

Gender Perspectives on Energy Poverty and Energy Democracy in The Philippines

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Foreword

The concept of “just transition” talks about how we can shift from the current energy set-up to a clean and more democratic energy system without foregoing sectors who are currently involved in the old set-up.

This means taking into account not only class and workers issues such as those of workers in coal power plants who could lose their jobs once the shift to renewables happen, but also gender issues, giving emphasis on the role of women in a renewable energy-powered society. How can the shift to renewable energy advance gender equality? And how can clean energy benefit men and women equally? There is a dearth of discourses in how shifting to renewable energy affects men and women differently.

Hence, this is important to talk about today as we are in the momentum of changing the energy picture in the Philippines and in the world. This means that trying to build a new system must also efficiently go hand-in-hand with building not only the technical aspect of energy but also the more ecological, social, and cultural aspects of changing what powers the globe.

Gender equality is a central element in transforming modern democracies which FES believes in. It is then right for us to put on the table how this powerful systems-change will affect different sectors. In this manner, we are not only providing solutions to help mitigate the impending climate crisis; but also in the same stroke, addressing the gender concerns with it as well—and hopefully other social concerns that will make the new system work for everyone.

In the end, a changed technical source without a change in culture, values, beliefs, is then just a transition, not a *Just Transition*. It is with this that we raise in high hopes future publications too that will properly dissect questions on intersectionality. We hope and we expect to see more discussions coming up from this publication on “Gendered Perspectives on Energy” as we aim to explore more concrete details for the gender dimension of *Just Transition*.

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About CPII

The Center for Power Issues and Initiatives (CPII) is an initiative by a group of men and women committed to pursuing a power shift agenda in the Philippine power industry. By power shift we mean two things: Energy that is reliable, affordable and environmentally sustainable; and a system of generating and distributing energy that empowers consumers and enables the poor to have access to electricity.

The CPII conducts research and policy studies on renewable energy and energy democracy and establishes stronger relations with trade unions and associations in the power industry, electric cooperatives and the social housing sector.

Introduction

Energy poverty is defined as “the absence of sufficient choice in accessing adequate, affordable, reliable, high quality, safe and environmentally benign energy services to support economic and human development.” (Reddy, 2000, as cited in Clancy, 2002). It is the inability of primarily poor people to gain access to, much less afford, electricity in their homes, places of work and communities, in order to live a decent life. When the struggle to survive is predominant, the choice of clean and renewable energy (RE) matters little if at all. What is important is to have energy and fuel to meet basic needs such as food, light, and if one can afford it in this increasingly hot climate, cooling. Very often, what is affordable as a source of energy is what one can herself/himself gather: wood, dry branches, agricultural waste. Burning kerosene, charcoal, wood, is the way to generate energy in many parts of the Philippines. Cheap fossil fuel is what we traditionally know, and what we can buy or gather. Time spent on gathering fuels—and who in the family is assigned this task—adds to the problem.

Access to electricity in one’s home is still a dream for about 11 million Filipinos. In Southeast Asia, the Philippines ranks as having the third highest number of people who are energy deficient (World Energy Outlook Report, 2016). Philippine government statistics show that overall electrification was 94 per cent in 2017. That same year, electrification was only 85 per cent for the bottom 30 per cent of families, while for the top 70 per cent, it was 98 per cent (Philippine Statistical Authority, n.d.)

But even for poor families who do have access to electricity, paying for electricity is a constant struggle—not surprising for a country whose electricity rates are among the highest in the world, second only to Japan in Asia.

This paper is an attempt to look into the gender dimensions of energy poverty in the Philippines. Is the experience of energy poverty different for Filipino women and girls? What is the resulting burden on a family that is energy poor, and is this shared equitably among the men and women who make up the family? Does the absence of affordable, reliable and renewable energy have an impact on the productivity of male and female household members? On the way each of them uses her/his time?

What about rural and urban poor communities that are now able to enjoy some renewable energy in their homes, or some combination of it? What impact has RE had particularly on the women and girls of the family?

A gendered understanding of energy poverty may also help us sharpen our programme to build energy democracy and to advocate for policies that would be more gender-responsive to the problems of energy poverty. At the very least, we understand better the role that energy can play in empowering Filipino women and men.

Review of Literature

The Gender-Energy-Poverty Nexus

Joy Clancy, Margaret Skutsch and Simon Batchelor (2002) wrote a paper commissioned by the UK government’s Department for International Development (DFID) to tackle a crucial element in the discourse on women and poverty: energy. To quote:

“[The paper] explores energy as a strategic issue in poverty, and discusses the difficulties in the provision of energy services for the poor. The paper then moves on to consider gender aspects of the poverty-energy link, and how energy provision can contribute to moving women and their families out of poverty. The focus then turns to the issue of sustainable livelihoods, and the part energy plays in these, first in general terms and then specifically in gender terms. The paper concludes by listing some of the major areas in which research is still needed to improve our understanding of the role of energy in poverty alleviation and sustainable livelihoods, and the role it can play in meeting women’s strategic needs.” (Clancy et al., 2002, p. 6).

The authors suggest, based on their extensive work particularly with rural communities, that the energy dimension has long been missing in the discussions and debates on poverty. Furthermore, the failure to recognise energy poverty has meant that this area has been left out of the discus-

sions on poverty. A stark example is biomass. The authors write:

“[D]espite the fact that around two billion people still use biomass fuels (World Bank, 1996), and the fact that these are also the two million poorest people on earth, there has been little attempt to analyse the energy-poverty nexus in depth. This can partly be explained by the fact that the biomass in rural areas is collected at zero monetary cost, mainly by women and children, and so it falls outside national energy accounts, the result of which is that the issue renders itself invisible:

“No data - no visibility; no visibility – no interest (Huyer and Westholm 2001).” (Clancy, 2000, p. 6).

Making visible energy poverty and its links to women is thus an important prerequisite in shaping pro-people energy policy, especially in countries like the Philippines where poverty is persistent and where access to electricity is still not enjoyed by all. “The invisibility of energy-poverty issues leads to decision-makers not being fully aware of their significance, and so policies and strategies fail to address the issues fully.” (Clancy, 2002, p. 6).

