

Acceptance or Compromise? Examining Social Acceptability of Geothermal Development in Southern Negros

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ABSTRACT

Established in 1983 as an alternative to imported oil, the then Philippine National Oil Corporation-Energy Development Corporation's Southern Negros Geothermal Project was commissioned to achieve energy sufficiency and to address the recurring power interruption in the province. The protracted implementation or rejection of geothermal development projects implemented across the country due to community resistance highlights the need for social acceptability. While existing literature identifies material benefits and public participation as factors influencing social acceptance, few studies critically examine whether acceptance represents genuine consent or reflects deeper structural vulnerabilities. Unlike its counterparts, EDC's Southern Negros Geothermal Project establishment and expansion have been well supported by its three host communities – Brgys. Puhagan, Malaunay, and Caidiocan – all located in the municipality of Valencia, Negros Oriental. Despite environmental concerns, significant reduction of royalty tax, and some privileges that were not followed through by EDC, none of these have crystallized into significant opposition that threatened the project's expansion. Using qualitative methods – documentary research and oral history, this paper examined how EDC SNGP sustained social acceptance. The findings demonstrate that economic dependency, limited agency, and the absence of bargaining power are the structural conditions that sustained acceptance. What appears as social acceptance is actually a compromise born out of vulnerability.

Keywords: *Geothermal development, Developer-Communities Relations, Social Acceptability*

INTRODUCTION

The oil crisis in the 1970s served as a wake-up call for the Philippine government, whose commercial operations and energy requirements largely depend on imported oil, to recalibrate its domestic energy policies for the long haul by tapping into its Indigenous resources that could be developed

as an alternative to imported oil. In line with this, the then Philippine National Oil Corporation-Energy Development Corporation (PNOC-EDC) established its Southern Negros Geothermal Project (SNGP) to achieve energy sufficiency and to address the province's recurring problem of power interruption.

Unlike its counterparts – the Mt. Apo Geothermal project in Kidapawan, Cotabato and Tiwi Geothermal Complex in Tiwi, Albay – whose implementation was protracted and faced a multi-stakeholder opposition, the Southern Negros Geothermal Project presents a nuanced case. For forty-two years now, EDC's Southern Negros Geothermal Project's (EDC SNGP for brevity) official records highlight the support it garnered from its three host communities – Brgys. Puhagan, Malaunay, and Caidiocan – all located in the municipality of Valencia, Negros Oriental. The absence of significant opposition from the host barangays towards EDC SNGP's establishment and expansion despite the environmental concerns, anxiety over expansion, and the significant reduction of royalty tax payments calls for an analysis. The scholarship on social acceptability of energy-related development is concentrated on public participation and material benefits as the factors that primarily account for social acceptance.

The dearth of scholarship regarding the host communities' structural vulnerabilities, either inherent or developed, seemed to have obscured the nature of the host communities' acceptance. This paper would make a case for the host communities' inherent or developed structural vulnerabilities as factors that motivate them to accept or compromise with the geothermal developer. By examining the structural conditions present in the Southern Negros Project, this study then analyzed the nature of the host communities' acceptance of the project. Using qualitative methods of documentary research and oral history, this paper began by providing a brief historical context of the project, examining the grievances that the host communities raised against the geothermal project that could have undermined or sustained social acceptance, along with the mechanisms employed by the government (before EDC was privatized) and the geothermal developer, followed by an

analysis whether the acceptance was shaped by meaningful negotiation or a compromise born out of vulnerability.

METHODOLOGY

This study employed qualitative and descriptive methods. The researcher made use of documentary research and oral history for data gathering. For the documentary research, the researcher examined relevant materials such as EDC's annual reports, news articles, internet sources, theses, journal publications, and research conducted among geothermal development projects established and situated across the various islands in the Philippines. In using oral history, a focus group discussion with some of the residents of the three host barangays, interviews with political leaders from the host barangays, and EDC SNGP employees were conducted.

ETHICAL CONSIDERATIONS

The researcher upholds the confidentiality of the data gathered during the focus group discussion and key informant interviews. The participants were informed of the nature, scope, and purpose of this endeavor. The researcher complied with and upheld the ethical standards and requirements laid out by the University Research Ethics Committee of Silliman University. During the data gathering processes, the researcher provided the study participants with the Informed Consent Form and respectfully obliged the participants' requests for anonymity. To protect their identities, the researcher assigned pseudonyms to each participant. No real names were used. All quotes and attributions used pseudonyms only. Below is the table of the research participants and their assigned pseudonyms:

Table 1. Personal Interview/Key Informants

Name (Pseudonyms)	Position in the Community
Pedro	Brgy. Political Leader 1
Paterno	Brgy. Political Leader 2
Andres	Brgy. Political Leader 3
Maria	EDC SNGP Employee 1
Lucio	EDC SNGP Employee 2
Gem	FGD Participant (Resident)

Historical Background on Geothermal Exploration and Development in Valencia, Negros Oriental

The OPEC member countries’ weaponization of oil during the onset of the Yom Kippur War in the 1970s served as a wake-up call for the Philippine government, whose commercial operations and energy requirements largely depend on imported oil. The Philippine government recalibrated its domestic energy policies for the long haul by tapping into its Indigenous energy resources that could be developed as an alternative to imported oil for energy sufficiency.

