HIDDEN RESILIENCE
Women’s survival strategies narrative on climate change impacts
Introduction

Climate change as a current global development issue has become a significant variable that affects community’s lives and welfare. It also becomes a threat to the survival of many communities since it directly affects security and access to the supply of food, water, and energy, which plays a vital role for everyone. Economically, climate change also causes losses that have the potential to slow the realisation of the goal to improve welfare of all citizens. Extreme weather entwined with development issues also increases the risk of natural disasters such as floods, tornadoes, and landslides that cost lives and damage livelihood resources.

This study is intended to explore how the implications of climate change on the pattern of food consumption, clean water, and energy, and to see how gender affects all three. Study on the consumption pattern in the household level will also map out how climate change mitigation and adaptation efforts are carried out, by looking at gender-based roles, contributions, and challenges.

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This study was carried out in three regions:
- Banjarejo Village, Sub District of Tanjungsari, Regency of Gunungkidul
- Tambaklorok Village and Krobokan, Sub District of Tanjungmas, Semarang
- Sungai Batang Village, Sub District of Air Sugihan, Regency of Ogan Komering Ilir (OKI)

Methodology: Focus Group Discussion, in depth interview, observations, and desk studies.
Research Period: September-October 2017
History of Consumption Patterns for Water, Food, and Energy in Banjarejo Village

1980-1990
- Supplied by lakes and rainwater.
- Gaplek (dried cassava) as staple food.
- Wood for fuel and household light.
- Wood and gas was used by turns.
- Community started to eat Gaplek with rice.
- The ponds are easily dried so community's use shifted to springs. They also started to build water tank to harvest rain water (PAH).

1990-2000
- Water need supplied by PDAM (Indonesian Regional Water Utility Company).
- Rice becomes staple food whilst Gaplek shifted to tourist commodity.
- Wood and gas was used by turns. Almost every household have electricity.
History of Consumption Patterns for Water, Food, and Energy in Tambaklorok Village

1980-1990
ROB flood only overflowed rice field, fish ponds, and swamps. Fishponds distance from seashore was 1.5 km.
Procure raw food except for fish and shrimp paste.
Fire wood.

1990-2000
Use gas and wood carried by ROB flood. Communities started to access electricity.
Procure raw food except for fish and shrimp paste.
ROB flood and abrasion were frequently occurred. People had deep wells and use PDAM services.

2000-2017
Sea water reached community’s houses and flooded fish ponds.
Purchase raw material.
Gas fuel.
History of Consumption Patterns for Water, Food, and Energy in Sungai Batang Village

1980-1990
- Supplied by river and rain water.
- Swamp rice farming.
- Wood and charcoal.

1990-2000
- Gasoline for raft and speedboat which become main transportation mode.
- Flooded swamp rice. Food needs were covered by purchasing food in Palembang and Bangka.
- Rivers were contaminated with acid. Needs of water supplied by purchasing and harvesting rainwater.

2000-2017
- Community bought water for dry season. Rivers were used for sanitation facility.
- Purchase from Palembang and Bangka.
- Gas use for cooking. Solar cell for business. Electricity provided by Diesel Power Centre (PTLD).
In Gunung Kidul, man and women contribute different workloads on domestic chores and parenting. Infrastructure development for clean water facility (such as water tank and PDAM pipes) reaches household and significantly reduce time and load allocation for housework (collecting water, cooking, washing) previously carried out in different gender roles.
In Semarang, women’s housework load is higher during ROB flood especially for cleaning the house and saving furniture or food for the family. Time allocation for fisherman describe how they only goes for short distances due to fuel consideration. All fishermen have different activities during day time, such as resting or fixing out their boat. Women though, other than become labour for shrimp paste industry also cleaning and selling their husband catch. Man are embarrassed to sell their daily catch to the market or middleman.
In Sungai Batang, women’s housework load is higher during rainy season due to their responsibility in providing clean water for the family by harvesting rain from the roof. Rheumatics complain were mostly found on women. Man (fisherman) are avoiding sea during high waves. Since the last couples of years, wealthy people start to breed swallows for livelihood alternatives.
Climate Change Impact on Gender

- Disease: Rheumatics on women, itchiness and diarrhoea for children and the elders
- Reproduction health: STD Transmission (HIV) in women and children
- Early marriage
- Child labour
- Safety risk on men
- Increasing housework load on women
Mitigation and Adaptation in Gunung Kidul

Mitigation:
- Community based measures on water resource in critical land
- Planting 1 tree movement
- Urban forest
- Community’s nursery (KBR)
- Solar power system to bring the water out
- Semoyo Village nursery
- Wind Power (PLTA)
- Micro hydro technology development

Adaptation:
- Daily consumption pattern: carbohydrate and vegetables.
- Disaster preparedness (SAR)
- Building water reservoir and trenches
- Building irrigation canal-network
- Developing water resources for farming
- Water pump provision
- Developing irrigation infrastructure and agro-machinery
- Farm leasing for additional livelihood
- Livelihood diversification
- Cooking in the field during dry season
- Family saving (cattle and crops)
- Utilisations of non-timber forest products (honey bee and honey village)
- Wooden and food barn (Paddy and Seeds)
- Neighbourhood distributions of water and electricity
- Rotating savings of goods and cash group (Arisan)
Mitigation and Adaptation in Semarang

Mitigation
- Mangrove restoration
- Public transportation arrangement
- Urban Open Space – Urban forest
- Organic fertiliser (domestic waste)
- Waste management (TPA)
- Energy efficient cooking technique
- Mangrove processed products