The authors also explain succinctly the inherent inequalities in energy, again using biomass as an example. Poor people throughout the world use biomass because they cannot pay for other fuels or sources of energy. But biomass has low fuel quality, its emissions may pose health risks to the family that relies on it, and there is the responsibility, effort and time—usually borne by women and children—to collect it.

Because of energy poverty, “poor households use less energy than wealthier ones in absolute terms. Less water is boiled for drinking and other hygiene purposes, increasing the likelihood of water-borne diseases. Illness reduces the ability of poor people to improve their livelihoods and increases their vulnerability, not only preventing adults from working effectively but also negatively affecting children’s learning.” (Clancy, 2002, p.7).

The authors pose the highly relevant question: “Can we find the energy to address gender concerns in development?” (Clancy, 2002, p. 5).

The gender component of energy poverty: four important questions.

Clancy et al (2002) look further into the gender component of energy poverty. They believe four important questions must be looked further to fully understand more the Gender-Energy-Poverty nexus. These are as follows:

- Who decides what energy to use, and who benefits? The authors find that when energy needs to be purchased it is the men in the household who decide what is purchased and for what use. On the other hand, when the energy is generally free, such as biomass, oftentimes it is the women and children who are tasked to gather it. One tendency found in various developing country studies is that when men decide what is to be purchased, domestic labour-saving devices (that would generally benefit women) fall behind recreational appliances such as TVs. In India, it was found that the introduction of electricity benefited the men more than the women because the electricity was used to power irrigation pumps, saving time used by the men to care for the oxen previously used to draw water. Time saved was used for recreation, which the women still had little if no time for. By not raising this question, the strategic and practical needs of women are often not addressed.

- What are the implications of biomass fuel use to women? There has been time use studies on the task of fuel collection which generally falls on the shoulders of women. The full effects of such burden, however, need further study, e.g. long-term health impacts of carrying heavy loads over long distances. The physical demands of these tasks and their time-consuming nature remain, by and large, unaddressed. “The whole issue of women’s time and effort saving (reduction of drudgery) seems not to receive the attention it deserves. This might be attributed to the fact that decision-makers and planners are not fully aware of the situation regarding women’s physical labour. Women’s survival tasks, based on their own metabolic energy inputs are, like biomass, invisible in energy statistics (Cecelski, 1999). As a consequence, the development of labour-saving devices, which could contribute significantly to women’s

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wellbeing, is not high on the agenda.” (Clancy, 2002, p. 12).

- How do women cope with their energy problems? When women are constrained by time, effort and money, how do they manage their meagre resources? The authors found some coping strategies in response to firewood shortages as: the shortening of cooking times, the use of less fuel-intensive cooking and food processing methods, lessening meals that are cooked, serving cold leftovers, changing the types of food eaten, and purchasing other fuels. Observing these coping strategies and learning from them would help create a more gender-responsive energy policy.

- What are the implications of current energy policies to women? What impacts do government policies on privatization, on fossil fuel use, on deregulation of the generation and supply sub-sectors, on the commercialization of energy—do these policies have gender-specific impacts? If so, how do they affect women?

The authors suggest that instead of looking at energy technologies, policymakers and advocates must focus on energy services, or the purposes in which women need and use electricity. These are, in general, for the care work that women provide in the family, and for the productive work that enables them to have a sustainable livelihood. When the gender component in energy poverty is not fully recognised, the value of electricity to women is ultimately narrowed down to cooking and fuel, ignoring other needs. “Energy planners have usually equated women’s interest in energy with cooking, to the exclusion of other needs, particularly of needs related to productive activities and emancipatory goals. In addition, since the main focus of energy planning has been on fossil fuels to the exclusion of biomass fuels, even women’s practical needs have hardly been addressed.” (Clancy, 2002, p. 14).

The importance of time-use data and analysis

David Lawson (2007) of the Global Poverty Research Group, a unit of the Economic and Social Research Council based in the United Kingdom, wrote about time poverty and using a gender lens to analyse it. Building on the extensive time use data (TUD) of Lesotho, he developed notions and unique insights of time poverty and how these differ according to gender. Time poverty adds the dimension of time to the money and income-based concepts of deprivation. Basically, he looks at poverty from the lens of time, and explores how this differs between men and women. Lawson compares male-headed households with female-headed households and found that when the latter have young children or senior relatives to care for, they are more time poor than their male counterparts. Lawson also examines the time it takes for men and women to access public transport, public schools, public health facilities. Particularly in relation to energy poverty, Lawson links the availability of an electricity connection at home to the time spent in preparing meals and other reproductive housework. He concluded that the absence of an electricity connection—usually in financially poorer families—results in the household being more time poor.

Maria Sagrario Floro and Elizabeth King (2016) discussed the current and future importance of TUD in the Asia-Pacific development context. The July 2016 issue of the Asia-Pacific Population Journal is devoted entirely to a discussion on time use data and analysis. To quote:

“TUD [time use data] can help reveal the full extent of economic activities in the household, including time spent on subsistence production, temporary and casual work, self-employment, domestic chores, voluntary and civic work, and caregiving including time invested in children’s schooling as well as visits to a health clinic...[B]y capturing both market and non-market economic activities, the time burden of women and children in household production and care activities, and not only that of men, is more accurately measured. TUD can also capture people’s other unmeasured activities such as training, participation in various community events and socialization, as well as transfers of time to other households for the purpose of giving care.” (pp. 5-6).

Floro and King (2016) highlighted the United Nations’ Sustainable Development Goals and demonstrated how TUD could contribute to making these more attainable. With regard to SDG 7 on affordable, reliable, sustainable and more modern electricity for all, they suggested that making

electricity accessible to all is not just a matter of physical availability of energy facilities. Access to electricity also depends on “time spent in activities that produce (e.g. collecting fuel and water), conserve (e.g. transportation choice) and use energy (e.g. cooking)” (p. 8).

Going beyond the meter

The Asian Development Bank (ADB) published a Gender Toolkit focusing on energy. Among the stylised facts cited in this toolkit are the following:

- Across the world, women and girls spend two to 20 hours a week gathering fuelwood and other traditional energy sources.
- Poverty especially among households headed by women render modern electricity services unaffordable to the poor.
- Poor and unreliable quality of electricity supply, frequent outages and shortages, are undermining the capacity of poor women to maximise their productivity and livelihood potential.
- Women have restricted power to make energy related decisions.