Acting on the crisis, the government organized and chartered the then PNOC-EDC to explore, develop, and utilize indigenous energy sources. While that was unfolding at the global and national scene, at the local level, the Commission on Volcanology discovered thermal manifestations occurring in the municipality of Valencia, Negros Oriental. The favorable geologic conditions and the commercial viability of the geothermal resource in Barangay Puhagan in Valencia brought PNOC-EDC and NPC to the municipality. In furtherance of their mandates, both entities established the Southern Negros Geothermal Project, with the former undertaking the development of the geothermal field and the latter undertaking the construction and operations of the geothermal power plants. PNOC-EDC and NPC’s establishment of its Southern Negros and Tongonan Leyte Geothermal Projects in 1983 officially propelled the

Philippines as the second-largest producer of geothermal power in the world (Energy Development Corporation, 2021).

The commissioning of Palinpinon I Geothermal Power Plant (GPP) replaced the diesel-based power of Western Visayas, specifically Guimaras, Iloilo, Capiz, Antique, Aklan, and Panay, and Negros Occidental's diesel-powered plants and bagasse or wood waste (Energy Development Corporation, 2021). The completion of the Palinpinon II GPP and its commissioning in 1993 raised Southern Negros' generating capacity to 195.5 MW and supplied the power needs of Panay and Cebu ("Geothermal II", 1993).

Shortly after its privatization in 2007, EDC acquired, through its subsidiary Green Core Geothermal Inc. (GCGI), and assumed ownership over the Southern Negros Geothermal Project (EDC, 2009). Based on the restructuring framework provided by the EPIRA Law, the energy sector's structure in the Visayas Grid is as follows: EDC is the steam field developer of the Southern Negros Geothermal Field, steam producer, and steam supplier to EDC-Green Core's Palinpinon I, Palinpinon II, and EDC-owned Nasulo geothermal power-generating plants. The Palinpinon I, Palinpinon II, and Nasulo plants convert geothermal steam to electricity; EDC-Green Core sells the electricity generated to NORECO 1 and 2, and to all the electric cooperatives or distribution utilities in Visayas.

The geothermal plants and facilities are straddled across three hinterland barangays in the municipality of Valencia, Negros Oriental: Puhagan, Malaunay, and Caidiocan. Being EDC's second-largest geothermal facility in the country, the Southern Negros Geothermal Project's GPPs have been providing electricity to the entire Visayas region for forty-two years now (EDC, 2021).

Social Acceptability

Geothermal Development Projects implemented across the country were often wrought with legal, environmental, social, and cultural problems. Case in point, the Tiwi Geothermal Complex, sited at Tiwi, Albay, the first

large-scale commercial geothermal facility, was confronted with public protests posed by the public, NGOs, environmental activists, and even the local government authorities within the first ten years of its operation. The negative sentiments of the Tiwi residents sprang from their position that the geothermal endeavor will have negative implications on the environment, NPC's acquisition of lands that were previously reserved for the residents, the disturbance the project brought upon the local livelihood, and the lack of compensation for the disturbance the project has brought upon them (Esquivel, 2021). Meanwhile, the implementation of the Mt. Apo Geothermal project in Kidapawan, Cotabato, which was considered the most controversial project PNOC-EDC had undertaken, was made after a two-year delay due to environmental, legal, and cultural impediments (Ote & De Jesus, 1997).

Cases of geothermal development projects rejected due to community resistance highlight the need for social acceptability. Social acceptability, in its simplest definition, is the public's approval of an energy development-related endeavor (Sustainability Directory, 2025). To balance energy sufficiency and mitigation of potential environmental impacts, the government, through the Local Government Code, mandated that the social acceptance of the host communities of development projects be made mandatory before issuing the Environmental Compliance Certificate (ECC) (Esquivel, 2021). Ergo, the social acceptance of the communities affected by the project serves as the geothermal developer's social license to operate.

Although EDC Southern Negros had enjoyed strong support from its three host communities since its inception in 1983, the latter's acceptance of the project is not tantamount to unqualified support. The host barangays raised grievances against EDC SNGP that are lumped under three categories: environmental concerns, those that relate to EDC SNGP's expansion, and lack of benefits.

DISCUSSION

Challenges to Social Acceptability

Disposal of Waste

PNOC-EDC dispelled the residents' allegations that it disposed of geothermal waste into the rivers. It maintained that the water they flushed out from the ground to produce steam is reinjected into the ground and that nothing alarming has been noted yet by their water level recorders ("Artesian Wells", 1987). This goes against the study conducted by the Japan International Cooperation Agency (1997), revealing that PNOC-EDC discharged the hot water from the production wells into the rivers. The latter, however, maintained that it had been assessing nine rivers daily, samples were collected to test the boron concentration and arsenic levels, and that the arsenic levels did not exceed the drinking water threshold ("Artesian Wells", 1987). The Japanese Organization strongly advised against the practice due to its environmental impact (Japan International Cooperation Agency, 1997).

