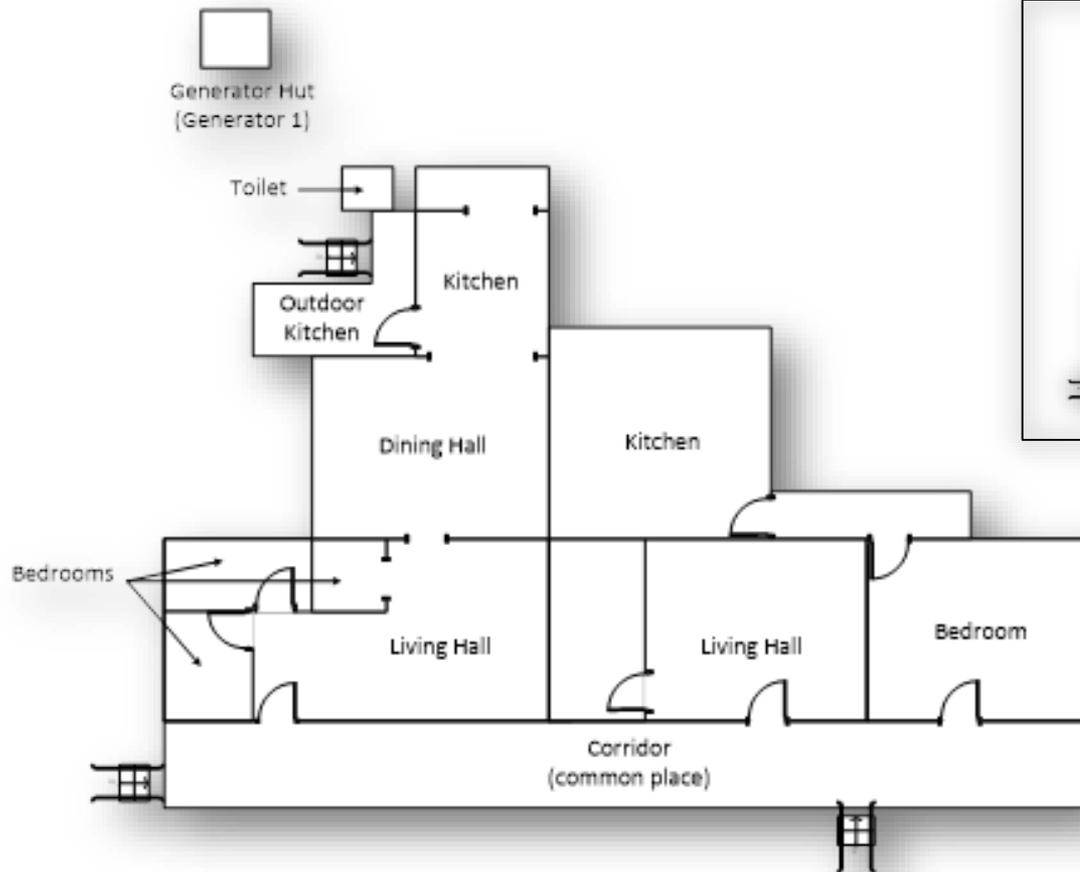
# Progress/Findings



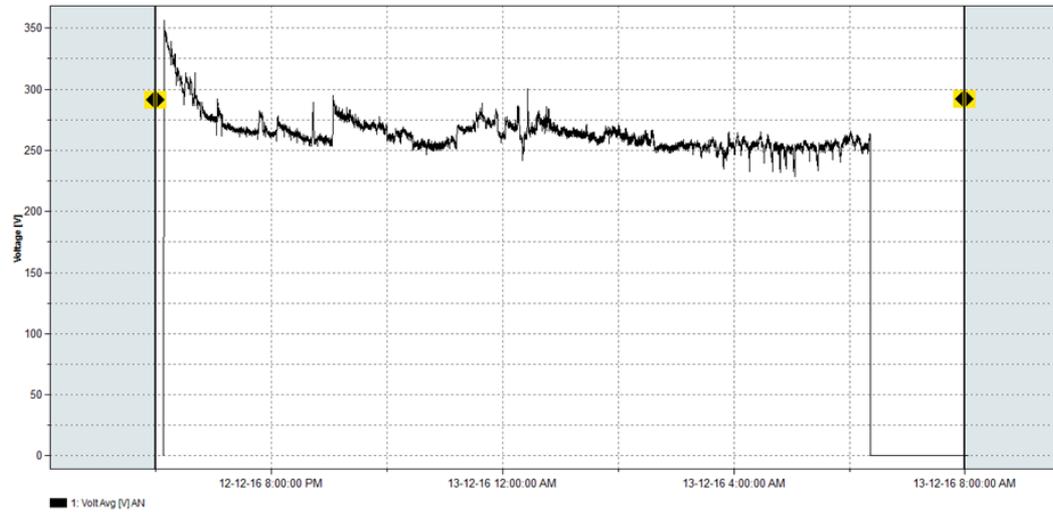
# Progress/Findings



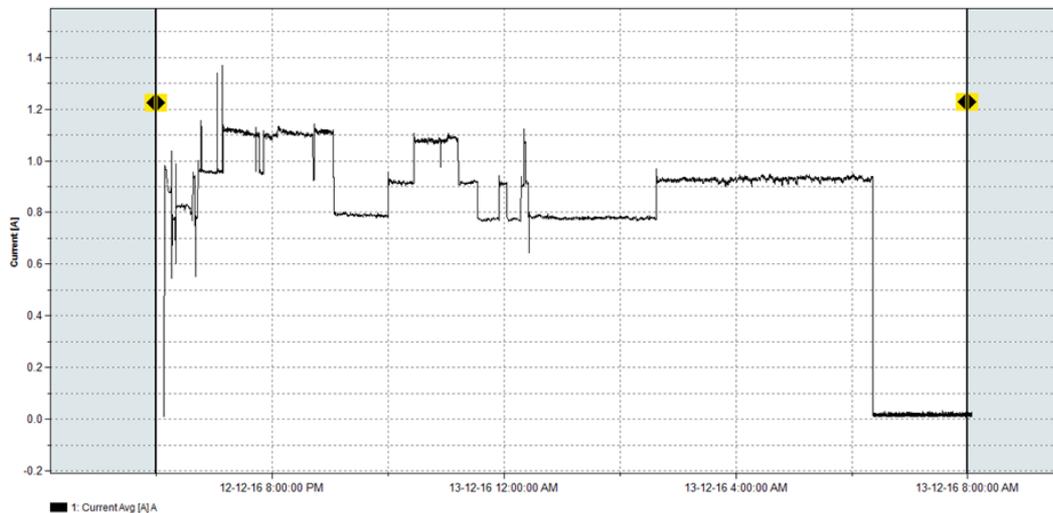
# Progress/Findings



# Progress/Findings



Voltage Variation



Current Variation

# Progress/Findings

## Kampung Sungai Merah

1. The site is not electrified yet, and does not seem to be within any plan to be electrified soon.
2. Due to point 1, the villagers are keen to have the system implemented.
3. Even though the villagers still hope for free electricity, they are still open to the idea of collecting fees for the maintenance of the system.
4. The electricity need of the villagers is still very basic, and is within the capability of the solar system available for implementation.
5. The number of houses to be electrified is small, and is within the ability of the project (5 systems max)

# Progress/Findings - QoL



Based on the survey conducted so far, the following findings have been made:

- Most of the villagers (75%) has received education only up to primary school level
- Their incomes are lower than average (RM 3,831/month)
- 90% villagers are satisfied their lives
- Thinking importance to connect with neighbors, and are in good health/mental conditions.
- Personal activities, i.e. watching movies or going for shopping, are at very low level because their access to transportation is very poor.
- Major electricity usage time is 2h-4h/day.
- They do not want to pay more extra money for getting more electricity

# Next steps

- Install 5 sets of standalone solar systems in Kampung Sungai Merah.
- Install monitoring system.
- Provide training to local villager on maintaining and operating the standalone solar system.
- Continue to monitor the energy usage and lifestyle of the villagers.
- Use the site as platform for other researches.



**THANK YOU**  
**ありがとうございました**  
**ขอขอบคุณ**



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