ADB (2012) mentioned in the toolkit that “[t]here is a need to move toward gender-responsive energy infrastructure and services when designing a new energy project” (p. 5). Note that ADB is willing to make this concession only for “new energy projects” –probably because it has financed fossil fuel power projects and continues to earn from the latter. Nevertheless, we give credit to the ADB for recognizing the need to “go beyond the meter”, that is, by designing and choosing, “energy infrastructure and services for investment that disproportionately benefit poor women, building capacity of women in utilizing the availed energy services, and/or narrowing the gender gaps that exist in the energy sector, such as participation in decision making and access to training and employment opportunities” (p. 5). Given its focus on the market, ADB developed a matrix of guiding elements looking at women and men first as consumers of electricity and then as suppliers. (See Box 1 on page 6, ADB, 2012).

Table 1. Possibilities for improving the position of women through energy

Energy Form	Women’s needs		
	Practical	Productive	Strategic
Electricity	- pumping water: reducing need to haul and carry - mills for grinding - lighting improves working conditions at home	- increase possibility of activities during evening hours - provide refrigeration for food production and sale - power for specialised enterprises such as hairdressing and internet cafes	- make streets safer: allowing participation in other activities (e.g. evening classes and women’s group meetings) - open horizons through radio, TV and internet
Improved biomass (supply and conversion technology)	- improved health through better stoves - less time and effort in gathering firewood	- more time for productive activities - lower cost of process heat for income generating activities	- control of natural forests in community forestry management frameworks
Mechanical	- milling and grinding - transport and portering of water and crops	- increases variety of enterprises	- transport: allowing access to commercial and social/political opportunities

(Clancy et al., 2002)

Energy poverty: what the data tells us

Drawing on the final report of the government’s Annual Poverty Indicators Survey of 2017 (APIS), we attempt to depict energy poverty with a gender lens in the Philippines. A total of 7,307 families are counted among the bottom 30 per cent of households with an average family size of 5.4 persons while the top 70 per cent have a smaller average family size of 3.9 persons.

Of the 7,307 families in the poorer 30 per cent, 1,056 are headed by women, for a ratio of one woman to six men. Slightly more than half of female heads (52.2 per cent) are aged 55 years and over. Nearly two-fifths (37.7 per cent) did not complete their elementary education. And only 6.8 per cent had either some years of, or had completed a college education. Most (58 per cent) of the women who headed the households held a job, but compared with the male heads of the families who had work (92 per cent), the proportion was significantly lower.

Most government statistics will show that more young women and girls complete their higher education than their male counterparts. The reason for this is that boys in poor households are compelled to help the family by working. According to the APIS 2017, 20.3 per cent of young males (6-24 years old) who are not attending school answered “looking for work” as a reason for quitting school. Another 21.3 per cent said the cost of education was high while 35.8 per cent lost interest in their schooling. Among girls and young women aged 6-24 years in the poorer 30 per cent who stopped attending school, the primary reason was “marriage/family matters.” A proportionately smaller number of young females stopped going to school for the same reasons given by boys and young men. In other words, if not burdened with marriage or caregiving in the family, young Filipinas go to school.

Based on the 2009 Official Survey of Family Income and Expenditure, the Philippine Statistical Authority concluded that, “on the average, female-headed families had an income...which is higher than the income of male-headed families...” But this situation is characteristic of female heads of households belonging to the richer 70 per cent of the population. The income earning capacities of women in the bottom 30 per cent are lower than that of male heads of households in the same income category.

Again, based on the same 2009 survey, the annual average income of women-headed households in the bottom 30 per cent was 56,000 Philippine pesos, compared to 63,000 Philippine pesos headed by men.

Going back to the 2017 APIS, we found out that the homes of the bottom 30 per cent are small. Nearly half (46.3 per cent) have a floor area of ten to 29 square meters. The homes’ floor area of another 44.4 per cent of the bottom 30 range from 30 to 79 square meters. Less than one per cent of the same group live in homes of 200 square meters and larger. In short, the bottom 30 per cent have bigger families but smaller homes. Furthermore, less than two-fifths of the walls of their houses (38.9 per cent) are built from strong materials. Most of the walls of their houses (61 per cent) are made of light materials, predominantly light materials, or a mix of light and salvaged materials. They live in smaller homes and in more vulnerable shelter conditions.

The 2017 APIS says that among the bottom 30 per cent, 84.7 per cent of households have an electricity connection, compared to the 97.8 per cent electrification rate of the top 70 per cent group. More than three-fourths (77.7 per cent) of the families in the bottom 30 per cent are equipped with cell phones, more than half (57.1 per cent) have televisions at home, only 10.1 per cent have a refrigerator or freezer, and 9.9 per cent have a washing machine. Based on this profile, we can glean that electricity consumption among the poor will be largely for lighting, for cooling (electric fan), and for recreation and communication (television and cell phones). In minor cases, it is also used for traditional women’s work of laundry and food preparation.

In terms of spending items, food accounts for 59.4 per cent of the household budget of the poorest 30 per cent. The next big item is housing, water and electricity, constituting 15.7 per cent of their expenses. In short, two thirds of a poor family’s budget go to food, water and electricity.

Based on the same APIS 2017, only 6.2 per cent of the bottom 30 pay rent for their house and/or lot. There is little room for price spikes and emergencies reiterating the vulnerability of the poorer group.

Evidence of this is the experience of hunger among the bottom 30 per cent of households. APIS 2017 reported that 25.3 per cent say they experienced hunger at least once a week. Those who experienced hunger at least once a month were 36.4 per cent of the bottom 30.

When one considers the high cost of electricity in the Philippines, the picture of energy poverty becomes sharper.

Questions for focus group discussions

The following questions were drawn up as a guide for focus group discussions on energy poverty and democracy. Three discussions were held: two with residents of island communities in Romblon and Iloilo, and one with urban poor residents in San Jose del Monte City, Bulacan.