As manifested by a barangay captain from one of the host barangays who is also a member of the Multipartite Monitoring Team (MMT), a team composed of the barangay captains and one barangay councilor from the three host barangays with the DOE as their chairman to oversee EDC SNGP's compliance on environmental laws, the practice of disposing the geothermal brine into the river was no longer observed. EDC SNGP observes the Zero Waste System wherein the geothermal wastes are being reinjected underground through the reinjection wells. He further noted one particular observation stating that when the MMT was not yet organized, EDC collected its geothermal fluids through a sump, and if it became full, they usually discharged it during nighttime or the rainy season, or they discharged it altogether when the creek floods (Pedro, Personal Interview, 2025).

Sulfur Emissions

Residents in Sitio Ticala, Brgy. Caidiocan raised complaints regarding the sulfur gas emissions (H_2S emissions) from the cracks in the ground. They have raised concerns that the sulfur emissions have caused the plantations around the cracks to dry up and that it caused dizziness and difficulty breathing. EDC maintained that the sulfur emissions were not cracks but old natural sulfur manifestations from two years ago. EDC conceded that health risks may develop depending on the level of gas concentrations to which the residents may be exposed. Some residents, however, refused to accept EDC's conclusion that such emissions were everyday occurrences and alleged that a leaking geothermal well caused the emissions (Demecillo, 2010).

To ensure the safety of the residents within the proximity to its operations, EDC SNGP's resettlement program resettled households living near and within the hazard zone emissions and those that were within the access routes of the geothermal facilities to avoid any untoward incidents. The resettlement program is part of the company's Corporate Social Responsibility (CSR) Program that ensures just compensation for the properties, crops, and loss of livelihood opportunities. The program also provided livelihood opportunities for the people affected. The resettlement provided security for the geothermal facilities while ensuring the physical and health safety of the households affected, thereby minimizing company liability in terms of public relations and case litigations (PNOC-EDC, 2006).

EDC SNGP's periodic release or the leaking of H_2S or hydrogen sulfide, unfortunately, continues to be a problem for the residents in Brgy. Puhagan. During the focus group discussion, the residents shared that the release of the chemicals goes unannounced, prompting them to call EDC SNGP to take the necessary action. The substances have caused asthma, difficulty breathing, and headaches to residents exposed. They further confide that when such occurrences happen, they call on EDC, and the latter promptly acts on it.

Expansion Woes

During the researcher's Focus Group Discussion (2025) with the residents of the three host barangays, the most prominent matter that perturbed them each time EDC SNGP proposed an expansion or growth projects, especially after they caught wind of its 2025 growth projects concern their private properties. When asked about their constituents' sentiments as to EDC SNGP's expansion, the barangay captains from Malaunay and Caidiocan noted that their residents never opposed the expansion because it would only be concentrated in Brgy. Puhagan. One of them further admitted that surely negative sentiments could arise if EDC's expansions reached their respective barangays. Residents from Brgy. Puhagan, on the other hand, expressed the following sentiment -- "We cannot do anything about it"(Gem, Personal Interview, 2025). They added that should EDC SNGP's expansion encroach into their homes or private properties, they hoped that EDC would pay them the current market price of their properties (Gem, Personal Interview, 2025).

Another resident from Brgy. Puhagan stated that should EDC require them to vacate their homes and properties, "Our only request as residents is that they give us 'pagtagad' (Cebuano word that translates to attention or consideration) and afford us some dignity...if they use that area, I hope that they would observe proper processes instead of evicting us right there and then" (Gem, Personal Interview, 2025). For its part, EDC SNGP maintained that the company's compensation liabilities to the residents will only be limited to the value of their household property and the value of the crops affected, but they cannot issue compensation for the value of the land, as it is public land. Although the DENR mandated EDC SNGP to guard the geothermal areas so as not to invite any more illegal settlers and request them to vacate the premises, if need be, the latter confines its responsibilities only in so far as serving the notice of violation to the illegal settlers and calling the barangay's attention to its enforcement. It relinquishes the responsibility of evicting the residents to the DENR out of goodwill and to preserve the good

relations it has cultivated with the residents of its host barangays (Lucio, Key Informant Interview, 2025).

Lack of Benefits

The commissioning of the Palinpinon I GPP in 1983 was slated to address the province of Negros Oriental's perennial problem of power outages. Just when the entire province had thought that their problem had been addressed, another one rose from its stead – the exorbitant rate of electricity ("People urging", 1985). It is an acknowledged fact — the nearer the consumer to the power source, the cheaper the power rate and the lesser the probability of power loss as there is less distance for the power to cover during its transmission ("Local power", 2010). The people of Negros Oriental, however, found it ironic that they were charged with a high electricity rate when they have the geothermal plants right on their soil. Indignant over NPC's one-grid-one-rate policy which imposed a universal charge on electricity rates regardless of the nature of the source of power (imported oil, diesel, hydro, geothermal, and coal), and the distance of the consumers from the power source, and NORECO's exorbitant power rates, the people took to the streets and conducted a public rally across NORECO II's office. They clamored for a reduction of their electricity rates and to be awarded other incentives. Provinces should be able to reap the benefits of harnessing renewable energy sources for power generation based on the premise that it is the people who bear the brunt of the ecological consequences of developmental projects ("NPC's 'one-grid", 1985).