Adaptation
- Floating house pilot
- Livelihood diversification
- Periodic larval surveillance and control
- Elevating house/kitchen/room
- Wedging electronic and kitchen tools
- Elevating ground by trash stocks
- House embankment (Flood)
- Flood preparedness
- ‘house’ saving
- Community based Integrated Domestic Waste Management Facility (IPAL)
- Setting up water pump station
Mitigation and Adaptation in Ogan Komering Ilir

Mitigation

- Mangrove restoration
- Solar power system

- Planting vegetables in polybag
- Utilising vacant land for farming

Adaptation

- Developing swiftlet nest farming
- Utilising vacant land for farming
- Rainwater harvesting
- Saving water in dry season
- Reducing purchase of vegetables
- In debt
- Selling out assets (land in hometown)
- Changing livelihood
Sri*: A woman, head of the family who also acted as a breadwinner. Her family consist of the elders, her brother, children and children in laws, and grandchildren. Illiterate and work as a farmer. Her family needs of water are met by using their neighbour’s PDAM. They consider it cheaper and more flexible since they can stop using when rainy season starts.

“For daily use, Sri sells half of her crops. When she has no money, her daily foods were met by getting loan with 15 days of due date. Sri also renting her land for unforeseen expenses or special incident such as cattle’s feed, hospital fee for the elders who lives in her house, or purchasing water tank when the PDAM water stops running unexpectedly for 2 weeks. Poor people like Sri are usually have their own water tank with size of 10,000 litre. For daily food, she and her family eat rice and vegetables, occasionally they also afford fish.”

*: Not her real name.
Gender, Climate Change and Consumption Pattern: Tambaklorok Case Study (Tanjung Mas, Semarang)

Aminah*: A Woman who is head of the family and work as shrimp paste labour without having any work contract. Being illiterate and having no social protection. Dependent on the occurrence of the subsistence pattern of communal schemes. On the critical time, she would be in debt at the neighbouring shops. To keep ROB flood from entering the house, Aminah had to elevate her house periodically. She got the material needed by saving money in the nearby home improvement shop. Aminah also had to buy second quality soil which usually muddy for the house.

“As a shrimp paste worker, Aminah daily wages is Rp. 60,000. For their food, she and her family are used to have 3 times meal with compositions of rice, tofu or tempeh. Fish becomes side choice when they have spare money. The average daily groceries expenses for the family is Rp. 50,000. She also shares groceries expenses with her children’s family especially for the big expenditure such as electricity. They use credit electricity and subscription to artesian well for Rp. 20,000/week. If she’s short of money, she will make double payment in the following week. For daily cooking Aminah uses gas for fuel. Until now Aminah had no courage to use gas on the stove out of fear of exploding.”

*: Not her real name
Gender, Climate Change and Consumption Pattern: Sungai Batang Case Study (Air Sugihan, Oki)

Ica*: Ica was 16 years old at the time of this study. She is a housewife, married at age of 12 and has 3 children under five. Her husband is a fisherman labourer. Ica family lives at the edge of estuary which faces directly to the sea of Bangka. Her house is walled with bamboo, uses nipah leaf as roofs, and has plenty of holes in the floor. When a strong wind comes, the wall and roof would most definitely fly off.

"The condition of nipah Leaf as roof does not allow Ica’s family to harvest water. Used as a water tank, a family drum is put in her family house elsewhere. In the dry seasons, ica’s family would buy drum water for bathing, washing clothes and dishes for price about Rp. 30,000 per drum. For cooking needs, she bought Rp. 70,000 per drum. Their food never change, only small fish and never vegetables since the last are consider expensive. “

*: Not her real name
Conclusion:

Gender construction put women in the position to bear layered impacts due to the climate change, in relation of family consumption pattern for food, clean water, and energy.

Even though study found men's typical vulnerability due to the climate (i.e. safety during working at the sea), but men keep their privilege in family consumption pattern priority. For example, steady budget for cigarette in various economy conditions.

Livelihood diversification are made both by men and women. The options will be influenced by different role and space between man and woman.

Women contribute significantly to the adaptation effort in individual, familial, and smallest community level. For example, in re-arranging food pattern, family financial management, clean water consumption pattern in critical times, and utilisation of various energy sources. Unfortunately, the recognition for these contributions is still low and hidden.
Mitigation practices in reducing non-renewable energy policy create challenges in relation with transfer of technology. Study found the marginal groups such as the elderly women is having difficult time in facing this change of consumption pattern.

Space and control from women are still limited at the formal level, such as in state where crucial process in decision making in terms of policy and adaptation program are taken.

Positive and negative adaptation practices that instead reduce community's capacity and welfare were found.

Appropriate public services could help reduce climate change impact to women, such as reducing time allocation for domestic work and giving social protection for vulnerable groups.
Women and men are facing climate change situation and impact differently, thus appropriate consultations are needed to establish policy, program, and mitigation or adaptation activities in various level such as national, regional, or local (village). Such efforts are aimed to make the policy, program and mitigation precise and beneficial for both men and woman.

Strengthening women participation and leadership in mitigation and adaptation efforts in various level, by means of recognition and appropriate capacity building.

Protection and special scheme for vulnerable groups in climate change mitigation and adaptation efforts through strengthening social security, both by state policy and public services and communal based scheme.

Transfer of technology in managing sustainable resources, by considering different conditions, needs, and challenges faced by men and women, not to mention typical conditions of vulnerable group.