A. On Energy Poverty

1. Do you have electricity at home?
2. For those who answered no: Why not? How much money do you need to get connected to the wires? What do you need to do to get a connection?
3. For those who answered yes: Since when have you had electricity at home? How did you get connected? Did you get help from a group or organization to get connected? If so, who?
4. How much are you paying for electricity? In your family/household, who is responsible for paying the electric bill?
5. What is your family/household’s monthly budget for electricity? Do you have to choose what you use electricity for? What are your top 3 priorities in terms of electricity use?
6. Who in your family/household holds the budget to pay for electricity?
7. Are there times that you go over the budget? Why? When this happens, how do you pay the bill when it comes?
8. Has your family/household experienced a time (say, over the last 12 months) when you are unable to pay your bill? What is the result when you don’t pay your bill?
9. How do you get reconnected? Who in your family/household is responsible for putting together the money to get reconnected, who goes to the utility to get reconnected?
10. What is it like when you have no electricity at home? (Please specify for each member of the family/household, father, mother, lolo, lola, son, daughter, student, infant, etc.)
11. Is there a difference in the time it takes for the women of the family/household to do their household chores when there’s electricity, and when there is no electricity? How much longer does it take to do certain chores (please specify) when there is no electricity?
12. What does it mean for each member of the family/household to have a light at night (again please specify for each member).
13. What sources of energy does your family/household have other than electricity? Which of these do you use with greatest frequency?

B. On Energy Democracy

1. Do you know who is supposed to provide electricity in your area? Do you know the name of the utility that has the franchise to provide electricity in your area?
2. Is this utility privately owned or is it a cooperative?
3. If privately owned, do you know who owns it? Have you ever been approached, or have you ever had contact with anyone from the utility? If so, who (name not needed, just the position or job in the utility)? How often have you had contact with this/these person/s?
4. If the utility is a cooperative, are you a member? If no, why not?
5. If yes, what are your duties as a member? Who in the family/household represents the family/household in the cooperative? How did you decide who in the family/household will represent the family in the cooperative?
6. How many meetings of the cooperative has your family representative attended? If limited (say, only 1-2 meetings out of the last 10), why has the family representative been absent?
7. At the meetings, does your family representative just listen or does s/he also speak up? What are the issues that concern your family the most that your family rep must bring up at the meetings?
8. Do you know who the board members are of the cooperative that you

are a member of? Did you vote for them? In your view, how free are the elections in your cooperative?

9. How often does the utility (whether private or cooperative) report to you about its performance?

10. How often do you experience outages? Do you get sufficient warning before the outage takes place?

11. How well does the utility respond when there is a bagyo (typhoon) or some disaster that affects the power lines and the provision of electricity in your area? How quickly do you receive information from the utility when such problems occur?

12. Do you know whom you should contact in case there is a problem? Who in your family takes responsibility for contacting the utility in case there is a problem?

Focus group discussion in Polopina Island

Background

Polopina Island is part of the town of Concepcion in Iloilo province (see Getting TheRE). Five women from the community took part in a discussion on their energy situation. They are all active community leaders; they are all mothers. Three of the five women have regular income from livelihood activities such as food vending and catering, sari-sari store, and informal lending.

The island is supposed to be covered by the Iloilo Electric Cooperative-3 (ILECO-3), but this is a mere formality as there are no wires or lines in Polopina to connect the island to the mainland grid. In short, the island has no electricity from the utility. There were attempts in the past to install generating sets to supply homes for a fixed monthly fee and for certain hours of the day, but these were not sustained. Super Typhoon Yolanda (Haiyan) also landed on Polopina Island, and whatever generating facilities were there at the time were destroyed. Post Yolanda, there were feeble attempts by ILECO-3 to provide electricity in the island but these did not result in anything positive for the island residents. An NGO provided solar powered kits for the residents but the lack of training on technical care and maintenance has resulted in many of these units no longer operable.

On Energy Poverty

Four of the five women participating in the FGD have generator sets (gensets) at home, which they bought. Two of the four also possess a small solar panel which they use for lighting inside the house and for charging of mobile phone devices. The only one of the five without means for electricity used to own a solar panel given by an NGO after Typhoon Yolanda, but this got damaged and they do not know how to repair it. The FGD participants estimated that about 80 per cent of the homes in the island own a genset. In fact, it is a common desire among residents to have a genset.

Once acquired, the burden of providing for the means to purchase the fuel for the genset generally falls on the husband—whose primary income is from fishing. Occasionally, when they have money to spare, the women also contribute to the fuel purchase budget.

The monthly budget for self-generation is managed by the women, who are also responsible for setting aside the funds to support the purchase of gasoline or diesel. This ranges from 400 to 1,500 Philippine pesos a month, depending on the income brought in by the fisherman-husband. The priority electricity needs are for lighting, air cooling (electric fan), and recreation/information (television). They likewise possess portable rechargeable devices for lighting. Not all of the electrical devices are used when the budget is low (400 Philippine pesos), while all devices are fully utilised every day when the budget is adequate and available (1,500 Philippine pesos).

All respondents adopt a time of use as a “household regulatory method” in order to ensure that there is electricity available when needed, especially during night time and when there are emergency episodes.

One point that surfaced in the course of the discussion was that it is usually the women who manage electricity use at the household, especially during night time considering that their husbands are out at sea to fish. The fishermen take with them some solar chargeable light, reducing the number of solar lamps for household use. So, the mothers must manage

the use of lighting at home.

Even when husbands are at home at night, it is generally still the women who remind members of the family how long the lights will be used and when to put off the lights at night in order to preserve power for lighting once they wake up early dawn to do house chores. Managing the use of chargeable lights has become part of the daily household chore for the women.

The discussants were unanimous in saying they encountered difficulties because electricity is not available 24/7. They lamented that even using gensets is challenging. Specifically, their experiences without electricity are manifested in the following:

- Change of scheduling of household task
 - They are prompted to wake up early in the morning to prepare for the food for the day.
 - They are forced to set aside work because it is dark. They wait for the sunrise to do some tasks like cleaning of the surroundings, cleaning the house, and manual laundry.
- Change of sleeping and rest pattern
 - Waking up early in the morning means they need to cut sleep and then they need to catch a sleep or take a nap during the day.
 - Undertaking livelihood activities like food vending or catering is difficult, because they have to prepare ingredients and cook early in the morning.
 - Rest and sleeping patterns are irregular for them.
- Risk to physical or personal safety
 - No electricity means poor visibility even inside the household, where they risk physical injury, e.g. slipping on the floor, bumping their head, or burning their hands while cooking.
 - They no longer walk around at night within the community because of the lack of street/pathway lighting.
 - The fear is aggravated when there are typhoons or weather disturbances.
- Risk to health and well-being
 - Unstable electricity supply means they have to put on the genset in the middle of the night to operate a nebuliser, especially when there are asthmatic children in the family.
 - It affects the well-being of the community because a genset creates noise and it can disturb neighbours.
- Noise pollution is high during night time when almost all of the households are operating their respective gensets.
- Inadequate time for study among children who are still schooling
 - The children must adapt to the time when lighting is available in order to study. This is usually from 7:00 to 10:00 in the evening while the genset is still operational.
 - Children have to adjust doing other school related tasks like a class project during daytime.
- Lack of technical knowledge in operating gensets, solar power facility
 - Generally, the respondents revealed that they lack the knowledge and ability to operate a genset. They showed low interest in understanding the technical requirements in operating the equipment for fear of committing a mistake in connecting the needed plugs and other components.
 - However, new genset designs have become easier to operate as most of these possess a “plug and play mechanism.”
- Budgetary consideration
 - The respondents consider financial capability as a major consideration in the provision or use of electricity at home.
- Low efficiency at the household; poor comfort
 - The respondents admitted that having no reliable source of electricity affects the level of efficiency at home. It results to low productivity on their part for they are the ones who stay at home and manage house chores most of the time.
 - It also results in a lack of comfort especially when a family member is sick. When a child in the family is sick, mothers are compelled to monitor the condition of the child. This means they have to wake up in every few hours, interrupting their sleep, to check on the condition of the child, give medicine, drinking water, or to boil water at night when needed. Lack of electricity makes mobility difficult when a family member is sick and mothers and fathers have to take turns using a handheld fan (abaniko or pamaypay) so that a sick child will be comfortable or could rest well.

Despite the lack of sleep, the women of the family must wake up early the

next day to attend to household chores and other community activities especially if they have a role to play in the community like if they are an officer of a people’s organization (PO), a cooperative, or as a barangay official or staff

Having electricity at home means the negation of the previously mentioned difficulties: better scheduling of task, healthy sleeping patterns and better quality of rest, reduced risk of physical injury and improved personal safety, better health response and easy mobilization of health equipment, improved study habits and increase of school performance among children, empowerment of women in terms of understanding the various new technologies of energy generation, improved efficiency for livelihood activities, additional income to the family, economic flexibility and financial independence among women at the household.

On Energy Democracy

All of the respondents believe that the government is primarily responsible in ensuring that they have access to electricity whether through an electric cooperative, like ILECO-3, or other service providers allowed by the government. The respondents are aware that the electricity service provider which holds a franchise to distribute electricity for Concepcion town is a cooperative (ILECO 3). But because their island is an off-grid barangay, they are excluded from membership in ILECO 3. Hence, they are not aware of the nature of electric cooperatives or of their operations nor do they know what benefits to expect if you are a member of the cooperative, or other details such as connection fees. None of the respondents know what their rights are as power consumers; none of them know that a Magna Carta for Residential Consumers exists as promulgated by the Energy Regulatory Commission (ERC). Closer to home, none of the respondents knows of any board member of ILECO 3. They are equally uninformed about the roles that the LGU or the barangay could play in the power development and distribution of electricity.

Survey of Cobrador Island, Romblon residents

Background

The island of Cobrador in Romblon province falls under the service of the Romblon Electric Cooperative (ROMELCO). The general manager of ROMELCO, Engr. Rene Fajaligutan, has a vision of turning the islands under his cooperative into 90 per cent renewable energy. Providing electricity to the islands is a huge challenge and Engr. Fajaligutan has been aggressively securing funding and technology for the consumers of ROMELCO. The cooperative has been able to provide a mix of hydroelectric power, solar powered units, hybrid system with a power barge, and more recently, wind turbines. The cooperative has also pushed for electric-powered motorcycles (distributed in Romblon island, not Cobrador island) to minimise noise pollution and reduce fossil fuel use.

Cobrador island has been the beneficiary of a hybrid solar-diesel system, through the cooperative, with the support of the ADB. The system went online in 2016, resulting in 24-hour provision of electricity to the 244 households living in Cobrador. A 30-kilowatt solar photovoltaic capacity backed up by lithium ion batteries and a 15-kilowatt diesel generator constitute this hybrid system. Not only do the residents of Cobrador enjoy electricity 24/7, in addition, carbon emissions and diesel fuel consumption are reduced.

When the hybrid system began in 2016, there were 183 member-consumer-owners in Cobrador. Today that number has grown to 252. The greening of Cobrador island is reaping rewards for its residents. One resident explained that from four in the morning until 12 noon, they would have power from the genset. From 12 noon until about eight in the evening, they would be getting power from solar.

However, in early December 2019, typhoon Tisoy (international name Kammuri) entered the Philippines and brought heavy rains to southern Luzon including Romblon. Typhoon Tisoy reportedly did some damage to the solar panels of Cobrador, leaving the island heavily dependent on the genset for electricity. By this time, almost all of the residents of the island were connected to the system, and many of the residents had acquired electrical appliances for home and business use. The heavy reliance on gensets causes its frequent breaking down. ROMELCO had to acquire a

new genset; currently two units are in use to supply power to Cobrador until the solar panels will be repaired. Residents are looking forward to this to reduce the cost of electricity and decrease their fossil fuel use.

Because of poor weather conditions, travel to the island was difficult at the time we in CPII were about to conduct the FGD. Because travel to the island was not an option already, the FGD questions were turned into a survey. Nineteen consumer-members of ROMELCO answered the survey, ten were female and nine were male including a senior citizen. There are 50 consumer-members of ROMELCO in Cobrador island. A follow up phone interview with Ms. Lina Rotoni, president of the Cobrador Island Women’s Association, provided crucial information to the experience of women and youth of Cobrador in relation to the improvements brought about by the provision of electricity in their island.

On Energy Poverty

Cobrador being a remote island comes as no surprise that only three of the respondents had access to electricity in 2010. Another four of the respondents had electricity at home the following year. In 2012, eight respondents obtained electricity. Two other respondents said they gained access to electricity only in 2014 and 2016. Lastly, one of the 19 respondents still has no electricity at home.