As one of the four pioneering geothermal projects in the country, the case of Energy Development Corporation's Southern Negros Geothermal Project presents a more nuanced dynamic. Unlike its counterparts, its establishment was accepted by its host communities with no resistance. Despite their support for EDC SNGP's operations, the host communities questioned electricity rates, articulated environmental concerns, expressed

sentiments over the project's expansion, and demanded greater benefits from the geothermal project. The host barangays' continued acceptance of EDC's Southern Negros Geothermal Project despite the issues articulated calls for an analysis. How did EDC SNGP maintain social acceptability in the face of legitimate grievances? How did the government's (prior to privatization) and EDC SNGP's response to these grievances reinforce or undermine social acceptability? What are the structural conditions that motivate or influence the host communities to accept energy-development projects?

Mechanisms for Sustained Acceptance

Drawing from its experiences of developing geothermal projects across the country, De Jesus (1997) observed that social acceptance of geothermal development projects is more likely when the major stakeholders – the host communities, the government, and other concerned agencies – are involved. The basis of public participation is to acknowledge the rights of the host communities to information regarding matters that concern and directly affect them, such as geothermal development projects. On the other hand, community acceptance is more probable when the communities have access to meaningful benefits. The benefits must be long-term, and they must have a significant impact on those directly concerned. In the case of EDC's Southern Negros Geothermal Project, how did the project sustain social acceptability in the face of challenges and legitimate grievances posed by its host communities? This study analyzed the host barangays' acceptance of EDC's Southern Negros Geothermal Project through two mechanisms: material benefits and community participation. The structural conditions that motivate the former to accept the project is also be examined using the two mechanisms.

Royalty Taxes and Discretionary Benefits: Sustaining Social Acceptability Across Time

The legislative bill which echoed the people's call to have access to benefits in hosting geothermal facilities, was proposed by Representative Miguel Romero, who, at the time, served as the Congressman of the second district of Negros Oriental. House Bill No. 10, or otherwise known as the Romero bill, pushed for companies engaged in developmental projects to remit national wealth or royalty tax payments to the areas where the national wealth or resource is located. Further, the bill proposed that at least 80 percent of the proceeds derived from the geothermal resources shall be allocated to reduce the electricity rate ("Power rates", 1992). This provision was incorporated in Section 294 of the Local Government Code, which mandates that 80% of the royalty tax payments remitted by the geothermal companies to the LGUs shall be allocated solely to subsidize the power where such a source of energy is located. The rest shall be allocated to fund development and livelihood projects. This provision is known as the national wealth tax and is commonly referred to by the host communities as the royalty tax.

Aside from the power subsidy and the development fund taken from the royalty tax payment, various legislations were also enacted to expand the benefits to be awarded to developmental projects' host communities, the most notable of which is the Energy Regulations No. 1-94 (ER No. 1-94 for brevity), the Implementing Rules and Regulation (IRR) of Section 5(i) of the Department of Energy Act which mandates geothermal energy developers to provide, among others, preference for employment, procurement of local supplies and services, skills training, and that a portion of the total electricity sales shall be allocated to fund reforestation, watershed management, health and/or environmental projects (DE Energy Regulations No. 1-94, § 6, 1994).

Royalty Tax

Based on Section 294 of the LGC, EDC SNGP is mandated to pay royalty taxes to the host barangays to compensate for the company's use of the barangays' geothermal resources. The host barangays, in turn, shall allocate 80% of the royalty tax to subsidize electricity rates, and 20% thereof is used to fund development projects.

Data gathered from interviews and focus group discussion conducted with the residents of barangays Puhagan, Malaunay, and Caidiocan – EDC SNGP's three host communities revealed that EDC had been steadfast in providing power subsidies. The royalty taxes remitted by EDC SNGP to subsidize each of the three barangays' electricity are not uniform, however. The subsidy given observes the order of radiating benefit. In this case, since Brgy. Puhagan is the primary barangay that hosts EDC SNGP's geothermal power plants, it has the highest electricity subsidy of 2,000 pesos per household per month. Brgy. Malaunay, which hosts some of EDC SNGP's production wells and hosts a part of Sogongon GPP, receives a monthly subsidy of 1,500 pesos per household. Brgy. Caidiocan hosts EDC SNGP's reinjection wells and offices, hence, has a monthly subsidy of 1,000 pesos per household per month. As the host municipality, the rest of the barangays in Valencia receive a 200-peso monthly subsidy per household per month (Personal Interviews with Key Informants, 2025).

The barangay executives and the residents hold the same judgment that EDC SNGP has satisfactorily complied with its power subsidy obligations towards its host communities but lamented over the significant reduction of the royalty tax payments remitted by EDC (Focus Group Discussion with the Residents and Interviews with Key Informants, 2025). According to one barangay political leader, prior to the privatization of EDC SNGP, his barangay received 20 million in royalty tax payments annually. Now, his barangay receives a meager amount of one million pesos a year. 80% of PHP 1 million (PHP 800,000) is allocated to subsidize the barangay's electricity bill,

which costs around PHP 3 million per year. The electricity subsidy alone is not enough to cover even half of his barangay's actual electricity bill. When asked what the reason behind the significant reduction of the barangays' royalty share could be, all of them pointed to EDC SNGP's privatization (Pedro, Key Informant Interview, 2025).