The 18 households surveyed have electricity generated through solar power. Most of them—15 of the 18—benefited from the government’s Sitio Electrification Program (SEP) and were assisted by ROMELCO.

The monthly electricity budget of the respondents varies significantly. Of the three who pay for private connections to solar power, the budget range for as low as 250 to 2,000 Philippine pesos. Most households enjoying electricity through the SEP have a much lower monthly budget for electricity, ranging from 100 to 700 Philippine pesos. Only two of the SEP-linked households have a monthly budget over 1,000 Philippine pesos. Those on the lower end of the monthly budget used electricity primarily for lighting, cooling (ceiling fan), entertainment (television viewing) and communication (cell phone charging). The few with the bigger budget for electricity has refrigerators and/or sound systems at home, adding to the budget.

For households with a couple living together, there is a division of responsibility when it comes to paying for the electric bill and holding on to the budget for electricity until the bills payment due date. Of those with private connections, all the men pay the bills, and two of the wives handles the budget. Two of the 15 households enjoying SEP connections consisted of men living alone, hence, they paid the bill and managed the budget simultaneously. Of the remaining 13 SEP-connected households, seven had the men responsible for paying the bill and the women responsible for the budget. Four households had the men managing the budget and paying the bill. Two had the women managing the budget and paying the bill.

The survey questions about being able to pay bills on time, problems with disconnection and reconnection, were largely left unanswered. Some respondents said this was a non-issue because they were able to pay their bills on time. The fact that ROMELCO distributed and collected the survey questionnaires to the 19 respondents may have also contributed to the silence on these questions. Another explanation is that the electric cooperative is not allowed to charge its members more than the cap set by the Energy Regulatory Commission. If their costs exceed what the consumer pays for their electricity, they recover the deficit from the Fund for Missionary Electrification collected from all electricity consumers throughout the country.

All the respondents said there was a significant improvement in their lives with the onset of electricity through solar power. Lighting is important to them because their surroundings are bright; they can watch their favourite shows on television; their sari-sari store can stay open at night; children can study even at night (response of the majority); they can accomplish household duties even at night; husband can fish at night; and they are informed of what is happening around the country.

On the other hand, when there is no electricity, the respondents said they encountered the following difficulties:

- Difficulty sleeping because it is hot and the fan is not working;
- Discomfort because the electric fan and the rice cooker cannot be used;

- Some apprehensions because it is dark;
- Boredom because one cannot watch television, especially their favourite shows;
- Difficulty to do household chores in the dark;
- Difficulty for children to study in the dark;
- Having been used to the lighting, power outage disrupts their evening activities including recreational/watching their favourite shows; and
- For the senior citizens, difficulty to move around in the dark.

On Energy Democracy

All respondents recognise ROMELCO as their utility. Five said the government is responsible for providing electricity through its electrification programme facilitated by ROMELCO. One believed it should be their district's congressman responsible for electrification, with ROMELCO implementing it. All 18 respondents who have access to electricity are members of ROMELCO.

Most of the respondents represent their household in ROMELCO. They are aware that part of their obligations as members is to attend meetings. One added that it is a member's responsibility to follow ROMELCO's policies. Another said they must unite with the general assembly. Voting for the Board of Directors was cited as another duty. One respondent described her/his responsibility as knowing the financial situation of the cooperative. The diverse range of responses is quite impressive.

Meetings have been held in the island, and they have attended these meetings. A third of the respondents said they have spoken out during these meetings, particularly on the issue of brownouts. But most acknowledged they have largely remained silent, adding they are too shy to speak. They receive reports from ROMELCO during these meetings, thus they are aware of the cooperative's progress. Fifteen of 18 members know ROMELCO's director, Adonis Silverio, while only three of them know the General Manager. All say they have voted freely for the Board of Directors.

All respondents said ROMELCO is able to provide advance information through its information officer and/or plant operator on duty. Text messaging is often used by ROMELCO to reach its members. All respondents know whom to contact (plant operator on duty) when there are electricity problems. Some added that texting the ROMELCO hotline is another option.

All respondents said they experience brownouts when there are typhoons or when the plant encounters technical problems. Only one respondent said that they are informed ahead of time if there will be scheduled brownouts. Load shedding or rolling blackout became a pattern in Cobrador after typhoon Tisoy destroyed the solar power that was part of the hybrid system of Cobrador. ROMELCO rotates the supply of electricity around the island and notifies the residents when electricity will be shed in their area.

According to Ms. Lina Rotoni, president of the women's association in Cobrador island, the lives of the women of Cobrador improved in several ways: "dagdag kita" (additional livelihood) and "gumaan ang trabaho" (lighter load of house and livelihood work). The necessary light bulb needed for the incubation of chicks became available, as well as cooling appliances which enabled women to sell chilled drinks and ice-based refreshments in schools and busy areas. Women spent less time on manual labour preparing rice with the rice cooker, crushing ice, and doing laundry with a washing machine. Ms. Rotoni said some of the mothers have become "high-tech" with these appliances. Women had more time to engage in livelihood and provide for the food needs ("pambaon" or lunch/meal boxes) of their children.

Significant amount of time are being saved by women of Cobrador since they would not need to travel back-and-forth the main island of Romblon just to recharge their mobile phones and flashlights. Before, they used to board a motorised boat at six in the morning then reach the main island an hour later. Next, they do their shopping and recharging and finally take the return trip at 11 in the morning. These trips were only available on Mondays, Wednesdays and Fridays. With the availability of electricity in Cobrador, the need to go to the main island is lessened, and limited to

shopping and other economic activities that cannot be done in Cobrador. The cost for each woman making this trip is 60 Philippine pesos (round trip) plus a 15 Philippine pesos charge if she comes back loaded with goods.

When asked what are the electrical gadgets that most families in Cobrador now have, Ms. Rotoni said most have television, electric fan, and home appliances like rice cooker, refrigerator and washing machine. She added that the safety of the women and youth of Cobrador is better now that there are streetlights. The chief "tanod" or security officer—who is a woman—also has an easier job of maintaining peace and order in the community.