Remitted by EDC quarterly, the remaining 20% of the host barangays' royalty tax is to be allocated to fund their respective barangays' development and livelihood projects. The residents of the three host barangays and their political leaders revealed that they have the freedom to pursue their projects without prior notice and approval from EDC SNGP, in accordance with their locally identified priorities pertaining to their barangays' development and livelihood (Focus Group Discussion with the Residents and Interviews with Key Informants, 2025). A barangay chief executive disclosed that EDC SNGP required them to submit a liquidation report once the funds had been used. Failure to comply with such a requirement may prompt the company to defer the remittance of the fund for the next quarter. Such a requirement from EDC ensures that the development funds are not abused and are properly allocated (Personal interview with a Key Respondent, 2025). The host communities have utilized the funds to purchase, among others, dump trucks, an ambulance, and utility vehicles used to pick up and transport their residents, especially those from remote sitios, senior citizens when they have a scheduled senior citizens' meeting, pregnant women who will be having their prenatal, those who will be claiming their 4Ps, and the like (Personal interview with a Key Respondent, 2025).

Employment Preference

Aside from the royalty tax payment, one of the benefits that EDC SNGP must comply with is that it must provide employment preference to the residents of its host communities. The preference for employment granted to the host barangays is reiterated in the Environment Compliance Certificates granted

by DENR to EDC during its 2014 Nasulo GPP construction and 2016 capacity expansions. Both Certificates oblige EDC to provide and disseminate to the concerned barangays the jobs available to them. The residents admitted that there were instances where such a privilege was not honored by EDC SNGP's contractors. When asked if the residents had tried to raise this before EDC, they maintained that the latter is aware that such situations happen. In one of their barangay sessions, it was discussed that they plan to raise this again to EDC to "Refresh our agreement because it seems like the agreements we have had before were slowly forgotten" (Focus Group Discussion with the Residents, 2025). Meanwhile, a barangay captain maintained that EDC's contractors gave his residents short-term, contractual jobs that only lasted for 3-4 months. This situation is deemed as less ideal by his residents, who would prefer to accept or resort to gardening jobs that provide them with employment security. He further maintained that the contractors come to their barangay when they need additional laborers, or welders, among others (Personal interview with a Key Respondent, 2025). Although the law provides for an employment preference for the residents of the host barangays, there is a significant mismatch between the specialized skills and knowledge EDC requires for its operations and the skills of those available in the local pool of laborers. This explains why EDC offers short-term and contractual employment to the residents as it is not very often that EDC has projects.

Skills Development

Although relevant laws mandate EDC SNGP to conduct skills development training for its host barangays that relates, but does not necessarily imply that it only be limited to, energy generation, electrification, reforestation, and other agro-industrial activities, data gathered from the Focus Group Discussion revealed that the training the residents participated which was organized by EDC SNGP was in connection to their Barangay Emergency Rescue Team.

On another note, one of the village chiefs narrated that his barangay organized skills training for its residents involving welding, refrigeration, electrical, and sewing, and tied up with TESDA. He revealed that they coordinated the activity with EDC SNGP, and the latter extended its support by purchasing the necessary equipment. The village chief further revealed that such was the usual support extended by EDC SNGP to his barangay in terms of skills training (Pedro, Key Informant Interview, 2025).

Discretionary Benefits

Aside from the royalty tax payments and other benefits mandated by law, EDC SNGP, through its Corporate Social Responsibility Program, also extended discretionary benefits to its host communities. Discretionary benefits are programs or projects implemented outside of those mandated by law. These benefits comprised of infrastructure and development projects, some of which are as follows:

In 2012, a Php 20 million Rural Health Building was donated by EDC-SNGP to the local government of the municipality of Valencia. The rural health building is a modern medical facility that is expected to cater to the medical needs and health care services of the people. Its features include a recovery room and a land pad (Tilos, 2012).

In 2021, during its 45th anniversary celebration, EDC-SNGP launched the country's first-ever off-grid e-community in one of its host barangays – Brgy. Puhagan, making it the country's first off-grid village to have public wifi. EDC-SNGP donated Php 735,000 to Brgy. Puhagan to purchase the equipment and materials needed to put up the necessary infrastructures. The 10 Mbps uninterrupted wifi was the company's initiative to help the host barangays cope with the new normal brought about by the pandemic. Wifi connection has been essential to let the barangay political leaders do virtual meetings with the municipal political leaders and to help the students of the barangay cope with the demands of online learning. EDC-SNGP also

handed over a check donation bearing Php 138,970 each to its two host communities, Barangays Caidiocan and Malaunay, to fund the connectivity and infrastructures needed to install public wifi connection in completion with its off-grid e-communities project (Ariola, 2021).

EDC also provided financial support to infrastructure projects initiated by its host communities. In Brgy. Malaunay, for instance, EDC built a riprap across the barangay hall to prevent the building from landslides, which cost PHP 12 million. A PHP 24 million road construction is currently being developed upon entry to Brgy. Malaunay, which is fully funded by EDC. Meanwhile, the latter donated PHP 4 million for the barangay's gymnasium and made another donation of PHP 2 million for the barangay's farm-to-market road project. The barangay executive pointed out a particular observation that EDC SNGP is generous in giving financial assistance to the barangay's infrastructure or road projects that directly benefit them. Case in point, if the barangay independently pursues a road construction project that strategically provides access to EDC's facilities, the latter contributes a generous donation.