Focus Group Discussion with ALPAS Residents

A discussion took place with ten members of ALPAS who are currently residing in San Jose del Monte City, Bulacan. They are members of a broad federation of urban poor residents called Kilos Maralita. These families were identified by the administration of President Benigno "Noy" Aquino as having lived in danger zones and were given a relocation site and three-storey buildings in San Jose del Monte. ALPAS 1, consisting of 26 buildings with 546 units (seven units per floor), then entered into a joint venture to solarise their buildings. The housing area will still be connected to Meralco, the utility covering their area, but when the solar panels will be installed the group could consider entering into a net metering agreement with Meralco. Net metering means that the residents will sell their excess electricity to Meralco and purchase electricity from Meralco when their demand for electricity exceeds the power generated by the panels. Needless to say, at night, there will be no generation, hence the need for the connection to Meralco.

As of this writing, the microgrid network to operate the solar panels has been installed and is already in use. But the solar panels itself have not yet been installed, in part because of financing delays and partly because of internal problems that have emerged within the members of the housing group. Because the joint venture entails borrowing money to finance the project, the residents of ALPAS 1 are paying for the loan in addition to the Meralco rates. It is understood that when the solar panels are installed, the own-generation of solar power would lower the residents' need for on-grid electricity, resulting in more affordable and cheaper electricity in the long run.

The group which we had a focus group discussion with consisted of nine women and one man. Most of the women's spouses are construction workers and would come home to their family on weekends or when the construction project is over. As a result, managing electricity consumption and paying for electricity is largely the work of women.

On Energy Poverty

The microgrid system set up in ALPAS 1 came with a prepaid metering scheme. So, the women have to purchase a "load" for them to have electricity in their units. Almost all discussion participants believe that this system has resulted in their mindfulness in terms of energy demand. Participants could clearly state their weekly electricity budget. On the average, they say, this is about 200 Philippine pesos a week. The highest consumption among them is about 3,000 Philippine pesos every three weeks by a housewife who receives remittance from her spouse who works abroad. But even the latter complains about the high electricity charge, compounded by the need to pay for the loan and the difficulty of installing the panels.

Not all of the discussants have a refrigerator at home, and among those who do, they do not normally turn on the refrigerator because of their limited electricity budget. When asked what is the biggest benefit of having electricity at home to the women, there was a consensus that being able to use a washing machine benefits them. One woman even commented that the machine consumes only one kilowatt hour of electricity. The prepaid scheme has indeed made them savvy about their consumption.

Also because of the prepaid scheme, when one's load was fully consumed and one is unable to purchase additional load, the electricity automatically cuts off. The financing cost was built into the load purchased by the residents, so the financial organization that lent money for the solariza-

tion is assured of repayment. Renewing the connection is done simply by purchasing load. The participants said one thing they have learned from using the scheme is to monitor their load to avoid their electricity from being cut off. Also, in order to stick to their budget for electricity, they learn to lower their consumption. One mother said she consumes a bit more electricity because of her child, for whom an electric fan and television are important.

On a macro level, however, the lesser the households consume, the bigger the electricity charge they will have to pay per kilowatt hour because of the minimum consumption level agreement with Meralco. This is the irony: poor households try to stick to their weekly electricity budget but cutting down their consumption may in fact make their electricity more expensive. At the initial stage of the solarization project, the engineers of SunAsia interviewed each member to assess and estimate their future energy needs. The resulting projected energy demand was 600 kilowatts and this was the demand level negotiated with Meralco. As members slowly moved into their units, the actual level of consumption was below 200 kilowatts. SunAsia then renegotiated a lower demand volume with Meralco, down to 150 kilowatts from the original 600 kilowatts. But today, the actual consumption level is only 12 kilowatts.

The biggest constraint appears to be financial. The budget of ALPAS 1 members are relatively fixed and they can only consume so much electricity. Coupled with more conscious demand management, thanks to the microgrid installation, and the loan amortization they have to pay on top of the electricity itself. The result is a consumer compressed into a very narrow consumption band. The opportunity to earn from a net metering arrangement with Meralco by investing in a bigger solar-generating capacity simply cannot materialise because of insufficient financing and very meagre pockets. Energy poverty is rendering a solar option for the poor very difficult; borrowing appears to be constricting rather than enabling. When asked who manages the budget and who is responsible for the electricity load, the unanimous response was "of course, the women of the house". This is partly because most husbands are working in construction projects and cannot afford to go home every day. But even for the only man in the discussion group, who was employed in a private firm, his wife manages the budget because according to him, she is the one at home and he is the one who earns for the family.

Electricity is mostly used for lighting, ventilation, mobile charging, television watching, and doing laundry.

The group was also in agreement that their bigger problem is the lack of piped water. Their housing site is covered by the water district of Bulacan, but so far, the district has not been able to supply the group with water. The participants said this problem has preoccupied them more than the high cost of electricity. They are currently in discussions with the water district for possible solutions to their problem. Drinking water is purchased by each family. One participant says that the amount they pay for water has increased nearly tenfold, from a little over 100 Philippine pesos a month to over 1,000 Philippine pesos monthly.

The group agreed that a second discussion would be needed after the solar panels are successfully installed on the roofs of their buildings, along with the water pipes.

On Energy Democracy

The members of ALPAS 1 are aware that they are in a joint venture with solar power system provider SunEnergy Asia, Inc. through a not-for-profit Sinag Homes Inc., and involving two NGOs which are the Institute for Popular Democracy and the Center for Power Issues and Initiatives. The ideal system would be a microgrid network combined with solar panels on the roof of their buildings and a net metering arrangement with Meralco. However, the current demand volume is still rendering this ideal scenario a dream. Eventually the microgrid system and the solar panels will be turned over to the housing associations to exercise its local community governance. In the meantime, Sinag Homes Inc. manages the microgrid and supplies the load needed by the residents to access electricity from Meralco.

The agreement with the residents is that the cost of electricity they would pay would be cheaper than what Meralco charges. As of this writing, this has not been put into effect because of the absence of the solar panels to complete the system and because of the financial charges that need to be paid.

The prospect of some degree of electricity self-governance—an awesome development for urban poor communities—has thus far been overshadowed by some disagreements among the ALPAS 1 residents. The discussants are optimistic this will be settled.

The existence of the microgrid should provide new livelihood opportunities for the residents. One of the plans in support of the solarization project is to provide training on enterprise development for the housing associations. This is to build the community economy and also make electricity affordable. As of this writing, these remain as plans and cannot be implemented until the solar panels are installed.