On the contrary, if the road construction project does not relate to the company's operations or if it does not directly benefit them, EDC would still make a donation, but of a meager amount (Paterno, Key Informant Interview, 2025). Growing up along with EDC in their backyards, the residents have particularly witnessed how it contributed to their barangays' socio-economic conditions. Both the residents and barangay executives acknowledged the then PNOC-EDC's efforts to construct their roads, which began the endeavor right before the construction of Palinpinon I GPP. To borrow the words of one barangay leader "If we only rely on the municipal or provincial governments in constructing and maintaining the roads, it will not do" (Andres, Key Informant Interview, 2025). Taking into consideration the steepness of Brgys. Puhagan and Malaunay alone, along with agriculture being the primary livelihood, the road construction and maintenance seem to be the most important feat achieved by PNOC-EDC and EDC since it provided the

residents with mobility and efficiency in transporting their agricultural goods to the capital city.

The residents of the three host barangays and their political leaders have always compared the benefits they received before and after EDC SNGP's privatization. Before it was privatized, PNOC-EDC extended material benefits to the host barangays, such as transport for residents, school supplies for the students, offered soil and rocks when residents asked them when they constructed their houses, burial assistance, and free meals and accommodation for residents who were evacuated each time PNOC-EDC was scheduled to release H₂S or hydrogen sulfide emissions. After privatization, EDC SNGP seemed to have gone away with some of the material benefits enumerated above. Despite the removal of some of the discretionary benefits extended by its predecessor, EDC SNGP nonetheless extended itself to grant the residents relief whenever they experienced inconveniences and emergencies like the clearing of the roads when landslides occurred after a heavy downpour, or when H₂S (hydrogen sulfide) was released or leaked, when the Puhagan Barangay Hall collapsed, and provided polyethylene hoses when a barangay encountered issues with their water supply, to name a few (Personal Interviews, 2025).

Community Participation

Participation, according to Arnstein (1969), is a strategy that allows citizens to join in processes that aim to redistribute powers, to determine and participate in how projects are implemented, policies are set, tax resources allocated, and how benefits are distributed. The basis of public participation is to acknowledge the rights of the host communities to information regarding matters that concern and directly affect them. Public participation is manifested in many forms: (1) Information, where information is conveyed by the project developers to citizens, often through one-way communication instruments like news media, pamphlets, and posters, with no channel

provided to elicit feedback and no power for negotiation; (2) Consultation wherein residents are invited to provide their opinions on matters directly affecting them; and (3) Partnership where power is redistributed between the developer and host communities through negotiation, with the latter having a bargaining leverage over the outcome (Arnstein, 1969).

The LGC specifically provides that developmental projects that could potentially alter the environmental and ecological balance of the area require public consultation with the local communities affected and the approval of the area's Sangguniang Bayan or city council (Local Government Code, 1991). The public participation contemplated by law is that of public consultation. Public consultation is one of the approaches of participation wherein residents are invited to provide their opinions on matters directly affecting them (Arnstein, 1969). The problem with this approach is that there is no guarantee that the host barangays' inputs will be taken into consideration by those who initiated the participation. What is then the nature of participation afforded to the host barangays? In the case of EDC's Southern Negros Geothermal Project, is the host communities' participation through public consultation a meaningful one or merely procedural?

To satisfy the statutory requirements set by the LGC during its expansion in 2016, EDC SNGP organized a public consultation with the stakeholders – the host communities, local government units, environmental groups, academe, and church representatives. The Environmental Management Bureau of the Department of Environment and Natural Resources (DENR-EMB) spearheaded the public consultation as one of the preconditions before issuing the Environmental Compliance Certificate (ECC). The public consultation and scoping were set to collate public sentiments regarding the expansion plans of the EDC-SNGP. Furthermore, the platform serves as a medium with which it can educate the public about the nature of its expansion and growth project, address and dispel concerns raised, and most importantly, inform the general public and stakeholders involved of the mitigating measures it adopts (Maria, Key Informant Interview, 2025). The expansion plans of 2014

and 2016 were publicly supported by the municipal government of Valencia and the host barangays, specifically, Brgy. Puhagan. During the consultation, the municipal mayor asked the question whether or not the Valencianons support EDC SNGP's expansion by a rising vote. An overwhelming majority rose to their seats ("Stakeholders Air Sides", 2016). From the foregoing, it can be gleaned that public consultation was used in three ways: one, it was used as a platform to inform the residents of the expansion; second, the approach was used to address concerns and educate the residents; and lastly, to garner and solicit the stakeholders' approval of the project by putting it to a vote.

The municipal mayor's public display of support for EDC SNGP's expansion, the public conditioning that EDC's expansion in Southern Negros will help the Visayas grid to address the tightening power demand and supply (EDC, 2014), and the public nature of voting by a rising vote, where everybody could see who voted for and against EDC SNGP's operations, may have inadvertently created social pressure among the host communities. These serve to demonstrate that socio-political acceptance is one of the dimensions of social acceptability. Wustenhagen et al., (2007) defined socio-political acceptance as the general support of institutional actors towards renewable energy technologies and policies, arguing that strong socio-political support may consequently encourage community support. The overwhelming socio-political acceptance displayed by the municipal government of the project's expansion created social pressure among the host communities. Acceptance vitiated by social pressures goes against the logic of genuine consent.

Aside from the approach of participation employed, equally important is the need to examine who initiates participation and the actors' perception of participation (Cornwall, 2008). These factors have to be assessed to determine the nature and degree of the host barangays' participation in geothermal development projects. It may well be inferred that the host barangays perceived in this activity that they had answered or participated in EDC SNGP's call for public consultation, whereas the latter, as the initiator, perceived the former's attendance as evidence that they had gone through the

required process of involving those people. Public consultation, in this case, was employed as an approach to get the host barangays' approval of EDC SNGP's expansion, but no method was employed to get the people involved in the decision-making processes and in the implementation of the project.

A corollary to the participation granted to the host barangays is their agency. When the researcher asked about mechanisms for residents to convey their concerns, sentiments, and grievances, the residents revealed that they convey their grievances to their respective barangay leaders (Gem, Personal Interview, 2025). The political leaders across the three host barangays shared that their offices serve as a bridge where the concerns of the residents are collated and conveyed to EDC for proper action (Key Informant Interviews, 2025). The lack of organizations to lobby the collective interests of the host communities, to provide technical, legal, and environmental expertise independent of their LGUs, leaves them with no institutionalized frameworks to raise grievances and negotiate their position collectively. Moreover, the resident's limited agency is captured in one resident's remark, "We cannot do anything about it," when asked regarding their sentiments about EDC SNGP's 2025 expansion (Personal Interviews, 2025). This remark implicitly suggests that regardless of their sentiments, EDC's expansion would push through—that decisions have been made behind closed doors, and the residents' acceptance of the project formalizes and legitimizes the expansion.

Public consultation, as exercised by the two stakeholders during EDC SNGP's 2014 and 2016 expansions and the lack of organizations organized to lobby the interests of the host communities, independent of their LGUs, paints a picture of host communities being granted a voice with no power to shape or influence outcomes. The host barangays' procedural nature of participation did not confer upon them the power to reject, modify, or set conditions on the proposed expansions. The residents can only approve or reject pre-determined objectives, ask for clarifications when needed, but decisions surrounding their implementation are vested in the geothermal developers.

Acceptance born out of Vulnerability

Although EDC Southern Negros had enjoyed strong support from its three host communities since its inception in 1983, the latter's acceptance of the project is not tantamount to unqualified support. While the three host barangays have raised environmental concerns, lamented over the significant reduction of their royalty tax payments, and some privileges that were not followed through by EDC, none of these have crystallized into significant opposition that threatened the project's expansion. Sustained operations for forty-two years without significant community opposition reveal that social acceptability is sustained by the geothermal developer through two mechanisms: **the delivery of benefits through royalty taxes and discretionary privileges**, which residents consider as compensation for risks borne, and **the illusion of community participation**. These mechanisms work in concert to sustain social acceptability. At first glance, EDC SNGP seems to possess robust social acceptability from its host communities. Having operated for forty-two years, it has managed to successfully integrate itself into its host barangays' historical and socio-economic fabric. A closer analysis, however, would reveal that the host communities' acceptance is influenced or shaped by economic dependency and limited agency, which may consequently lead to unequal power dynamics vis-à-vis the geothermal developer.

More than social compensation for the disturbance to their way of life and their being the ones who will bear the brunt of the geothermal project's environmental consequences, the delivery of direct benefits by EDC SNGP to its host communities is a crucial aspect of the latter's acceptance of EDC SNGP's establishment and expansion. At the outset, the provincial government of Negros Oriental's acceptance of PNOC-EDC's establishment in Puhagan, Valencia was rooted upon the benefits it stands to earn once the commercial operations commenced – a long-term solution for its perpetual problem of power interruption and the consequent economic development

of the province, which was lagging behind its counterpart in Occidental (“NPC’s explanation,” 1982).

While royalty taxes are mandated by relevant legislation, the discretionary nature of the benefits extended by EDC outside of what is mandated by law perpetuates economic dependence. Although the host barangays are empowered to pursue development and livelihood projects based on locally identified priorities, the benevolent benefactor approach employed by EDC over discretionary benefits fosters a culture of perpetual dependence among the three host barangays on the geothermal developer, wherein the latter retains the discretion over what, when, and how it will be allocated. One barangay political leader’s astute observation that EDC offers generous donations for barangay-initiated projects that benefit company operations but donates meager contributions for projects that do not, reveals that benefits are directed towards EDC’s corporate interests (Paterno, Key Informant Interview, 2025).

Moreover, the response “Between EDC and the barangay, as of my administration, EDC provides us whatever assistance we ask from them because we are the host barangays that supported EDC’s improvements” is telling (Andres, Personal Interview, 2025). The conditional structuring of the response reveals an expectation of reciprocal obligation that EDC must fulfill in order to sustain the host communities’ acceptance; however, the rhetoric over the reduction of royalty tax payments and removal of some discretionary privileges may have produced, on the part of the host barangays, a sense of diminished entitlement. By framing benefits as corporate generosity rather than community entitlement, this approach positions the host communities as recipients of corporate generosity rather than a co-equal partner.