What is indisputable is that the women of ALPAS 1 will play a major role in the development and management of their solarised system and the livelihoods that this will help to create.

What is also clear is that the ALPAS residents, women and men, need additional subsidy to make their dream of affordable clean electricity a reality, similar to the subsidy the Cobrador residents are enjoying. In April 2018 the Housing and Urban Development Coordinating Council (HUDCC) raised the price ceiling for socialised subdivision projects from the original amount which ALPAS received of 450,000 Philippine pesos to the following (HUDCC Resolution No. 1 series of 2018, 27 April 2018):

- 480,000 Philippine pesos for a 24 square meter (m2);
- 530,000 Philippine pesos for a 28 m2; and
- 580,000 Philippine pesos for a 32 m2.

It is strongly encouraged that an additional subsidy be provided to keep up with the above resolution.

Summary and recommendations

The women of Polopina Island, Iloilo; ALPAS in San Jose del Monte City, Bulacan; and Cobrador Island in Romblon, share many things in common. Most of them are responsible for the household budgeting, including paying the electric bill. The provisioning of care to their loved ones is an integral aspect of their lives. The time they use to meet the needs of their family and of their community is least likely to be recognised by the loved ones they protect and care for. Having electricity at home enables the use of time saving appliances, which may enable the mother of the home to cook rice and wash clothes more conveniently, among others. In the case of the women of Cobrador, the availability of electricity means they do not have to spend half a day to travel to the main island to recharge their phones and flashlights. Having electricity also expanded the income opportunities for the women since they can now serve chilled drinks and cold refreshments to the island's residents and visitors. The men, who are mostly fisherfolk, are also able to store their catch better with the possibility of producing ice. In the case of the women of ALPAS, having been able to use a washing machine and rice cooker greatly eased the work they do at home.

In the absence of a time-use survey, we can only surmise from the anecdotal evidence emerging from the FGDs that having lights at night may have lengthened the working time of women, more likely for money generating work like a sari-sari store or preparing foodstuff to sell the next day in schools and areas where people congregate. A time-use survey of the residents of these three groups would contribute greatly to an in-depth understanding of the gender aspects of energy poverty and energy democracy. What happens to women who are energy poor? And how do their lives change when they are able to access electricity? Is their time used more effectively for the work and lifestyle they would like to have? Does the availability of electricity add rather than lessen the "woman's burden"? A time use survey would provide more detailed answers and analysis.

The safety of the women and youth is enhanced with the resulting availability of streetlights. This enables friends, families and neighbours to

gather at night. The recreational needs of the family can also be met within the home with a television now available.

Based on the FGDs, it is apparent that access to electricity in poor households enables the women to use their time more efficiently and at the same time, expand their income earning opportunities. Their recreational needs, the need for cooling inside the home when the weather turns hot (especially when sleeping), the need for a safe environment to move around and socialise within the community, are as important as the previously mentioned benefits. Being able to address their children's needs (e.g. doing homework and studying at night, enjoying television shows, socializing, and sleeping soundly) as a result of the availability of electricity is valuable as well to mothers. These are very clear advantages to women of having electricity at home.

At the same time, the FGDs also pointed to the very real problem of energy poverty in poor households. Poor families have only so much money to spend on electricity on top of the 59 per cent of family income to be spent on food. They have to manage their electricity consumption strictly to keep to their budgets, and mostly because electricity costs in the Philippines are high. These are the financial burdens that women carry.

In the case of the Polopina Island residents, the solar lights and charging stations were given as a grant in response to the Typhoon Yolanda. However, the residents did not know how to maintain these gadgets. Perhaps a training programme for the women of Polopina on how to maintain these units would help to sustain its operationalisation for the residents.

In the case of the Cobrador island residents, the introduction of a hybrid power system was partly made possible by grants that ROMELCO actively sought for its consumer-member-owners. Furthermore, because it is operating in several islands of Romblon province, which are not connected to the Luzon grid, the cooperative can access the missionary electricity fund when its generating and distribution costs are higher than what the cooperative is allowed to charge its households. This means that the Cobrador residents are protected from having to bear the true cost of the hybrid system that ROMELCO set up for them. Nevertheless, the cost of electricity is still a problem for the women due to their tight budgets.

In the case of the members of ALPAS who were given units in buildings so they could live within working distance from Metro Manila, the acquisition of a microgrid and solar panels was supposed to lower their electricity costs. But the financing cost of this system added to their cost of electricity, frustrating many of them. The available financing from various institutions for poor communities is generally for off-grid connections and for a much lower scale of consumption than the members of ALPAS are used to. Because ALPAS residents live in an area that can be reached by Meralco, the financing support to bring down their electricity cost by embarking on a solar option is limited and not cheap. When financing support was found, the financing cost is too heavy to bear. This resulted in the scaling down of the solar power generating capacity, which in effect also lowers the potential income-generating possibilities for ALPAS because their excess solar power could have been sold to Meralco. The situation of energy poverty is indeed difficult to overcome without the needed subsidies.

The proportion of a poor Filipino family's income that is spent on water and electricity, according to government data, is about 15 per cent. Compare this with the average 2.5 per cent of family income spent on electricity in the United States of America (USA), and an even lower one per cent in Japan. Poor Filipino families are nowhere near the earning capacity of families in the USA and Japan, but they have to shell out a disproportionately higher share of their income for electricity. Policy makers in the Philippines should seriously consider placing a cap on the proportion of a poor family's budget that is spent on electricity. The lifeline discount enjoyed by poor households, and paid for by the less poor households, is not sufficient. Considering that 2021 would be the twentieth year since the passage of the Electric Power Industry Reform Act, a review of the lifeline discount may be timely in light of SDG 7 on sustainable energy for all. A cap on how much a poor family pays for electricity must be pushed, along with the use of renewable energy for this to happen. Such a cap would be crucial for women who head poor households, considering that they earn

less than their male counterparts.

Decentralising electricity to the level of the community must be pursued. It is also important to stress that enabling women in the community to participate more actively in community power is crucial for the empowerment of women and the development of the community, even the success of decentralised power. Since Filipino women are recognised as home managers, it is only right that they have a greater say in how power is produced, how power is accessed and paid for, and how power can benefit everyone in the community. Hopefully, the greater say will also shape the course and direction of community power in the years to come.

Submitted by

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