Furthermore, the lack of agency, the procedural nature of participation granted to the host barangays, and the lack of organizations to lobby the interests of the host communities, independent of their LGUs, position them in an unequal power dynamics with the geothermal developer.

When the researcher asked one of EDC SNGP's employees regarding the host barangays' general sentiments and their reception surrounding its expansion plans for 2014 and 2016, this is what they had to say: "Usually, they're happy in the sense that there's a development. It means more royalties paid, more scholars, and more benefits for the community. And I can really attest to that because I graduated from college because of EDC. If it's not for EDC, I don't think I'll be here" (Maria, Key Informant Interview, 2025). To deduce that the residents' general disposition regarding EDC SNGP's expansion is such that of a welcome development, as expansion means more royalty tax payments and more benefits, is too simplistic. The employee seemed to have assumed that the residents belonged to a monolithic bloc that altogether has the same cognitive dispositions and socio-economic backgrounds that support, without reservations, EDC SNGP's expansion.

The barangay captains from Malaunay and Caidiocan meanwhile, disclosed that their residents never opposed the expansion because it would only be concentrated in Brgy. Puhagan. One of them further admitted that surely negative sentiments could arise if the EDC's expansions would reach their respective barangays. Residents from Brgy. Puhagan, on the other hand, blurted out, "We cannot do anything about it". They added that should EDC SNGP's expansion encroach into their homes or private properties, they hoped that EDC would pay them the current market price of their properties (Gem, Personal Interview, 2025).

When residents, especially those who are residing in Brgy. Puhagan where the geothermal facilities and expansions are currently concentrated say "We cannot do anything about it", are they truly consenting to EDC SNGP's expansion, or are they expressing their perceived powerlessness? This is worth examining because, unlike the Mt. Apo Geothermal Project where the host communities had a powerful leverage on the negotiating table – that the project site is an ancestral home of indigenous cultural communities and was declared as an ASEAN Heritage Park (Ote & De Jesus, 1997) — this advantage is not obtaining in the case of the residents of Brgy. Puhagan. Note must be

taken that Brgy. Puhagan is classified as public land (Barangay Puhagan Barangay Profile, 2024). Residents, therefore, lack the leverage necessary for meaningful negotiation.

The lack of a bargaining chip, which already operates to the disadvantage of the host barangays, is exacerbated by the structural vulnerability that developed from the approach of community participation envisaged by the law and practiced by the geothermal developer. As elaborated early on, public consultation was employed to inform the residents of the expansion, to collect their votes on the proposed expansion, and to answer questions raised by the residents concerned. Public participation, as practiced by EDC SNGP, is to gain the host barangays' approval for the proposed expansions, but not for the latter to negotiate. Furthermore, the residents' structural vulnerability is best illustrated by their appeal for humanitarian treatment in the event of displacement. Their requests to be "notified before being evicted", to be "paid by the current and fair market price of their properties", to be "given 'pagtagad' (attention or consideration) explicitly reveal that community participation granted to the host communities is merely procedural in nature – to give imprimatur to what has been decided upon. The minimalist aspirations signify their request for humanity in an inevitable situation, not power to prevent their displacement.

The host barangays' lack of a powerful bargaining chip to equalize their position vis-à-vis the geothermal developer, their economic dependence on the latter, and their limited agency reinforce the existing unequal power dynamics between the two stakeholders, leaving residents with no viable option but to acquiesce to what was offered by the developer. What appears as social acceptance may, in practice, be a compromise born out of vulnerability, where the absence of resistance is mistaken for social acceptance.

CONCLUSION

This study reinforces the conclusion arrived at by De Jesus (1997) that the successful operation and institutionalization of geothermal energy projects are contingent upon the host communities' acceptance of the project, influenced by public participation and material benefits in the form of royalty tax payments. Using temporal age (forty-two years of operations) and the lack of opposition or resistance in the establishment and continued operations of the project as parameters, EDC SNGP seemed to have robust social acceptance from its host barangays. The latter's continued acceptance of the project's expansions and operations in the face of legitimate concerns and grievances – environmental concerns, significant reduction of royalty tax payments, removal of some discretionary privileges, and anxiety over eviction – is shaped by the host barangays' structural vulnerability rather than genuine consent. Three interconnected mechanisms sustain their acceptance: economic dependency fostered by royalty taxes and discretionary benefits, limited agency reinforced by the procedural nature of participation, and the absence of leveling bargaining power. What appears as social acceptance may, in practice, be a compromise born out of vulnerability and constrained choices within an unequal power dynamic, where economic dependence and limited agency provide conditions where opposition may come as futile and acceptance or compromise appears rational.

For policymakers, this research suggests that community participation in energy development projects should move towards substantive participation wherein the host communities are empowered to lobby for their collective interests, in shaping geothermal development projects' implementation and ensuring that benefits are redistributed equally. Furthermore, independent institutionalized mechanisms should be established or organized for effective dispute resolution and negotiation that reflect true partnership.

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